SKYVIEW
Skyview Radio Society, K3MJW
K3MJW
2335 Turkey Ridge Road
New Kensington, PA 15068

Q5er – The Official Newsletter of the Skyview Radio Society

Seasons Greetings

Between now and the next newsletter, we will get to enjoy some holidays and we will have our annual Skyview Holiday Banquet. Enjoy them all.

January 2018 Banquet

December 1, 2018

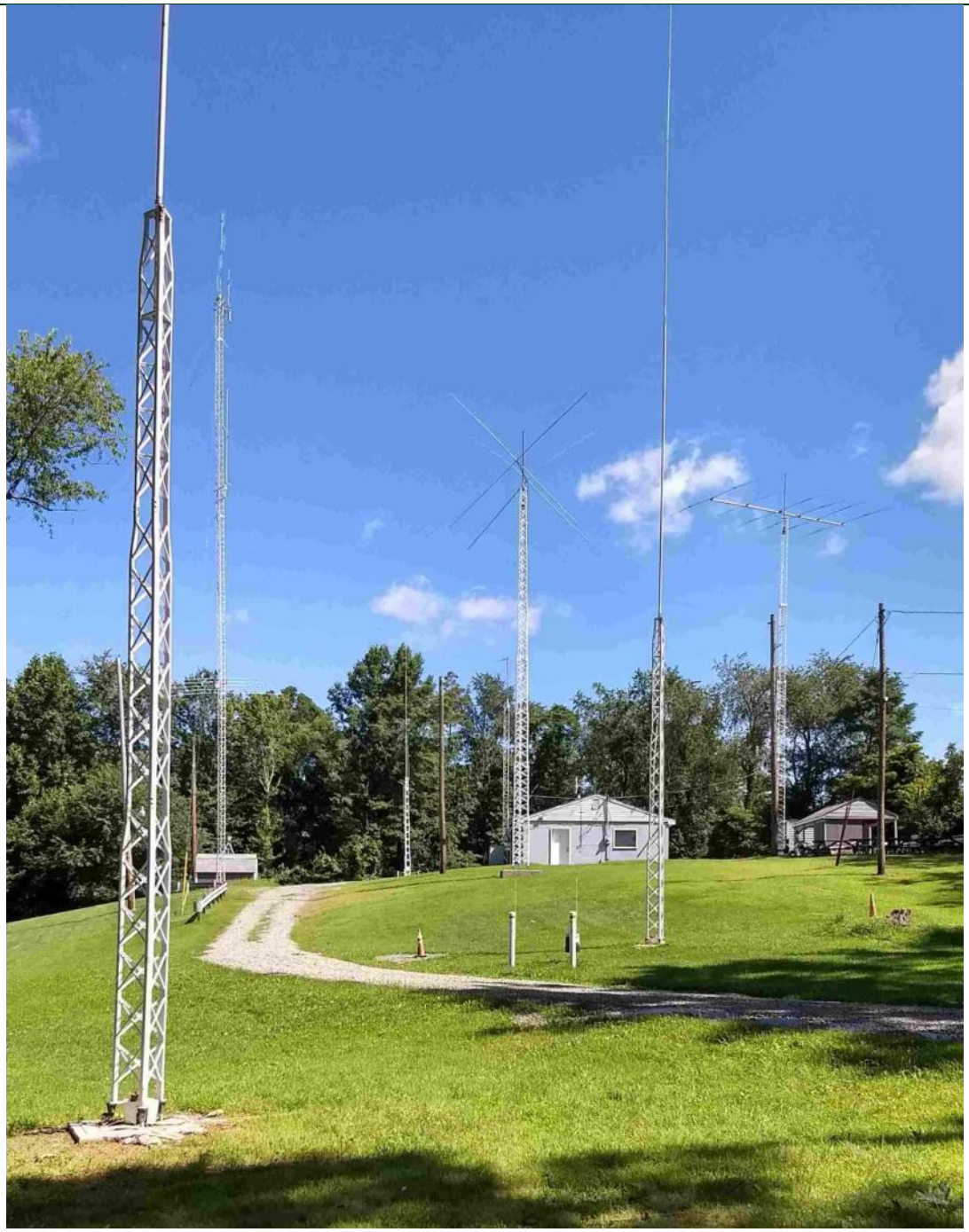
- Insulation Works !!
- Winter Rules
- Are High Elevations Good ?
- Winter Field Day
- Why Are We HAMs ??
- Very Cheap 2m Antennas
-
- And More . . . . . .

Sunspots?

I don't need no stinking Sunspots.

I have 40 meters and 80 Meters.

Inside this issue:



The Skyview Radio Society Clubhouse is the "Every Tuesday Place" . . .

Something is going on at 'the joint' each and every Tuesday evening, from about 1900 hours to whenever.

See the general schedule of Tuesday events on the Skyview Web Page: http://www.skyviewradio.net

For the latest up-to-date plan, check the Yahoo Reflector: https://groups.yahoo.com/neo/groups/K3MJW
(You must be logged into your personal Yahoo Account to get into the Skyview Yahoo Reflector)

Directions are on: http://www.skyviewradio.net Guests are always welcome !!

From the Editor

Featured in this issue is the updated reference for using our Skyview Radio Equipment that was prepared by our Radio Officer Bob - WC3O. We now have a lot of flexibility in choosing antennas. But, with flexibility, comes some complexity. Things can be damaged if misused., especially the linear amplifiers. It costs us lots of money to repair damaged equipment . Keep this guide as a reference.

Big things will be happening up on the Skyview knob in 2019. The picture on the previous page will most likely be changing, as there is now funding to be used for a Clubhouse Expansion Project. The Board of Directors, with input from the membership, will decide on what direction that expansion will take. While some of the major work required to get a shell in place may be contracted out, Skyview members have typically volunteered their time and skills to do a lot of the work. So, if you are handy with tools or have any experience in building things, and have some time to donate, your support will be welcomed.

You should soon be getting your annual letter from Bob - K3RMB, our Membership Officer, asking you to send in your 2019 Dues. Your Dues and any Donations sent in with your Dues are used to cover our fixed expanses throughout the year. We need your continued support.

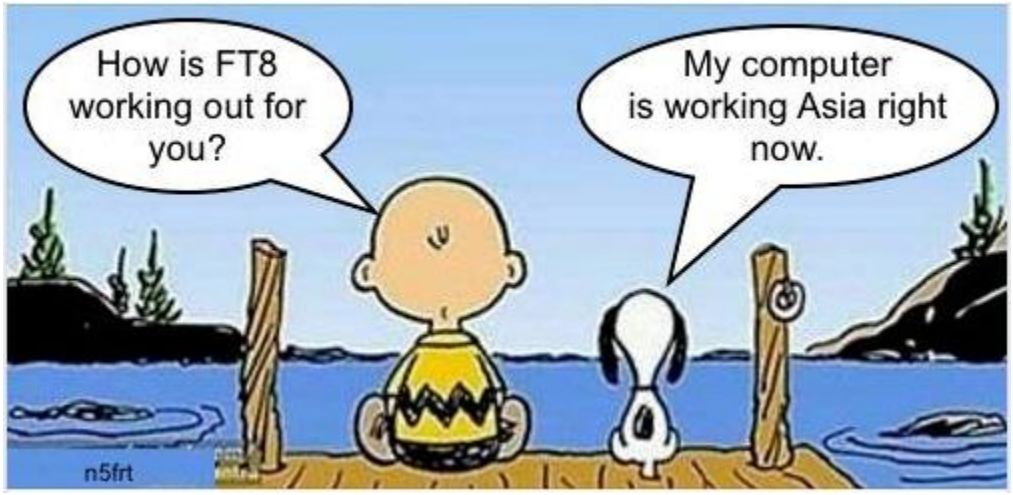
Bob will also be providing the information that you need to get signed up for the annual holiday banquet in January. It is expected to be at the Delmont Fire Hall again. Good food at a reasonable price, and great company.

I have been elected as Treasurer, succeeding Pat - NK3P, who has done a splendid job for the last several years. I am looking forward to serving you in that new role (no, I did not get any election support from any Russians, even though I have been know to participate in a Russian Digital Contest every now and then).

I hope that you enjoy this issue. And I look forward to receiving your contributions to this newsletter.

Jody—K3JZD

Ham Radio is a Contact Sport



From the Bully Pulpit

de Rich - WQ3Q

Well this is the last of my entries in the Q5 as President of Skyview Radio Society. I must say I have enjoyed the ride, despite the Captain throwing me a high and tight fast ball at the November meeting last year. Thanks Cap… you know what they say about paybacks!!!

My hope is that my term wasn't just as a place-holder, but as someone who truly wanted Skyview to be better and better each day. It wasn't me that did that, though. Your efforts and help is what moved us forward this year.

Let's look back at what our club has accomplished this year:

- We've improved our insurance coverage and saved money doing so.
- We've added a security system that while it hasn't been used, it does make it easier to sleep at night knowing we have that working. It also secures the garage, and repeater shed.
- Add to that we've posted No Trespassing signs and installed a faux gate to discourage after hours "visitors."
- We are getting ready to put in and AED which, considering the age and wide range of health issues our members and those who visit us have, we've have been very lucky about ever needing it to date.
- The roof has been fixed… at least for now.
- The attic has been insulated.
- The storage shed has had major roof repairs.
- The new water line was installed… at last cool, clear… water….water… (there's a song in there somewhere.)
- Radials were planted (and planted and planted.)
- More stones were added to the driveway.
- More of you are taking pride in our facility and keeping it clean.
- Updated and new radio features added to our radio room.
- Better and faster internet access.
- Improvements in our weather station
- Once again we had a successful Swap N Shop (or if you prefer and Snap N Shop.)
- We had more participants in our contesting events (including Field Day... I know it isn't a contest … right, yeah.)
- We've added to our ranks with new hams and also have a great Tech License Training course running.
- We've changed our alternate call sign to W3GH in honor of the Green Hornet, Bob King.
- And more I've probably not remembered !!!

With the upcoming change in officers, we have another good group of members who will guide us in 2019. Thanks and congratulations to all of them: Bill Dillen, N3WMC President; Jack Buzon, KA3HPM Vice President; Don Stewart, WA3HGW Secretary; Jody Nelis, K3JZD Treasurer.

I also want to thank our outgoing Treasurer Pat Cancro for multiple years of service and thanks too for our other committee members, Bob Bereit, K3RMB; Bob "Cooky" Bastone, WC3O; Dave Dailey, N3TIN; John Italiano, WA3KFS; and Bob Worek, AG3U. Also thank you to the many who serve on the Board of Directors. We should be proud to have this many conscientious and dedicated guys that keep us moving forward. My hope that some of our 2 and 3 year members will begin to step up to take on some of these responsibilities in the near future.

Lastly, I want to thank Jody for his extremely generous donation toward a building fund that will make our clubhouse more modernized and roomier. An amazing gift!

That's enough from me. Thank you again for the privilege of serving you in the capacity of your President. My hope is that I have served you well.

73,

de: Rich / WQ3Q

Keeping the Heat In and Keeping the Spending Down

de Jody -- K3JZD

Early in November, Dave - N3TIN, John - KB3SVJ, Dan - NM3A, Ron - NJ3R, Jim - W3UI (and with a little help from Jody - K3JZD), put a whole lot of new insulation in the ceiling of the joint. It was a lot of lifting floor boards, adding insulation, and replacing the floor boards. Also, the HVAC ductwork that is run up there was tightened up and insulated to get more heat over into the meeting room.

A big part of the job was removing a lot of 'historical debris' which has been living up there for quite some time.

While the price of natural gas has come down, the price of propane has not. So, the effort put forth by Dave, John, Dan, Ron and Jim should result in less propane consumption this Winter.

Dave - N3TIN Skyview Facilities Manager

Leg stretch while Dan is out getting materials.

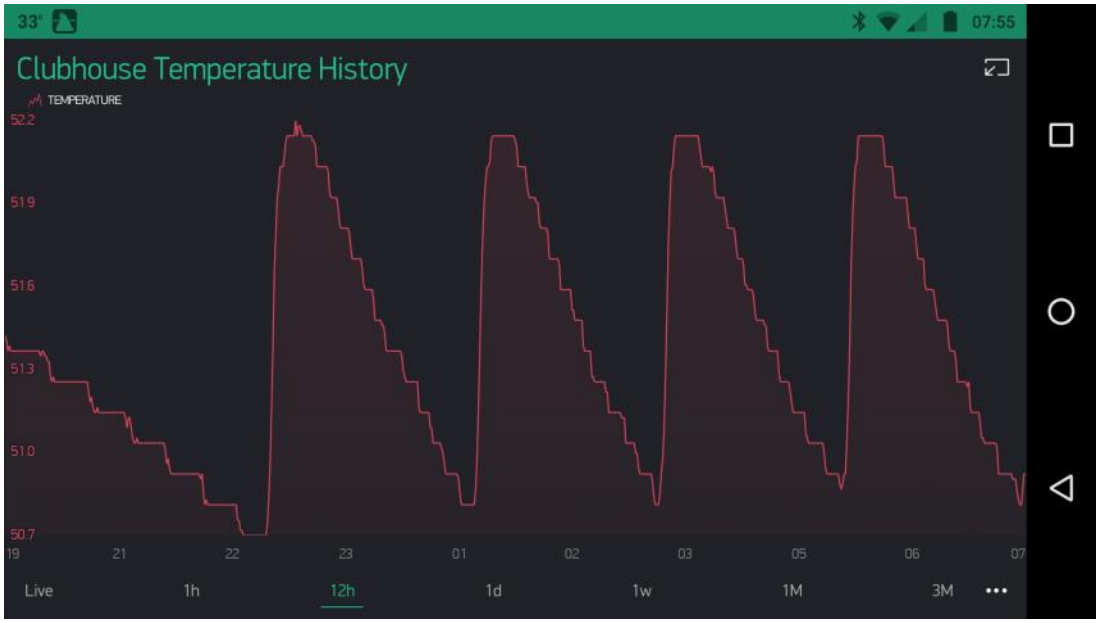
Dan adding the ductwork insulation

Some Good Results To Report From the New Insulation

de Jody -- K3JZD

It was around 30 degrees all throughout the night on November 14-15th The following screen print from my Remote Temperature Monitoring system shows the overnight period from 1900 hours to 0700 hours. It shows that the furnace only kicked on about every hour and 45 minutes.

The picture is showing a low of about 50.75 degrees and a high of about 52.10 degrees. So, it took one hour and 45 minutes for the temperature to drop that 1.35 degrees to where the thermostat called for heat again. I do not have a 'before' picture, but if I did, I do not think it would show heating cycles that are spread that far apart.



On November 15th, I was up at the joint twice. It was still around 30 degrees outside - there was ice on the chain across the driveway. I was not doing anything to generate any internal heat, so I fed the Propane Donation can and then used the furnace to take it from around 50 degrees to 70 degrees each time that I was there. The following screen print shows November 15th from 0800 hours to 2000 hours. It shows the rate of temperature drop each time that I put the thermostat back to normal and left. I'm not surprised to see the curve steeper once the temperature starts to drop down from 70 degrees. But, I am pleasantly surprised to see how it begins to flatten out over time - - after 6 hours, the temperature had still not dropped down to the 50 degree point where the furnace will kick on. It looked like that will happen at around 1200 Hours. About 11 hours after the thermostat had been put back to 50 degrees. Good heat retention.

I think it is safe to say that we will see a payback from the Insulation Job !!

Winter Rules

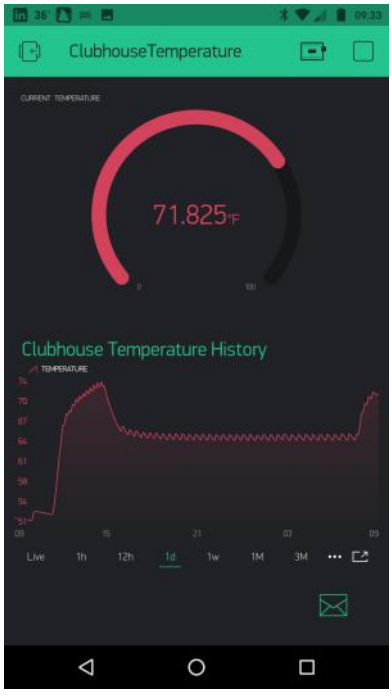
de Jody - K3JZD

This is the first Winter that we have had the Remote Temperature Monitoring System in place. The previous article showed how that tool has provided insight into the pattern of heat loss in the building and the frequency of furnace heating cycles during cold weather.

I'm sure that you have heard how It is cost effective to lower your home thermostat a few degrees in the Winter. I have often wondered how cost effective doing that it really is. We leave our thermostat setpoint at 50 degrees in the Winter. We raise the setpoint to a more comfortable 70 degrees whenever we are in the building for meetings, VE sessions, social events, and contests. Whenever we depart, we put the setpoint back to 50 degrees. The previous article shows that lowering our thermostat setpoint down to 50 degrees seems to be very cost effective.

Shortly after the previous analysis was done, we had a situation where the thermostat setpoint was left at 65 degrees for an extended period of time. It just so happened that it was still around 30 degrees outside - the same as it was in the previous analysis. So, I was able to see the impact of increasing the differential between inside temperature and outside temperature from 20 degrees to 35 degrees. The answer was: **Quite a Lot !!**

With the thermostat setpoint at 65 degrees, the heat loss increased. A more detailed view of the temperature chart showed that the furnace was now cycling every 25 minutes rather than every 105 minutes with the thermostat setpoint at the normal 50 degrees (4x). That shows that our leaving the unoccupied building at 50 degrees is wise as it reduces our propane costs.



When you are a Skyview Member, you are part owner of all of the Skyview facilities. We each share a responsibility in the costs required to 'keep the lights on' with our dues and any donations that are sent in along with the dues.

When you are a Skyview Member, you have an obligation to treat all of the Skyview facilities that you co-own with all of the other Skyview Members with respect.

When you are a Skyview Member, you have access to the shared facilities. Once you have met the one year requirement, and you are over the age of 21, you are eligible to request a key to the building. With a key to the building, you have the right to freely enter the building and freely use the Skyview radio equipment at any time.

Whenever you are using the radio facilities as an individual, pay attention to the radio usage documentation that our Radio Officer Bob Bastone has published and put into the radio room. You owe it to all of other members, as we all share in the cost of repairs as well as utility costs. Speaking of utilities, we certainly want you to set the thermostat to a comfortable level while you are there using the facilities during the Wintertime.

Please mind the **Winter Rules :**

1. Read the usage sheet beside the Thermostat.
2. Follow the Winter Instructions:
   - At Arrival change the Temperature Setpoint to a comfortable temperature and press on [HOLD]. The [HOLD] word will have a border around it whenever you have established this Temporary Temperature Override.
   - At Departure press the [HOLD] word to Cancel the Temporary Temperature Override. Verify that the Temperature Setpoint has returned back to 50 degrees.
3. If you are so inclined, there is a (strictly voluntary) Propane Donation Box that you can feed a couple of bucks into.

Jody - K3JZD, Treasurer

Something You Probably Already Suspected

de Jody - K3JZD

ED: The following is from a SOTABeams mailing. The WSPRlite device that SOTABeams produces provides a easy way to do a simultaneous test from two different locations using identical transmitters, By doing the test simultaneously, propagation variances are neutralized

Do "RF Black Holes" really exist: An Investigation

I suppose that we are all familiar with the concept of a black hole; it's a structure that nothing can escape from - including electromagnetic radiation.

If you attend a radio club or indeed go to any gathering of radio amateurs, once the conversation turns to HF radio, it is almost inevitable that someone will describe their home location as an "RF Black Hole". By this they mean that they do less well on the HF bands than others seem to. It's an interesting expression and I have often wondered if some sites are indeed RF Black Holes. Of course, in the astronomical sense, no-one lives in a black hole so describing a site as such is a matter of degree. The expression implies that some sites are worse than others; this is self-evidently true.

Nearly a century ago, much work was done by the professional pioneers of HF radio to discover what made a good HF site. This work lead to intercontinental HF radio stations being built in favoured locations. Elevated plateau sites were particularly popular [e.g. Knight, 1963]. That work still has relevance for anyone with deep enough pockets who is thinking about setting up a contest station, but for the rest of us, we are stuck with the site we have - our home.

Most people live in urban areas and so (presumably) do most radio amateurs. Our urban sites are nothing like the uncluttered plateaus favoured by HF broadcasters in the old days.

I think that we generally accept that an open site in the countryside will be better than an urban site. I recently conducted an experiment using the WSPRlite system [details here] to compare two identical HF systems in different locations; an urban site and a rural hilltop. The experiment was carried out carefully using only data obtained simultaneously from both sites was used. The hilltop site turned out to be about 7 dB (= 5 times) better than the urban site.

But urban sites themselves must vary and noise might well make a site that would otherwise be good for transmitting, a worthless site for reception.

How much urban sites vary on HF is probably unknown as, beyond the needs of the Diplomatic Wireless Service (who set up HF stations in embassies around the world), no-one in their right mind would choose to locate an HF station in a city - apart from radio amateurs! As a result, I suspect that no professional/academic studies have ever been carried out.

Given that the difference between a good rural site and a suburban site is about 7 dB we might conclude (admittedly with little justification) that the difference between a good urban site and a bad one was of the same order. If that was true, a good rural site could be as much as 14 dB better than a bad urban site - if everything else was equal. The reality, of course, is that people with good rural sites usually have more space and thus have better antennas as well as quieter locations. Overall I think it's entirely possible that on transmit, a poor urban installation could be 14 dB worse (that's over 20 times worse) than a good rural site. That's definitely enough to make that poor urban site **seem** like an "RF black hole"! More experiments are needed though…

73 Richard G3CWI

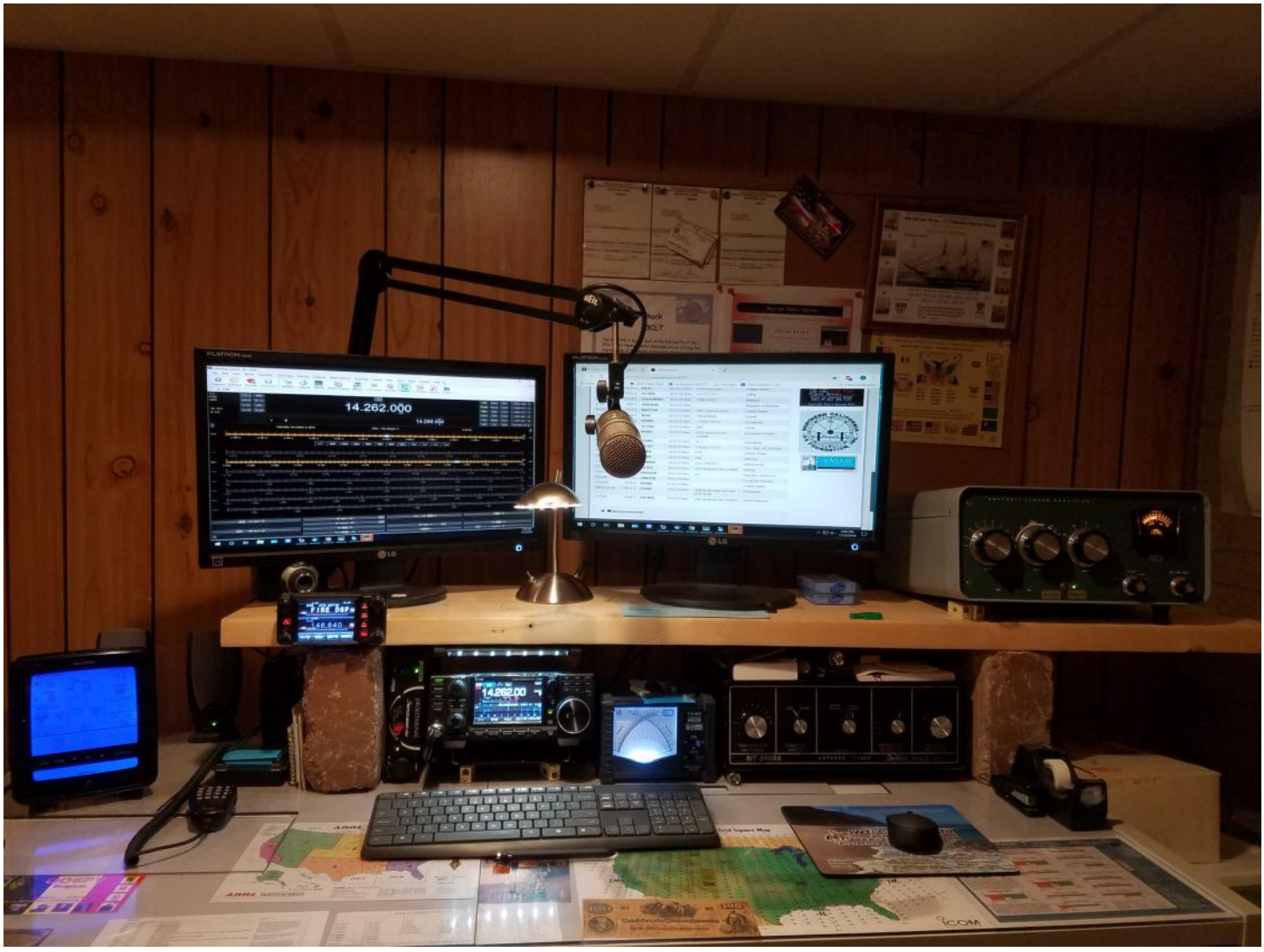
Full Article with more detail is located here :
http://tinyurl.com/yavhwpua

WSPRlite Transmitter

http://tinyurl.com/y8fpvh7c

Show Me Yours and I'll Show You Mine

The Featured Hamshack for this issue belongs to: Chuck - K3CLT



Ed: I will use Hamshack photos as they are received - you can send yours in to me at any time..

Why Radio Amateurs are called "HAMS"

(from Florida Skip Magazine - 1959)

Have you ever wondered why radio amateurs are called "HAMS?"

Well, it goes like this: The word "HAM" was the station CALL of the first amateur wireless station that was operated by some amateurs at the Harvard Radio Club. They were ALBERT S. HYMAN, BOB ALMY and POOGIE MURRAY.

In the early pioneer days of unregulated radio amateur operators picked their own frequency and their own call-letters. At first they called their station "HYMAN-ALMY-MURRAY". Tapping out such a long name in code soon became tiresome and called for a revision. They changed it to "HY-AL-MU," using the first two letters of each of their names.

Early in 1901 some confusion resulted between signals from amateur wireless station "HYALMU" and a Mexican ship named "HYALMO." They then decided to use only the first letter of each name, and their station CALL became "HAM"

Then, as now, some amateurs had better signals than commercial stations. The resulting interference came to the attention of congressional committees in Washington and Congress gave much time to proposed legislation designed to critically limit amateur radio activity.

In 1911 ALBERT HYMAN chose the controversial WIRELESS REGULATION BILL as the topic for his Thesis at Harvard. His instructor insisted that a copy be sent to Senator DAVID I. WALSH, a member of one of the committees hearing the Bill. The Senator was so impressed with the thesis is that he asked HYMAN to appear before the committee.

ALBERT HYMAN took the stand and described how the little station was built and almost cried when he told the crowded committee room that if the BILL went through that they would have to close down the station because they could not afford the license fees and all the other requirements which the BILL imposed on amateur stations.

Congressional debate began on the WIRELESS REGULATION BILL and little station "HAM" became the symbol for all the little amateur stations in the country crying to be saved from the menace and greed of the big commercial stations who didn't want them around. The BILL finally got to the floor of Congress and every speaker talked about the "...poor little station HAM." That's how it all started. You will find the whole story in the Congressional Record.

The nation-wide publicity associated station "HAM" with amateur radio operators. From that day to this, and probably until the end of time, a radio an amateur is a "HAM".

de Chuck - K3CLT

Ham Ads Accepted

Have you bought some new equipment and need to sell something to make some room in the shack?

First try the real-time K3MJW Yahoo Reflector .

If that does not work for you, or if you want to include pictures, you can advertise here.

This newsletter goes out to other clubs and is also available to anyone who wants to go to the web site to get it. So, you may reach a larger audience.

Submit to : K3JZD AT ARRL DOT NET

Newsletter Fillers ??

While I will put some stuff in here that I have found in another club's newsletter or on the Internet, I would prefer to put your stuff in here instead.

I am always happy to get articles which discuss you opinion on some new radio, antenna, or other ham gear that you have purchased. I am not looking for QST type technical dissertations - am looking for operating experiences with it. What's great? What's good? What is not so great?

I am always happy to get your pictures: Shacks, radios, mobile setups, antennas, customizations, etc.

Lots of new folks will benefit from you sharing your experiences.

The Skyview Post Office Wall

de Dave - N3TIN

SKYVIEW MEMBERS (As of 31AUG18) de Dave - N3TIN


Geoffrey AB3L5
Wolf, Geoffrey


Mike K3FH
Furfari, James M


Dewey W3VYK
Chauvin, Dewey


Frank KB3YJQ
Puskar, Frank D


Jim KQ3S
Painter, Jim


John KB3SVJ
Salsgiver, John


Captin Jack KA3HPM
Buzon, Jack


Gary WB8KYQ
Dobbs, Gary


Dan AB3RQ
Shorthouse, Jr, Dan


Mike KC3CBQ
Recklitis, John


Rich WQ3Q
Ryba, Rich


James KB4SBJ
Litzinger, James


Joe KR3P
McElhaney, Joseph A


Ryan KC3JXO
Pribulsky, Ryan J


Jeff KC3KEI
Pribulsky, Jeffrey G


Ron NJ3R
Blobner, Ron


Jim W3IU
Shuey, James


Dan NM3A
Walter, Daniel


Chip KC3LHW
Becker, Charles


Joel KC3MIQ
LeFevre, Joel


Shawn KC3EJC
McNelis, Shawn


Chuck W3YNI
Mills, Charles L


Dennis KB3SEU
Popp, Dennis M

If you are not on the Post Office Wall yet, you need to find Dave - N3TIN and let him know. Dave will take your picture and he will get you added to the wall.

Dave can also supply you with your very own color copy—let him know in advance that you like one and he will print it and bring it up to the joint.

AGM Deep Cycle SLAB Low Voltage Alert

de Jody - K3JZD

I purchased a 100AH AGM Deep Cycle Sealed Lead Acid Battery (SLAB). I expect to use it for events like Field Day during the times when I cannot get out to some club site. I can string a temporary wire antenna out in the back yard and use a 100 watt transceiver on battery power on my rear deck. And, of course it could also be useful if some true emergency came along.

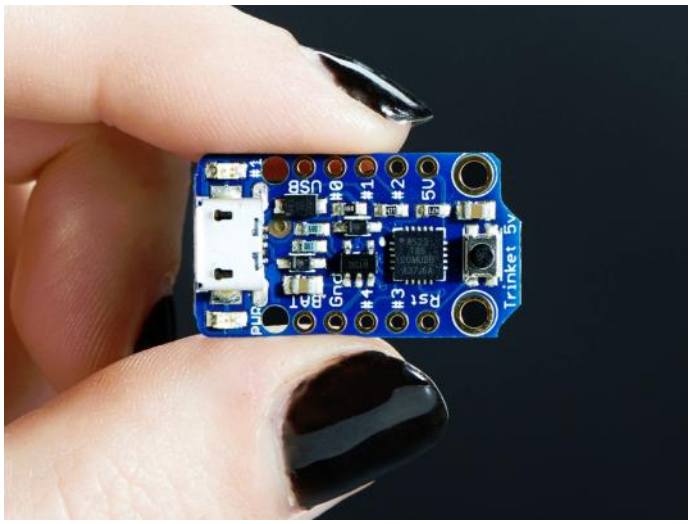
A little Google research on 'AGM Deep Cycle SLAB' uncovered the fact that this type of battery will live the longest if it is never ever allowed to go below a 50% State of Charge. They have a slow self-discharge rate, so they will hold a charge for a long time when in storage, but they must be stored in a charged condition. A 100% State of Charge is generally defined as 12.80 volts or higher. A 50% State of Charge is generally defined as 12.30 volts. 11.80 volts is generally considered a 0% State of Charge. Pretty small voltage range here.

Furthermore, I found that an AGM Deep Cycle SLAB has a voltage 'bounce back' that I need to consider. While being discharged, they can temporarily drop below 12.3 volts (the 50% State of Charge point). Whenever you stop discharging them, the voltage will 'bounce back', perhaps back up to well over 12.3 volts. A lot of these AGM Deep Cycle batteries are used in household Solar Power Systems. When used with that kind of a system, the recommendation is to routinely check the battery voltage first thing in the morning, as there is typically very little discharge occurring during the night and the batteries will have fully 'bounced back' by then. Not what my usage will be, but this let me know I would have to consider these allowable temporary dips below 12.3 volts and the subsequent voltage 'bounce back'.

Being thrifty, and wanting to have this somewhat pricey battery last me for as long as possible, I decided that I need to pay close attention to the battery's State of Charge. But I knew that doing a daily check with a voltmeter was not going to happen. Not going to happen whenever it was in storage and not going to happen whenever I am actively using it. I needed some kind of an automated low voltage alert device to handle that job for me. Could probably buy something, but why buy it when you can build it and make it be exactly what you want it to be?

But, what to use? I wanted this to to be standalone, powered right from the 12v battery itself. Using an Arduino or a Raspberry Pi would require using a voltage reducing circuit to drop down to the 9v or 5v that they use. Same thing with the NodeMCU ESP8266; it requires a 5v supply. Extra voltage drop circuitry and extra current drain – no good.

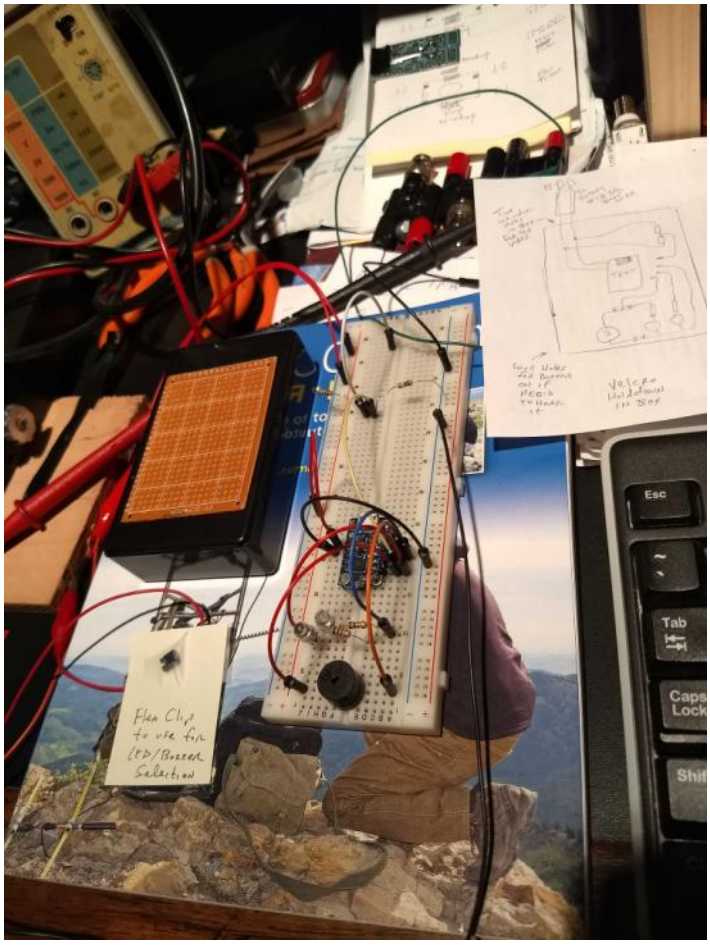
While searching around, I happened on the Adafruit Trinket board, which was specified to be able to run from a 4 to 16 volt supply. The Trinket is a very small board, about the size of a first class postage stamp. Here is Lady Ada holding it::



The Trinket uses an Amtel ATtiny85 Microcontroller, which has an analog input port, a couple of digital ports, and 5.25K of flash memory available. Enough for my application. And the Trinket can be programmed with the Arduino IDE. I have never used a Trinket before, but because it would run directly from my 12v battery, I decided that is what I would use.

Ordered three Adafruit Trinkets from Arrow Electronics. Free overnight FedEx shipping, and they came in a box that was about the size of a shoebox. Arrow knows how to keep their packages from getting lost. But it took me a while to find the product in that over sized box!!

Starting with a simple Trinket demo program, and using my solderless breadboard, I soon had one up and running and had two LEDs alternately blinking. Starting with a demo program gave me the framework – I just kept adding features to get what I needed.

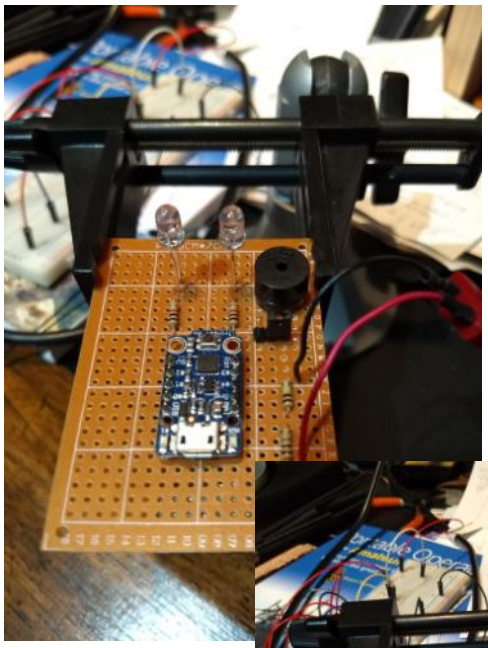


The junction of a 1 Meg resistor and a 100k resistor in series across the battery voltage gave me the scaled down voltage that I needed to feed into the Trinket's 1-5 volt analog input port.

Some calculations in the software, and a little fine tuning by using a fudging variable used in those calculations, gave me my desired 12.3 volt trigger point. I soon had a LED blinking and a now a buzzer buzzing alternately, but now only whenever my battery dropped down below 12.3 volts. To get this all setup and tuned, I used a small regulated variable voltage power supply that allowed me to manually adjust the 'battery voltage' up and down. So, in a simple static situation, such as whenever the battery was in storage, I was all set.

But, I still had to deal with the real world, which is a little more dynamic. I would be keying a 100 watt transceiver that uses 1 amp while receiving and 21 amps when transmitting. That current swing is going cause some fluctuation in the battery voltage. I figured no big deal whenever I'm at full battery voltage. But as the battery voltage eventually decreases, there will come a time when my transmitting will momentarily take the battery voltage below 12.3 volts and then I will get a short term 'bounce back' whenever I'm receiving which will have the battery returning back up to over 12.3 volts. Since I only care about a sustained voltage that is below 12.3 volts, I do not want my low voltage alert to be crying wolf each time that I transmit. So I needed to eliminate getting unwanted low voltage alerts during these momentary voltage dips.

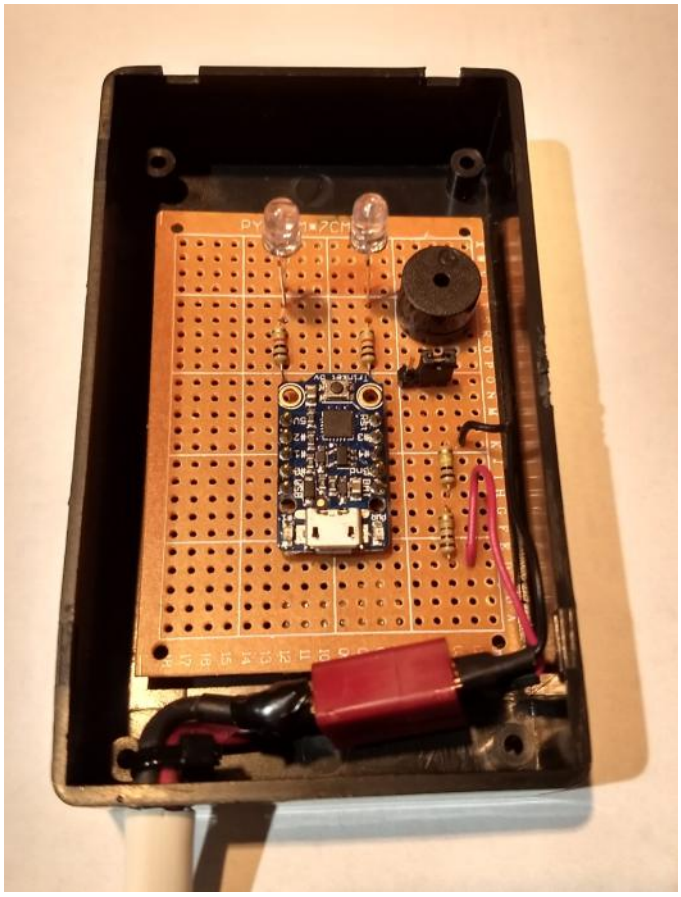
I decided that a simple reset-able filter was the answer. I would continue to sample the battery voltage every 500 milliseconds, but I would not provide any low voltage alert unless I had gone for one full minute (120 samples) where every one of those samples found the battery at or below 12.3 volts. If I found the battery voltage to be above 12.3 volts in any single sample before I reached 120 samples, I would reset the sample counter back to zero. If I did count a full 120 samples that were at or below 12.3 volts, then I would go ahead and generate the low voltage alert because this was now a sustained low voltage condition. Using a simple reset-able filter like this was less memory intensive and less compute intensive than using a moving average of the last 120 samples



or some other more sophisticated filtering technique would be.

Need to mention that the Trinket has a 10 bit Analog to Digital (A/D) converter. The 0-5 volts at the Trinket's Analog Input port gets converted to a Digital count of 0-1023. With the 10:1 scaling that I did with my resistor divider to get an input voltage that was below 5 volts, one count ends up being equal to 0.055 volts at the battery. The accuracy of an A/D converter is typically +/- one count. This means that with a battery that is at exactly 12.300 volts, the Trinket could see that as 12.355 volts, 12.300 volts, or 12.245 volts due to this +/- one count variance. So, this $8.00 Trinket is not going to have pinpoint accuracy – it would take something with a higher resolution A/D converter to get that tighter. In retrospect, I could have changed the values in my resistor divider to get the analog input voltage closer to 5 volts, but, since my filter takes care of the occasional low counts, I figured my application can handle it the way it is.

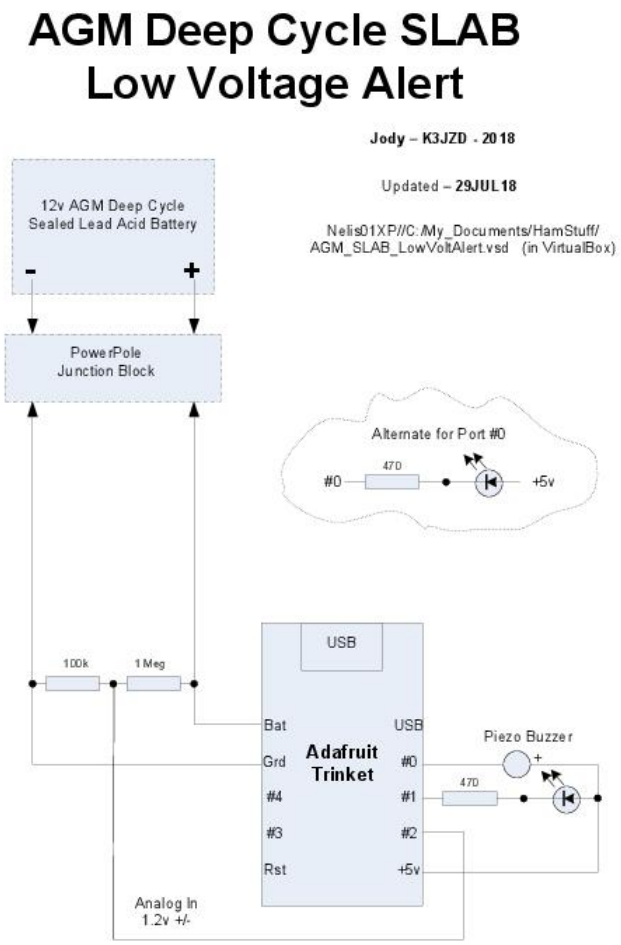
The final steps were to mount the Adafruit Trinket onto a small perf board where I would had some space for the battery voltage dividing resistors, the two LEDs with their current limiting resistors, and the buzzer.



And then put it into a small case. I elected to install that second LED and use a jumper that would allow me to select either the buzzer or that second LED. But, since I'm going to rely on this device to watch the battery while it stored somewhere out of sight, I think that I will probably always want to keep the buzzer selected. The perf board and the case that I used were bigger than they needed to be, but I already had both and there was no need to keep this real tiny. I used PowerPole connectors on the cable going to the battery so I can just plug this right into the PowerPole Junction Block

that I have at the battery. That will allow me to do a quick disconnect whenever an alert is sounding.

So, how's it working? Well, I have yet to use the battery with a 100 watt transceiver long enough to run the battery down to 12.3 volts. So, I'm guessing that I will probably hear my low voltage alert buzzer going off for the first time while the battery is in storage. Then I will have to remember what is making all of that noise because it will probably go off at 3AM.



The device In use, along with a solar panel (not visible) and the solar panel controller.

I saved this space for

YOU

But, I did not get anything from YOU

But, I will hold it open for

YOU

to use in the next issue

Submissions to : K3JZD AT ARRL DOT NET

Skyview Radio Society Roster as of 30SEP18

NM3A	WA3HGW	N2MA	KA3RXY
W3ANX	KA3HPM	KC3MBM	KQ3S
KC3AY	KC3HRO	KC3MIQ	KD4SBJ
NAØB	KB3HXP	K3MJ	KB3SEU
N3BPB	KC3IIO	K3MRN	KB3SOU
W3BUW	W3IU	N3MRU	K3STL
KC3CBQ	K3JAS	KG4MSB	KB3SVJ
K3CLT	KC3JBS	KB3NSH	N3TIN
K3DCG	N3JLR	AJ3O	W3TLN
KC3DIA	KA3JOU	AK3O	N3TTE
KC3EJC	N3JPB	WC3O	AG3U
AB3ER	ND3JR	K3OFX(sk)	K3VRU
KC3EVT	KC3JSF	K3OGN	W3VYK
KB3EYY	KB3JXG	KB3OMB	N3WAV
KC3FEI	KC3JXO	KR3P	K3WKP
K3FH	K3JZD	NK3P	N3WMC
K3FKI	KC3KEI	W3PRL	W3WTJ
KC3FWD	WA3KFS	AE8Q	KZ3Y
N2GBR	KB3KHR	WQ3Q	KB3YJQ
KC3GIL	ACØKK	NJ3R	W3YNI
KC3GIN	N3KNB	KB3RBV	W3YNX
AB3GY	W4KV	N3RHT	
KC3GZW	WA3LCY	K3RMB	
NC3H	KC3LHW	W3RRK	
WD3HAY	KC3LRT	I2RTF	
KB3HGJ	AB3LS	K3RWN	

Notes: Only Call Signs are being published. Refer to QRZ.COM for more information. (Unable to publish those without Call Signs.)

Skyview Radio and Antenna info as of October 2018

Why do I say "as of October 2018"?

The radio room at Skyview is in constant flux. If you look back at old pictures of the radio room through the years you can readily see what I mean. There are no shortage of examples of equipment that took up space on the shelves once upon a time that have since been upgraded or replaced through the years. That will continue to be the case. As time goes on there will be changes that will make this description less and less accurate. We will make periodic changes to this documentation to keep up with these modifications.

I have broken down this information into aspects.

DC power distribution logic: Here is what we had in mind when we configured the 12 volt DC power distribution system. You can see how to hook up your own equipment or accessories to the DC power bus.

RF connection logic: Here is what we had in mind when we configured the RF coax connection system. Here, also is the arrangement of coax jumpers that connect to components and where they connect at the main antenna switch matrix.

Main antenna switch and remote antenna switches: This describes the HamPlus antenna switching matrix and the two remote antenna switches required to access all the available antennas at the club.

Basic audio path logic: Here is the short description of what you need to do to work with through the Rigblaster Pro digital interfaces, or radio internal USB sound card to simply operate using voice, CW or digital modes.

Antenna descriptions: A list of antennas, where they are located, what bands do they cover, how to connect to them and if you might need a tuner to use them.

I want to operate on: A listing in terms of: "Here is the band I want to work, and here are my antenna options". Also how to connect to them and if you might need a tuner to use them ,.

I hope you find these descriptions short and to the point, everything you need to know, but not more, easy to understand and logical.

Enjoy using the equipment in the Skyview radio room. Use it with respect. Take care of it better than you would your own. Many people worked hard to make this high quality equipment available for YOU to use. Don't be afraid to use it and if you have questions, just ask.

Thank you in advance

Bob Bastone - WC3O
Skyview Radio Officer

Skyview Radio and Antenna info as of October 2018

DC power distribution logic:

When we designed the DC power bus for the club we wanted to make it easy to allow people to bring their own equipment to the club by providing standard power connections. We decided to use Anderson PowerPole connectors at each operating position. These 30 amp connections are THE standard in ARES, RACES and other emergency agencies. These connectors are readily available, genderless and dependable if properly installed.

Under the radio room bench is the main DC bus. This is simply two very heavy wires running the length of the table. There is a smaller wires tapped into the main bus at each operating position, leading to the fused PowerPole connectors located above the bench. There is room for five PowerPole connections at each position. We **strongly suggest** that you install PowerPole connectors on your own equipment if you ever plan on using it at the club. We **strongly discourage** trying to adapt anything to fit into the PowerPole connectors because they can be damaged. If you need any help with PowerPoles we will gladly assist you.

The DC power is provide by two sources. We use an Astron 50 amp power supply in **parallel** with a large truck battery. This gives up uninterruptible DC power, and the large battery adds voltage stability and filtering to the supply. The two sources are protected by a 150 amp fuse located near the battery. There are 25 amp fuses at the PowerPole distribution blocks at each radio position.

RF connection logic:

There are four operating positions in the radio room. The three main HF stations are identified by color. The first station on the left is the GREEN station. The middle HF station is the YELOW station. The station on the right is the BLUE station. The forth station has a connection that allows access to the antenna switch matrix, and also is where the two VHF/UHF radios are mounted. Each station computer is also identified by the color of that station.

Here is a quick picture of how the station RF connections are configured. The RF path is :

Radio —> Band-pass Filter —> Amplifier —> High Power Tuner —> Antenna Switch Matrix —> Antenna —> Rare DX!

Skyview Radio and Antenna info as of October 2018

Main antenna switch matrix:

The main antenna switch matrix (The switch box) is located in the radio room, mounted on the wall under the YELLOW station. The main switch is controlled by the four SMART Antenna Switch Consoles located at each radio position.

The main antenna switch matrix allows access to all antennas from any of the four radio stations. The SMART Antenna Switch Consoles allow switching of eight antennas. There is one complication to this. Skyview has more than eight antennas! Thus, we also have two remote coax switches. The buttons on the SMART Antenna Switch Consoles have labels for each antenna. The remote antenna switches are referred to on those switch consoles as **ANT SW 1** and **ANT SW 2**.

-**Remote Antenna Switch 1** is located in the pavilion and selects either the KT34XA tri-band beam located on the crank-up tower, or the NVIS 80/40 dipole.

-**Remote antenna switch 2** is located in the repeater shed. This switch selects one of the antennas mounted on the repeater tower: the tri-band "South" beam, the 80 meter dipole, the 160 meter dipole, or the 10 meter vertical antenna.

SMART Antenna Switch Consoles:

The SMART Antenna Switch Consoles are powered by the radio at that position (with the exception of the 4th station that is turned on by an on/off switch near the VHF radios) Whenever a radio is turned on, the corresponding SMART Antenna Switch Console will also power up. These SMART Antenna Switch Console receive CI-V data from the radio. Thus the SMART Antenna Switch Console knows what band the radio is on and it activates the antenna that was last used on that band. For instance: If you are on 40 meters the 40 meter dipole may be activated. When the radio is moved to 20 meters the antenna switch will automatically switch to the quad, if that was the antenna last used on the radio/band. Whenever you switch back to 40 meters, the switch will automatically go back to the 40 meter dipole.

- SMART Antenna Switch Console page: http://hamplus.com/mbd8f.htm
- Antenna Switch page: http://hamplus.com/as84f.htm

THE RIGHT WAY TO CHANGE BANDS:

Always change bands on the radio FIRST. After changing bands on the radio THEN make any changes to the SMART Antenna Switch Console, if needed.

THE WRONG WAY TO CHANGE BANDS:

Let's say you want to change from 80 to 40 meters. Do NOT change the antenna first, then change bands on the radio. Recall that the SMART Antenna Switch Console remembers what antenna the radio was on for a given band. So if you change antennas first, then you defeat the purpose of the SMART Antenna Switch Console. If you do switch bands in the wrong way the only real issue is that when you switch back to 80 meters the antenna will still be the 40 antenna. Otherwise it would have switched back to the 80 meter antenna automatically.

Skyview Radio and Antenna info as of October 2018

OPERATING THE SMART ANTENNA SWITCH CONSOLES:

The SMART Antenna Switch Consoles have back-lit buttons with labels. If the given button is lit, that is the antenna you are currently on. There is a red LED above each button. If a given (One of the 8 positions) is lit, that means that the antenna is currently being used by another station and is unavailable. If you try to engage that antenna that button light will blink and the antenna will not be accessed.

Along the left side of the SMART Antenna Switch Console there are also LED indicators. RT 1 through RT 4 are not used by us at this time. There is a POWER indicator – You can figure that out… The SEND indicator is lit when the radio is transmitting. This is a "lockout" to keep from "hot switching" antennas. The SPLIT indicator is lit if you have the switch set to receive on one antenna and transmit on another. Read the manual to learn how to do this.

ONE WARNING!!!

I have noted one aspect of bad behavior involving these SMART Antenna Switch Consoles. There is an interlock system that keeps you from accessing an antenna that is in use by another station. The system works great "assuming" that all four stations are all powered on. At the club, this is not always that case. Please be careful when turning on an additional radio whenever another radio is already on.

Here is what happens in that particular case :

Let's say the GREEN station is powered on and on the quad. Let's say the BLUE station is currently not powered on. If the BLUE station was last used on the quad before it was powered off, whenever you power up the BLUE station it will "steal" the quad from the GREEN station! This can be no big deal, but if the GREEN station is transmitting with the linear amp at the time, it can be a big deal. I am looking to see if there may be a firmware solution for this bad behavior.

Skyview Radio and Antenna info as of October 2018

Basic audio path logic:

(See note 2 below for information about the USB functions of some of the radios)

We have RigBlaster Pro digital interfaces at the three HF operating positions. These are great for working digital modes, but might be a little intimidating to those not familiar with their operation. These interfaces are basically **transparent** to the audio path when turned off. The only thing that you can do wrong when they are turned off is to have the **"Processor"** switch on the RigBlaster turned ON. If this happens you will have no audio from the microphone to the radio. Simply turning the processor switch OFF will fix this issue.

If you want to use a microphone other than the mic that is at that position (Such as the use of a Heil head-set for contesting), you have a choice of plugging the 8 pin mic connector into the RigBlaster OR into the radio. If you decide to plug the mic into the radio some functions will not work, such as using the foot switch to key the radio. Again, you may plug the mic into the 8 pin connector on the RigBlaster and you will have full function of all accessories.

Note 1: There are no RF or DC connections that go through the RigBlaster interfaces.

Only audio and switching connections go through the interfaces. For much more information about full use of these interfaces (RTTY, PSK-31, SSTV and much more) talk to someone at the club. We will be happy to assist you.

http://www.westmountainradio.com/pdf/RIGblaster%20pro.pdf

Note 2: As older ICOM radios are replaced, the newer ICOM radios have varied USB port functionality. The ICOM IC-7600 was ICOM's first radio with a USB port. The IC-7600's USB port cannot do everything that the USB port can handle on the IC-7300.

IC-7600's USB can do sound in/out for digital modes and radio data (CI-V)

IC-7300's USB port can do all of the above plus CW and RTTY keying.

The newer ICOM radio can be connected via the USB port or via the legacy connectors on the rear panel of the radio. Not all station positions are connected exactly the same (as they were in the past) Each radio would need to be looked at on an individual basis.

Skyview Radio and Antenna info as of October 2018

Antenna descriptions:

(%) Connected though remote antenna switch (Remote Switch control box MUST be turned on to work)

(*) Indicates an antenna tuner may be needed to achieve an acceptable SWR depending on band section

160 meter dipole: Home-brew dipole (Inverted-V config) hanging from top of repeater tower at @ 120 feet. **(*)** The antenna is cut for the CW portion of the band. It will require a tuner in the phone portion of the band. It is accessed via **(%)** [ANT SW 2]

80 meter dipole: The 80 meter dipole is up 90 feet on the repeater tower. **(*)** The dipole is cut for the RTTY part of the band and will require a tuner when used in the phone portion of the band. It is accessed via **(%)** [ANT SW 2].

80 meter phased array: This is the two towers that straddle the driveway in the lower yard. The two towers and be "phased" to change directions. There are three positions. 1-aims to Europe. 2- makes a omnidirectional pattern and 3- aims the signal south-west. The control box is located near the GREEN station and near the rotor controls. The SWR is good over the entire band. Accessed directly from the SMART Switch Console. For more information of the phased array go to this link: https://static.dxengineering.com/global/images/instructions/dxe-dva-160.pdf

40/80 meter NVIS dipole: Located along property line behind pavilion – Best for close-in communication **(*)** It is accessed via **(%)** [ANT SW 1]

40 meter dipole: hanging from the phone pole near the quad tower **(*)**. Accessed directly from the SMART Switch Console.

HyTower: Multi-band vertical covering 10 though 80 meters except WARC bands **(*)**. The SWR is marginal on the HyTower. Accessed directly from the SMART Switch Console.

Quad: 2 el Lightning bolt 5-band quad for 10-12-15-17-20 meters up 48 feet on a Rohn HBX tower. The quad may have less than great SWR on some bands. **(*)** A tuner may be needed. Accessed directly from the SMART Switch Console.

KT34XA: KLM 6 el tri-band yagi for 10-15-20 meters mounted on crank up tower (@ 72 feet). It is accessed via **(%)** [ANT SW 1]

"South beam": HyGain TH-5mk2 yagi mounted on repeater tower permanently pointed to the south. Covers 10, 15 and 20 meters. It is accessed via **(%)** [ANT SW 2]

10 meter vertical: This is an IMAX2000 CB antenna mounted on the repeater tower up 90 feet. The antenna is cut for 10 meters, phone portion. **(*)** An antenna tuner may be required elsewhere in the 10 meter band. It is accessed via **(%)** [ANT SW 2]

2-meter beam: 4 element vertically polarized beam located on 35 foot tower mounted to the clubhouse – Cut for FM portion of the band (Direct Coax Connection)

70cm (440 Mhz.) beam: 11 element vertically polarized beam located on 35 foot tower mounted to the clubhouse – Cut for the FM portion of the band (Direct Coax Connection)

Discone: Omni-Directional VHF/UHF antenna. Located on roof of clubhouse – Good for 144 to 1.2 Ghz. (Direct Coax Connection)

Skyview Radio and Antenna info as of October 2018

I want to operate on *xx* meters. What antenna(s) can I use?

- 160 meters: ***1.8 Mhz.*** 160 meter dipole **(*)**

- 80/75 meters: ***3.5 Mhz.*** 80 m Vertical Phased Array
HyTower vertical **(*)**
80 meter dipole **(*)** **(%)** [ANT SW 2]
80/40 NVIS dipole **(*)** **(%)** [ANT SW 1]

- 60 meters: ***5.0 Mhz*****.** TBD **(*)**

- 40 meters: ***7.0 Mhz*****.** 40 meter dipole **(*)**
HyTower vertical **(*)**
80/40 NVIS dipole **(*)** **(%)** [ANT SW 1]

- 30 meters: ***10 Mhz*****.** HyTower **(*)** vertical
40 meter dipole **(*)**

- 20 meters: ***14.0 Mhz.*** Quad
HyTower vertical
KT34XA beam **(%)** [ANT SW 1]
South beam **(%)** [ANT SW 2]

- 17 meters: ***18.0 Mhz.*** Quad
HyTower vertical **(*)**

-15 meters: ***21.0 Mhz*****.** Quad
HyTower vertical
KT34XA beam **(%)** [ANT SW 1]
South beam **(%)** [ANT SW 2]

- 12 meters: ***24.5 Mhz.*** Quad

- 10 meters: ***28.0 Mhz.*** Quad
HyTower vertical
KT34XA beam **(%)** [ANT SW 1]
South beam **(%)** [ANT SW 2]
IMAX2000 vertical **(%)** [ANT SW 2]

VHF and UHF Bands

2 meters: ***144.0 Mhz.***

2-meter beam (Cut for FM portion of band, vertical polarization)

Discone (Omni-Directional)

- 1.25 meters: ***220.0 Mhz***

Discone (Omni-Directional)

- 70cm meters: ***440.0 Mhz.***

440 beam (Cut for FM portion of band, vertical polarization)

Discone (Omni-Directional)

(All of these are direct coax connections)

NOTES:

(*) Tuner likely required depending on portion of band being used

(%) Connected though a remote antenna switch [Remote Switch Control Box MUST be turned on to work]

The "South beam" is a HyGain TH-5mk2 for 10, 15 and 20 meters permanently aimed to the South

Skyview Radio and Antenna info as of October 2018

Linear Amplifier Use:

Each amplifier at the club has slightly different tuning instructions. The printed tuning instructions are stored under each amplifier. Please use great caution!!! Linear amplifiers often do not "self protect". It is not hard to cause damage to the amplifier if misused. Proper tuning, a low SWR, and the proper input level must all be right. If you are unfamiliar with linear amplifiers I strongly advise that you work with me to learn all the details. Linear amplifiers are four things:

- Expensive to buy
- Expensive to operate
- Expensive to repair
- Expensive to ship

Please use with great caution !!!

Elecraft watt/SWR meters:

I strongly recommend always using the Elecraft W2 watt/SWR meters when using the linear amplifiers. These meters with tell you the SWR that the linear amp/radio is seeing. These watt/SWR meters are currently on the GREEN and BLUE stations (The YELLOW station will have one eventually) **Always** pay CLOSE attention to the information that these meters display. It is important! High SWR is very bad news for a linear amplifier. If you are unsure please talk with me and I will go over everything with you.

Receive Antenna:

There is a receive (RX) only antenna that can only be accessed by the GREEN station. The antenna works for all HF bands, but works best on the lower bands (40, 80 and 160) The advantage of the receive antenna is a better signal to noise ratio. The control box is mounted low and to the left of the GREEN station, on a shelf below the table. The unit must be turned ON to work. There is a large knob that can effectively "aim" the two receive antennas to either peak a signal or null a noise source. The two receive antennas are located in the woods in the lower yard. To use the RX antenna push and hold the antennas select button on the GREEN station **radio**. This button borders the radio display at the top-left. When on the RX antenna the **radio display** will show the antenna as **1/R**, rather than as **1**. To switch receive back to the transmit antenna simply push and hold the antenna select button again. (There is no antenna 2 connected to the radio) For more information about the receive system go to the link below.

http://static.dxengineering.com/global/images/instructions/dxe-ncc-1-rev5c.pdf

In closing:

You will never get to know how to use the Skyview radio room if you never use it. All this great equipment is at your disposal for you to use and enjoy. Please always treat it with respect and error on the side of safety. If you need assistance please ask. It can be very difficult to go over things when there are many people at the clubhouse. We can schedule a quiet time to go over everything and practice operating.

Bob Bastone - WC3O - Skyview Radio Officer

Ahhh, there's nothing like heading out to do a Winter Summits on the Air (SOTA) Activation

(Isn't that right, Cooky?)

And, there is always Winter Field Day . . . . . January 26/27, 2019

Winter Field Day Association (WFDA) is a dedicated group of Amateur Radio Operators who believe that emergency communications in a winter environment is just as important as the preparations and practice that is done each summer but with some additional unique operational concerns.

We believe as do those entities of ARRL Organizations like ARES & RACES that maintaining your operational skills should not be limited to fair weather scenarios. The addition of Winter Field Day will enhance those already important skills of those that who generously volunteer their time and equipment to these organizations. This is why WFD is open to all licensed amateur radio operators worldwide.

Disasters are unpredictable by nature and can strike when you least expect them. WFDA's goal is to help enhance your skills and ready you for all environmental conditions found in the US and Canada during the spring, summer, fall and winter Preparedness is the key to a professional and timely response during any event and this is what local and state authorities are expecting when they reach out to the emergency service groups that offer their services.

https://www.winterfieldday.com/

Cell Phones and Ham Radio

"Cell Phones allow you to talk to your friends.

However, Ham Radio allows you to make new friends."

Ashton Feller - KD9HRG - Age 13

(From June 2017 CQ Magazine)

**** Skyview VE Testing ****

For EVERYTHING that you need to know, go to:
https://www.facebook.com/SkyviewRadioSocietyHamRadioTesting/

(This will tell you what you need to bring with you)

Skyview Radio Society Contact person: Bob Worek, AG3U
e-mail: ag3u at arrl.net 724-410-1028

Location: Skyview Radio Society clubhouse. 2335 Turkey Ridge Road. New Kensington,PA 15068.

Directions, and map are on
http://www.Skyviewradio.net

Please schedule in advance. While walk-ins accepted, exam may be cancelled if no candidates are scheduled.

>>>>>> WARNING <<<<<<

A new Alarm System has been installed up at the joint. Do Not go in there on your own until you learn how to disarm and rearm it.

Welcome New Members !!

Welcome the following Skyview Radio Society Members who have joined us since publishing the August newsletter:

KC3MBM - Luc Berger - Cheswick

KZ3Y - Kristen Sorenson - Cheswick

And an update on one from last issue:

KC3MIQ - Joel LeFevre - Pittsburgh 15239

If you are a reader who is interested in becoming a member, then go to: http://www.skyviewradio.net/ for information.

If you are a reader who is not yet a ham, and you are interested in becoming a ham, , then go to: http://www.skyviewradio.net/ for information.

Become Well Known Publish in the Q5er

The Q5er goes to other clubs and is available to all on our web site.

Submissions to : K3JZD AT ARRL DOT NET

Kul - Links

Jody - K3JZD

There is lots of stuff out on the Internet… Some of it can brighten your day. Some of it can educate you.

I can't really copy and past it all in here. But, I can point you at some of it . . . . .

Under the heading of jobs that probably pay pretty well, there are the guys who install the plastic wire line marker balls on the High Voltage Power Lines.

http://tinyurl.com/y9dwh8sg

I have built these using coat hanger wire – makes the cost next to nothing – work just as well as the copper wire

http://tinyurl.com/y9t6gjpj

I'll consider any Kul - Links that you find.
Email then to me at: K3JZD AT ARRL DOT NET
They might just end up in the next issue

Previous Issues

Previous Issues of the Q5er are available at

http://www.nelis.net

Next Newsletter will be February 1, 2019
Closing Date For Submissions : Jan 15, 2019

K3JZD AT ARRL DOT NET

Issue Wrap-up

I'm sure that you skipped over some of the stuff that you were not really interested in. Hopefully there was enough in here to make it worth opening.

A good variety this month. I was glad to see another ham shack photo submitted. I think that having the ham shack pictures and the mug shots on the Skyview Post Office Wall bring us closer as we chat on the air or meet at the joint.

As usual, not much real club boilerplate or timely club news in here. The club web page, the club Facebook page, and the K3MJW Yahoo reflector all have the basic club info and more timely club news. This newsletter is really for 'all else'. So, send me your 'all else' stuff.

Jody - K3JZD

Here is what I feel is a worthwhile Facebook group :

http://tinyurl.com/y873zl6c

It is called *"Amateur (Ham) Radio on a Budget"*, and is a very dynamic group.

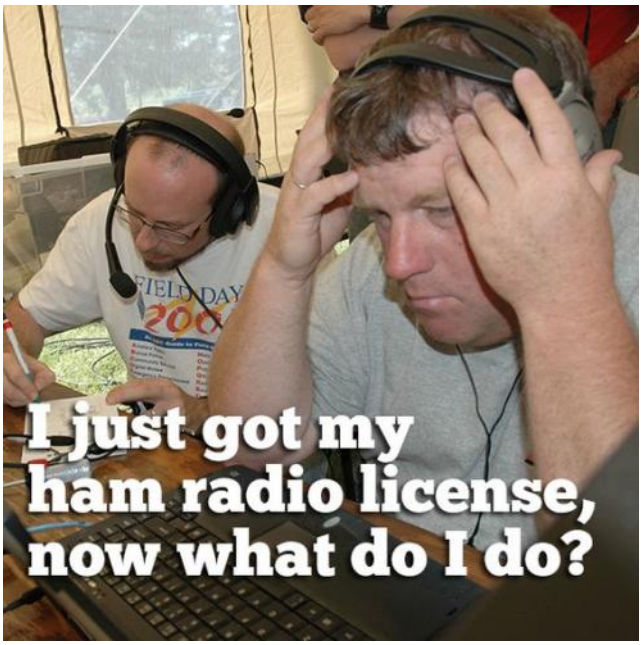
Lots of people exploring lots of ideas and lots of people sharing experiences.

Kind of a on-line Elmering Group which would be helpful to new hams.

Jody - K3JZD

Q5er Editor & Publisher: Jody Nelis - K3JZD

email your comments and article submissions to: **K3JZD AT ARRL DOT NET**



That's Easy . . . .

Come up to the Skyview Clubhouse on any Tuesday and ask !!!

All General Information about the Skyview Radio Society is at http://www.skyviewradio.net

See Yahoo Reflector for All Current News & Activities : https://groups.yahoo.com/neo/groups/K3MJW
(You must be logged in with your free personal Yahoo Login ID to get into the Skyview Yahoo Reflector)
If you want to keep up with what is going on NOW, that is the place - have it forward msgs to your email

Is this how your dining room looks ??

Where are the pictures of your shack ??