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

CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL Affiliated Club

PREZ SEZ:

I hope everyone had a safe and enjoyable Thanksgiving with family and friends! It starts the winter holidays, rich in family traditions and many fond memories of loved ones and of those who may no longer be with us. I wish all members and friends of the Packrats a wonderful Christmas, Hanukkah, Kwanza, or any other holiday/celebration I have not mentioned. Also, may your New Year be **Happy**, **Especially Healthy,** and **Prosperous.**

This month is our annual Holiday Social and Club Meeting, 6:30 PM at the Ben Wilson Senior Center. As in past years, it will feature many food selections from Giuseppe's and refreshments. This year we will have a **Super Mario Table** with many special items. This will not be a Hybrid meeting on Zoom. Hybrid meetings will resume in January for those who can not attend in person.

The January Contest is right around the corner. The excellent presentation that Mike, N2DEQ gave last month, along with the contest clock and all other contest information, is posted on the club Website under the "Contest Info Tab" after signing in as a member. Be sure to review WA3NUF's article "Moving on Up with FT8" and download the latest version of WSJT-X scheduled to be released before the contest.

Lastly, remember to enter your January Contest plans into the W3SZ / K1RZ database so everyone will know the bands you will be on and times you plan to operate. **Go Packrats!!**

Speaking of contests, the June 2021 VHF Contest results are in and W3CCX at Camelback took 2nd place in the Top Ten Unlimited Mutioperator category, 1st place in the Atlantic Division Unlimited Mutioperator category, and 1st place in the Medium Club category in the Affiliated Club Competition. We had a combined score of 1,800,372 points from 41 entries! A special **Prez Shout Out** to the entire W3CCX contest team and member stations at home! Additionally our 2M team of KB3SIG and WA3WUL actually edged out W2SZ with 314 Q's /46 grids to their 265 Q's/40 grids. The friendly June rivalry continues...

Our VP and program chair Doc, W3GAD has announced the following meeting programs: **January** – Crying Towel, **February** – Home Brew Night, **March** – RFI/RF Noise, and **April** – ARRL Night combined with Packrats Awards. If you ever have suggestions for meeting programs, please let Doc know.

Remember as our editor Lenny says, "Almost all of Cheese Bits is what **You** contribute". Please consider doing an article, report, blurb, or send in pictures. Lenny **always** needs material!

I have heard from many of you that you really appreciate the Hybrid Meetings we have started. It helps make those who can not attend in person feel connected and part of the club. If you are one who attends the meetings in person, please consider helping out with the Hybrid equipment set up. Let Bruce, WA3YUE know if **You** can help.

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

NOVEMBER MEETING PICTURES
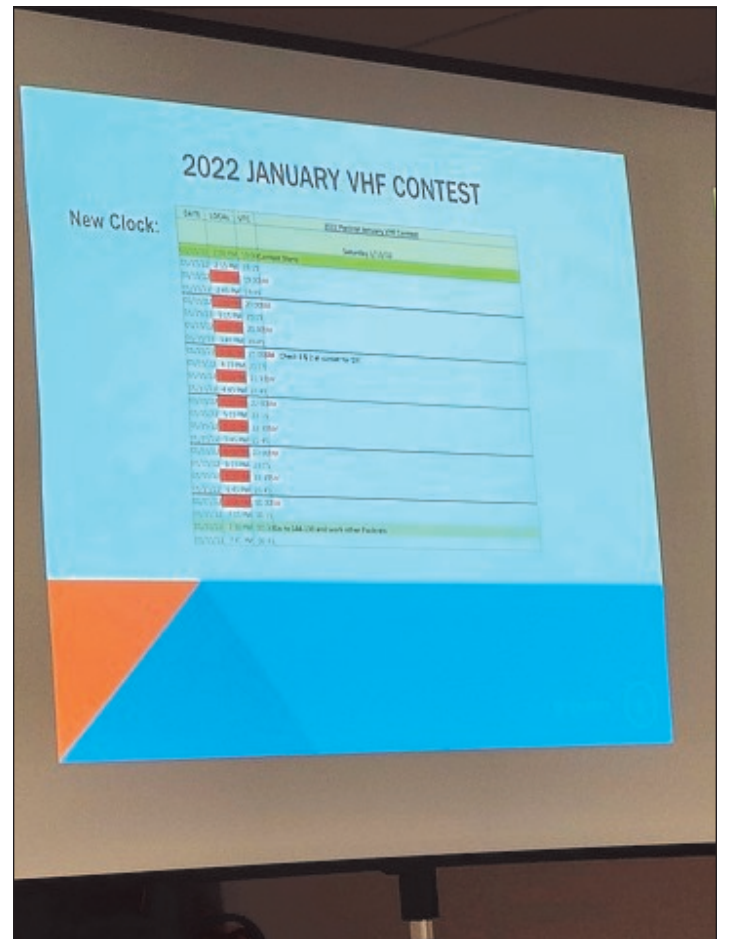
Hints for Using WSJT-X by W3KM
revised Dec 2021

Try setting up WSJT like this:
File --> Settings --> General tab.
Or <F2> --> General tab

Display

☐ Start new period decodes at top
☑ Blank line between decoding periods
☑ Display distance in miles
☑ Tx messages to Rx frequency window ⟶ — Other than in the status bar, you need to see your transmissions
☑ Show DXCC, grid, and worked-before status ⟶ This checkbox turns ON the Colors function.

Behavior

☐ Monitor off at startup
☑ Monitor returns to last used frequency
☑ Double-click on call sets Tx enable
☐ Disable Tx after sending 73
☑ Calling CQ forces Call 1st

TX setup:

| Decode | Enable Tx | Halt Tx | Tune |

Start with Enable Tx selected
Double-clicking a CQ enables Enable Tx

☑ Hold Tx Freq

	Generate Std Msgs	Next	Now
1	PY5EJ W3KM FN20	○	Tx 1
2	PY5EJ W3KM -15	○	Tx 2
3	PY5EJ W3KM R-15	○	Tx 3
	PY5EJ W3KM RR73	○	Tx 4
	PY5EJ W3KM 73 ⌄	○	Tx 5
	CQ W3KM FN20	⦿	Tx 6

☑ Call 1st

Double-clicking the TX 4 radio button or the TX 4 button toggles the TX 4 text

After you send RR73 or 73 keep Enable Tx selected, in case a station needs a repeat. If not, your CQ sequence starts.

Rule of thumb for logging QSOs:
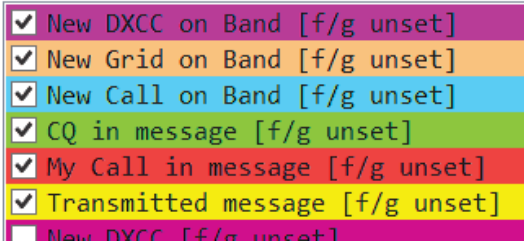**If you receive or send RRR, RR73 or 73** - **log the QSO**, just like SSB or CW. In contests if you receive R as part of the exchange, log the QSO. Allow sequences to finish. **If all stations follow this suggestion, NILs will be reduced!!**

To keep track of worked before or dupes in contesting, use the Decode Highlighting - <F2> Colors tab. This setup works well for making HF QSOs and operating in contests. Don't forget to select the Show DXCC, grid and worked-before status in the General Tab to turn ON the colors function.

Decode Highlightling

☑ New DXCC on Band [f/g unset]
☑ New Grid on Band [f/g unset]
☑ New Call on Band [f/g unset]
☑ CQ in message [f/g unset]
☑ My Call in message [f/g unset]
☑ Transmitted message [f/g unset]
☐ New DXCC [f/g unset]

Green CQs are stations that you worked.
When the band is busy, you might want to uncheck the green worked before setting.

Duping:
During contesting, for [New Call on Band] - duping - to work, you must delete or rename the {wsjtx_log.**adi**} file. If you are using this file while working HF QSOs like I do, first open the file and do Save As and rename the file to save it to a backup file then delete the {wsjtx_log.adi} file. After the contest, you can then copy (prepend) the backup file to {wsjtx_log.adi}. Re-start the WSJT software after making file changes.

Note:
In File Explorer, filename extensions are hidden by default.
Select View, Options and the View Tab.
Uncheck the Hide extensions... Select Apply, OK.

General | View | Search
☐ Always show menus
☑ Display file icon on thumbnails
☑ Display file size information in folder tips
☑ Display the full path in the title bar
📁 Hidden files and folders
  ⦿ Don't show hidden files, folders, or drives
  ○ Show hidden files, folders, and drives
☑ Hide empty drives
☐ Hide extensions for known file types
☑ Hide folder merge conflicts
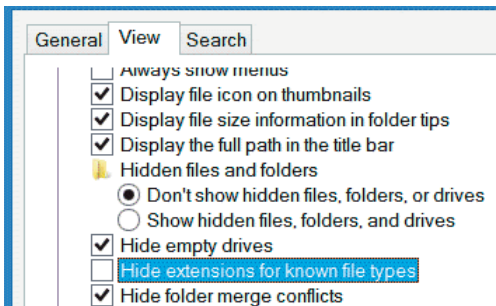
Operating in the Jan SS or other US grid square contests:
Select the NA VHF Contest.
<F2>, Advanced Tab, select the {Special operating activity} check-box, select the NA VHF Contest radio button.
If you use the {Configurations} options to store different setups, load a VHF contest configuration and select the NA VHF Contest option. The next time you load that VHF contest configuration, NA VHF Contest will be selected. The {Special operating activity} options are also used to operate other contests supported by WSJT. **Keep in mind that whatever you change in the currently used configuration, will be loaded the next time you `Switch To` it.**

Hints cont'd...

Other uses for the Configurations option:
Besides having NA VHF Contest selected, you can make configurations for different frequencies, modes, CAT settings, Audio settings and transverter offsets. Everything related to that band can be saved, including the power output setting - the Pwr slider.

A configuration can store transverter offsets.

Station Information

Band	Offset
2m	-116.000 000 MHz

store audio settings when using a RIGblaster interface.

General	Radio	Audio	Tx M

Soundcard

Input: Default Input Device

Output: Default Output Device

or store the use of CODEC audio

General	Radio	Audio	Tx Macros

Soundcard

Input: Microphone (USB Audio CODEC)

Output: Speakers (USB Audio CODEC)

Make as many configurations as you need. It is easiest to start with a configuration that has all the options and settings that you will use in the new configuration: Do `Clone`. Switch To the Clone - copy. Rename it. Then change the mode, freq etc.

Configurations View
- ● NA 6m FT8 ▸
- 1296 FT8 ▸
- 222 FT8 ▸
- 2m FT8 ▸
- 2m MSK144 ▸
- 6m FT4 ▸
- 6m FT8 ▸
- 6m MSK144 ▸
- FT4 DX Contest ▸
- HF FT4 ▸
- HF FT8 ▸
- NA 222 FT8 ▸
- NA 2m FT8 ▸ | Switch To
- NA 2m MSK144 ▸
- NA 6m FT4 ▸ | Clone
- NA 6m MSK144 ▸ | Clone Into ...
  Reset
  Rename ...
  Delete
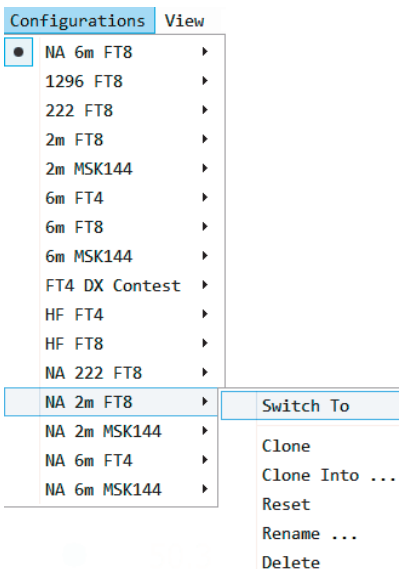
Moving stations to another band/mode:
A topic of discussion lately is how to move stations to another band/mode from WSJT. A proposed messaging format is listed on the Packrat web site under Contest Info, **2021 September VHF Contest.ppt** pp.7-8.
Use the Tx5 combo-box to store free messages to the Tx Macros setup. Type in your message and hit <Enter> to store it. **Note:** Macros are saved per Configuration. Re-order them by dragging them up/down in the <F2>, Tx Macros tab. Free messages are **13 characters maximum** (including spaces).

General macros can be used to alert everyone that you are changing bands and modes:
AV150
A4 50.260
A8 50.313
BV200
CW110

In an effort to aid in using free messages directed to the last station worked, a macro capability was implemented in v2.5.3 for Tx5 messages. These messages are entered into the Tx5 combo-box. $DXCALL will expand to the DX Call.

The abbreviated macro $DX is the same as using $DXCALL.
Some examples using the $DXCALL macro:

```
$DX AW090
$DX 50.180
$DX AFT4
$DX AFT8
$DX AV220
$DX BFT8
$DX BV210
$DX CW100
$DX DFT8
```

If you use several VHF Contesting configurations like I do, make a Microsoft Notepad list of the $DX macros you will use. Switch To each of your configurations and copy/paste each macro from Notepad into the Tx5 combo-box - <Enter> each one.

For example If you just worked WA3NUF, using $DX BV210, the expanded message is WA3NUF BV210 - which tells WA3NUF that you are going to SSB on 144.210. If there are more than 13 characters, the rest are truncated as indicated in your TX message.

Some more examples of messages sent, displayed in the Rx frequency window.

```
174600  Tx      1830 ~   KA1W B210
174700  Tx      1830 ~   W3RJW CW100
174711  Tx      1830 ~   W3RJW DFT8
174800  Tx      1830 ~   WA3NUF BV210
174830  Tx      1830 ~   WA3NUF AFT8
174900  Tx      1830 ~   K1JT A225
174934  Tx      1830 ~   WA3DRC AV220
175709  Tx      1830 ~   WA3DRC 50.180
```

On SSB/CW, we like to follow stations moving to new bands. When you receive a free message, **checking the audio frequency** can often tell you who sent it. Possibly you can follow that station to that band and mode.
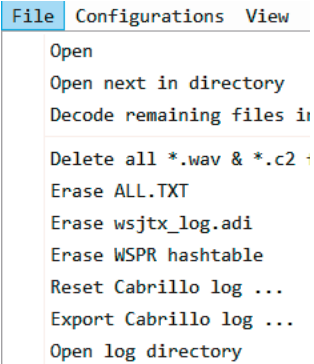
Hints cont'd...

Cabrillo in WSJT:
WSJT can create a Cabrillo log when the {Special operating activity} option is selected.
Before starting a contest, delete the current Cabrillo log, do Reset Cabrillo log ...
As you log, a temporary log is displayed. To export the temporary log post contest, do Export Cabrillo log ...
You are prompted to name the file - yourCall.log or yourCall.cbr for example. The path to WSJT files is found using the File, Open log directory menu.

When also logging SSB/CW QSOs, export the Cabrillo log like you normally do. Open the WSJT Cabrillo in Notepad. Copy/paste only the QSO: lines to your normal logging program log, maintain the END-OF-LOG: tag. The appended QSOs do not need to be in date/time order.

```
File  Configurations  View
    Open
    Open next in directory
    Decode remaining files i

    Delete all *.wav & *.c2
    Erase ALL.TXT
    Erase wsjtx_log.adi
    Erase WSPR hashtable
    Reset Cabrillo log ...
    Export Cabrillo log ...
    Open log directory
```

A very useful WSJT text file:
All WSJT QSO activity is saved to the ALL.TXT file. If for some reason you failed to Log a QSO, open this file (File, Open log directory) and search for urCall<Space>hisCall. Use Find Next to find the QSO confirmation. Make a note of the QSO and edit it into the WSJT Cabrillo log post contest.

Note:

We said that we would aim to release a WSJT-X version with the $DXCALL macro capability (as described by W3KM in his "Hints for using WSJT") by December 1.

Owing to some unexpected personal circumstances, we're somewhat behind on our planned schedule. We still expect to have it ready in plenty of time for use in the January contest.

Please stay tuned -- and when it's ready, be sure to upgrade to the new version. Before the contest!

   -- 73, Joe, K1JT

ARDC Grants
ARDC (Amateur Radio Digital Communications) is an organization that distributes grant money to people or organizations who want to implement various worthy objectives (for instance repeater upgrades, etc.). ARDC's endowment came about in an unusual and serendipitous fashion. You can read about it at https**://www.k0nr.com/ wordpress/2021/10/whats-this-ardc-grant-thing/**

Who's in the Neighborhood?
Have you ever wondered how many hams there are in your immediate vicinity? Ross KT1F has the answer. He put together a database of ham locations and a web site which will show you who's in your neighborhood on Google Maps.. I tried it and was astounded by how many hams are near me. Try it out at **https://haminfo.tetranz.com/map**
   —W2BVH

Some Nostalgia: Pics from Hilltown 1978

Sent to Cheese Bits by Bill **K1DY**

Clockwise from top left: Microwave tent; Tony W3HMU; Bill W3HQT and Phil WA3NUF 2M tent; Bert K3IUV.
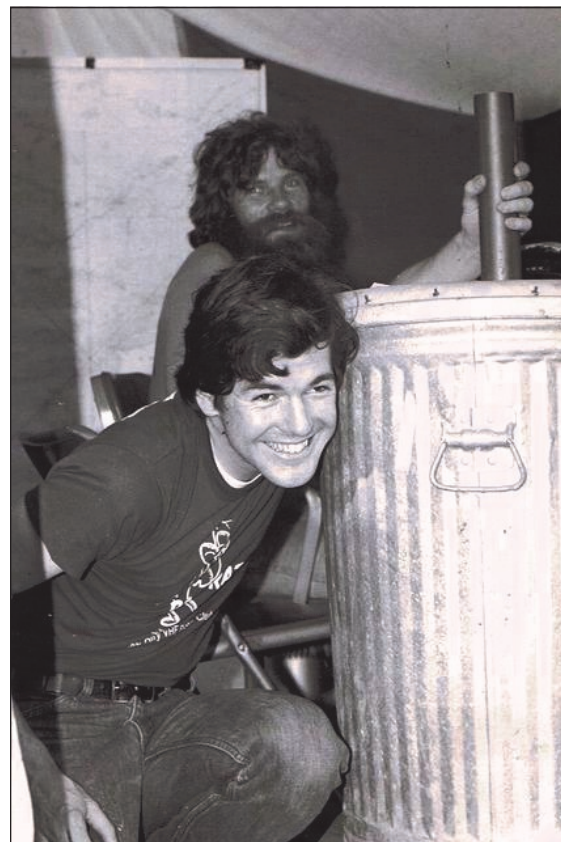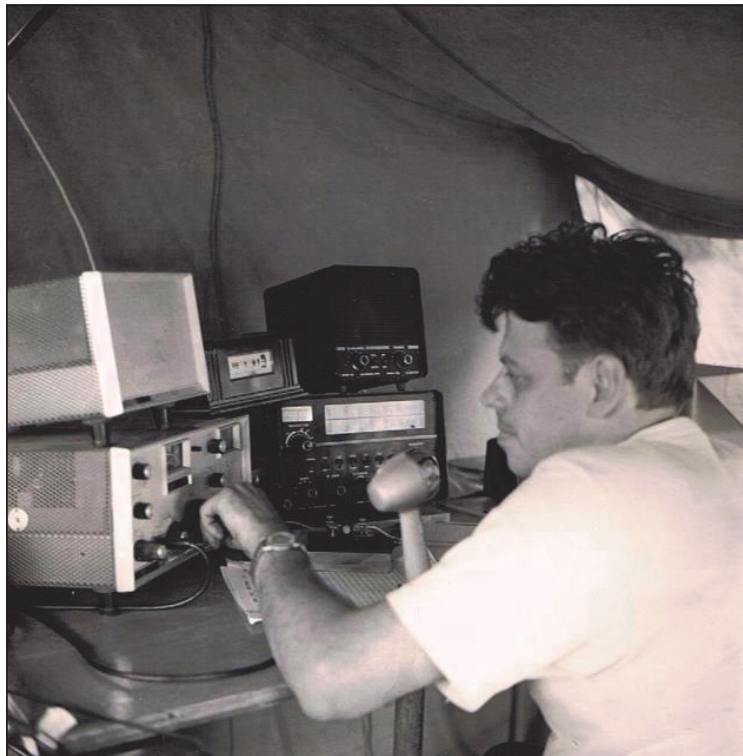
Van Amplifiers and Escaping Current
By Pete **K0BAK**

Most years my rover van would be put back in its winter garage before the first frost, but unusually warm weather and lots of rack work encouraged me to keep it in my driveway through mid-November. I continued to avoid working on mobile HF capability to concentrate on building VHF features and allowing more room to work inside the van, but I very much miss ad hoc POTA activations and also missed operating rover in two of my favorite state QSO Parties, PA and NY.

5-band Transverter Permanent Home
I used my new(ish) Q5 Signal 5-band transverter in a couple of VHF contests and Packrat net check-ins, but it was controlled manually and mounted temporarily on a rack shelf using bungee cords. After building and testing control cables and control signal distribution boxes in my basement station (see http://k0bak.com/rover/Q5%20to%20Flex/Q5%20cable%20project.htm), I mounted the Q5 and RJ45 control signal boxes more permanently onto a rack shelf. The Q5 was positioned above my Flex 6500, and for what it's worth, it looks pretty natural there (see pic).

After getting a couple of over-temperature shutdowns on my 6m amplifier in the summer, I decided to remove the spanning rack shelf holding the 6m and HF amplifiers as well as the 50vdc distribution shelf that has a malfunctioning voltage/current/energy meter. I intend to find a powerful cooling fan for the 6m amplifier and mount it on its own shelf. I'll also fix the 50v shelf meter situation. The HF amplifier will be used in my new-to-me small SUV so I have a more reliable vehicle for HF mobile operations. With those rack shelves gone, rack 1 was clear except for an empty helper shelf, and the inverter & AC distribution panels on the bottom.

Medium-Power VHF Amplifiers Planning
I had always intended my 4 existing-but-currently-unused medium-power VHF amplifiers (100-300w on 6m-70cm) to be mounted in my center rack. With a higher-power 6m amplifier, I was down to 3 of the 10" square units from TE Systems: 2m, 1.25m, 70cm. After overthinking quite a few mounting options, I settled on a small square wire rack whose shelves fit the amplifiers' dimensions well. This wire rack in turn would be mounted on a spanning rack shelf. Before I would actually mount the amplifiers, I wanted to do some long-deferred work on my medium-current (up to 80 amps) DC distribution rack.

Exposing the DC Distribution Rack
The medium-current DC distribution spanning rack is one of my earliest and most complicated van projects. Sitting above the two 200Ah AGM batteries and the high-current (up to 200 amps) distribution system, this rack shelf distributes power for the radio station as opposed to the hungry AC inverter. Unregulated battery power and regulated/boosted power are distributed and switched, as well as a subsystem for charging the station batteries from the vehicle alternator and charging the vehicle batteries from AC.

This spanning shelf is mostly hidden beneath the low-current (<40 amps) distribution shelf. Removing the low-current shelf was time-consuming due to many power connections to radio station components. The work of exposing the medium-current spanning shelf would be even more difficult once I installed the three VHF amplifiers above the low-current shelf, so that's why I wanted to do this now.

Van cont'd...

Mysterious Current Hunting Fail

The easiest work on the medium-power shelf would be correcting my error of not using a flyback diode across the solenoids that connect the vehicle power to my station batteries when I want to charge the station batteries from the vehicle alternator while driving. Although a couple of Amazon product reviews claimed those solenoids included diodes, the sparse vendor documentation did not mention them. While damage to the timer relay contacts that energize the solenoids may have already occurred, the circuit still apparently worked. I added a diode assembly I made with ring terminals and heat-shrink insulation.

I use panel-mounted digital voltage/current meters to monitor current from

Note 1.7A

my station batteries as well as the current from or to the vehicle power system when charging the vehicle batteries from AC or the station batteries from the vehicle alternator. These inexpensive meters measure current by passing the current-carrying wire through a round Hall Effect transducer. The transducer around the vehicle power wire reads about 0.5 amps when connected to the AC-powered battery charger when the charger isn't powered. Even worse, the wire carrying power from the output of my two 200Ah station batteries to the distribution shelf displays 1.7 amps when nothing (that I know of) is using station power.

In both cases, I disconnected the applicable wire and inserted a handheld volt/ohm/amp meter (rated for 10 amps) in the circuit. And in both cases, the meter read zero amps as expected. (I had previously verified the meter current accuracy with two different power supplies dumping current into a dummy resistor.) On the one hand, there was nothing else I could do, the circuits under test were as simple as could be so I was confident there was no current actually flowing. On the other hand, I still don't know what causes those permanently mounted Hall Effect transducers to read significant current, especially the 1.7 amp reading. I guess I'll have to live with it because I don't care enough to tear apart the high current distribution system to try different meters. Sigh.

Bad Box Mounted Again

While I was getting started building systems for the van, one of my earliest projects was mounting a wired remote control for my 3kw inverter along with an analog current meter in a painted wooden box. That box along with a vendor-supplied dual digital meter for my boost regulator were originally mounted on a 1U rack blank, which was mounted high in rack #1 for good visibility. Both the box and the use of the flexible 1U blank were a Bad Idea. The box would come loose while driving due to all the flexing of the relatively thin blank with a much larger box mounted on it. I would never do that today, but I was even more unskilled then than I am now.

I removed the wooden box a few years ago and stored it in the basement to be dealt with "someday". The more important booster voltage meter that monitored regulated output radio equipment voltage and unregulated input battery voltage was "temporarily" mounted on the 50vdc power distribution shelf. As mentioned earlier, that 50vdc shelf was removed. Because the analog current meter in my bad-idea wooden
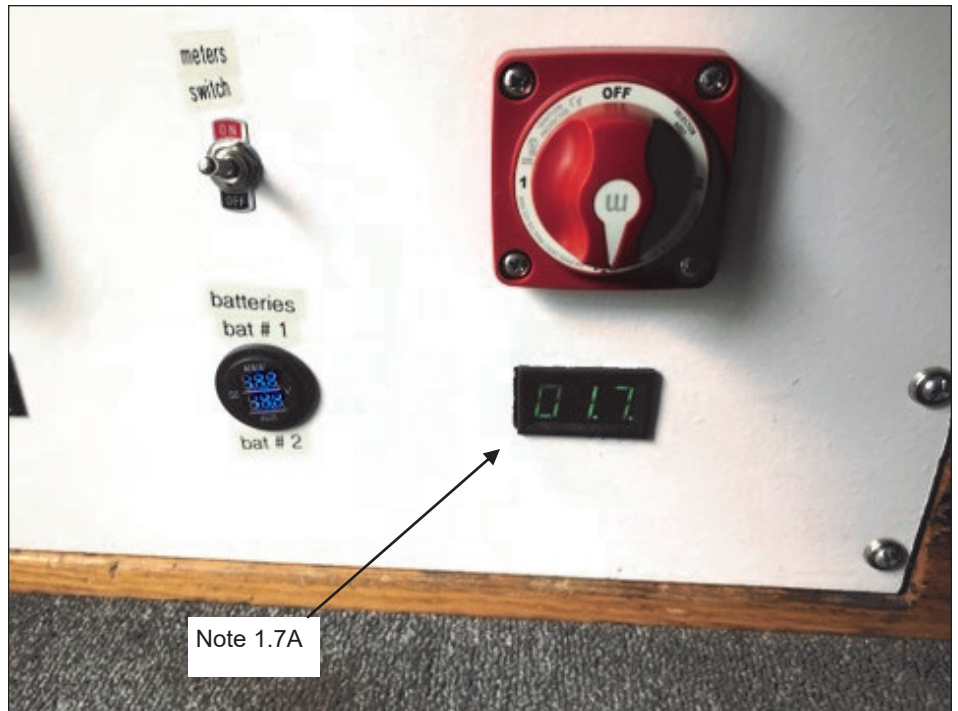
Van cont'd...

box was fed from the side of the now-exposed medium-current distribution shelf (containing the shunt for the current meter), I had an opportunity to use the analog current meter again. Mounting the wooden box and the booster meter boxes on a half-deep rack shelf, I was able to connect the analog meter to the distribution shelf again but this time with an intermediate set of wires so I can more easily rebuild the meter shelf better someday.

2m Amplifier Fan Assembly
Because my "350 watt" 2m amplifier will get by far the most use of the 3 VHF amps I was installing, often in high-duty-cycle modes and in summer heat, I wanted air and heat pulled up from the surprisingly-shallow heat sink fins that cover the amplifier. Searching Amazon I found 120mm fans rated >150 CFM with excellent customer comments. I bought 4 of them, which would nicely cover the amplifier top. After considering a number of mounting schemes, I settled on bolting them together using hardware store square and corner braces to create a 2x2 assembly. Bungee cords will be used to press them against the heat sink. The four fans together consume almost 4 amperes at 12vdc, and I can feel a significant force when I hold the assembly while they're blowing. The 2m amp and the fans will be mounted highest in the wire rack to give them some room to blow upward into an otherwise-wasted space.

The Tower of Medium Power
To mount the 3 amplifiers, I chose a square wire rack, partly to minimize van rack space and partly to maximize air flow around the amplifiers. It certainly would have been easier to use 3 conventional rack shelves, which is why it took me a while and some trial builds to make the decision. The wire rack assembly would stand on top of a spanning shelf attached to both front and back van rack frames due to the concentrated weight of the populated wire rack. I chose a spanning rack shelf where the arms of the shelf could extend across the 24 inches from front to back. But the shelf itself was only 18 inches deep. The 18-inch shelf, shorter than my other 24-inch spanning shelves, would provide additional space in front of the wire rack but at the same time allow access to the front of the low current distribution shelf below the new shelf.

I thought of a few unsatisfactory methods to secure the vertical wire rack to the spanning rack shelf, until I realized I could exploit the tapped holes on the bottom of the wire rack vertical columns meant for adjusting the height of the rack's screw-in feet. By drilling four holes in the steel spanning shelf and finding the right size bolts, I was able to securely attach the wire rack to the shelf in a satisfying solution to a previously-vexing design problem.

In a rush to get a temporary system to test in time for Monday Packrat nets, I placed the three amplifiers on their respective wire rack shelves, "secured" with bungee cords. I had originally thought I'd use aluminum

angle brackets screwed to the existing case screw holes on the side of the amplifiers as the basis for a more secure mounting method, but I knew I would miss the Packrats net if I did so. Mounting the 2m fan assembly with bungee cords and connecting power and PTT lines completed the non-RF part of the three-amplifier rack. Note that the PTT lines for each band are separately engaged with a 30 ms delay by the Q5 transverter's control signals output.

Temperature Meter and Fan Switches
Continuing my concern about amplifier heat in hot weather, I bought 3 thermistor-based digital panel-mount temperature meters from Adafruit earlier in the year. Initially I would install one just for the higher-power 2m amp. Using a Hobby Lobby wooden "treasure box" with a window to contain the display, I drilled holes in the back for access to the meter display's power and sensor connectors. I used aluminum foil and gaffer tape to do my best to allow the thermistor to have a decent temperature transfer from the center of the amplifier's heat sink. The thermistor sensor lead is pretty short, so I was limited to bungee-cording the meter box onto the wire rack shelf with the 2m amplifier . The entire temperature meter installation is an unprofessional embarrassment, but I declared it good enough to at least see if it's useful during a contest. If it proves useful, someday I could do a better job including splicing in a longer sensor lead to allow for a better position for the meter.

To switch the amplifier fans and the temperature meter, I built an assembly with three toggle switches mounted on a small aluminum angle, the switches connected to a terminal strip, all mounted on a hand-sized wooden substrate. One toggle would control the 2m fans, one would control power to the temperature meter, and one could control fans for the other two amplifiers if I decided I needed them in the future . Power to the switches was connected to a new terminal strip mounted on the low-current rack shelf below, in turn connected to a fuse box powered from the station batteries via a master switch. I chose power from the station batteries instead of the station boost regulator because the voltage was not critical and may provide a bit of isolation from possible electrical noise from the fans.

Output Coax Relay
My long-standing intention has been to multiplex the four low bands on a single coax up the mast by using a 4-to-1 relay at the station end and the same 1-to-4 relay at the top of the mast to distribute RF to four yagis. This is the method used by the **W3ICC** rover to allow a single direct coax run to the top when there is no adequate low-loss 50 ohm coax in the mast's helix cable bundle.

The SSB Electronic AS-304 antenna "switch" (a 4x1 relay assembly) will be used on both ends. Thanks to Roger **W3SZ** for generously providing me two of these a couple of years ago. For this sub-project, my limited goal was to build the DIN connector for the control signals of one of these AS-304 units and test band switching on the air. I had hoped to build a manual rotary switch assembly and indicator lights that would be used long-term as a backup to automatic switching, but again I ran out of time. Instead of an actual manual relay control switch, for the test I used a terminal strip hanging in the air and moved the wire position to command the AS-304 to switch bands between Packrat nets.

Assembling the DIN connector to a four-wire cable was as fussy as I had thought it would be. Frankly, I'd been procrastinating on building the obviously-necessary cable knowing I'd be challenged. Assembling these DIN connectors is like assembling Ikea furniture in the sense that it's mechanically unstable until fully

assembled. Many experienced Packrats would probably laugh at my trepidation, but first-time-build confidence is not one of my strengths.

The cable did get built, bench-tested, and then tested on the Packrat nets with my half-baked terminal strip. The on-air switch/relay test was important to give me confidence in the winter when I start to build an automatic band switching system and a permanent rack mount for the switch/relay.

Net Testing

Scrambling to get the full system on the air for the Packrats nets Nov. 8 (I think), I placed the AS-304 switch/relay temporarily on a shelf at the back of rack #1 and connected six 3 to 4-foot coax jumpers between the amplifiers, the Q5 transverter, and the switch/relay. To monitor RF power, I had a multi-power VHF Bird meter between the switch/relay output and the coax port connected to the coax running to the top of the mast. After connecting the coax + rotator cable assembly from the mast control plate to the mast platform, I raised the mast about ¾ height using mains AC power. Verifying forward and reverse RF power on all three bands both without and with the amplifiers operating, I was ready for the nets. Later that night, net check-ins were successful, though I was pretty cold in the van and had a space heater running from the AC power I already connected for the mast compressor.

Although I bought a set of LMR-400-UF jumper cables intending to direct-connect them to the amplifiers, I discovered that the wide jumper curves took more room than I wanted them to, so I decided to use right-angle adapters for a better layout when I reassembled the system more permanently, accepting the downsides of those adapters.

As can be seen in one of the pictures, the on-air tests were made with jury-rigged temporary electrical and mechanical connections. About half of the tested system was torn down to be redone more permanently in the winter while the van is in its heated garage space. As I write this, I'm waiting for my unpredictable but competent mechanic to finish the van's state inspection and hoping he doesn't find something wrong beyond the two starter batteries that I suspect will need to be replaced.
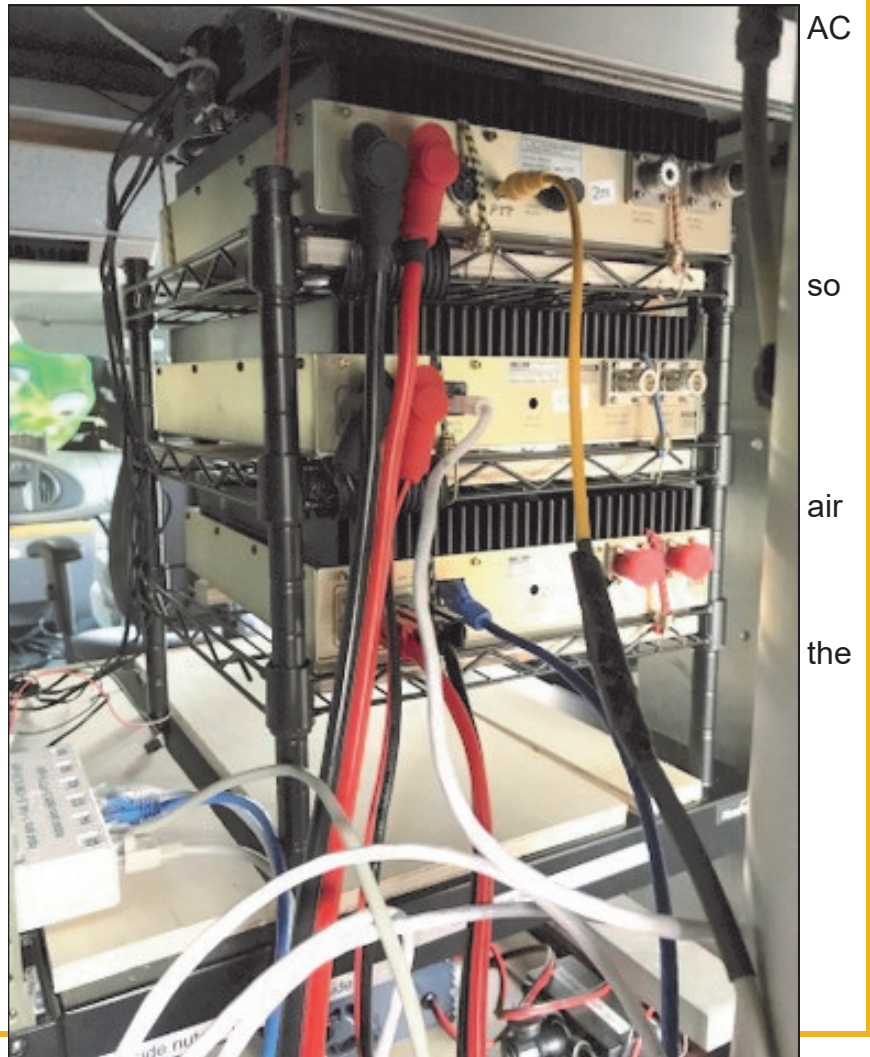
The Wayback Machine
In CHEESE BITS, 50 Years Ago

Nibbles from December 1971. Vol. XIV Nr 12 de K3IUV Bert
(*author's comments in italics*)

"**Our Prez Sez**". Prez Don, **W3CJU** thanked last month's speakers for their educational talk and expertise in antennas. Timely help for the members, in preparation for the January contest. He noted that Ron, **WA3AXV** (now **W3RJW**) and his contest committee have been working hard to prepare for the contest strategy meeting in December. And he took a moment to thank the Cheese Bits typist (Marsha, **WA3TEM**, daughter of Harry, **W3CL)** for her effort in decoding his Prez Sez input.

Cryptogram. Periodically, a cryptogram was published in the Cheese Bits. I don't know who the author was, but my usual "go-to" for the solution was El, K3JJZ. (*Another one of his interests*.) They usually (but not always) had a Ham Radio theme. This month's cryptogram looked like it might be an easy solve, so I went at it. Sure enough, it yielded readily. (*Note that I found a "typo" in it, 50 years later*.) You might like to try this one, as follows:

ABCD ZCX DCX:

    E GWXBA XJCX WGB WZ XJB BKLJCGVB TCTBDM (TJENPWGX QNRDQ) XJWRVJX BGWRVJ WZ XJB LDSTXWVDCP EABC XW RMB EX FBBT EX LNBCG SWRD QBEGV HCXLJBA.   XJB BAEXWD

Technical Topics. A nice construction article by Ken, W2FBF, described

"Independent Receiver Tuning for Transceivers." Similar to the modern transceiver RIT (receiver incremental tuning), it used a varicap, activated by a second set of relay contacts (or a second relay) to change the vfo frequency between receive and transmit. Parts list and schematic were included. A simple change, but Ken reported "I would be lost without it."

OWHN, The Grouch, etc. From time to time, a letter would be received from OWHN (Old What's His Name), or from someone identifying as the Grouch. These were generally critical of some operation of the club, and anonymous. They would normally be published, but sometimes distribution was restricted to members only. This issue carried several such letters, and included a response from the editor. However, those pages are marked "Members Only," and are not commented on here. If you'd like to read some of the controversial information, look at the original posted on the web site archive.

New Products of Interest to HAMS. From Lynn, **W3NSI.** 1) A Digital Multimeter (IM 102) from Heathkit. Just announced, this unit will measure to 1000 VDC and 500 VAC. Also, resistance to 20 megohms, and AC or DC current to 2A. Price $229. Spectrum International announced a new 432 converter, with a noise figure of 3.8 db and a gain of 30 db. It was designed for a 28-MHz IF, but other IFs are available. Priced at $59.95. Lateur Engineering in CA has available a Capacity Meter with a range from 30 uufd to 0.1ufd for $94.50

Calendar. December 15, closed club meeting (members only). Final contest

preparations. Latest techniques and information will be discussed, evaluated and distributed. (*Part of the club strategy for winning the contest each year was the secret meeting in December. This ensured all members had the latest "technology"*). January 19 was the annual Crying Towel Meeting (*where those that didn't listen in December would admit to their sins*).

Swap Shoppe. By W3ZRR. *(Always nostalgia. Now we use the club reflector.*): For sale by Joe Farace, a Hickok Model 600A tube checker (Do you *remember when every drugstore had one*?), for $50. Touted as "handles transistors and diodes too". From **WA2KOI**, a "new" TX-62 with power supply and ARC-5 VFO (*the VFO of choice in the old days was a surplus "command set" transmitter from the ARC-5 series. Reasons included cheap, stable, and readily available*). From Harry, **W3CL**, a 200-watt CW/AM 6-meter xmtr in a 5-ft cabinet. High level modulation and continuous duty power supplies. Stabilized ARC-5 VFO (*see above*) and fully metered. $50. (*AM rigs were being discarded and replaced by SSB in this era.*) And lastly, from Bill, **W3VIR**, a converted R-48 receiver for the club intercom frequency. No price given.

Ads. *The December '71 issue included 30 business card size ads, plus the half page cover ad from club member Ham Buerger (Drake TR-22 for $199.95). 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 **W3SO**, 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**)

AMSAT Tom Clark Memorial Space Symposium

The 2021 AMSAT 39th Annual Space Symposium and General Meeting has been renamed in honor of Dr. Tom Clark, K3IO (SK), Director Emeritus and President Emeritus of AMSAT and Amateur Radio satellite pioneer. Clark died on September 28th. He was 82. A video of the complete (8 hour) symposium can be viewed at https://youtu.be/RTvcceM7Tz0

Events

For inclusion, please direct event notices to the editor.

EME - 50—1296 MHz – Wknd 3 - Contest - December 18-19, 2021. See http://www.arrl.org/eme-contest for details.

Winterfest - Hamfest - January 8, 2022. Sponsored by HRAC. Harrisburg PA. Details at: http://www.w3uu.org/winterfest/

January VHF Contest - Contest - January 15-17, 2022. See http://www.arrl.org/january-vhf for rules and details. Also see the ""Contest Info" tab at the Packrat web page (after signing in) for club specific info.

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

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.

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.

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

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.

EME - 2.3 GHz & Up – Wknd 1 - Contest - September 17-18, 2022. Details to follow.

EME - 50—1296 MHz – Wknd 2 - Contest - October 15-16, 2022 Details to follow.

EME - 50—1296 MHz – Wknd 3 - Contest - November 12-13, 2022. Details to follow.

Tiny SA vs. Siglent SSA3021X

Here is a YouTube video of a comparison between the "TinySA" spectrum analyzer (~$50) and the SSA3021X (`$1400). It's no surprise that the Siglent spectrum analyzer wins the comparison. What is surprising is how well the TinySA does. If you don't need lab quality measurements and filtering for very close in resolution, it looks like the TinySA will give you some decent results. See https://youtu.be/YJ1pN0RuXcg   —W2BVH

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

I think you'll like this. A Google earth map (scrollable and sizeable) that lets you find, select and listen to broadcast radio stations all over the world. The green dots on the Google Earth map represent the radio stations in all countries. Click on any one of the dots and you will immediately hear that station, with very good reception. The station call letters and other information are displayed. For example, halfway up Ireland's East coast, there is a station playing Irish pub music. Ditto, in Hatboro, it played WRDV, the local station. And, any others that I selected. Who did all this work? I have no idea.   Enjoy. Bert, **K3IUV.**

Cheese Bits
709 Lincoln Avenue
Cranford NJ 07016

MEETING NOTICE

TO:

MT. AIRY VHF RADIO CLUB, INC.