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

CHEESE BITS

ARRL Affiliated Club

W3CCX
CLUB MEMORIAL CALL

Volume LXV *April 2022* *Number 4*

PREZ SEZ:

The next General Club Meeting will be in-person on Thursday April 21st, 7:30 PM, at the Ben Wilson Senior Center. The program will be ARRL Night and Packrats Awards! The Atlantic Division officials invited include Director Tom Abernethy-W3TOM, Vice Director Bob Famiglio-K3RF, EPA Section Manager George Miller-W3GWM, & EPA Assistant Section Manager Tom Mills-AF4NC. There will be an opportunity to ask questions after their presentations. For those of you who cannot attend in person, the technical committee is working on a new hybrid version so you can attend via Zoom. Final details will be announced closer to the meeting. We will also be having the Mario Table, refreshments, and a chance to socialize with one another as has been the Packrat tradition for many years. The awards part of the program will include the presentation of January Contest awards from 2021, and of course any special awards like Homebrew Night, Rover Recognition, Mario Fontana, and Packrat of the Year. Please come out and have a fun night! To catch up with awards from 2022, we are planning a 2nd Awards Night this year at our annual December Holiday Social meeting.

Don't forget the Spring Sprints mini contests start this Monday April 11th on 144 Mhz. The Spring Sprints offer a fun time, mostly one band at a time, only 4 hours long, and not an entire weekend. They also provide a chance to check out all your equipment for the June Contest so you can be sure to work the club multi-op, W3CCX, on all your bands from home. Other opportunities to check out your equipment are of course the Packrats Monday Night Nets every week, and also the nets on Friday evenings run by club member Jim, KC3BVL on 50-432, 1296, & 2304. For Spring Sprint dates and bands, check out the “Events” listing elsewhere in this issue of Cheese Bits.

It's hard to believe considering the crazy weather patterns lately that **real spring**, like in **warmer weather** is “just around the corner”. When it finally arrives, take advantage of it by doing the work on your antennas, towers, preamps, and feedlines you may have been putting off. This will improve the operation of your station more than any new $5000 radio or equally expensive linear amplifier. “If you can't hear them you can't work them”. You can “listen for the weak ones”, but never hear them if your antenna system is not up to par.

We have lost a lot of fun times over the last 2 years with the pandemic. Plans are underway to have our annual White Elephant Sale again this year and also our Family Picnic that has been missed by all. Barring any unforeseen circumstances these traditional events will be able to be enjoyed by all who can attend this summer.

I can report that the Election Committee has been hard at work to secure candidates for this year's election. I'm sure many of you have already received calls from them asking (also traditionally known as “arm twisting”) if you

Pack Rats **CHEESE BITS** is a monthly publication of the
Mt. AIRY VHF RADIO CLUB, INC. –Abington, PA.

Pack Rat Web Site: http://www.packratvhf.com

SUBSCRIPTION/ADVERTISING MANAGER:
Bob Fischer, W2SJ 23 Morning Glory Circle, Mullica Hill, NJ 08062 (609) 440-2916 bobw2sj-at-gmail.com

EDITOR:
Lenny Wintfeld W2BVH 709 Lincoln Av., Cranford NJ 07016
(908)-272-0559 lennyw-at-comcast.net

TRUSTEE OF CLUB CALL - W3CCX
Mike Gullo WB2RVX
(609)-743-6643 MGullo3-at-comcast.net

W3CCX QSL CARDS:
Bill Shaw K3EGE

PACKRAT 222 MHz REPEATER - W3CCX/R
222.98/224.58 MHz (PL 136.5) Hilltown, PA

OFFICERS 2019-2020
PRESIDENT W2SJ Bob Fischer president -at-packratvhf.com
VICE PRES: W3GAD Doc Whitticar vicepresident-at-packratvhf.com
CORR. SEC: WA3EHD Jim Antonacci correspondence-at-packratvhf.com
REC SEC: KB1JEY Michael Davis secretary-at-packratvhf.com
TREAS: W3KM Dave Mascaro
DIRECTORS:
K3JJZ El Weisman
KB3MTW Michelle London
KC3BVL Jim Huebotter
K3GNC Jerome Byrd
Honorary Director George Altemus KA3WXV

COMMITTEE CHAIRMEN
January Contest MikeN2DEQ andraym2-at-comcast.net
June Contest 2020: MikeN2DEQ andraym2-at-comcast.net
June Contest Technical Chair Phil K3TUF phil-at-k3tuf.com
VHF Conference:
Awards Chairman OPEN
Quartermaster: Bert K3IUV bsoltoff-at-comcast.net
Membership Chairman: Michael KB1JEY kb1jey-at-arrl.net

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	50.150 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

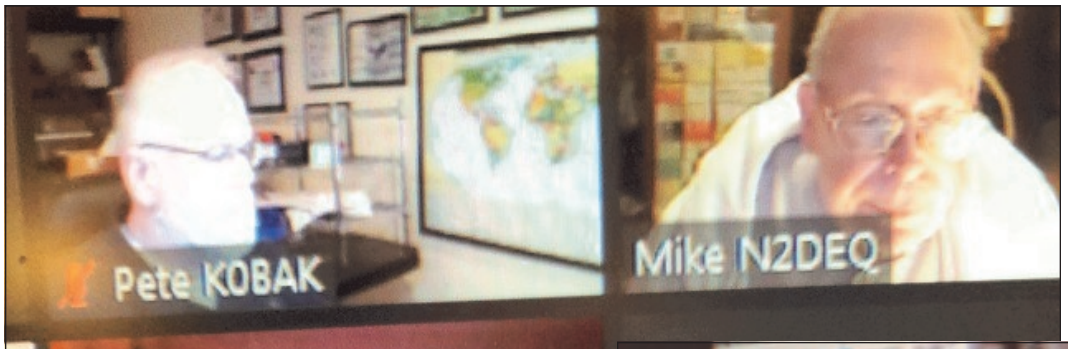
would like to run for office in the club helping to continue the traditions of its predecessors as well as developing new ones. The committee will present a slate of candidates at the May meeting followed by the election of officers in June in accordance our Club Constitution. Nominations are open to all members up to and including the evening of the election. If you want to nominate someone, make sure you have asked them first if they would like to run for office.

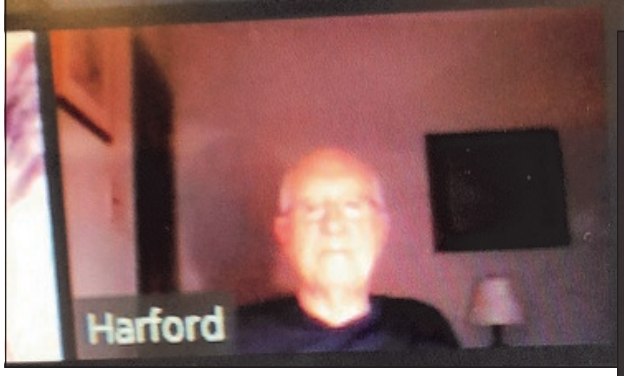
BTW, we are still looking for additional operators for the June Contest at Big Pocono State Park atop Camelback Mountain. Contact any band coordinator for details with your intentions.

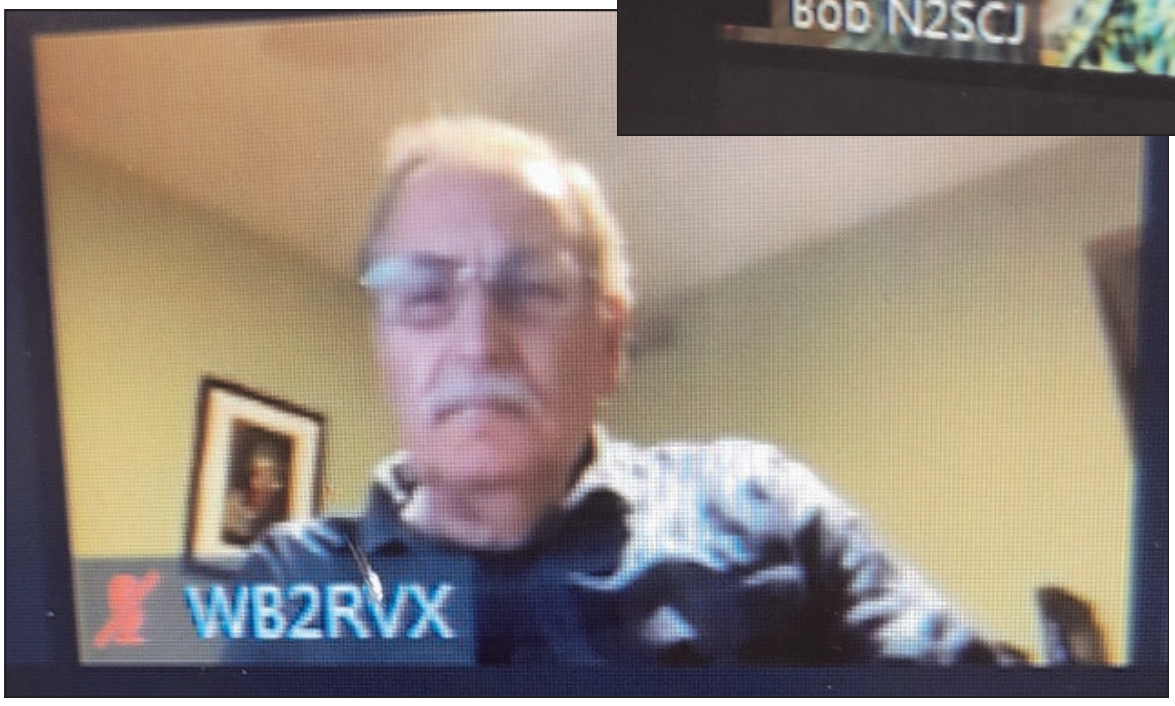
Meanwhile, finish a project on the bench, keep one ear "listening for the weak ones", and the other on the "Magic Band"!

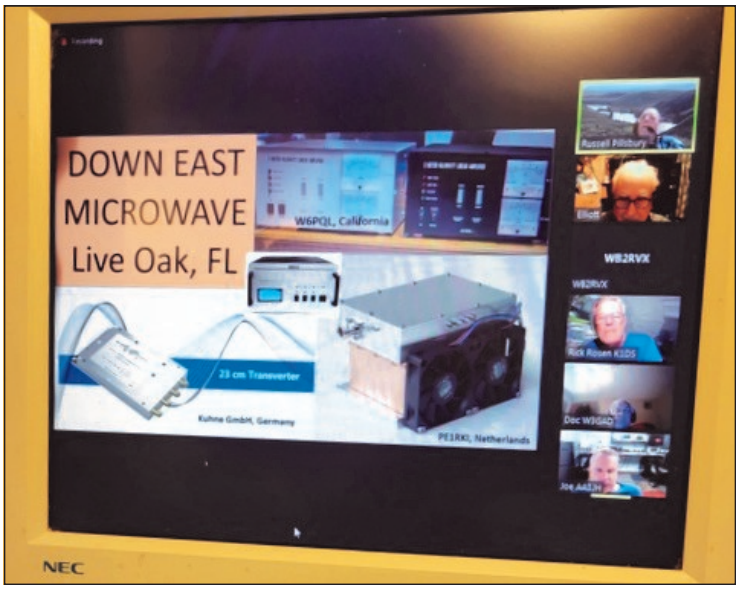
Vy 73,
Bob W2SJ

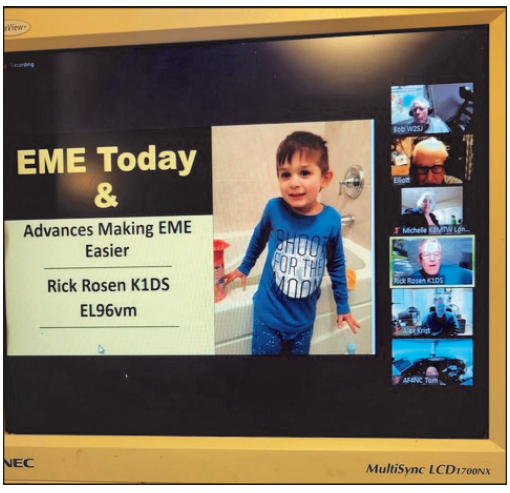
MARCH (ZOOM) MEETING PICTURES









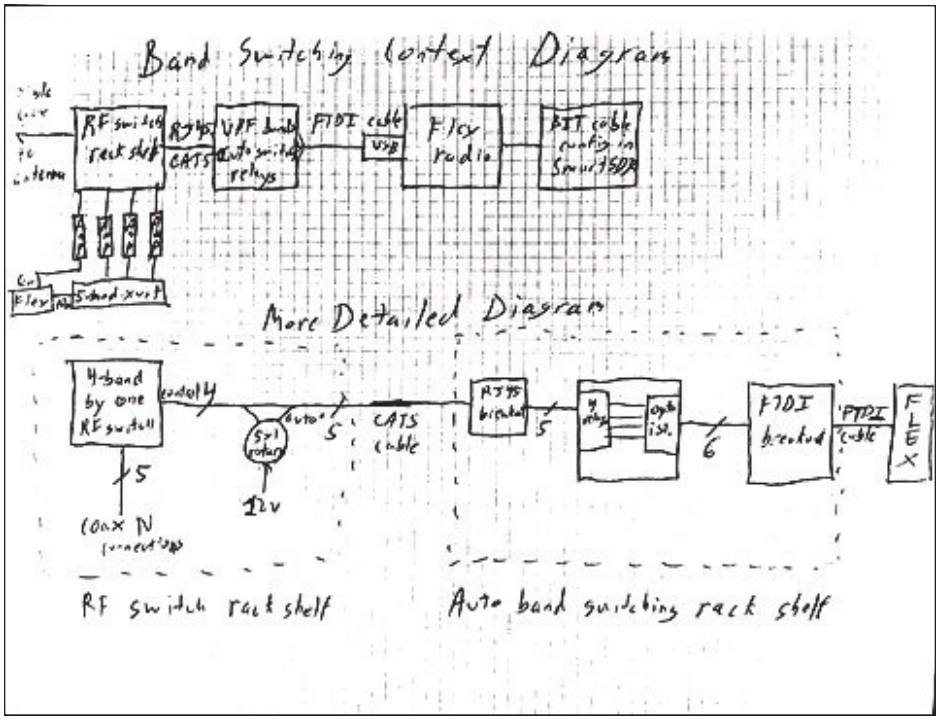


Tnx El K3JJZ for this month's meeting pics!

Note: These are literally photos of El's Monitor!

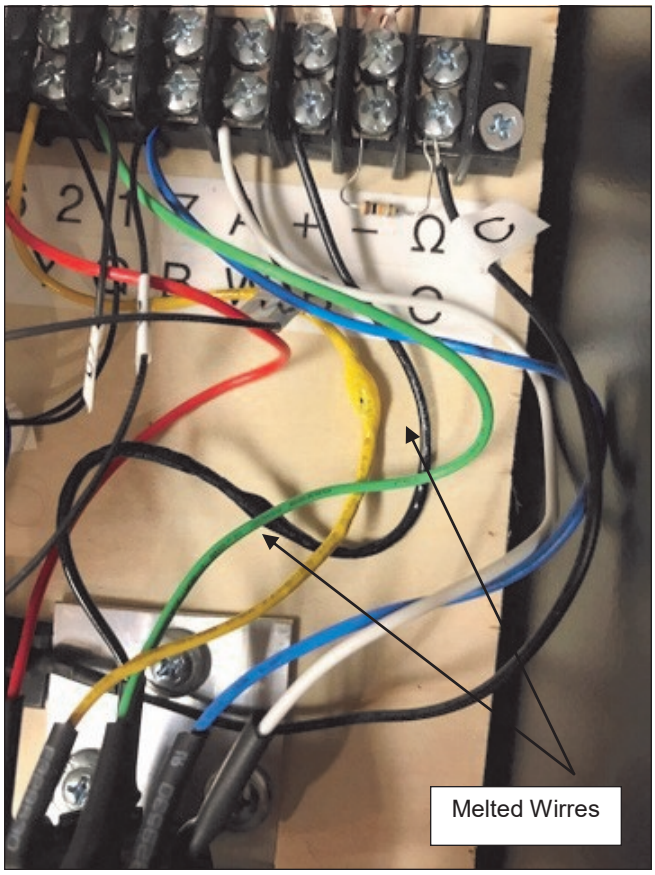
KOBAK Automatic Band Switching Build

Setbacks and Distractions



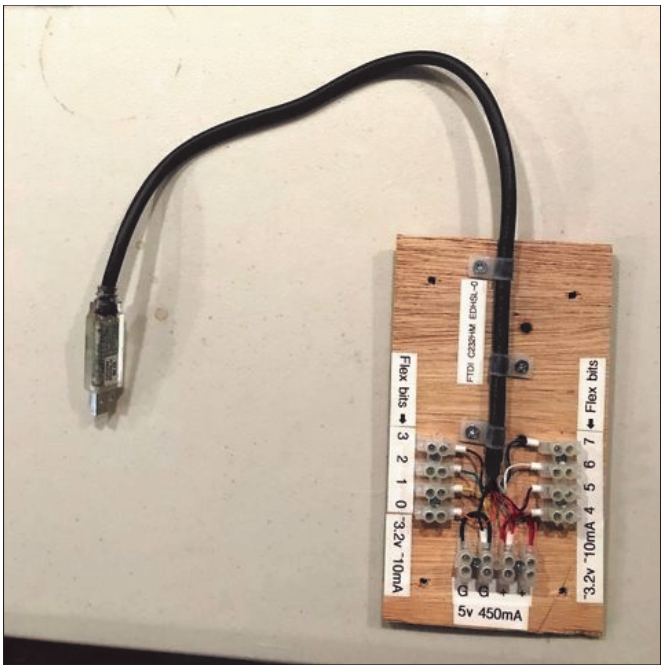
At the February Packrats homebrew meeting I brought and described an RF switching and monitoring rover rack shelf I built. The central function of this build was switching the output of 4 VHF bands' amplifiers onto a single coax run to the top of my van's mast, using one of two 4x1 RF relays (SSB-Electronic AS-304-N) provided by Roger W3SZ. I included a rotary switch on the shelf for manual band switching and band indicator lights. The system was built to **also** support automatic band switching via signals from a yet-to-be-built rack shelf. The manual rotary switch included a fifth position to support this then-future function, which selects 12 volts to be sent to the automatic band shelf, to be switched by the radio's current band code and passed back to the RF switch. That design (to have an "auto" position on the manual rotary switch) was intended to prevent conflict between manual and automatic band selection. The signals would be passed between the RF switching shelf and the future automatic selection shelf via a CAT-5 cable.

I had just barely finished building the RF switching shelf before homebrew night, including simple continuity checks, but hadn't done a power-on test before the meeting. When I applied power a couple days later and used the manual band selection switch, the system seemed at first to be working . The correct indicator lights were lit as I turned the manual rotary switch through its five positions. I then started testing the RF relay, starting with the 6m position, confirming continuity through the correct RF connector. However, when I switched to the 2M position something was wrong. I noticed this time that the 2M indicator light was on but dim, and I couldn't find RF connector continuity. Then I smelled something and **saw smoke** pouring from two of the thin wires soldered to the rotary switch. After removing power, I discovered that those two wires' insulation had partially melted. Yikes. I didn't think to put a fuse on my rack shelf because when installed in the van it would be connected to a PowerPole distribution box where I'd use a 2-amp fuse for the shelf. While testing at home though, I directly connected a ham power supply that was happy to send up to 30 amps to those poor little wires. Lesson learned? I'd like to think so, but time will tell.



I know I shouldn't have let the failure bother me, but it did, and I didn't have the heart to look for a solution to the problem for a couple of weeks. The worst-case possibility was that I had destroyed the RF relay, since I had tested it on air before building the rack shelf, so I guess part of me didn't want to discover that. I was also highly distracted by the news from Europe…one of the rare downsides to retirement is not having much forced incentive to get away from constant TV news coverage and social media doom-scrolling.

After a week or two, I traced through the visible wiring on the board and tested continuity without finding a problem…I felt lucky that the rotary switch and wire leads seemed to still work.



My first suspect was the 4-pin female DIN connector I had built for the RF relay switching signals. I was worried about that connector because the solder tabs inside the connector are close together and tough to solder (at least for me) to the wires in a 4-conductor cable without the wires moving. Although I had verified no shorts after building the connector, when I opened the connector shell I saw two solder blobs almost touching and they were indeed the ground and the 2M +12v pins. They could have easily been touching during the smoky test. Although I could have tried building another one, I didn't trust my soldering skills and looked for a pre-wired connector. I found a rare male-to-female 4-pin DIN cable on Amazon. After it arrived, I cut off the male end to add crimped fork end-connectors for my traditional black terminal strip. After continuity checking, I powered the board again but this time through a fuse. The manual switching worked without smoke, and the RF connectors checked out for continuity. I was relieved that the RF switching shelf was successfully bench-tested for manual band switching, but news distractions and a resulting sour mood kept me from working on automatic band switching for a few more weeks.

Automation Design Indecision and Breakthrough

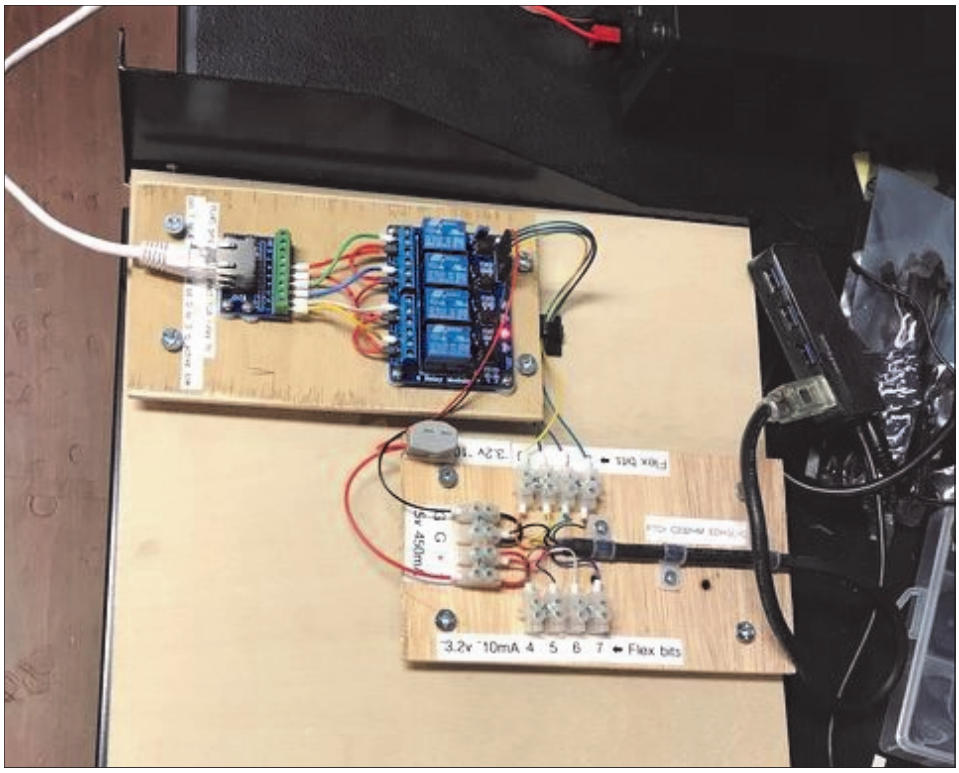
One of my favorite features of the current FlexRadio line is its impressively flexible (pun intended) means of providing radio state information. USB connectors on the radio allow the use of programmable cables. Using Flex's SmartSDR radio interface software, each cable is recognized by a unique serial number burned into the USB connector's electronics. Each recognized cable can then be configured to provide the information needed. There are a few major types of configurations, but two of the most useful bitwise types are "BCD" and "BIT" cables. As the name implies, BCD cables can be configured to provide 4 BCD bits encoding the radio's HF bands or VHF bands, or a 5-bit code for HF+VHF bands. Note that these bands include transverter bands configured in the radio, up to the 47GHz band.

BIT cables are more flexible, allowing each of the 8 data bit wires from an FTDI cable to be asserted by band or frequency range, plus TX-only with variable delay-configurable PTT signals, source of the frequency trigger, and whether the polarity of the signal is high or low when the condition is triggered.

Wow, it's hard to think of a more flexible radio information system.

The Q5 5-band transverter I installed in the rover last summer directly supports the code of the Flex's 5-bit BCD HF+VHF configuration. (I wrote about the modestly complicated cabling I built for the Q5 in a self-published article sent to Packrats among others.) Therefore, I already had the basic band information I need for my low four VHF band switching in the form of a 5-bit BCD code, since I used CAT-5 cabling for the Q5, it would be mechanically easy to tap the BCD signals with a passive T-adapter.

A couple of years ago, I had bought a 4-bit BCD opto-isolated decoder board and a high-side relay driver board from United Microsystems, so potentially I already had the most important parts for band decoding and relay driving. However, based on an email conversation with the vendor, the 5-volt-input BCD decoder board wouldn't reliably support the documented 3.2-volt levels of the FTDI cables' bit signals. [FTDI's use of more-modern CMOS logic levels rather than the venerable 5-volt TTL logic levels more commonly supported by ham radios and entry-level hobby electronics is one of the few downsides of Flex's design.] Another risk was not knowing if the ~10mA drive level from the FTDI cable would be enough to support another sink—probably would have been OK but I couldn't be sure. If I reused the BCD signals going to the Q5, I'd have to boost the signal level to have a reliable drive for the decoder board.



I found a quad buffer DIP IC with enable lines in the 74HCT logic chip family that ought to work to get the 3.2v logic levels to 5v, but I'd also need another chip to drive the enable lines of the buffer to switch the buffers on only when VHF bands were indicated by the 5th bit.

The alternative was using a second Flex USB cable configured as a "BIT" cable so I could configure one physical bit for each of the four low VHF bands. The downside of this is the inefficiency and added complexity (and some added cost) of a second physical FTDI cable when I already had the signals I needed in an existing cable. In this case, with no decoding necessary and using the per-band bits only for my 4x1 RF relay, I could use 4 signal relays to drive the RF relay. Using a new BIT cable would require configuring the cable in SmartSDR to activate a bit wire for each of the four VHF bands, with due attention to configuring active low or active high FTDI output bits (turns out I needed active low bits, see below).

I had some analysis paralysis for a while because the two choices (existing BCD cable with buffering and decoding vs. a new BIT cable with simpler implementation but electromechanical relays) had equal downsides. The decision to use a new BIT cable was made easier when testing revealed that a 4-channel SainSmart relay module I bought in 2015 surprisingly used low-side inputs into their opto-isolators.

Further testing confirmed that the relays on this board could be driven directly by the FTDI bit wires going to ground with a 5v input to the module. I already had 5v available from a nearby rover computer power supply breakout described in an earlier Cheese Bits article. The input wiring to the SainSmart board

would be made easier because the FTDI cables also make available USB-standard 5v, even though the logic levels of the bit wires were 3.2v. (This is a source of confusion on Flex forums because there are "3.3v" and "5v" versions of the FTDI cables, but those voltage choices only refer to their **power output**; logic wires are always spec'd 3.2v). I measured a single energized SainSmart relay would draw 70mA from the board's 5v input supply, so that even if by mistake all four relays were energized (only one at a time is intended per band obviously), the total draw would still be within the FTDI spec of 450mA. I also checked that the FTDI bit wires only need to sink about 2mA through the relay board's opto-isolators versus the FTDI spec of 10mA.

Build Completed, but the Van Awaits

While the NO-C-NC outputs of the board's relays were convenient screw-down terminals, the logic level inputs were male "DuPont" style pins. These are great for breadboarding and testing, but terrible for permanent connections because the DuPont female connectors come off easily. Conveniently, the FTDI bit and power wires are terminated in DuPont female connectors, so when testing the relay module with my radio it was easy to verify that each relay on the board energized as expected when the appropriate band was selected on the radio.

I had on hand 30-pin female DuPont strips with small (~2mm) male pins on each, so I could cut the 30-pin strip into the 6-pin size needed for the relay board input pins. With 6 pins together, it felt like the assembly was reasonably safe to stay on versus a set of individual female pins that were easily pulled off.

I intended to solder wires to the small male pins on the 6-pin strip, but the spacing was too close together for my lousy soldering skills. (Remember the short-circuited DIN connector?). After a couple tries destroying more DuPont strips, I gave up. Instead, I decided on a redneck solution by hot-gluing individual DuPont female connectors to the base of the relay board's pins, and then gluing the connectors together as best I could. These female DuPont connectors were already on wires with DuPont connectors on the other ends, used for breadboarding. I cut off the other end and crimped ferrules for use with Euro-style nylon terminal strips for connections to the FTDI bit wires (see my other Cheese Bits article in this issue about ferrule crimping).

The output of the relays was connected to an RJ45 breakout board via short wires. 12v from the "auto" position of the manual rotary switch on the RF switching rack shelf on RJ45 pins 5+6 were connected to all four relays' common ports of the SainSmart board, and RJ45 pins 1 through 4 connected to the normally open ports of each relay where they supply the +12v to drive the RF relay and LED indicator lights on the existing RF switching shelf.

I decided to use a "daughter" board concept for the new radio information rack shelf. The SainSmart module and RJ45 breakout were mounted on a thin 4x7" plywood board, to then be mounted on a thicker wood board screwed onto a 12" metal rack shelf (the latter being my standard rover shelf construction practice).

A second daughter board served as a bespoke breakout for the 10 wires from the FTDI cable. Three 4-position Euro style nylon terminal strips surround the relatively short bit wires, and the overall cable is tied down tight in three places for mechanical stability of those thin bit wires. Lastly, the wires from the DuPont connectors on the SainSmart board were connected to the FTDI cable breakout terminal strips, with only one of the wires needing to be extended with a lever-lock 2-position terminal strip. (Four of the eight bits from FTDI breakout are still available for future use.) The new completed rack shelf worked as expected with the existing RF switch shelf using a CAT5 cable between them, so both rack shelves are now ready to be installed in the van.

I hope to have additional progress reports for Cheese Bits in the future.

KOBAK Discovers Ferrule Crimping

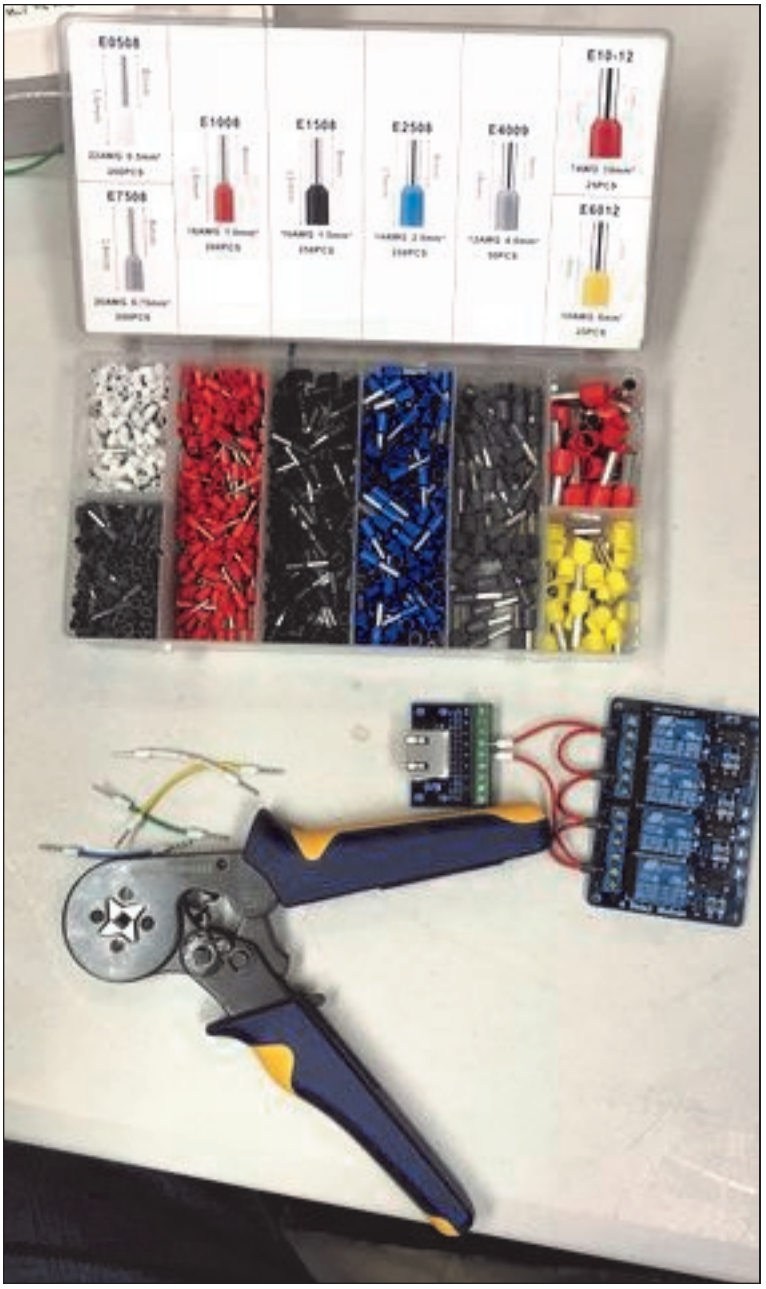
As if I needed another crimp tool in my collection, I recently discovered ferrule crimping via a YouTube video about house wiring.

Where a terminal accepts a stripped wire straight into a pressure connecting device, as opposed to wrapping wire around traditional terminal strip screws, adding a ferrule to stranded wire improves the electrical and mechanical connection by keeping the wire strands tight together. Although tinning the wires would have a similar affect, crimping a ferrule is quicker, consistent, and doesn't require firing up a soldering iron. In addition, the crimps result in a squarish shape that improve surface area contact compared to round tinned wire.

I used ferrules for most of my connections in my recent project to have my Flex radio automatically switch the lower four VHF bands (see my other article this month). The inexpensive circuit board devices I used featured openings to insert a wire straight in. They lower a screw or elevator to hold the wire, so ferrule crimping is a significant time-saver over tinning. They also add a reliability improvement over raw twisted wire strands.

I also continue to use cheap "Euro style" nylon terminal strips to connect low current wires, and the ferrules work great for these too.

I wish I knew about this technique when I was building my medium-current (30-60A) power wiring, instead of using a dangerous solder pot to tin 6AWG wires which resulted in a low-surface-area connection on the flat bottom of the terminal screws I used for distribution.



Hobbyist-quality kits with crimper and hundreds of ferrules from 22AWG to 7AWG are about $25-30 on Amazon.

Hubble Telescope Spots the Farthest Star Ever Seen

Interesting brief article on a star 12.6 billion light years away: https://www.nasa.gov/feature/goddard/2022/record-broken-hubble-spots-farthest-star-ever-seen

Measuring Big Capacitors

A very interesting circuit (really an instrument) to measure big capacitors is described at: https://www.sprut.de/electronic/pic/projekte/elko/elko.htm
Armin **HB9MFL**

Hello everyone, I hope the club members are all doing well. I am making some significant life changes going forward. First, I have decided to let my ham license expire and move on to other activities. NR6CA is no longer in the FCC data base. I went back and forth several times on this but finally made the decision to move on to other activities. I will keep my current e-mail address for likely a long time. I will at some point be placing my equipment up for sale. Everything is in Reno, NV. A separate posting will be done once I get a full inventory made. I plan on reducing antennas to scrap metal since they are both verticals. After 60+ years of radio I have lost interest. The only thing I did not complete was working all continents. Never got Africa.

73 to all the members, Randy Bynum, ex **NR6CA**

You have been a great contributor to the club and hobby. I recall your RV drive East to participate in the June VHF. The multi band uW transverter still brings us many points and the other units for 903 and 2304 are being used. Thanks for all the years of club membership and participation. Good luck in the future. 73, Rick **K1DS**

When doing VHF activations for Summits On The Air (SOTA), the radio range is dependent on the height of the summit and the surrounding terrain. The second article down the page, at the K0NR web site elaborates on this, and includes some good examples of some coverage maps.. See https://www.k0nr.com/wordpress/

Ukraine Ham

Sent to Cheese Bits by Al, K2UYH on March 23:

Hi Folks, I sent a email to my old friend today. Here`s his answer 73 Lars SM4IVE

Hey Lars! We are alive. War front 15 km from my house. There was no 220 volts, no internet, no connection. Everything just disappeared. We pray for the life of my loved ones, all the people of Ukraine and the whole world! 73! Sergey UR5LX

The ULTIMATE Electrical Engineer's Toolkit: Analog Designer's Edition"

This brief (3 1/2 minute) youTube video released April 1st by our friend Alan Wolke W2AEW is something every Packrat should watch. **https://youtu.be/vBvYHowmRWI**

After two years of postponements, the **Central States VHF Society** is holding their 54th Annual Conference July 22-24, 2022 at the Radisson Hotel in La Crosse, Wisconsin.

The CSVHFS is soliciting papers, presentations, and poster displays on all aspects of weak signal VHF and above operating for the conference. You do not need to attend the conference nor present your paper to have it published in the Proceedings of the 2022 Central States VHF Conference.

Posters will be displayed during the two days of the conference. Topics of interest include, but are not limited to: antennas, including modeling/design, arrays, and control; low noise pre-amplifiers; test equipment, including homebrew, commercial, and measurement tips and techniques; construction of equipment, such as transmitters, receivers, and transverters; RF amplifiers; propagation; regulatory topics; operating, including contesting, roving, and DX-peditions; EME (moonbounce); digital signal processing; software-defined radio; and digital modes (WSJT-X, FT-8, JT65, etc).

Further information is available on the CSVHFS website (www.2022.csvhfs.org).

73 Donn **WA2VOI**/0

New World Record on the 134 GHz band AND New IARU Region 1 records on the 134 GHz and 241 GHz bands .

A very nice 14 page write-up by DB6NT and DK5NJ on their new millimeter band records can be downloaded as a pdf from **https://dk5nj.de/wp-content/uploads/2022/03/Neuer-Weltrekord-im-134-GHz-Band-Endversion-ENGLISH.pdf** .

Tnx **K2UYH** for the link

Lenny - Hello!
N1V took one of my Sub-Lunar folding dishes to Hawaii and operated 1296 and 902 MHz EME.
Details of his EME operation are here: **https://www.n1rwy.org/?p=803**
73 - Paul - W2HRO

Sortable Sherwood !

One of the most valuable tools for amateurs worldwide to use when evaluating HF rigs is the set of bench tests that Rob Sherwood NC0B has provided for quite a number of years now. He ranks the receive tests by his favorite metric: narrow dynamic range in dB. It's a key for CW contest operators (pun intended), but it is a frequent question from readers of Rob's table: why can't I sort it on another criterion? Especially if I'm not a CW contest operator?

Well, now you can! Working directly with Rob NC0B, I've taken his latest receive test data and made a sortable table for the Sherwood Test Results. An explanation of how to use the table is at https://foxmikehotel.com/sortable-sherwood-receiver-bench-test-table-march-5-2022/. The actual sortable table is at https://foxmikehotel.com/sortable-sherwood-test-table/

I plan to update it when Rob adds new radios to his Table. Frank **K4FMH**

The Wayback Machine
In CHEESE BITS, 50 Years Ago

Nibbles from April 1972. Vol. XV Nr 4
de K3IUV Bert
(*author's comments in italics*)

"**Our Prez Sez"**. Prez Don, **W3CJU** (*the Jeweler of Doylestown*) thanked member Ron, K3ZKO for his excellent meeting presentation and demonstration of amateur TV. He welcomed two new members (Lou, **WA3MIX** and Steve, **WA3PIR**) noting that they are both "student members," joining a large group that also entered as "Students" (**K3BPP**, Walt; **K3EOD**, Al; **WB2SZK**, Randy; **WA3NFV**, Dan; **K3AUH**, Al; and **K3IPM,** Stan to name a few.) He encouraged other visitors to join us at the next meeting.

Technical Article. SSB mixer for 220. Member **WA3BIV**, Carl provided a nice article on constructing a mixer / amplifier to use your 6-meter rig to get on 220. Vacuum tube construction with a 6360 final provides about 18-20 watts PEP output, suitable to drive a 4CX150 or 250. He noted that "the average junque box will provide most of the needed parts." Schematic, parts list, construction detail and alignment were included.

Membership. Visitors at the last meeting including **WA3HOW, WA3AXH, K3YLK, WA3DMS** and **K3CPG**. New members elected are **WA3PIR**, Steve and **WA3MIX**, Lou. Upgraded from Student member to regular member was **WB2SZK**, Randy (*We note that Randy has just announced his intention to retire from Ham Radio*).

New Products of Interest to HAMS. From Lynn, **W3NSI.** 1) Tempo CT220 TR. This is a small (7-1/2 x 7-1/2 x 3") solid-state transmitter receiver unit. It provides 1-1/2 watts output on AM, and 4 watts output on FM. Tunable from 220 to 225, or can be crystal controlled. Price $180. A number of these were put to use by Packrats. 2) Clegg FM27A, two-meter rig. Redesigned after Clegg moved to Lititz, PA, the new unit includes a crystalplexer and can receive 146-148 MHz. Price $450. 3) Clegg 22er, Mark 3 model, AM unit. Also redesigned. The front end is crystal controlled and the IF is tuned over 30-32 MHz. Price $350.

Calendar. April 12, regular meeting, topic FM and FM Repeaters. Presenter will be Ed, **W3HKZ**, chief engineer at WCAU-TV. In addition, a 15-minute auction of "better grade equipment" will be held, and Mario's "famous" raffle will take place. May 6, Ladies Night at the Buck Hotel in Feasterville. May 17, General Club Meeting. ARRL Night, and Ed Tilton, **W1HDQ** (*Mr. VHF, and an honorary member of the club*) from headquarters is expected to attend. August 13, Packrat Picnic at Ft. Washington State Park, and October 1, a Packrat sponsored Hamarama in Jamison, PA.

Homebrew Night Awards. Pictures of some of the participants, and other comments were included. Among them were the following: K3UJD, Mario presenting a door prize; Lynn, **W3NSI**'s 2-meter FM receiver and a direct reading capacitor meter (*Lynn was well known for the craftsmanship of his construction projects. They always looked professionally done*); Ron, **WA3AXV** (now **W3RJW**) showing his

surplus conversion tunable i.f. strip; Dave, **W3ZD** with a 6/2/432 am/ssb push -button control unit; Doc, **K3GAS** showing his HBR-16 receiver; and Dick, **W3FQD** showing a 6-meter ssb generator and surplus unit conversion. A much younger El, **K3JJZ** is pictured at the lectern, saying "Here I have a first class discombobulator – who'll bid 10-cents.?"

ATV Net and activities. Paul, **WA3HIT** reported on the activities of the new Packrat ATV net, and related TV items. New stations now active include Doc, **K3GAS**, Rich, **WA3YNZ** and Steve, **WA3AAD** in Narberth. The net runs from 7 – 10pm on Friday nights. Ron, **WA3AXV** (now **W3RJW**) uses a Packrat cartoon as a test pattern.

Swap Shoppe. By **W3ZRR**. *(Always nostalgia. Now we use the club reflector.)* For sale by Tony Sousa, **K1SFF/3** (now **W3HMU**), Low Loss ½" foam flex coax cable. 2.3dB/100 ft at 432. 15 -cents per foot. Mel Spiegel, **K3DXC** had a 6-10-15 meter transmitter with VFO and power supply. 1000-watts NFM and 650-watts AM. D104 mike, spare finals, and 300' of RG-11U. All for $150. Wanted by M. Victor, a wood lathe with tools.

Ads. *The April '72 issue again included 30 business card size ads, plus the half page back cover ad from club member Ham Buerger (a HAM-M rotor for $109.95!) I note the current Cheese Bits Ad complement includes only 4 small ads, a ¼ page from Beko and a ½ page from Down East. If you'd like to join them currently, contact the ad chairman, Bob, **W2SJ**.*

Miscellany. *Postage for this issue was a single 8-cent Eisenhower 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 any of the above items, visit our website (**www.W3CCX.COM**) and read the full issue scanned by **K3IUV** (me), and posted on the website by **WS3O**, our webmaster. 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** (comments or corrections to: **K3IUV@ARRL.net**)

K0NR Releases New Phonetic Alphabet

April 1, 2022: The "standard" phonetic alphabet is the ITU alphabet but I am starting to think that we might need to get a little more creative in our use of phonetics. Why not innovate in this area, just like we innovate on the technical front? **-K0NR**

https://www.k0nr.com/wordpress/2014/11/twisted-phonetic-alphabet/

Events

For inclusion, please direct event notices to the editor.

2M Spring Sprint -Contest– Monday April 11, 2022, See https://sites.google.com/site/springvhfupsprints/home/2022-information for details.

222 MHz Spring Sprint -Contest– Tuesday April 19, 2022, See https://sites.google.com/site/springvhfupsprints/home/2022-information for details.

432 MHz Spring Sprint -Contest– Wednesday April 27, 2022, See https://sites.google.com/site/springvhfupsprints/home/2022-information for details.

Warminster ARC - Hamfest– Sunday May 1, 2022. Bristol PA. Includes ARRL EPA Convention. See http://www.k3dn.org/hamfest/ for details.

Microwave Spring Sprint -Contest– Saturday May 7, 2022, See https://sites.google.com/site/springvhfupsprints/home/2022-information for details.

6M Spring Sprint -Contest– Saturday/Sunday May 14-15, 2022 (2300Z—0300Z) See https://sites.google.com/site/springvhfupsprints/home/2022-information for details.

June VHF Contest - Contest - June 11-13, 2022. . See http://www.arrl.org/june-vhf for rules and details.

Firecracker - Hamfest - July 2, 2022. Sponsored by HRAC. Harrisburg PA. Details at: http://www.w3uu.org/firecracker/

Murgas ARC - Hamfest - July 3, 2022. Plains PA. See http://hamfest.murgasarc.org for details.

CQ Worldwide VHF Contest - July 16-17, 2022. See https://www.cqww-vhf.com/ for details.

222 and Up Contest - Contest - August 6– 7, 2022. Details to follow.

6M Fall Sprint -Contest– Saturday/Sunday August 13-14, 2022 (2300Z—0300Z) See https://svhfs.org/2022VHFSprintRules.pdf for details.

10 GHz and Up Contest (Round 1) - Contest - August 20 –21, 2022. Details to follow.

September VHF Contest - Contest - September 10-12, 2022. Details to follow.

10 GHz and Up Contest (Round 2) - Contest - September 17-18, 2022. Details to follow.

2M Fall Sprint -Contest– Monday September 19, 2022 11 pm local See https://svhfs.org/2022VHFSprintRules.pdf for details.

KC3BVL Friday Net

Lately Packrat Jim KC3BVL has been conducting a Friday night net with schedule as follows:

7:30 pm	144.160
8 pm	50.160
8:30 pm	222.150
8:45 pm	1296.160
9 pm	432.160
9:15 pm	2304.100

Reminder: there are 3 FT8 VHF / UHF Activity Contests each month. For info see: http://www.ft8activity.eu/index.php/en/

For those interested in an online "Contest Only" event calendar for VHF+, see https://www.qsl.net/n2sln/contestcalendar.html

222 MHz Activity Night

There's been an informal 222 activity night in the Northeast (and beyond) every Tuesday night starting around 7 pm (or so) Eastern Time. ON4KST is being used by some to coordinate Q's when direct CQ's are weak. —W2BVH

PLEASE SEND IN 2022 DUES

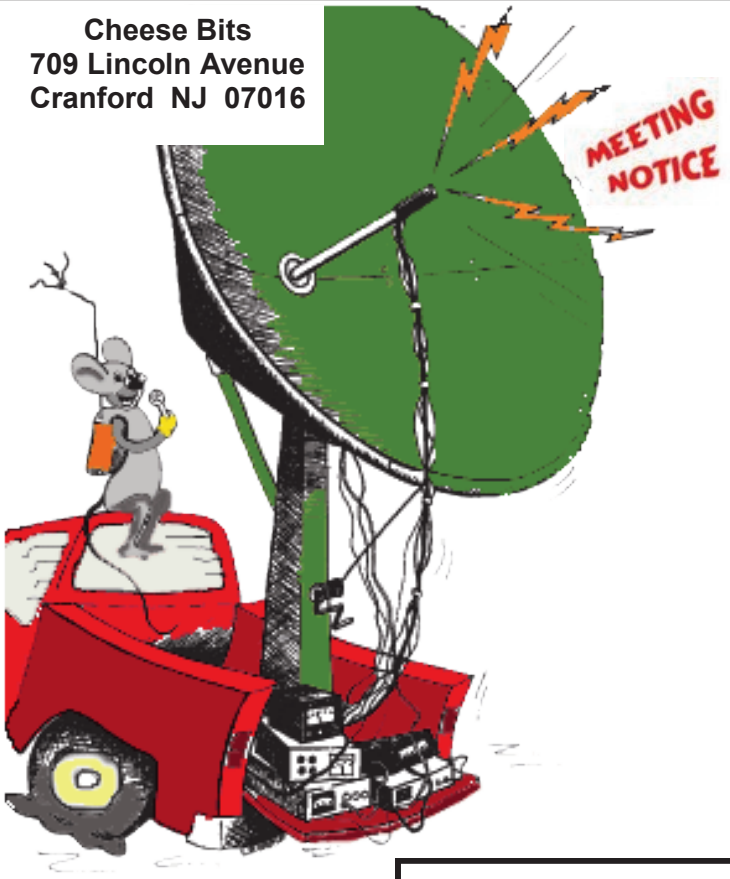
Club dues are due as of Jan 1st, 2022. Go to https://www.qsl.net/w3km/MtAiryRC_Dues.htm and use the "check here" link to see if you already paid. If not, enter your callsign and click on "PayPal"

AS OF 4/6/22 28 DUES REMAIN UNPAID

Dave ***W3KM***

A nice poster containing tons of formulae, units conversions, antenna selection data etc., can be downloaded by filling out a form (no obligation, just don't click the "I'd like to receive more information" box) at:
https://endeavor.omeclk.com/portal/wts/ugmc%7C9egyCoaehzMzajC6%5EwAmfqMvSgwa
Sent to Cheese Bits by Bert **K3IUV**

Cheese Bits
709 Lincoln Avenue
Cranford NJ 07016



TO:

MT. AIRY VHF RADIO CLUB, INC.