



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LVI

July 2015

Number 7

PREZ
SEZ:

Seems like a long time ago for me, but the June VHF contest is in the history books, and we have to look back and say we had a **great time**. I hope you can say the same.

The mountain was totally different this year with no trucks being used for operating. This is a first for me since I've been going to the mountain starting in 2002 when I first joined the club. We had 6 and 2 in the first trailer and the rest of the bands up through 24,192 MHz in the other trailer.

We have lots of items on our list of improvements for next year and we've already begun the process of making them happen. I am convinced that we have a solid operating plan now and look forward to leading the charge to making more contacts; many more contacts next year. I know of many contacts that we just didn't make that were entirely possible. I am looking for someone to assist in the microwave trailer so I can work on the coordination of contacts next year.

No sooner was the contest was over than I had to prepare and leave for our first RV vacation. Seems that my daughter and I made a deal that she could use my truck to tow their RV and I could use the RV anytime I wanted. So we made our maiden voyage to Cape May returning on July 2. A great time was had by all.

Before I left I had taken my motor and gear drive from the tower to a local shop. Many of you knew

that I had a freezing situation during the winter that I solved temporarily with insulation and heat tape. Now was the time to get that resolved.

Upon return I retrieved the motor and put it back on the tower which is now playing better than ever; but what motivated me to start the process was that the potentiometer method, which keeps failing, needs to be replaced by the pulse counting method which is more reliable and accurate. It took me two days to figure out what was keeping this from working. The 'switch' is a magnetic sensor and it counts and sends back pulses every time a magnet passes. I was getting erratic pulses shown clearly on the oscilloscope at the control box when I had it out at the tower. Finally the answer came that the spacing needed to be 3/8 of an inch, and more importantly the metal that held the sensor could NOT be ferrous material. Armed with this information I quickly fabricated an aluminum holder for the sensor, spaced it 3/8" away and now I am in business. The tower returns precisely to where it needs to go on command. The accuracy is to 1/17 of a degree, much better than needed. I am now a happy camper.

The June Contest being the only big radio event in that month, lets move on to what's happening in July. We have our annual Auction on July 16 at our regular meeting place, Ben Wilson Senior Center in Warminster. Come, bring your excess stuff and plenty of money to take advantage of the many precious components and parts that will show up at the auction.

August doesn't mess around this year. The first day

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PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz (PL 136.5) Hilltown, PA

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PACKRAT BEACONS - W3CCX/B

FM29jw Philadelphia, PA
50.080 144.284 222.064 432.286 903.072 1296.245 MHz
2304.043 3456.207 5763.196 10,368.062 MHz (as of 1/08)

MONDAY / TUESDAY NIGHT NETS

VHF/UHF Monday:

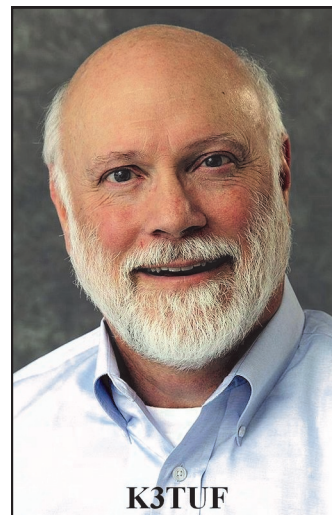
<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
7:30 PM	50.145 MHz	N3RG FM29ki, WA3QPX FM29di
8:00 PM	144.150 MHz	N3ITT FN20kl
8:30 PM	222.125 MHz	KB1JEY FN20je
8:30 PM	224.58R MHz	W3GXB FN20jm
9:00 PM	432.110 MHz	WB2RVX FM29mt

Microwave Tuesday:

7:30—8:30PM Coordinate QSO's on 144.260 with net controllers, for all Microwave bands you'd like to work. Also setup Q's at w4dex.com/uhfqso

Visit the Mt Airy VHF Radio Club at: www.packratvhf.com or www.w3ccx.com

of the month is the UHF contest, which you all know is my favorite contest (mainly because it only lasts 24 hours). Here's hoping for good weather, many rovers, many contacts and plenty of assistance. I know that this more laid back contest will make full use of the new opportunities to make contacts with the use of the spotting networks and the chat pages.



We were connected in June on the mountain, and I know of circumstances when it made contacts, especially over night using pingjockey to rouse up meteor scatter contacts. Get your gear ready and mark off your calendar for the first two days of August. Then come take a dip in the pool at the qth of KB1JEY the following weekend (on Saturday) to cool off your operating heat from the UHF contest for our annual Packrat Picnic. Folks start to gather around 2 PM and the grill is going by 4 PM for some of the finest dishes around. This is a must for good food, social interaction, and maybe even some radio microwave conversation.

I can't end without urging you to register for the Conference: http://dataandwireless.com/packrat/2015_vhf_registration.php

Get registered and lets talk on lots of bands,

Editors Note

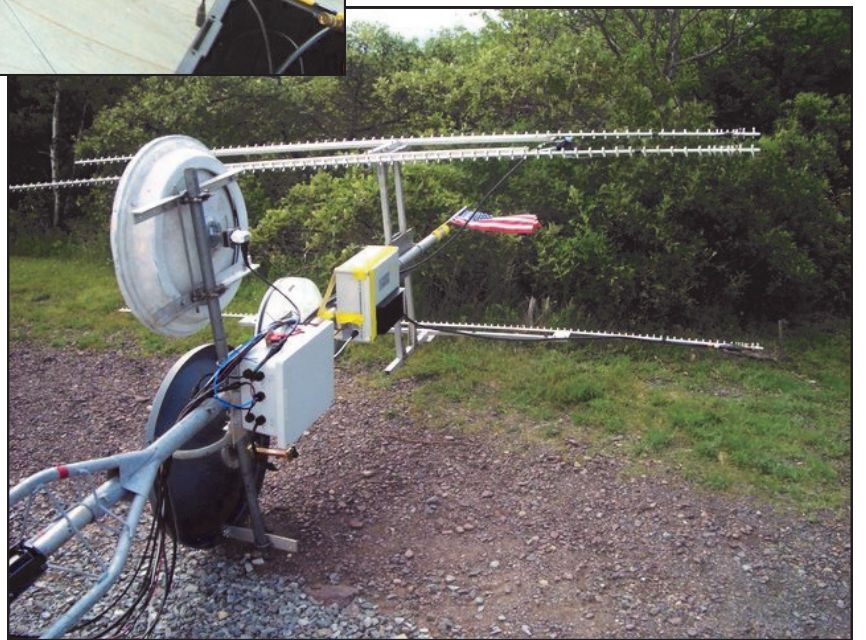
Special thanks this month to my XYL, Wendy, who proofed this issue in spite of the difficult side effects of chemotherapy. She has been proofing Cheese Bits every month since I've been editing it, and in spite of my best efforts, always finds some things I've missed.

--Lenny W2BVH

CAMELBACK 2015 IN PICTURES













TNX to K3JJZ & K3HUW
for the 180+ pictures
used to choose these!

A HOMEBREW REFLOW OVEN – PART 3

By Roger W3SZ

We conclude this month with a description of the construction of the oven, the software used to drive it and the solder quality resulting from using the oven.

III. Construction. Construction of the reflow oven was extremely simple. It consisted of:

1. Removal of unnecessary parts from the toaster oven.
2. Rewiring the oven heating elements.
3. Threading the thermocouple into the oven cavity and connecting it to the osPID.
4. Installing the SSR in a cabinet and adding a connector to the box for the osPID connection.

First I disassembled the toaster oven and removed the two control boards, which would not be needed because the osPID would be controlling the power to the infrared heating elements. Pictured below are the oven parts (except for the shell) after disassembly on the left, and the “extra” circuit boards that were removed.



Illustration 3: Disassembled toaster oven (left) and "extra" boards (right)

After removing the extra boards, the upper and lower infrared heating elements were connected in parallel to the 120 VAC power cord of the toaster oven. The photos below were taken before the oven was reassembled, and show the top and bottom heating elements.

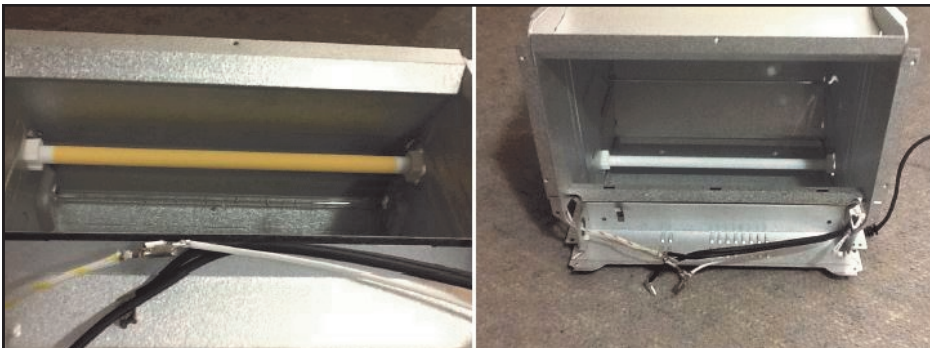


Illustration 4: Top heating element (left) and bottom heating element (right)

I installed the solid state relay and its heatsink in a cabinet that formerly housed an isolation transformer. This cabinet was ideally suited to this project because it already contained two dual 120 VAC receptacles. So the toaster oven's AC cord could just be plugged into one of these receptacles, which were wired to the output of the SSR. With this arrangement, the osPID/SSR combination can be used to control the temperature of / power to any 120 VAC device. So this project could be used with a hot plate instead of a toaster oven merely by plugging a hot plate into one of the receptacles on this cabinet and moving the thermocouple from the toaster oven to the hot plate. Below are inside and outside views of the cabinet containing the SSR. The SSR is visible at the upper center of the cabinet in the internal view. In the external view, master power switch is at upper right, SSR-controlled 120 VAC receptacles is at lower right, and osPID connector is just to left of center.

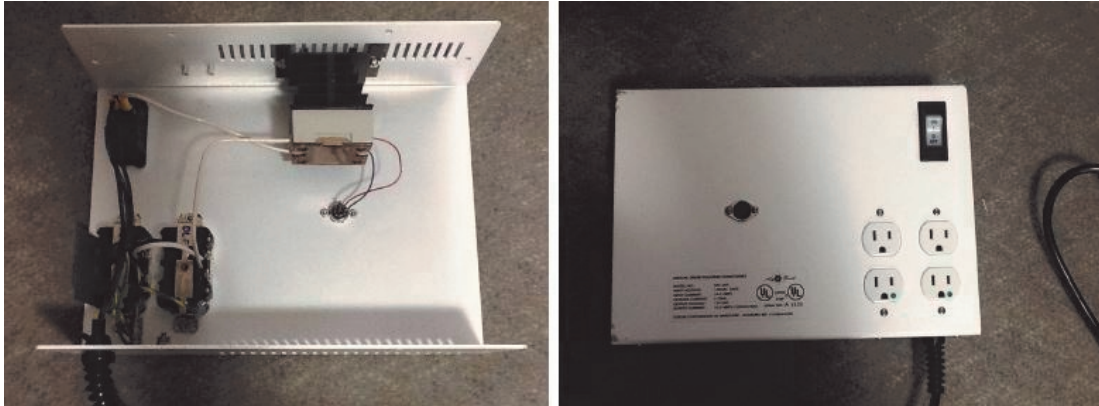


Illustration 5: SSR Cabinet Internal view (left) and External view (right)

Below is a view of the reflow oven system in operation (Illustration 6).



Illustration 6: Reflow oven in operation, with PID and SSR Cabinet

IV. Software. The power, versatility, and extendibility of the osPID are in its open source software. The software consists of two parts, the firmware installed in non-volatile memory on the osPID, and the user interface, which runs under Microsoft Windows on a PC. The osPID can be run in free-standing mode without a PC, but its operations are greatly enhanced when it is used with a PC, as the temperature curve inside the oven can then be viewed graphically in real time. As noted above, the firmware is based on Brett Beauregard's Arduino PID Library. A basic discussion of this software can be found on the Arduino Playground website³¹. The code itself is hosted on GitHub³². Further description of the code by Brett Beauregard can be found on his project blog³³. Reading this blog will really help you understand the workings of the firmware. After reading the blog you could yourself write the code for an excellent PID. If you read the blog, don't forget to click "Next" at the bottom of each page to go to the next. The user interface software, or front-end software, was also written by Brett Beauregard and can be downloaded either from the Arduino Playground webpage referenced above (31), or directly from the zip file link referenced here³⁴. The image (next page) shows the GUI. On the left side of the GUI are fields to set K_p , K_i , and K_d as well as other parameters used to fine-tune the controller. On the right are, on top, the desired temperature curve vs. time in green, and the actual achieved temperature curve vs. time in red. On the bottom is a display of the actual PID output vs. time.

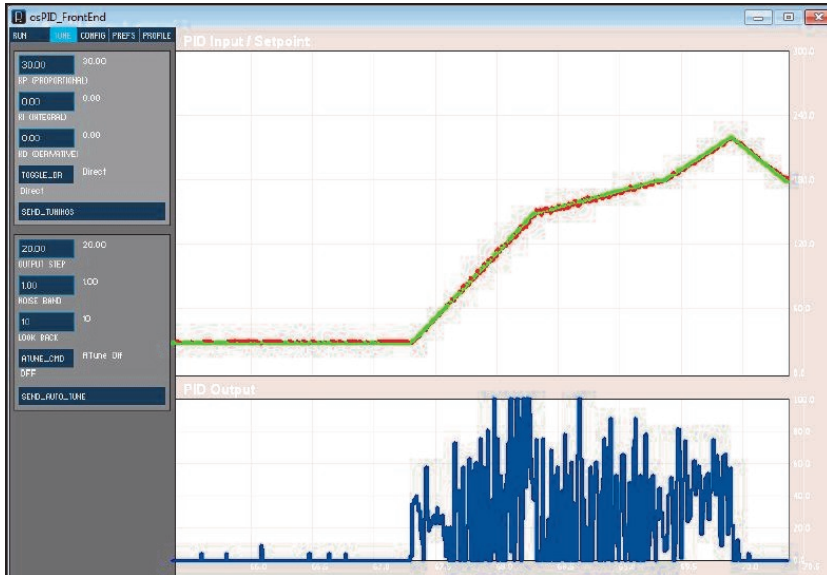
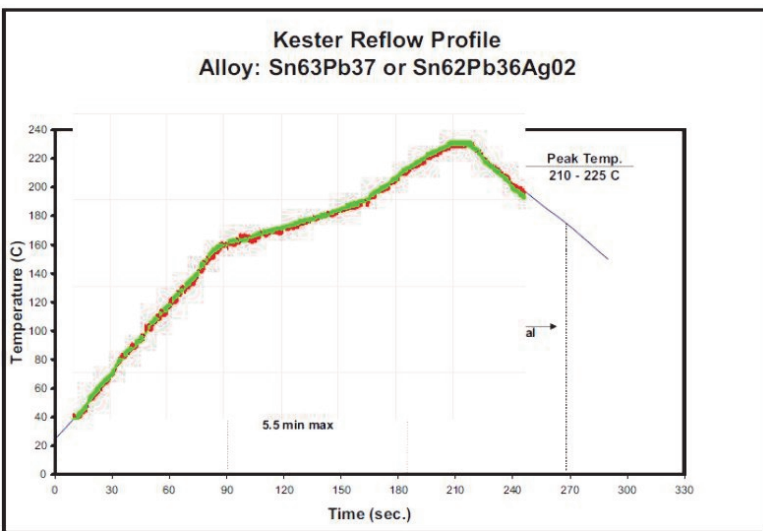


Illustration 7: User Interface

V. Results. The results achieved with this homebrew reflow oven have been quite acceptable. In the illustration below I have superimposed the programmed and actual temperature curves from a reflow run using this oven on the desired Kester Reflow Profile. The fit is quite good.



When using the reflow oven, plastic parts that might be damaged by the reflow oven temperatures are not placed prior to reflow. Below are images of an Excalibur PCB after reflow soldering with this oven, and next to it, the same PCB after placement of all parts.

Illustration 8: Actual temperature profile superimposed on Kester

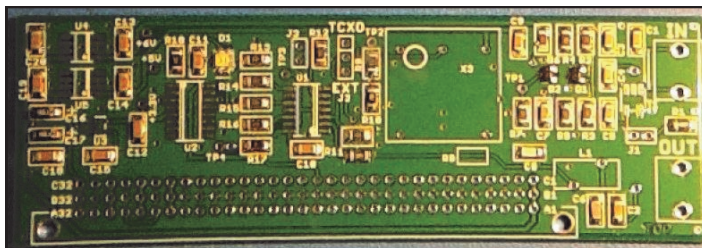


Illustration 9: Reflow soldered Excalibur board

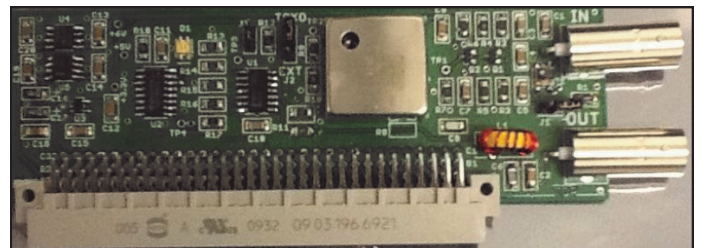


Illustration 10: Fully populated Excalibur board

VI. Conclusions. Hand soldering of complex PCBs with small SMD components with many leads is difficult. A very simple, easy-to-construct homebrew reflow oven that gives good performance was presented in this article, along with information that would help others to create their own. The same osPID controller and SSR could also be used with a hot plate, with no modification needed.

Roger Rehr W3SZ

References:

- 1 <https://www.sparkfun.com/tutorials/98>
- 2 <https://www.sparkfun.com/tutorials/59>
- 3 http://en.wikipedia.org/wiki/Reflow_soldering
- 4 http://www.puhuit.com/main/page_products_t962a_ir_ovenic_heater.html
- 5 http://www.beta-estore.com/rkus/order_product_details.html?wg=1&p=663
- 6 <https://www.kickstarter.com/projects/1034145369/refloleo>
- 7 <https://www.kickstarter.com/projects/1070729460/zallus-oven-controller>
- 8 <https://www.kickstarter.com/projects/reflowster/reflowster-soldering-controller-for-surface-mount>
- 9 <https://www.kickstarter.com/projects/1471240030/controlleo2-reflow-oven>
- 10 <https://www.kickstarter.com/projects/mrazekkarel/pid-temperature-controller-open-source>
- 11 <https://www.kickstarter.com/projects/1546975409/reflow-dry-cure-pid-oven-controller>
- 12 <https://www.sparkfun.com/tutorials/60>
- 13 <http://www.xertech.net/Projects/Toaster/ToastSolder.html>
- 14 <http://spectrum.ieee.org/geek-life/hands-on/the-poor-mans-solder-reflow-oven>
- 15 <https://wiki.makehackvoid.com/projects:smd-reflow-oven-adr1an>
- 16 <http://www.instructables.com/id/T962A-SMD-Reflow-Oven-FixHack/>
- 17 <http://hackaday.com/2014/11/27/improving-the-t-962-reflow-oven/>
- 18 http://en.wikipedia.org/wiki/PID_controller
- 19 <http://www.ospid.com/blog/>
- 20 http://www.ospid.com/docs/index.php?title=Front-End_Software
- 21 <http://www.ospid.com/forum/viewtopic.php?f=7&t=429>
- 22 <http://www.rocketcream.com/shop/reflow-oven-controller-shield-arduino-compatible>
- 23 <http://playground.arduino.cc/Code/PIDLibrary>
- 24 <http://www.ospid.com/docs/index.php?title=Hardware>
- 25 <http://www.ospid.com/blog/buy/>
- 26 http://www.fotek.com.tw/pdf/etc_34.pdf
- 27 <https://www.sparkfun.com/products/251>
- 28 http://en.wikipedia.org/wiki/PID_controller
- 29 <https://www.sparkfun.com/tutorials/60#Toaster>
- 30 http://en.wikipedia.org/wiki/Solid-state_relay
- 31 <http://playground.arduino.cc/Code/PIDLibrary>
- 32 <https://github.com/br3ttb/Arduino-PID-Library/>
- 33 <http://brettbeauregard.com/blog/2011/04/improving-the-beginners-pid-introduction/>
- 34 http://arduino-pid-library.googlecode.com/files/PID_FrontEnd_v03.zip

NN3Q/R ROVER REPORT

After experiencing a shortened timeframe for the January 2015 VHF contest the NN3Q rover crew was ready for the June event.

The van went back together with a new set of Dell laptops running Windows 7. Also new to the van was the upgrade to N1MM logger+, and a new system for networking. N1MM logger+ upgraded the networking portion of their software which uses the computer name not IP addresses so networking is much simpler. A few adjustments had to be made allowing the laptops to access each other, and the computers were very happy.

On air checks were made with both live stations and beacons, and all checked A-OK from 6M to 10 Ghz. **Thank you** for all who helped the check out phase.

As most Packrats were atop Mount Pocono running W3CCX, the route had to be developed where we could find stations for maximum points within a reasonable driving distance. Another planning input was to evaluate possible propagation enhancements, and creating alternatives to our rove, if necessary.

The chosen route was one we have traveled in the past. We started at FN20 (Reading fire tower), moving to FM19, FM29 (Lancaster County) in the later afternoon, and then back to barn for the night. Sunday took us back to FN20 (fire tower), and then weaving around Reading to find open spots in two grids so we could work W3SZ adding points for both us. This new tactic worked out well for us and was used a number of times during the rove. Our next set up at Pismire Ridge (FN10 - Hazleton) always proves productive for working CCX, rovers, W2SZ, and a number of other stations who have microwave capability. We followed our move tactic to get better locations for individual stations: we setup in FN11 at an old roadside fruit market at a location parallel to Route 80 just East of Route 93 to work CCX and a few other stations for the time we had on site. Plans called for a 45 minute ride to Mount Pocono and to take in the activities of the club station. After arrival we ran the bands and had some great visits with the Packrat crew as well as some other visitors who made it to the top of Camelback. In fact we met a rover station we worked earlier in the day. N7UN/3 was active hill topping, via shoe leather express. We caught up with N7UN/3 when we were parked in FN10 on 1296. Lots of activity on the mountain, and we even managed about an hour to operate, from FN21 with excellent results.

FN21 was our last stop of the day. In all we activated **six grids** and have submitted a score for just under **43,000 pts**.

Our drive back to the home QTH went well. We made time to stop for an early dinner, and made it back driving through a terrific rain and wind storm in Northern Berks County. In all we drove about **330 miles** over the weekend.

Many thanks to the W3CCX operators for all the contacts in the many grids we visited, and the many other stations whom we worked over the weekend. **Very 73 AI K3WGR, and Russ**

K1DS/r Rover Report

The Saga of June Roving 2015 K1DS/R:

I readied the rover on Friday by doing about 15 minutes of activity at a time, followed by 15 minutes of hydration and air conditioning as the weather was hot and muggy. I thought to seal the coax connectors with the rubber tape, as “pop-up” thundershowers were predicted, and this time the weather forecast was correct. We had showers at 5PM.

Woke at 9AM Saturday to a gorgeous sunny day and prepared to go, gathering my laptop, driving route, lunch and drinks when the phone rang. We got a call from my daughter, who was booking a trip and asking us to come along. After spending 30 minutes on hold with the airlines, we finally got things booked. Well, still plenty of time to get on the road.

I went to turn off the laptop, when it gave me a fantastic message, “Please do not power off or unplug your machine. Installing 29 updates.” And sure enough, updates took another 30 minutes!! Plan B in action—take the other laptop.

I decided to start at Allamuchy, FN20ow, a chip shot to the mountain, to be sure we had all frequencies set and equipment working. One curious ham stopped by, but he had no gear to make a QSO. Worked the mountain through 10GHz (except for 222MHz having troubles), tried on 24GHz, but no luck. Was it misaimed dishes, misaligned frequencies, or just too much humidity? Before moving I wanted to see if there was anything we could do about a 222MHz QSO---yes, 223.5 FM was available with one of the FT736R rigs in Ken’s Trailer. I was hoping to work other stations from this location, but heard little, so I moved down the road and made a U-turn to head to the mountain. I stopped briefly at two other “scenic overlook” spots, but neither had any advantage over the great one on 80E. One other ham pulled up and told me that the state troopers would be after me, and that I better beware of robbers who would hold me up and loot my van. Perhaps he grew up in a troubled neighborhood! He had no rig to work me either.

Arrived on the mountain and ran 12 bands with the gang---added an extra 3 LASER QSOs while I was there also. Things looked relatively quiet, but comfortable with someone at each rig, and a small group hanging out at the mess tent. There certainly was a lot of other activity on the top of the mountain, but nothing to interfere with the contest. I stopped for a few additional contacts from a parking pad near the heliport before heading down the mountain and cruising west on I-80 to FN11.

I pulled off the highway at the first exit past Rte. 81 and got set up to work the mountain. We were easily able to work through 3GHz, but no joy on the higher bands. Made a few other QSOs and left to head to Delano, where there is an easy shot to the mountain from FN10. Just as I was arriving at the usual spot, three teen girls roared by on their 4-wheel ATVs, followed by several guys on theirs. The spot here is right where a power line clearing is cut, and the kids enjoy using that pathway for their motoring. No problem working the mountain through 10GHz from here, but somehow we’re not finding each other on 24GHz, so I pack up and head home for the night.

Sunday AM I was underway by 8AM to Sea Bright, NJ in FN30. It’s almost a 2 hour ride, but the traffic is light and there’s no-one there asking questions about what I’m up to. One fellow is putting his kayak into the inland waterway, while a nice powerboat with several young ladies sunning on the front hull passes by. The W3CCX station runs the bands with me easily, although the 6m contact is done on CW and my FT736R is acting up with a hissing CW note. I add a few more QSOs with others and run the

bands through 10GHz with K1TEO and then head south.

The next stop is very brief at a rest stop on the Garden State Parkway. I operate just long enough to add FM29 as a TX grid and then continue on to Cape May in FM28. It's another 2 hours on the road to get there and all the spots at my favorite little beach are full, so I drove up the street a bit and parked in front of a summer rental cottage that's currently unoccupied. Once I get the attention of the W3CCX gang, I easily run the bands through 10GHz. A local stops by with his XYL and makes introductions. The XYL seems fascinated with the rover van, and encourages her husband to get one and sleep in it! At least he had 2m FM in his car and I add my only FM28 contact to the log.

I'm tired, we have company coming in from Florida and I'm anxious to get home, beat the shore traffic, and get back to have dinner with them. It's yet another 2 hours plus of driving to get home as the shore traffic on the Atlantic City Expressway is starting to build. In addition I got caught in a dramatic downpour that really slows things. Luckily the flow of traffic is good once we hit the Ben Franklin Bridge and the Schuylkill Expressway. I make it home before 6PM and manage to get the rover in the garage quickly after removing the antennas. Just in time to shower, shave and get dressed for dinner.

Net results in the 17K points range. It was a rather uneventful rove, and a bit lonesome and boring at times, especially with all the driving. **All the gear worked well** and it was nice to work several other rovers including W3ICC/R, K0BAK/R and WB2SIH/R.

I need to think through options for adding more spice to the activity in the future. Thanks to all who helped me through this time, and apologies to those that I missed.

73, Rick, K1DS/R



Peeking over the sea wall in Sea Bright NJ to run the bands with K1TEO. Note the new fence that makes folks walk around to get to the beach. The VHF signals were apparently unaffected by this wire grid

Mid Atlantic States VHF Conference

The Mid-Atlantic States VHF Conference will be held on the weekend of October 2-4, 2015 at the Holiday Inn Bensalem / Philadelphia 3327 Street Road, Bensalem, PA

Registration now open on-line and by mail. Go to the Packrat Website PACKRATVHF.COM and click on the VHF Conference link for all information. **Make hotel reservations** at 215-639-9100 for Special VHF Conference rate \$79+tax/nite til Sept 4, OR USE: http://dataandwireless.com/packrat/2015_vhf_registration.php

EARLY BIRD CONFERENCE REGISTRATION \$40 (TIL SEPT 20)
EARLY BIRD BANQUET \$40 (TIL SEPT 20)

Fri eve: Hospitality and table-top indoor selling

Saturday: Conference 8a-5p registration includes pizza lunch and snacks and proceedings disc

Saturday: 10a-4p Technical test bench with Greg Bonaguide of Rohde & Schwarz

Saturday eve: Banquet, speaker, door-prizes*

Sunday AM: limited outdoor flea-market free to all.

*You must be registered and paid for conference and banquet to be eligible for door prizes

ADDITIONAL PAPERS STILL SOLICITED FOR PROCEEDINGS

Contact Rick, K1DS at 215-284-5517 or rick1ds@hotmail.com

Tentative Speakers and topics:

Joe Taylor	K1JT	New VHF & Up Features of WSJT-X
Roger Rehr	W3SZ	Open HPSDR for VHF/UHF/uW Operating
Phil Theis	K3TUF	Radio Server for VHF/UHF/uW Contesting
Chris Wilson	N0CSW	Yaesu Fusion System Innovations
Rob Renaud	K3RWR	SDR and Noise Reduction
John Jaminet	W3HMS	Roving in the Pennsylvania Boondocks
Mario Filippi	N2HUN	uWave Satellites
Al Katz	K2UYH	Devilish Doppler
Joe Horanzy	AA3JH	Talking to the Astronauts
Michael Davis	KB1JEY	Painful Tower Lessons
Al Waller	K3TKJ	Six Meter Magnificence
George Heron	N2APB	Scalar Network Analyzer
Gary Hitchner	WA2OMY	New Packrat Beacons (Can You Hear Me Now?)
Steve Simons	W1SMS	RF Safety for Radio Amateurs

Some 6 Meter Sprint Results (better late than never)

From Tom KA3FQS

46 q's 15 grids

Had a good time. Worked an old friend in FN32.
Thanks to KB1JEY for the loan of the rotator control box.

From Pete K0BAK

Alas, I was watching my son in a concert last night in New Brunswick. I did get **family credits** for missing the sprint though.

From Bob W2SJ

Hi Lenny, Nice to work you on the 6 meter sprint!
Results: 17 Q's, 8 Grids. Score 136. Only operated about 2 hrs after 9 PM.

From Lenny W2BVH

29 Q's, 14 Grids 5649 KM (including a couple of 0KM Q's from my exact 6 digit grid). No Es / Tropo seen here but with my antennas, I'm happy to have eked out 14 nearby grids. Microwaves? Still working on getting microwaves going.

DOOR PRIZE SOLICITATION

It's never too early to ask your boss and suppliers for contributions for the raffles and door prizes at our VHF Conference. I have started the collection here. We have some donations of manuals from ARRL, a few items left over from last year, and some items from the W3VIR estate. We also have a few items from NR6CA that can be used for door prizes. Whatever you can provide will be useful. If you don't ask, we don't receive. Old test equipment, logowear, coffee cups, travel mugs, cables, connectors, parts over-runs, obsolete stock, tools, radios, antennas, electronic parts, etc. Let me know what you can get your hands on. **This is one of the highlights of the conference.**

TNX, Rick, K1DS

CENTRAL STATES VHF CONFERENCE

Central States VHF Society is pleased to announce that our Annual Conference for 2015 will be held in the Denver Colorado Metro area between Thursday July 23rd and Sunday July 26th. Our convention site is the Denver Marriott Westminster; the venue is now available for booking. Please plan on booking your vacation around the conference .

The conference will feature the traditional activities, Banquet, Luncheons and hospitality suites, technical programs, noise figure measurement, antenna range, along with a Rover vehicle show and tell. Our Saturday evening banquet speaker is Rick Roderick K5UR First Vice President of ARRL and an avid VHFer. We have a wide variety of activities available along the Front Range of Colorado and will be offering a choice of side trips designed to entertain the entire family. Operating opportunities under consideration include operating from the Rocky Mountain Ham Radio HF remote base station in Pueblo, microwave operating from local mountain tops and the chance to score a microwave VUCC in a weekend! WE will have introductory programs geared to newcomers to weak signal operation on the VHF+ bands that will be promoted locally and designed to encourage younger hams to get involved in DX'ing and contesting.

Conference registration, as well as a link to the conference venue for bookings, is now available now at <http://2015.csvhfs.org/> Please visit the site if you need any other additional information

73 Doug K2AD Chairman,

Radio Mods Newsletter

I stumbled across a radio modification website put together by OZ1TF/OZ2AEP. Each quarter there is an email newsletter with the latest batch of mods articles. All of this is free, and I thought that it would be of interest to some. The website is: <http://www.mods.dk/>. You can subscribe to the newsletter at the URL given above.

73, Roger W3SZ

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

(Nibbles from July 1965. Vol. VIII # 4)
de Bert, K3IUV (*author's comments in italics*)

- **“Our Prez Sez”**. Prez K3GAS, Doc, thanked the membership for their confidence, shown by reelecting him for another term. He also thanked those that participated in the June contest activity at Hilltown. He comments “The group pitched in, and the Rats did an excellent job”. (*More on the contest later*). He reported that Grandpop Bill, K3HWZ had the best design for the Packrat Lapel Pin, and will receive a cash prize (?). The pins are in the making and will be available shortly (*some of us still have ours. I'll bring one to an upcoming meeting*). Taking shack pictures of the Rats continues and will complete by next summer (*where are those pictures now? Probably lost with Doc's slide collection*).
- **ARRL Bulletin Nr. 11**. 6/17/65 (*my birthday!*). A reciprocal operating agreement is now in place with Portugal, joining the 5 other countries with agreements already in place.
- **ARRL Bulletin Nr. 12**, 6/24/65. At this week's Commerce Committee, the Leagues General Council, Booth, spoke in favor of Bill 1015. This bill would increase FCC control over incidental and restricted radiation devices, such as intercoms, TV receivers, etc. The bill proposed FCC regulations to be imposed on the manufacturers of such

devices. (***We still see the benefits of these imposed regulations***). Booth suggested that the bill be broadened to cover power line noise and other similar sources. (*Power line noise is still our nemesis!*).

- **Did You Know** (tidbits picked up Helen). On Friday, June 25th, the youngest son of member W3IBH, Charlie (SK), was mugged on Germantown Ave. He was hit on the head and stabbed with an automobile antenna. (*So today's violence, while more widespread, is nothing new*).
- **K.U.I.** by W3HKZ, Ed (SK). Ed wrote a tongue-in-cheek article about “Subliminal Modulation”. It proposed to use a “double AM subliminal carrier together with “supersonic tones” to reach the subconscious mind. For the curious, read the full article in the Packrat archives at W3CCX.COM. (*Suffice it to say this article should have appeared in the April issue*).
- **Contest report**. W2EIF wrote a synopsis of the Hilltown activities. The group arrived on Friday evening with the antennas, masts and gear for 2, 220 and 432. At least 12 members were there. The antennas for 2, 220 and 432 were up by midnight (*our present team, take note*). And on Saturday morning all gear was ready to operate. They had 28-elements on 2, and 32 elements on 220 and 432. The 432 gear (80W) came from Bert, K3IUV. 220 gear (120W) from Jo, W2EIF, and the 2 meter gear (90W) from Dave, W3LHF (W3ZD). The 6-meter chairman had a death in the family, which left the operation without 6-meter equipment (*always have a backup*). However, other club

members “rushed” equipment to the scene. After some initial problems, the 6-meter operators managed 319 contacts and 17 ARRL sections. All antennas were at approximately 50 feet. (*Rather than today’s towers, some of the bands used “push-up” round sections. Tricky to get up without collapse.*). The other band teams achieved (2-meters) 251 contacts with 16 sections, (220) 41 contacts and 12 sections, and (432) 21 contacts and 7 sections. Other observations: K3GQJ hanging on a pole with linesman spurs, and K3UJD, Mario, seen in his trademark pink shorts. Fun was had by all!

- **State of the “Union” Message**, by Doc, K3GAS. Doc wrote an interesting month-by-month summary of this year’s Packrats achievements. Some were reported previously in Cheese Bits. Others were newly identified (“The club purchased a portable PA system”). (*The “Roving Rostrum”?*) Nice to read the details. (*You also can, at the W3CCX.COM website*).
- **New Products of Interest**, by W3NSI, Lynn. Grigsby announce a line of manual or spring return slide switches available with up to 12 poles. Contacts rated for 3.5 amps @ 6V, and 0.5 Amp @ 125v. Price 40 – 60 cents each. (*I just looked on eBay for some, and couldn’t find them!*). Parker Instrument introduced rectangular meters in sizes from 2-1/2” to 4-1/2”. 1/2” thick, they require only two small panel holes for the connection studs. Touted to withstand 10,000% overload (*typical Packrat stress test?*). Price starts at \$12.
- **Swap & Shoppe**. This monthly column by W3ZRR, Ray (SK) listed For Sale and Wanted items for members. Slim pickings

this month. Only a Johnson Viking 6 & 2 VFO, a GE square wave generator and an HP 325-B noise and distortion meter.

- **Technical article**. The ubiquitous Heathkit Cantenna was prone to oil leakage around the top cover. The modification article showed how to use a piece cut from a 3-lb coffee can (Yes, Virginia, they used to be metal) to fix the problem. Contributed by the Ak-Sar-Ben club (*read it backwards*) radio club.

Four sheets, double-sided, heavy stock, legal size. Postage still 4-cents. (*Think about that the next time you apply the 49-cent stamp to your small #6 envelope.*) (*Or 49 + 22 cents for a typical Cheese Bits in 2015 --Ed.*)

As in previous editions, many “folksy” comments about members, their families, and activities were included in this edition of Cheese Bits. If interested, or for more detail on the above items, visit www.W3CCX.COM and read the full issue posted there by our Webmaster, Ron, W3RJW.



thirty, de K3IUV

I would just like to thank Phil, Lennie, the FSK441 guys, rovers, the micro guys, the 222/432 guys, and everyone else for a fantastic June VHF contest. E skip to La, CM, PY, EA8, mid America on 6, not too much double skip. 18 meteor Q's. Great network, organization, food.

Raw score 500K plus

73, John K3MD

June 2015 QST Page 9

Great article by League President David Sumner titled "**A Fresh Approach to VHF/UHF Contests**". Check it out. --Bill K3EGE

2016 EME Conf Web Page

No real info yet, but there is a page where you can enter your name and call to get info when it is available.

<http://www.eme2016.org/>

--Rick, K1DS

Dave Pedersen, PJ4VHF/N7BHC, on Bonaire copied a 2 meter CW signal from the D4C/B beacon on 144.436 MHz at Cape Verde via tropospheric ducting on May 6 (0100-0230 UTC).

Bonaire is in the Caribbean just north of Venezuela, while Cape Verde is off the coast of Africa, west of Senegal - a distance of nearly 3000 miles.

The D4C beacon runs 20 W and is about 750 meters above sea level..... Tnx John Allen for this info

Events

For inclusion, please direct event notices to the editor.

CQ Worldwide VHF Contest - July 18-19, 2015. See <http://www.cqww-vhf.com/> for details.

Central States VHF Conference — July 23 - 26, 2015. See description in this issue of Cheese Bits and <http://2015.csvhfs.org/>

ARRL August UHF Contest - August 1-2, 2015. Details at <http://www.arrl.org/august-uhf>

ARRL August UHF Contest Round 1 - August 15-16, 2015. Details at <http://www.arrl.org/10-ghz-up>

VHF Fall Sprints - TBA

EME 2.3 GHz and Up Contest - September 5-6, 2015. Details at <http://www.arrl.org/eme-contest>

ARRL September VHF Contest - September 12-14, 2015. Details at <http://www.arrl.org/september-vhf>

ARRL August UHF Contest Round 2 - September 19-20, 2015. Details at <http://www.arrl.org/10-ghz-up>

RF Hill ARC Hamfest - October 18, 2015. Sellersville PA. Details at <http://www.arrl.org/hamfests/39th-annual-rf-hill-arc-hamfest>

Mid-Atlantic States VHF Conference - October 2 -4, 2015. Currently soliciting papers. Details to follow.

2015 Eastern VHF+ Conference Proceedings Available

A reflector email dated 5/19 identified the procedure for ordering the CD(s) for the referenced conference. I ordered the CDs for both the 2015 and 2014 conferences. They arrived within 5 days. A real treat to look at some of the presentations. A number of contributions from Packrats (K3TUF, K1SMS, ..) are included.

The N6NB (Wayne Overbeck) presentation on 50 years of roving includes a photo of Rick, K1DS operating in his rover. If you haven't already ordered a copy, I recommend you do. A few bucks well spent.

-- Bert, K3IUY

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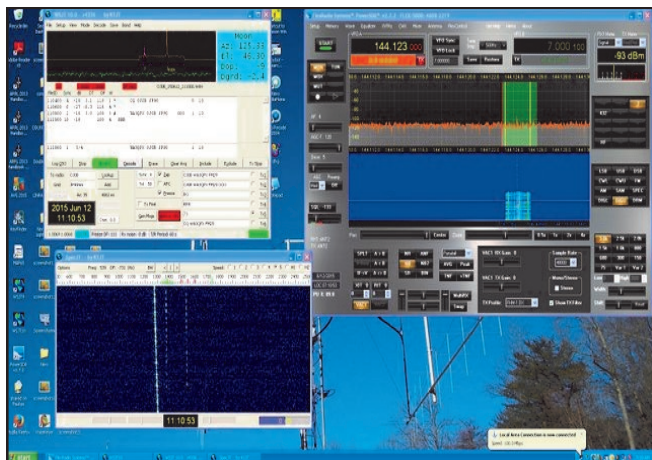
... Events cont'd

ARRL EME 50MHz - 1296 MHz Contest -
Round 1 October 31 - November 1, 2015.
Round 2 November 28 - 29, 2015. Details at
<http://www.arrl.org/eme-contest>

January VHF SS - Contest - January 30-
February 1, 2016. Details to follow.

OJOB

Market Reef, OJ0, Grid JP90NH, is just a barren rock on the open sea between Finland and Sweden. A piece of granite split between OH and SM representing CQ zones 14 and 15, with the Finnish side additionally counting for another DXCC entity. And here is WA3QPX's QSO on 12 June. (Paul also, had a Q to 7Q7EME on 12 May)



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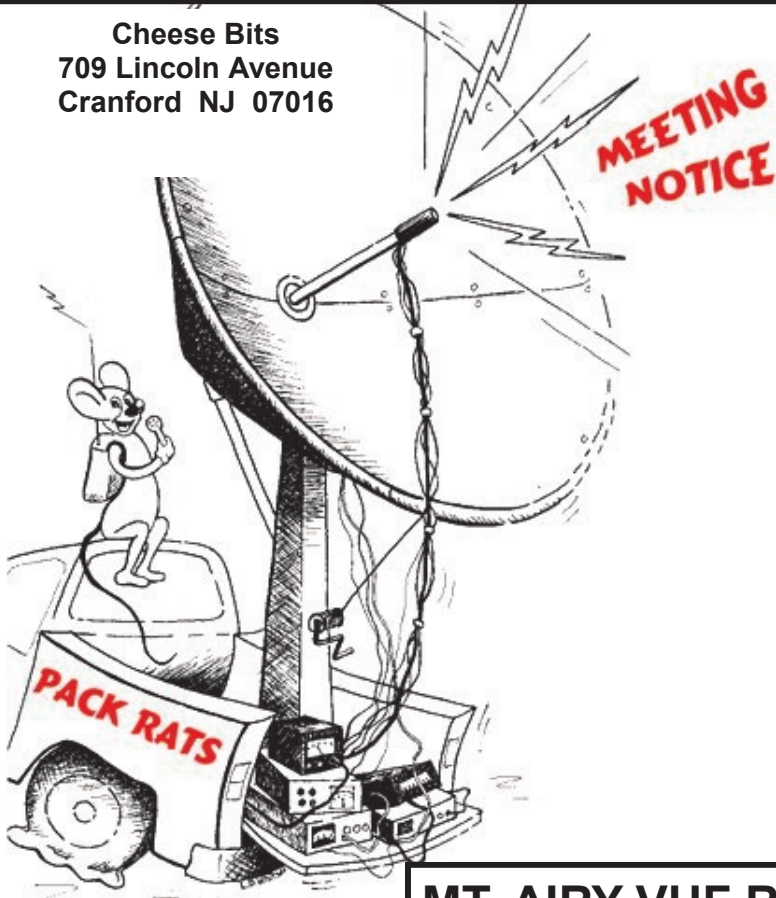
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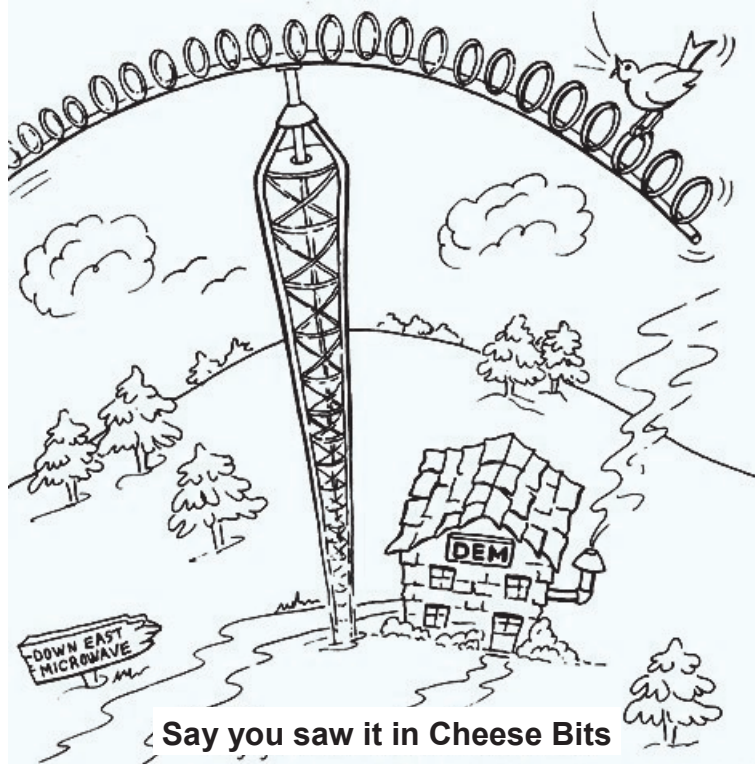
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