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

Q5er – The Official Newsletter of the Skyview Radio Society

April 1, 2023

Whenever I assumed the role of publishing this newsletter, I knew that it would not have as much value as a club newsletter did in 1960. Unlike back in 1960, today we have the Internet which has provided our club with a Web Page, a FaceBook page, and a groups.io reflector.

Most clubs have abandoned newsletters, and now rely on their various Internet facilities instead. Those few that still do publish newsletters have different ideas on what kind of content is appropriate. There is no right or wrong approach to take with a club newsletter. It is largely whatever the respective editor wishes their newsletter to be.

My thought whenever I assumed the role of publishing this bi-monthly newsletter was that I would not try to compete with our real-time Internet facilities. Thus, I do not provide any real-time club news. At the time, our club reflector was on the text-only Yahoo Groups where attachments were not allowed. So, I felt that this club newsletter was still relevant because it could be utilized for sharing articles containing pictures and diagrams.

Now that we are using groups.io where attachments are allowed, that kind of stuff could just as easily be shared there. And we could be using FaceBook the way it was designed to be used, with anybody being able to post stuff on there.

So, a few questions come to mind: Do we still need a newsletter ? Does anyone actually read it? Should it to have a different focus? Does anyone want to take it over and change the focus?

Jody - K3JZD

2023 is Skyview's 63rd Anniversary !!

- Don't Give Up So Soon
- Method of Measuring Voltage Drop in Fused Circuits
- NAQCC Sprint
- Is FT8 Really So Bad ??
- Shrinking Memory
- Signup Sheet From Days Gone By
- Where is that Guy ?
- IC-7300 Clock Answer
- And More

The Sunspot Numbers are Rising !!!

Time to exercise the 10-12-15-17-20 Meter bands

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 Groups.io Reflector at : https://groups.io/g/K3MJW

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

From the Editor

This issue is a little heavy with my articles. I have had several articles that I authored over the last several months that I have just sat on due to having plenty of other submitted articles to fill a newsletter.

As this months publishing date approached, things were looking a little thin. So I decided to clear out my queue. So, get ready for what is almost going to read like K3JZD's Blog

Bob's articles makes it clear that voltage drop does matter, even at low voltage levels. And Mikes article proves that it pays to have a junk box.

Jody - K3JZD

Remember: The number of people older than you never increases., it only decreases

From the Treasurer

We remain well positioned as far as covering our fixed expenses. While we have seen some inflation in our utility costs, we can cover it.

The Membership Roster will get trimmed this month. If you have not paid your dues for 2023 yet, you are going to fall off of the Active Member List. Don't let that happen.

Jody - K3JZD

It was nice to see Skyview Members Brian - K3SE and Paul - K2PMD in the March NAQCC Sprint. I also worked KQ3Z - Bernie from Gibsonia, who credits Skyview for getting him started in ham radio back in 1964. As Brian and Paul will probably tell you, this is a pleasant monthly low pressure CW event. A good place to practice CW.

Ham Radio is a Contact Sport

Continue Use the Skyview Facilities At Your Own Risk - It is Not Really History Yet.

Follow https://groups.io/g/K3MJW for COVID updates.

Skyview Radio Society is recognized by the Internal Revenue Service as a charitable non-profit organization under Section 501(c)(3) of the IRS Code. Donations to Skyview are tax deductible to the extent permitted by law.

Here is another issue. . . . . .

Not saying it is the last one that I will publish. **But it could be . . . .** Jody - K3JZD

When I was a boy I was told that anybody could become President; I'm beginning to believe it. ~Clarence Darrow

March Business Meeting Minutes

de Don - WA3HGW

Skyview Radio Society
Monthly Business Meeting – March 7, 2023

Call to Order: 7:30 PM by President Paul Krystosec, KC3IE.

Attending – 28 Members: N3WMC, K3CLT, NM3A, AC3IE, K3JAS, K3FAZ, K3STL, AG3U, KC3OCA, K3ES, WA3HGW, KC3PXQ, N2MA, KB3DVD, AB3GY, AG3I, WQ3Q, WA3KFS, ACØKK, K3JZD, KC3VCX, K4PDF, KG4JBB, KC3OCC, WC3O, AC3GB, AC3Q, K3ZAU.

Prior Meeting Minutes: The minutes of the February 7, 2023 meeting were distributed for member review. A motion to accept the minutes as presented was made by N3WMC and seconded by KG4JBB. The motion passed without objection.

Treasurer's Report: Treasurer Jody, K3JZD reviewed the Financial Report of 28 February 2023 (Attached). Income included 50/50 drawing and from the VE session. Expenses for the month were minimal, including cost for plaques for Skyview Ham of the Year, the PA QSO Party plus engraving a tag for the club silent key plaque. A motion to accept the Treasurer's Report as presented was made by K3JAS and seconded by N2MA. The motion passed without objection.

Membership Report: Tom, AB3GY, advised there is one new member application this month. AB3GY made a motion to open the membership rolls. KC3PXQ seconded the motion. The application is from:
Michael Lippert, W3MLJ, a General class from Zelienople PA. As he is under 18 years old, he will be a youth member until his 18th birthday. AB3GY made a motion to accept which was seconded by KG4JBB. The motion passed without exception. AB3GY made a motion to close the membership rolls, which was seconded by K3JAS. The motion passed without exception. Membership now stands at 148.

Radio Officer Report: All radios are in good working order. The power line noise continues intermittently. West Penn Power had replaced the insulators but the noise continues, now intermittently. The power company will be contacted for additional assistance. WC3O has installed the new heavy gauge DC power buss wiring in the radio room. He will finish up by removing the old cabling and dressing up the wiring. The UPS system in the radio room is still having some problems after replacement of the "coin" memory back-up battery. The UPS programming needs to be restored. The repeaters are all working well.

Kitchen Report: Bob, WC3O, noted the kitchen balance is $219. Kitchen stocks are good. .

VE Report: There was one VE candidate in February. A Technician class ham upgraded to General class. There is one candidate so far for March.

Newsletter: The February issue of the *Q5er* is out. Jody is looking for newsletter submissions by March 15 for the April issue.

Facilities: No facilities report was available this month.

Building Committee: AG3I noted that an excavator has been delivered to the site. It will be used for the driveway upgrade with additional crushed stone, and new building preparations.

Calendar of Events:
March 12 – Group photo of CQ WPX RTTY contest operators.
March 14 – HAARP Zoom presentation.
April 1 – SET Drill.
April 23 – You'll Shoot Yer Eye Out Kid.
April 29 – Hams for Pan Can special event for Pancreatic Cancer.
May 7 – Pittsburgh Marathon.
March 11 – Breezeshooters Hamfest.

Old Business: There was no old business discussed.

New Business: WC3O announced planning for a train trip to ARRL coordinated with the Butler club. Dates are not confirmed yet. The trip will include a tour and operations from W1AW and possibly a tour of the new Radio Lab and QSL bureau. The ARRL headquarters building in still not open for general tours, but we have had some positive response for a tour of those two areas.

Weather Night:
The river flood training was well received and successful.
March 14 – Weather night pre-empted for special Zoom presentation on the HAARP system.
April – Weather radar explained.
May – Advanced Skywarn training
June – Hail board construction.
July – Lightening.
August – Radiosondes and weather balloons.
September – One year review of the Skyview weather group activities.
October – Making snow boards.

Elmer Night: Review of Radiograms and message handling In preparation for the upcoming SET Drill.

Net Report: The check-in numbers averaged 41.25 over four Thursdays in February. If you want to volunteer for net control, contact K3STL or WC3O

50/50 Drawing: The total collected was $55. The winner of $27.50 was Jan, KG4JBB.

Meeting Adjourned: A motion to adjourn was made by KC3PXQ and seconded by N2MA. The motion passed without objection. The meeting was adjourned at 8:05 PM.

Respectfully Submitted,

Don Stewart – WA3HGW
Secretary; Skyview Radio Society, Inc.

Misc Items

Do Not Give Up So Soon

Often I will have my HF radio turned on and tuned to one of the more popular SOTA frequencies while I'm doing something on my computer. That way I can often work a SOTA Station before he gets spotted and popular.

I will very often hear a station come on and make one or two general CQs calls. Then they are gone.

Today I heard a persistent station on 20M who was calling a general CW repeatedly. He would call, listen for a few seconds, and then call again. This went on for nearly 10 minutes without any reply.

Finally three stations all decided to answer him all at once. He had a pile up. Turns out that while he was not calling CQ POTA, he was doing POTA. He probably had not self spotted. Eventually I saw where someone had spotted him, and then he was busy with back to back calls for a long time after that.

If he had only made a few CQ calls and left, then he would have missed the good Samaritan who spotted him and the swarm that eventually worked him during the next hour.

So, as the title says, do not give up too soon. It takes a while to wake up a dead band. There are a lot of folks out there who do not have waterfall displays and still tune around on the bands to find activity. You have to make noise to be found !!

Jody - K3JZD

———————————————————

———————————————————

By the way, the proper format for a general CQ on the HF bands is still 3x3 as far as I know (CQ 3 times then your call sign 3 times then listen). I have heard some stations call 'CQ' 20-30 times before they ever give their call sign. Even though a call sign no longer provides you with a clue as to where they are, most people will tune away from them before they get around to providing their call sign.

DIY SMD Vacuum Tool Upgraded

de Jody – K3JZD

In the June 2021 Q5er, I described my ***DIY SMD Vacuum Pick & Place Tool.*** Sticker shock for the commercial SMD (Surface Mounted Device) Pick & Place Tools led me on a quest to home brew something that was more affordable for a hobbyist.

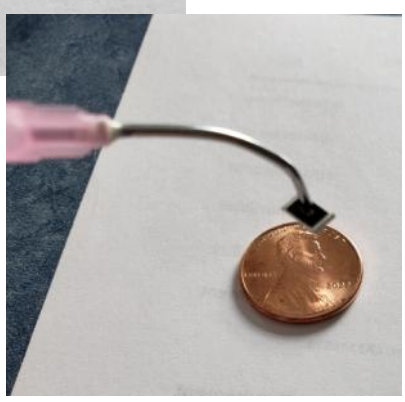
I had built my DIY Pick & Place Tool using the design that I had found posted online by Mad Electron Engineering: https://www.youtube.com/watch?v=qJWUUK1s_G0 I used the same parts and I did the same pump modification to convert the air pump to a vacuum pump.

While it got the job done, the vacuum in that reversed aquarium pump was a bit weak. I could drop a SMD part if I moved too fast. Not good, because then I would end up hunting for the tiny SMD part that I had dropped.

I found some inexpensive 12v DC Micro Vacuum Pumps on AliExpress https://tinyurl.com/2movxvqw that looked promising. I ordered a few (I never order just one, because it could be a dud and I would have to reorder and wait all over again). Eventually, they arrived.

Now here is where I deserve **Extra Credit** for this project. I found and actually reused one of the 12v DC Wall Warts that was in my life-time collection of Saved Wall Warts. Now, as you probably know, that hardly ever happens. What made me shudder was that earlier, while I was on a clean-up kick, I was going to trash that whole overflowing box full of old Wall Warts. But fortunately I came to my senses and walked away. Whenever I actually found one that I could reuse for this project, I felt guilty about using it. I was breaking up the collection. But I figured that my kids would probably not miss that one whenever they were dividing up the nice Wall Wart collection that they inherited.

A quick test showed that this recycled 12v DC Wall Wart provided enough current to power this vacuum pump. Next step was to package it. Once again my 'Solution Waiting for a Problem" (December 2022 Q5er) was put to work to create a suitable enclosure. While I was a bit concerned about the plastic enclosure that I designed not having a lot of ventilation, it has not melted yet.

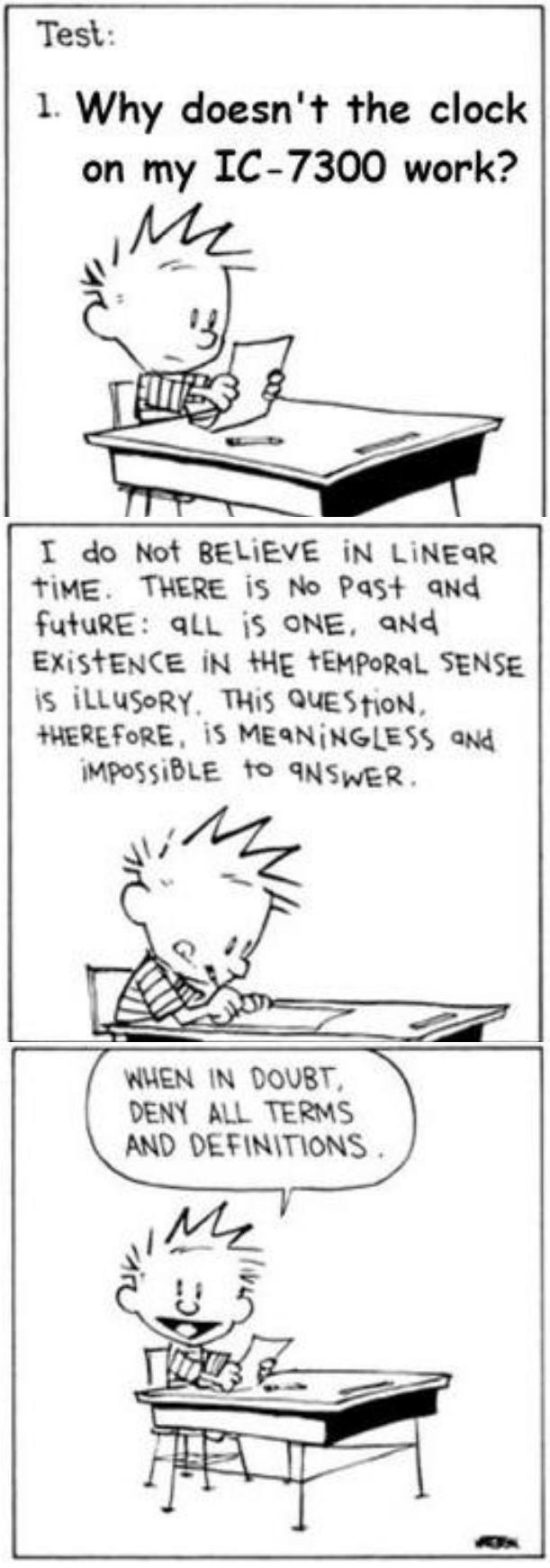


The final photo shows my upgraded Pick and Place Tool holding a large SMD resistor.

Yes, that is a large SMD part. Most are much smaller than that one.

My Upgraded Pick & Place Tool now holds a SMD firmly, with no risk of dropping it prematurely. So, this stronger vacuum pump seems to be just what I needed.

Jody - K3JZD



Shrinking Memory

de Jody - K3JZD

No, I'm not talking about my shrinking memory. That's another story. I'm talking about shrinking computer memory. You know; the stuff that holds your data nowadays. Back when file cabinets held our data, they got bigger and more plentiful. Computer memory seems to get smaller on the outside while it gets more capacity on the inside.

Recently a new Solid State Drive (SSD) arrived. I used it to expand the data storage capacity of my laptop. I have never had one in this format before. Looking at it got me to thinking about the various formats that I have used for data storage in the past. The size and capacity have certainly changed:

360 KB (0.00036 GB) Floppy & 250 GB SSD PCIe Strip

The 250 GB SSD that I bought for this application is far from the largest capacity that is available - it just happens to be all that I felt that I needed at this time. I guess purchasing that 250 GB SSD was better than purchasing 695,000 or so 360 KB Floppies, huh?

Over the years, there has been a continuing evolution in increasing storage capacity while reducing the physical size. Here are some early examples:

360 KB (0.00036 GB)Floppy 1.44MB (0.00137 GB) Floppy, & 100 MB (0.095 GB) Zip Drive

Spinning Hard Drives have gone from a fantastic (at the time) 10MB (0.003 GB) capacity in a 5.25" drive to much smaller ones that now have capacities in Terabytes (1 Terabyte = 1000 Gigabytes). Here are 3.5" and 2.5" 1 Terabyte Hard Drives that I just happened to have around – there are much larger capacities available in spinning Hard Drives:

1 TB (1000 GB) 3.5" HD & 1 TB (1000 GB) 2.5" HD

I have no idea where the upper limit is in removable solid state memory. Here are some removable non-SSD solid state memory devices I happened to have around. Once again, – these are far from the largest capacity that is available in SD Card or Zip Drive formats:

64 GB SD Card & 32 GB Zip Drive

I also do not have any idea where the upper limit is in random access Solid State Drives. The SSD capacities just keep increasing. Here is a 2.5" SSD that is sized to replace a 2.5" spinning Hard Drive in a laptop. And here is the same capacity of SSD that is in the smaller PCIe format that my laptop uses. Once again, – there are much larger capacities available in each of the various SSD formats:

240GB 2.5" SSD & 250 GB PCIe SSD

And many of you are walking around with 64 GB, 128 GB, or more of memory stuffed into the computer that is in your pocket. Yes, your Cell Phone.

A lot of the memory chips are as large as they are only so that there is a way to bring the leads out be connected. But, if the removable memory was in flea size packages, instead of in "large" packages like the micro SD Cards, we would be losing them all of the time. And removal and insertion would be a challenge.

The Cost per GB has been coming down as the capacity has gone up. That is a good thing. But I worry about committing more and more data to fewer physically smaller removable high capacity solid state devices like the USB Zip Drives. It is too easy to lose a whole lot of "stuff' if one of them is misplaced or lost.

And I worry about the large capacity embedded drives. Embedded spinning Hard Drives will often get noisy and give you a warning that something bad is about to happen. But, whenever one of these embedded SSDs that have a huge capacity fails, a whole lot of data just went "poof" without ever making a sound. Makes the word "Backup" have much more meaning.

*"**Clear Disk Info**"* is very handy free software tool that reports the status of modern Hard Drives and SSDs that use SMART technology. Put a copy of this free program on your PC and run it regularly. It may alert you to a potential failure coming soon.

Jody - K3JZD

So, Is FT8 So Bad ??

de Jody – K3JZD

FT8 usually gets a bad rap. I hear lots of negative stuff. Like: Too impersonal. It is the computer making the contacts. Not real radio. Etc. Etc. But, wait a minute; it is operator controlled wireless ham radio communication. So, how is that so bad?

I do a lot of QRP CW, 100w CW, and some 100w SSB. Like many, I get a kick out of working DX stations with my modest rig and antennas. But, I have setup my station to be able to do most every digital mode. I like to use different modes from time to time.

It had been nearly a year since I made any FT8 digital contacts. So I updated my WXJT-X and JTAlert software, straightened out my settings (after a year's worth of MS Windows updates mucking with them), and had at it.

In the past I have noted that there is usually FT8 activity on the 'dead' 10 Meter band. So I started there. I was quite pleased to find that 10 meters was 'open'. I worked a little on Sunday, Monday, and Tuesday. I ended up making 58 FT8 QSOs. Most of them were on 10 meters.

That Sunday was the tail end of the ARRL CW Contest. There was lots of 10 Meter CW activity. So I could have used CW that day and made a bunch of high speed impersonal DX contest contacts (by using my computer running M1MM+, aided by CWGet). But I wanted to refresh my FT8 skills.

Yes, I said FT8 skills. You see, FT8 is not as easy as a lot of people think it is. Just getting all of your hardware and software all setup so that everything plays nice is an accomplishment. Then once you are all setup, it is good to have some strategy that will make you more successful whenever you are going after DX stations. In a nutshell, you need to know where to transmit, when to transmit, and how long to keep trying a DX station that you are going after. You learn those things from experience.

FT8 is a low power mode - I ran 30-35 watts. I used a Mosley TA-33-JR at 35 feet which helps. So, how did I do with that? Well, I worked into Asia, which is very rare for me. I worked a gaggle of Japanese stations (about 6500 miles away). A couple of Australian stations (about 10,000 miles away). A couple of New Zealand stations (about 9000 miles away). I chased a Chinese station and an Indonesian station, but I was not able to get either of them.

In addition to that nice run with the Japanese and 'down under' stations, I also worked a couple of South African stations, some stations on the islands off of Africa, and lots and lots of European, Central American, and South American stations. It was nice to see that everything was working.

Oh yeah, that Monday, whenever 10 meters was back to being almost totally empty again (all except for the FT8 frequency), there was an Alaskan station who was providing quick CW QSOs. I had just worked an Alaskan station on FT8, so I probably could have worked that CW station. But, with that CW station, it would have been "599 PA" -- "TU 73". That would be just as impersonal as my "-12 FN00" -- "RR 73" was for my Alaskan FT8 QSO. So I passed on that opportunity.

The other part of the story is: If you only have a finite time available to play radio, and you enjoying working some DX, then you want to go where the action is.

A SSB, CW, or RTTY contest weekend will get you lots of impersonal "TU 59 PA or TU 599 PA" DX QSOs. Take advantage of them. I often will - just to chase DX.

Even though we are starting to see some good SSB & CW openings on the 20-17-15-12-10 Meter bands, there will still be days when things just are not so good. During those other not so good times, your options are a lot more limited.

There is always just tuning around on the CW or SSB frequencies to see if you can find some DX station calling CQ. That used to be the way to do it – it still works sometimes.

Or you can try chasing some DX using CW or SSB by going after the few stations that are posted on DX Spotting sites like DX Summit. But, often you will have a whole lot of high powered competition calling them, which will lower your odds of success. Each of those would most likely end up being impersonal "TU 59 PA or TU 599 PA" DX QSOs.

So, remind me again; how are these impersonal FT8 DX QSOs so bad?

So, would I use FT8 all of the time? No. Is it worth doing once in a while? I think so - it is still operator controlled wireless communications.

Why am I suggesting this now whenever the sunspot cycle is rising, and we will probably see more DX stations returning to CW or SSB? Maybe because I think it is going to take a while for that to become routine. While it would be nice to be able to engage a DX station in a CW or SSB rag chew again, we are not there yet. It will still be like feeding time at the zoo whenever a DX station shows up on CW or SSB. So, if you get frustrated with chasing DX on CW or SSB, try FT-8 where it is already routine.

100w Dummy Load

de Jody – K3JZD

Here is my version of a 100w Dummy Load. It is a very simple solution that is based on the 250N50F Microwave Resistor.

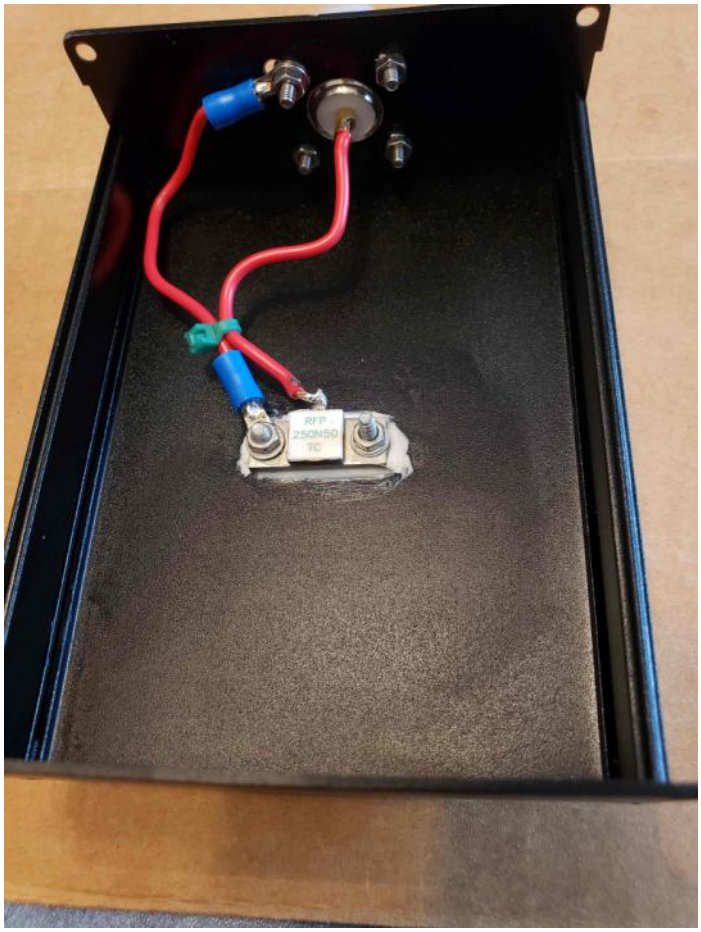
While I like to build kits, once in a while I like to scrounge for individual parts and fabricate something like this from scratch.

This 250N50F Microwave Resistor was characterized on the Summer 2022 issue of the G-QRP Club's ***SPRAT*** magazine by Steven - M7SLR.

Steven determined that the 250N50F provides a good 50 ohm load from 0 to 100MHz and beyond.

This resistor is rated at 250 watts. The aluminum case and the aluminum heat sink should dissipate enough of the heat during brief 100w CW key downs.

A finger on the heat sink will tell me when some cooling down time would be a good idea.



Once I find my old HeathKit Cantenna, it will be time to find a way to dispose of the nasty oil that is in there and deep six it.

Jody - K3JZD

Where Is That Guy ?

de Jody – K3JZD

If you have a rotatable gain antenna, and you work a little DX once in a while, then where you point your antenna will make a big difference. If you refer to a chart of some kind that maps call sign prefixes to a compass direction, you might be puzzled at some of those compass directions that you see listed there.

We all have in our minds some idea of where most major countries are.

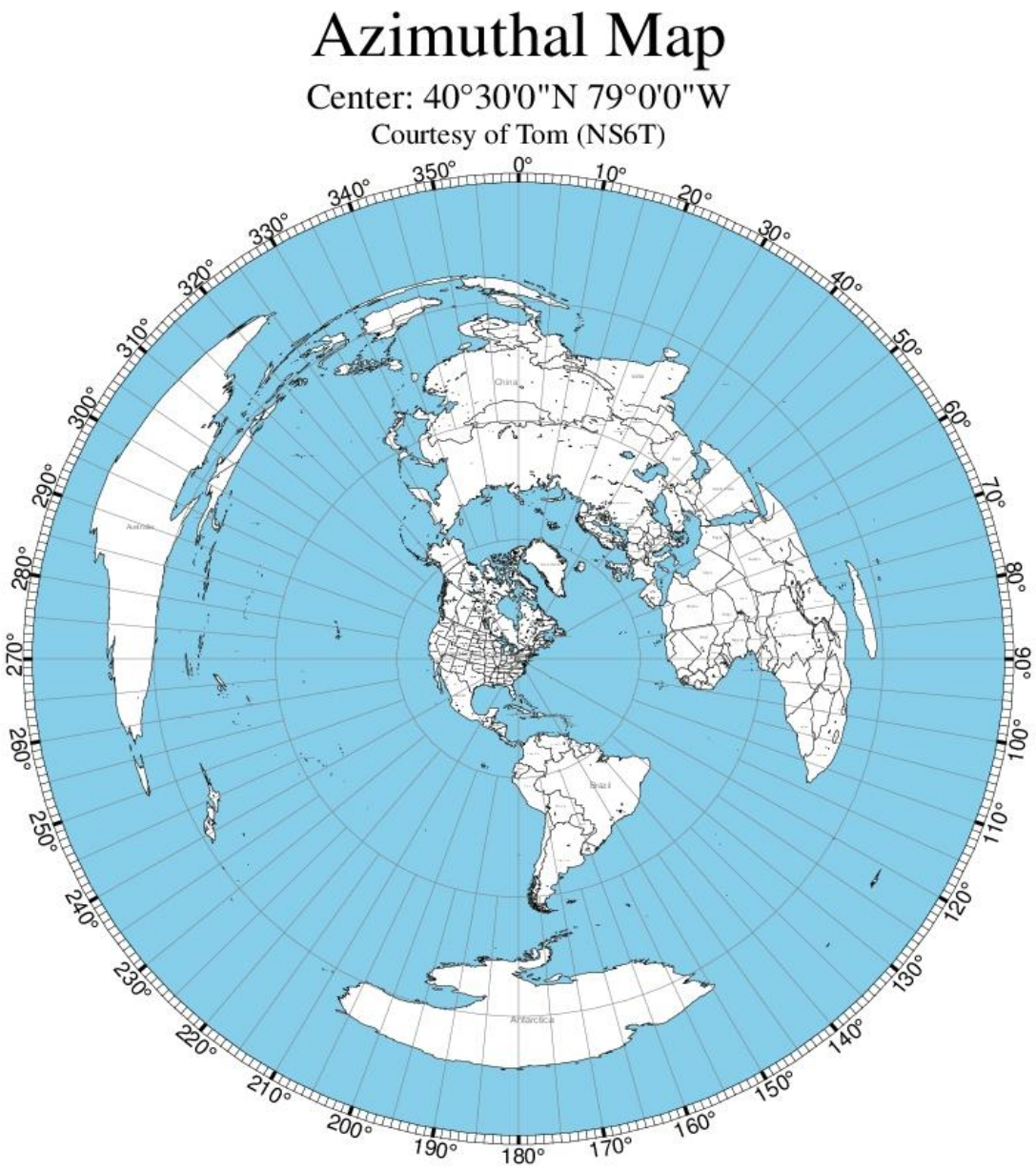
And those compass directions do not always seem to agree with what we think.

After all, we all know that Europe is to the East of us, and Asia is to the West of us, right?

Well, the problem is that the maps that you typically look at are not the way that RF looks at the world.

Here is how RF sees it.

So, believe the charts !!!



Map from http://ns6t.net/

Voltage drop my foot!

de Bob – WC3O

I read somewhere once that an HF transmitter puts out a less pure signal when the supplied voltage drops below the spec. The lower the voltage, the worse the signal gets. I think this is why Field Day operations become more challenging as the battery voltage drops to around 12 volts plus total voltage drop in the wiring.

Voltage drop is additive. So let's say our fully charged car battery that is sitting at 12.6 volts. You have connections at the battery terminals, maybe alligator clips. You have wire. You have fuses. Perhaps you have a PowerPole distribution block. You have remaining wiring to the connector on the back of your radio. Each and every one of those connections and wires have some resistance and experiences a loss of voltage as you draw power from your radio.

The lost voltage along the way is referred to as "voltage drop". In receive mode your HF radio might only be drawing around an ampere, or amp. At one amp with perhaps 12 awg wire there should be very little voltage drop between the battery terminal and the back of your radio.

But when you transmit, a 100 watt HF radio typically pulls around 20 amps - Give or take. This is where you will see a notable drop in voltage - While transmitting.

So, the voltage spec on the radio is 13.8 volts. A fully charged car battery is 12.6 volts. Add in all of your voltage drops along the way (Wiring, connections, fuses, fuse holders and more) By the time you get to the back of the radio you are down around 12 volts or lower!

Some radios are more tolerant to lower operating voltage than others. No matter what, you want to minimize your volts drops and stay as close to spec as you can.

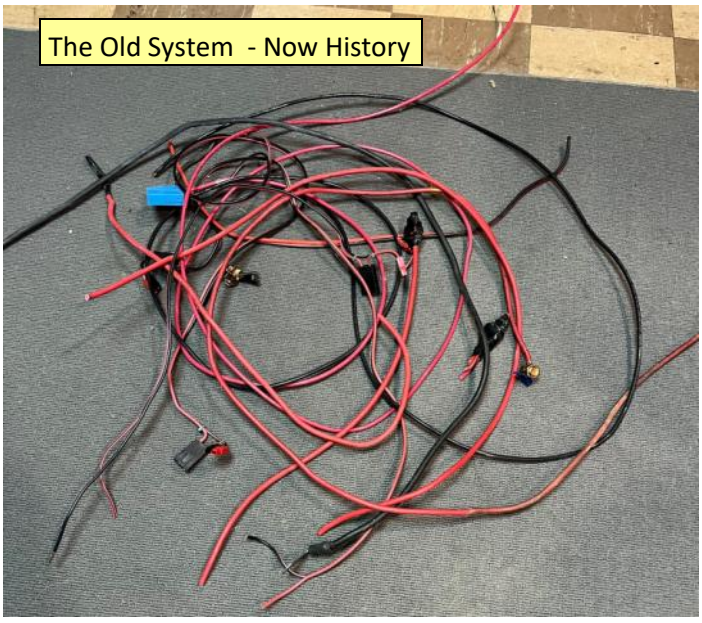
All this to say...

At the clubhouse we have a DC power bus that runs along the bottom of the operating bench. To understand this you'll need a little history... Back in the day - There was no DC power bus. There was a power supply and you hooked your radio up to the supply. That was fine when we had one radio. As we started to run multiple radios, this was not so good. Keep in mind, at the time, the club had VERY little $$$ in the bank. So the cost of improvements was of big concern.

Enter General Motors:

At the time, GM had a big problem with their side terminal batteries leaking acid. The acid would get into the battery terminal end and cause severe corrosion. So me, working on cars, I landed up with lots of GM battery cables. Nice, heavy copper wire. FREE. Thank you GM! So I used a number of these cables to make up a DC power bus under the table, connecting them together with split bolts. Rich, K3RWN donated the PowerPole distribution fixtures that we use.

This makeshift bus arrangement has served us well over the years. But there was still a notable voltage drop in the system when under load. Add to that, during contests we've been running up to 4 radios, all pulling power from that bus. And as you may recall from the beginning of this long story, low voltage to the radios can cause signals to get dirty and add to the interstation-interference during contests!

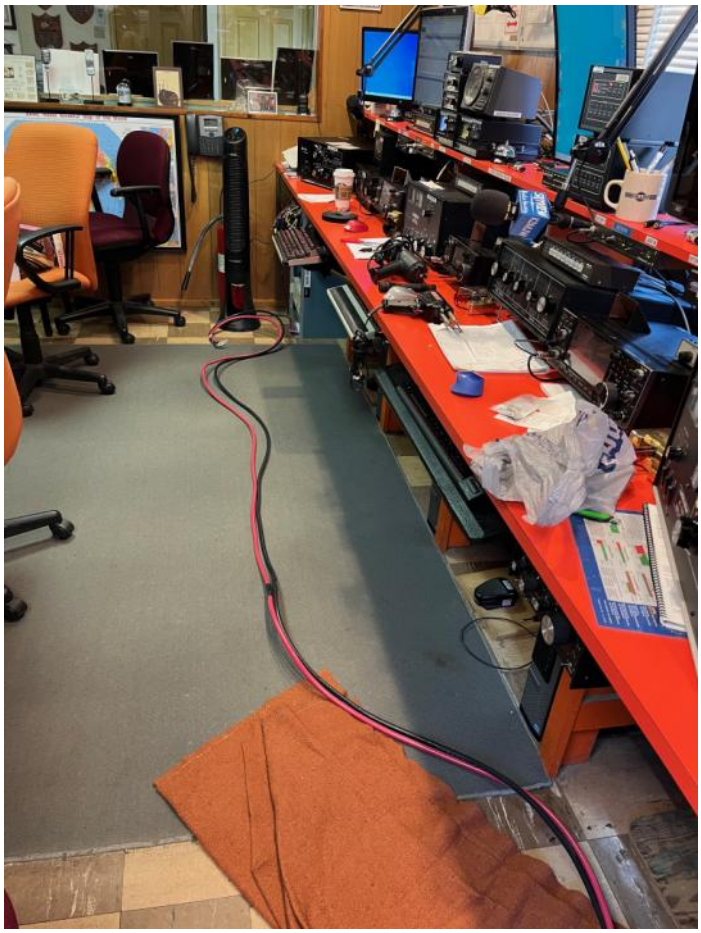


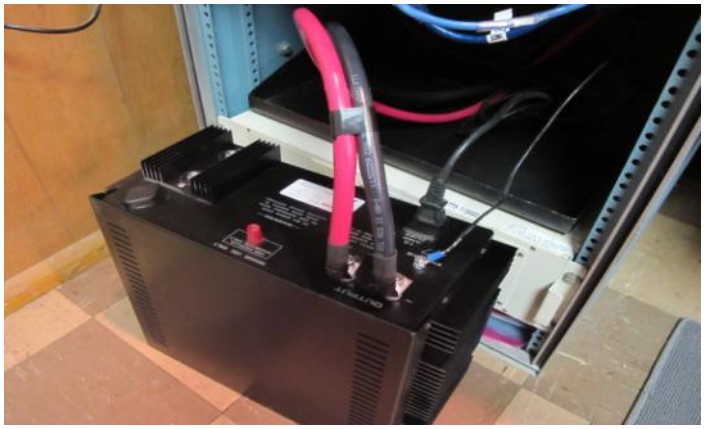
Now What ?? Well, first Enter the Butler Hamfest:

Last September we ventured to the Butler Hamfest at the Unionville Fire Hall. I wasn't looking for anything, but there it was. Like a beacon in the night! A bundle of

HEAVY gauge wire! I wheeled. I dealed. I wheeled and dealed. The price for the cables was quite reasonable. Then, when the seller heard it was going to be used for the Skyview station, he gave another discount! (Much appreciated) So the cables came home with us.

The cables are 2 awg (which I found out is different than 2 ought cable) They are tinned stranded copper with nice insulation, black and red. There were two sets of these cables, the same length.

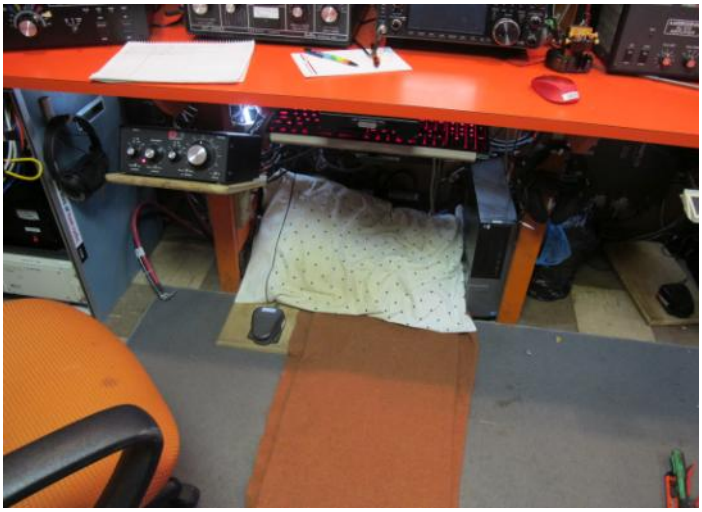




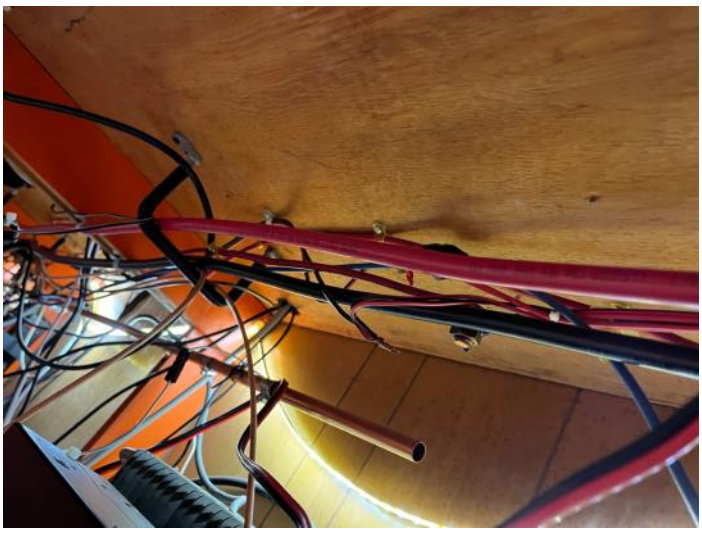
(I forgot to mention... There is an Astron 50 amp linear power supply on one end, and a big honkin truck battery on the other end, fused)

Then, Enter Steve, K3FAZ:

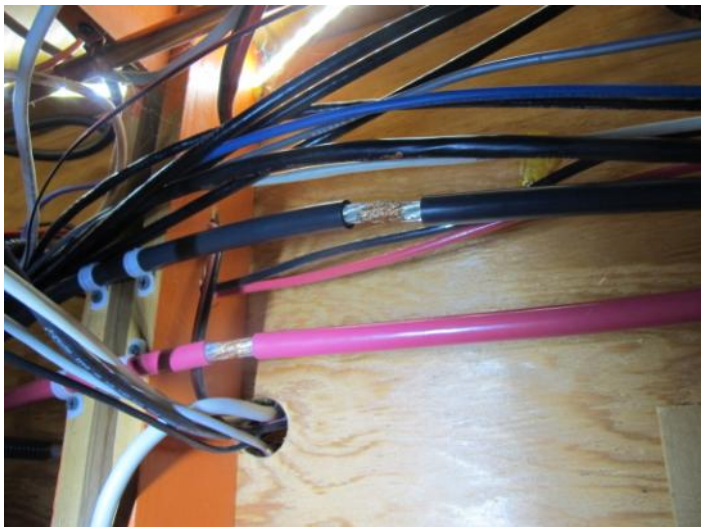
I needed to connect the two lengths of cable together so that they would span the entire length of the bench. Steve came to my rescue and professionally crimp connected the cables together, then applied heat shrink to them. It was perfect.



So the day came to implement the new system. I laid the cables out and threaded them under the table, attaching them to the table supports and running them through cable support brackets that Todd, K3TAJ donated to the club years ago. Looks good!



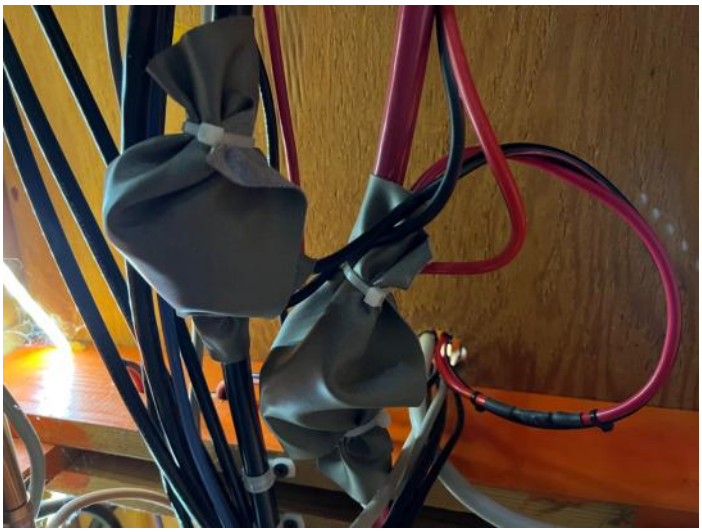
I made all new wiring harnesses to go between the bus wires and the PowerPole distribution fixtures. I used all 10 awg wire with fuse holders. In the fuse holders are 30 amp resettable circuit breakers. The old harnesses were 12 awg or less.



I connected the harnesses to the main bus with nickel plated split bolts, with a dab of SS30 just for good measure. I needed to make tap-in points along the bus to attach these harnesses, so I needed to cut sections of insulation off of the bus wires.

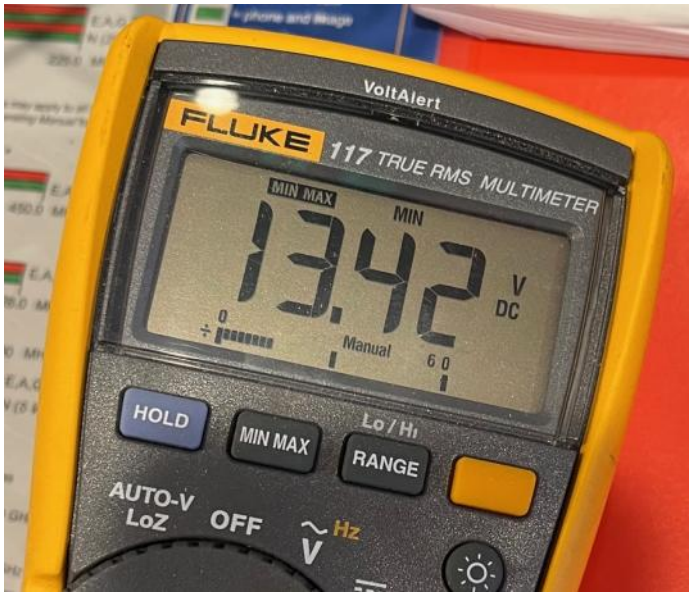
That's when I found out just just how tough that insulation is! It was NOT easy to cut, especially while working under the table! So I stopped. I stared. I stopped and I stared. And then I stared at it some more... BINGO BUCKO! I decided to use a small pipe cutter to neatly cut the insulation. I then used a razor to slice it lengthwise and peeled the insulation right off! Oh mama!

I offset the location of the tap-in points to decrease the likelihood of shorting the two wires together. I didn't want to use electrical tape to insulate the connection points because someday that tape will need to be removed for some reason and it will be a sticky mess. So I used vinyl cloth material to wrap around the connection points and Ty-rapped them into place. Much better.



Before I had switched everything over I used my trusty Fluke multimeter with its MIN-MAX function to measure how low the voltage got with just one radio transmitting barefoot at 100 watts. (@ 20 amps)

BEFORE: With the old cable, measured at the PowerPole connection block, the voltage would drop to 12.39 volts!



AFTER: With the new cable installed, measuring under the same conditions, the meter now showed that the voltage only dropped to 13.42 volts. **This change to this new cable got rid of more than 1 volt of voltage drop!**

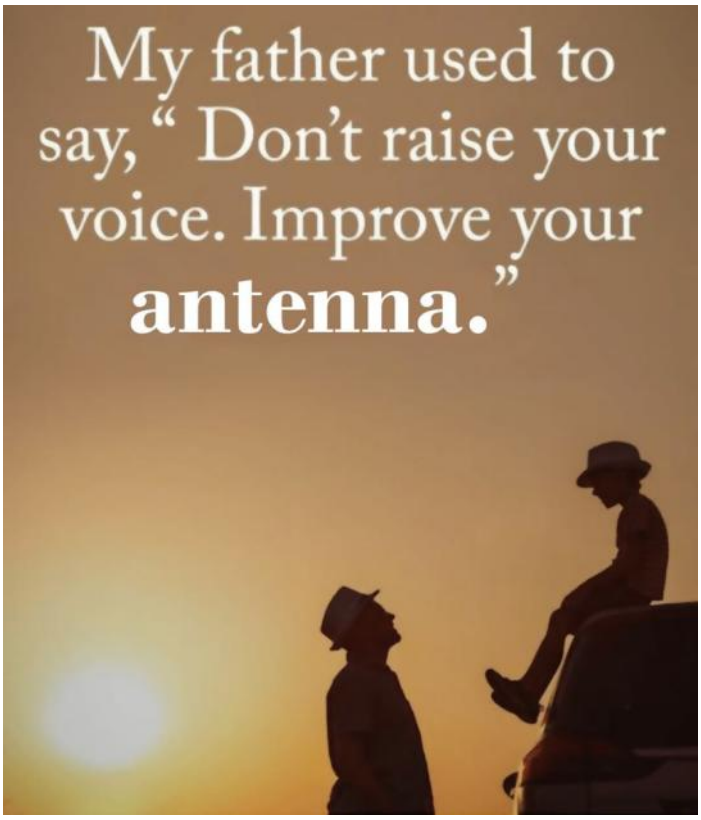
Keep in mind that both of these voltage drop tests were made with only one 100 watt radio transmitting. Imagine what the voltage drop was with up to four radios plus our amplifiers all transmitting!

While it was no fun doing all of this from under the table, I think it safe to say that the operation was a success. We will need to wait and see if we find any improvement with our interstation interference during future contests.

Thanks to Steve, K3FAZ for the nice crimp work, Thanks to the vendor at the Butler hamfest for making us a nice deal, and thanks to GM for your crappy-leaky batteries!

Cooky - WC3O
Your Skyview Radio Officer

GOLD STAR OF EXCELLENCE



Dynamic Mic Preamp for IC-7300

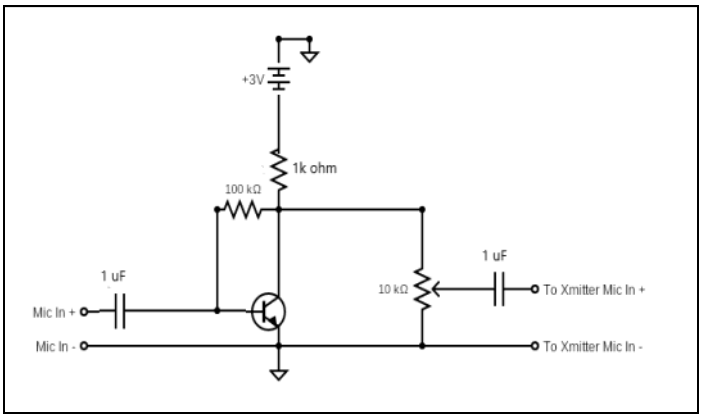
de Mike - **NV3C**

I found a pair of Electro-Voice 627C microphones at a thrift store many years ago. I wanted to use one with my Icom 7300, but there were two issues to overcome.

The IC-7300 has 8 volts DC on the Mic input that needs blocked, and the internal preamp doesn't provide enough gain for a dynamic mic. Being a cheapskate frugal, I wanted to see if I could make a preamp with parts out of my junk stash.

The Electro-Voice mic has a built-in impedance transformer, and I terminated the cord with a ¼" plug wired to give 600 ohms. I built a simple, one NPN transistor (2N3904) amplifier circuit and installed it in an old Sucrets tin.

The amp worked with a single AA battery, but the 10K pot had to be turned all the way up. Three volts was the sweet spot (up to 9v should be safe), as the 10k pot was now midrange, and the IC-7300 mic gain stayed the same as with the stock Icom hand mic. The 1 uF capacitors on the input and output block the DC phantom power from the Icom.



I found that setting the compression according to the instructions in the manual gave too much compression and distorted the audio.

I recorded some test transmission using a WebSDR (http://websdr.k3fef.com:8901), to find my preferred settings for tone and compression.

I made a slight adjustment to the transmit tone controls, and upped the compression from two to four.

I know I have a smaller battery holder that will fit in the tin, I just have to find it.

Mike NV3C

So what's a ham's 'junk box' or 'junk stash' anyway??

Well, all you need to do is ask Google. Would you believe that there is even a Wikipedia entry to spell it out :

https://en.wikipedia.org/wiki/Junk_box

KISS SOTA / POTA Antenna

de Jody – K3JZD

I had started out doing my portable operations with a linked half wave dipole that covered 40-30-20 Meters. After trying various other wire antenna designs, I have now settled on using a 54 foot End Fed Random Wire (EFRW). Not quite as effective as my linked half wave dipole, but good enough to get the job done. I will typically work some DX Chasers with my EFRW while using 5 watt CW from a SOTA summit.

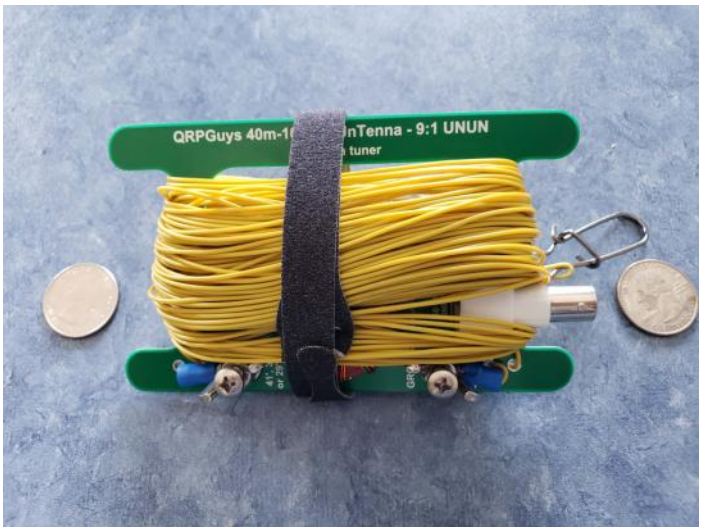
With my EFRW, it is hang the high end from a tree, stake the low end to the ground, lay my 35 foot counterpoise out on the ground, connect a three foot length of RG-174/U to my 9:1 UnUn, and I'm good to go Much less weight to carry and shorter setup/teardown times.

I put the high end up into a tree by sending a fishing sinker up with a slingshot. The trailing fishing line is strong enough to support my lightweight 22 gauge antenna wire. I have never had my fishing line break, even when my wire was getting whipped around by swaying branches on a windy day.

With a multi-day out-of-state SOTA trip being planned, I thought that it would be a good idea to take a decent backup antenna along. I considered one my previous bulkier wire antennas, but decided to build a new EFRW instead.

Wanting to keep this new backup EFRW antenna just as simple as what I've been using, if not simpler, I ordered a QRPGuys printed circuit board containing a 9:1 Unun and a BNC connector that also serves as a wire winder (a UnUnTenna). Since that will be one more item to carry up to the summits, I used lightweight 22 gauge stealth wire again.

This was a fairly simple build. The toroid was not that difficult. http://www.qrpguys.com Did have to scrape the ends real well because the coating would not burn off when soldering it to the board.



With the 54' Antenna and 35' Counterpoise wires added, this only weights 5.77 Ounces. And it fits into half of a Quart ZipLock bag very nicely

There are lots of different wire lengths that are suitable for EFRW antennas. One of the charts that are available online follows. This one happens to agree with me as far as liking a 53-54 foot length. It is easier to find the space to hang a shorter wire.

Although that chart seems to suggest otherwise, an EFRW really needs a Transmatch (aka Tuner) to avoid encountering any SWR foldback. I did not get any raw un-tuned SWR reading that was as low as what is shown in this chart.

Thursday, August 04, 2016

For those of you

considering building a 9:1 UNUN - a la' the EARCHI ..... here's a chart showing SWRs vs. various wire lengths.

Wire Length Feet	1.8 MHz	3.7 MHz	5.3 MHz	7.1 MHz	10.1 MHz	14.2 MHz	18.1 MHz	21.2 MHz	24.9 MHz	28.5 MHz	50.1 MHz
175	1.2	1.6	1.1	1.1	1.1	1.8	1.3	1.6	1.7	1.2	1.5
169	1.4	1.2	1.2	1.2	1.2	2.1	1.4	1.4	1.5	1.2	1.1
162	1.4	1.5	1.7	1.3	1.6	1.8	1.9	1.1	1.5	1.7	1.5
146	1.7	1.5	1.4	1.4	2.4	1.5	1.3	1.2	1.4	1.5	1.5
135	2.0	1.4	1.3	1.8	1.6	2.0	2.0	1.7	1.5	1.6	1.3
124.5	1.3	1.3	1.2	1.3	1.7	1.6	1.8	1.6	1.4	1.1	1.4
98.5	1.8	1.7	1.4	1.7	2.3	1.9	1.4	1.2	1.7	1.2	1.2
88.5	1.8	2.2	1.7	2.3	1.9	1.3	2.0	1.8	1.4	1.5	1.5
72	2.0	2.0	1.4	1.2	1.2	1.9	1.9	1.5	1.1	1.5	1.1
59	1.6	1.6	1.3	1.5	2.0	1.5	2.0	1.1	1.7	1.2	1.5
53	1.6	1.4	1.2	1.1	1.5	1.1	1.9	1.2	1.1	1.7	1.1
49	1.5	1.3	1.4	2.4	2.4	1.3	1.6	1.6	1.4	1.7	1.5
44		1.2	1.5	2.1	2.1	1.7	1.3	1.7	1.6	1.1	1.2
36		1.2	1.3	1.3	1.3	2.0	1.6	1.2	1.7	1.6	1.5
29.5				1.2	1.2	2.1	2.0	1.3	1.2	1.6	1.3
24.5				1.6	1.6	1.4	2.1	1.8	1.3	1.2	1.4

Personally, I use a 53' radiator with a 25' length of coax between the UNUN and the rig, to act as a counterpoise. This setup worked very well for us (SPARC) for Field Day in 2014 and 2015. It has also worked very well for me in various outdoor QRP Sprints.

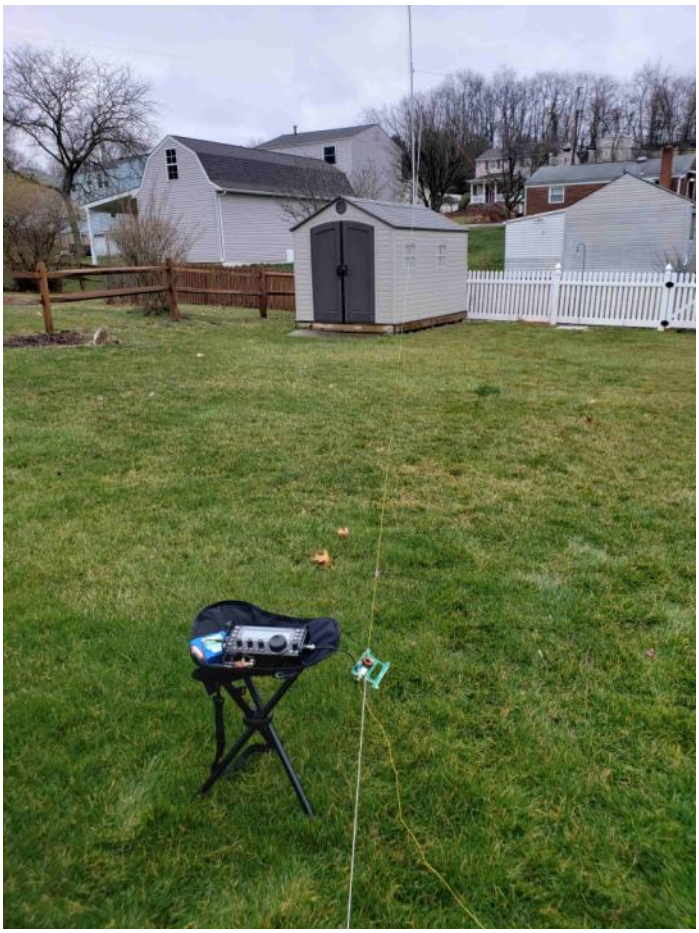
YMMV.

72 de Larry W2LJ
QRP - When you care to send the very least!

From my backyard, with the high end up about 15 feet, this QRPGuys Unun with a 54 foot long antenna and a 35 foot counterpoise seems to work well with my 5 watt KX3 on all bands from 60-10 Meters. The KX3 Transmatch handled each of those bands just fine. And I got lots of good Reverse Beacon Network (RBN) spots. So, it is ready to be packed as my lightweight compact spare EFRW.

QRPGuys instructions say that this UnUn will work well with a 29', 35.5', or 41' long antenna wire lengths and a 35' counterpoise wire. I automatically went with the 54' long antenna wire length based on my having good experience with that length in the past. Somehow more wire in the air always seems to make sense to me.

However, right after I finished testing this QRPGuys UnUn antenna, I characterized another EFRW utilizing my same backyard setup. This other EFRW had a similar UnUn, but it used a short 30' long antenna wire. But it needed a 20' length of RG-174U, with the coax shield acting as the counterpoise.



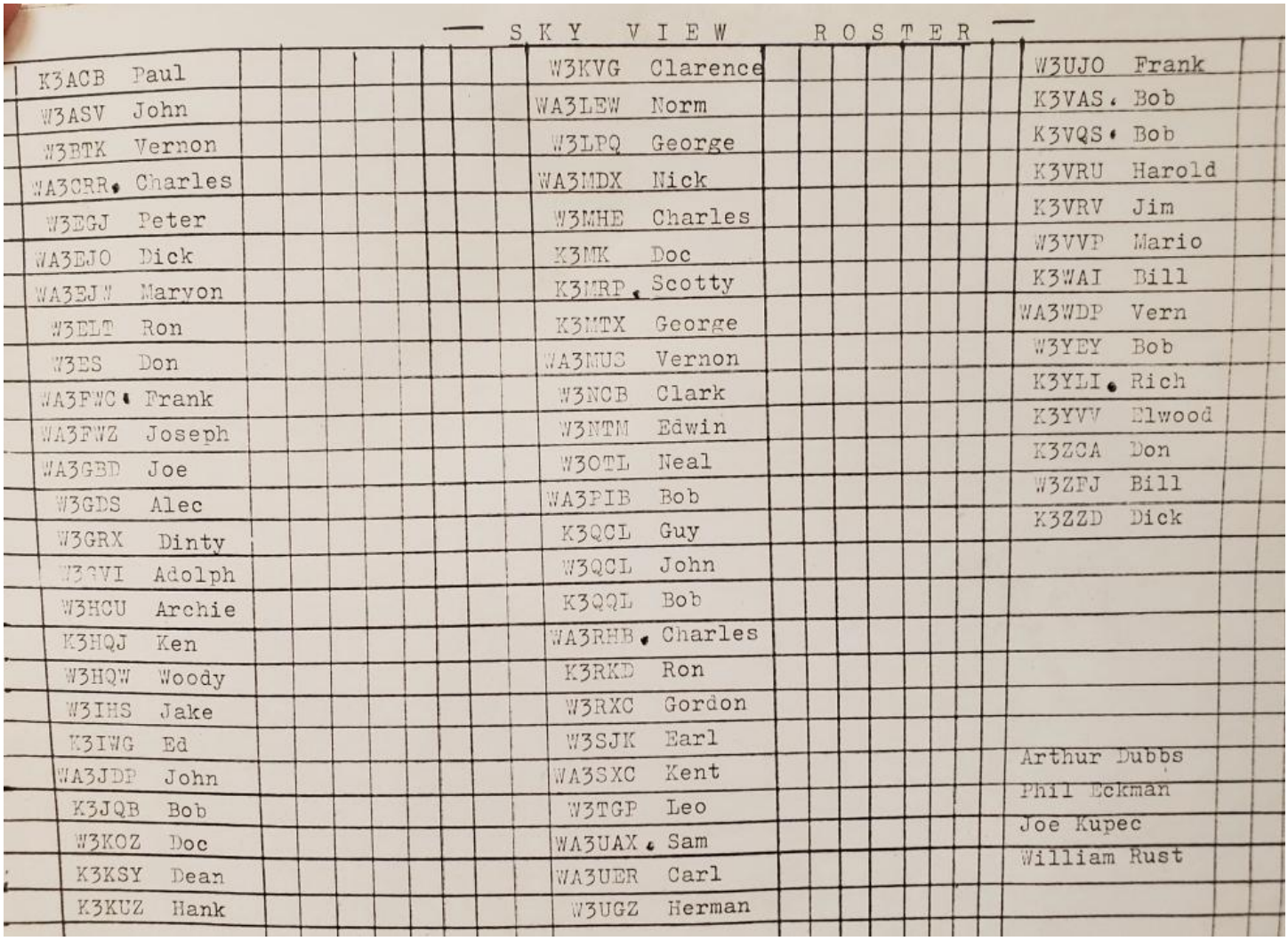
The RBN spots that I got from using that shorter 30' EFRW antenna that used the coax as the counterpoise were not really much different than what I got from the QRPGuys 54' antenna with the 35' wire counterpoise. The SNR was a little bit lower with the 30' wire. However, the North America coverage was about the same. And both of them were heard by RBN Spotters in Germany whenever I was on testing on 12 meters.

I think that later on, I will probably test this QRPGuys UnUn with those 29', 35.5', and 41' long antenna lengths. Wire is cheap.

Jody – K3JZD

Here is an old Skyview Sign In Sheet that has been hiding in our meeting room file cabinet. Year is Unknown. But judging by the call signs, this is from back in the days whenever they were assigned sequentially and you got what you got. So I'd guess that this is from around the early to mid 1970's, which is right about the time we ran out of WA3 call signs and we began to see WB3 call signs.

64 Full Members and 4 Associate Members—Not too shabby



— SKY VIEW ROSTER —

K3ACB Paul	W3KVG Clarence	W3UJO Frank
W3ASV John	WA3LEW Norm	K3VAS Bob
W3BTK Vernon	W3LPQ George	K3VQS Bob
WA3CRR Charles	WA3MDX Nick	K3VRU Harold
W3EGJ Peter	W3MHE Charles	K3VRV Jim
WA3EJO Dick	K3MK Doc	W3VVP Mario
WA3EJW Maryon	K3MRP Scotty	K3WAI Bill
W3ELT Ron	K3MTX George	WA3WDP Vern
W3ES Don	WA3NUS Vernon	W3YEY Bob
WA3FWC Frank	W3NCB Clark	K3YLI Rich
WA3FWZ Joseph	W3NTM Edwin	K3YVV Elwood
WA3GBD Joe	W3OTL Neal	K3ZCA Don
W3GDS Alec	WA3PIB Bob	W3ZFJ Bill
W3GRX Dinty	K3QCL Guy	K3ZZD Dick
W3GVI Adolph	W3QCL John	
W3HCU Archie	K3QQL Bob	
K3HQJ Ken	WA3RHB Charles	
W3HQW Woody	K3RKD Ron	
W3IHS Jake	W3RXC Gordon	
K3IWG Ed	W3SJK Earl	
WA3JDP John	WA3SXC Kent	Arthur Dubbs
K3JQB Bob	W3TGP Leo	Phil Eckman
W3KOZ Doc	WA3UAX Sam	Joe Kupec
K3KSY Dean	WA3UER Carl	William Rust
K3KUZ Hank	W3UGZ Herman	

I see a K3ZZD call sign at the end of the list, which one worse than K3JZD whenever it comes to making up cute memorable call sign phonetics!!

Speaking of voltage drop

de Bob - WC3O

This is a great trick that I found in the automotive world. It also has other applications that could be good for anybody.

But a little background first. Back in the day, if a car had a mysterious current draw that was killing the battery, you simply put an ammeter in-line with one of the battery cables and monitor the parasitic current draw when everything in the car was off.

That worked great for a long time, but as cars got more and more sophisticated this method no longer worked well. Today cars have computer networks. In fact, they have networks for the networks!

The main network is the CAN bus. The lower priority networks are called LIN buses. LIN buses handle things like power windows, radio functions and so forth while the CAN bus handles things like engine, transmission and anti-lock brake functions.

After you turn the key off and exit the vehicle, there is still plenty of activity going on in the electrical system of your car. It takes some time for all of the vehicle systems to "go to sleep".

Whenever everyone is 'asleep' the typical parasitic current draw on the battery is around 0.02 amps. That is normal. More than that; something is amiss.

Back to measuring draw.

If you start pulling fuses on a modern car to see where the excessive draw is, when you re-insert the fuse, you wake up the networks! Then you need to wait for everyone to go back to sleep, again…

I hate cars

I forget where I saw this but – On my trusty Fluke multimeter there is a millivolt scale. Over the years I've never really had a good use for it, until now…

Every conductor has some small amount of resistance. It may be micro ohms, but it is still resistance. So if you flow current though that conductor, it stands to reason that there has to be SOME voltage drop across it, however so small. There has to be.

Fuses are conductors too. And even with a few milliamps, perhaps from a glove box light stuck on, there WILL be some measurable amount of voltage drop across that fuse!

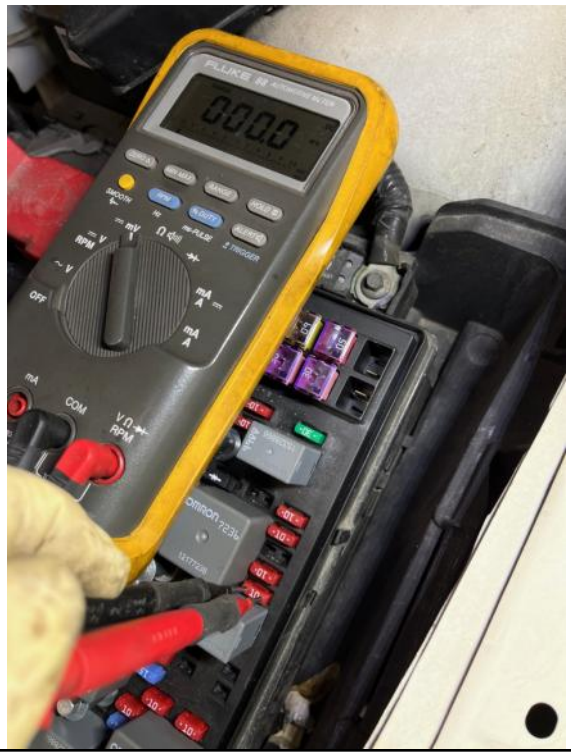
Enter the millivolt range on your multi-meter.

You will notice that when you switch to the millivolt scale your meter, it reads all kinds of varied voltage even though the test leads are connector to nothing. It is just picking voltage up from the air. The test leads act as antennas. If you short the two leads together your meter should be 0.000 volts.

So, if there is NO current running through a fuse, when you put your test leads across the fuse, you are essentially shorting the two lead together and you should read exactly 0.000 volts. If you read anything OTHER than 0.000 volts, there is current running through that fuse! Even if you read 0.001 volts.

Where to check across a fuse - Bet you didn't know that !!

This little trick has saved my bisques many times.



0.000mv Voltage Drop - No Current Draw on this Circuit

0.005mv Voltage Drop - There IS Current Draw on this Circuit

In the ham world, this makes checking voltage drop across the power cord on your radio a breeze. For years ICOM was notorious for having defective in-line fuse holders.

Those in-line fuses in your radio's power cord, yeah. You will note that at the club I cut out the fuse holders altogether on the HF radios. The radios are fused from the PowerPole fixture feed. No need to have multiple fuses in-line, especially if they are prone to failure. Better yet, intermittent failure! Ssssnip! Goodbye!

Back to cars for a bit.

From what I've described to you, it's fairly easy to find a circuit with current draw in car!

Yeah right.

Manufactures just LOVE to put fuse boxes in the most absolutely evil places. Like the Nissans that mount the fuse box upside down, then they make the wiring harness too short to lift and rotate the fuse box so that you can check them!

Or the Mercedes SUVs that have the battery mounted under the passenger seat, in a well that is JUST barely big enough to get the 70 pound battery in/out. Then there is a fuse box in the well off to the side behind the opening for the battery. This way you need to remove the battery to access the fuse box!

There are plenty more situations just like this.

God I hate cars

Cooky

Silent Key

Jim Jackson Sr - N3ENK

(1920 — 2023)

(Father of Jim Jackson Jr - K3VRU)

Jim Senior was a previous Skyview member who made the first of the plaques for our Past Presidents and Silent Keys

Welcome New Members !!

Welcome the following Skyview Radio Society Members who have joined us since publishing the February 2023 newsletter:

KB3DVD - Adolph Arlotti - Irwin

KC3UNP - Garrett Duarte - Oakland

W3MLJ - Mike Lippert - Zelienople

Remember that something is going on up at 'the joint' every Tuesday. Sign up for the K3MJW Groups.io Reflector to get the latest news and event announcements by email.

If you are a reader who is interested in becoming a Skyview 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.

Skyview Radio Society Roster as of 31 MAR 23

NM3A	NY9H	W3MLJ	KD3RVR
N3AFS	WB3HFP	K3MRN	KQ3S
KB3APD	WA3HGW	N3MRU	K3SBE
NA0B	KB3HPC	KS3N	KC3SDJ
WI8B	K3HSE	G4NFS	KC3SKX
N3BAH	KB3HXP	KB3NSH	KC3SNZ
W3BUW	AC3HZ	AJ3O	KB3SOU
KF3C	AG3I	WC3O	K3STL
KC3CBQ	AC3IE	WO3O	KC3STS
W3CDW	KC3IIO	KC3OCA	KC3STV
K2CI	AB3IK	KC3OCB	KB3SVJ
K3CLT	WB3IMB	KC3OCC	KC3TEX
K3DCG	W3IU	K3OGN	WV8TG
N3DRB	K3JAS	N3OIF	N3TIN
KB3DVD	KG4JBB	KB3OMB	N3TIR
K3DWS	N3JLR	KB3ORO	W3TLN
KC2EGL	KA3JOU	NK3P	N3TTE
KC3EJC	ND9JR	K3PC	AG3U
K3ELP	N4JTO	K4PDF	NS3U
AB3ER	K3JZD	KC3PEM	N3UIW
WA3ERT	KC3KEI	KC3PIM	KC3UNP
N3ERW	WA3KFS	K2PMD	W3UY
K3ES	AC0KK	KE3PO	KX3V
KB3EYY	K3KR	W3PRL	KC3VCX
AC3EZ	W4KV	KC3PSQ	K3VRU
WB3FAE	KC3KXZ	KC3PXQ	N3VXT
K3FAZ	WE3L	AC3Q	W3VYK
KC3FEI	WA3LCY	NU3Q	N3WAV
K3FH	KC3LHW	WQ3Q	K3WM
K3FKI	W3LID	KC3QAA	N3WMC
KC3FWD	WB3LJQ	KC3QIR	KA3WVU
AC3GB	KB3LND	KC3QWF	K3WWP
N2GBR	K3LR	NJ3R	N3XF
AC3GE	KC3LRT	K3RAW	KB3YJQ
KC3GIL	AB3LS	KC3RIL	W3YNI
KC3GIN	KC3LZH	K3RMB	W3YNX
KC3GPM	N2MA	KC3RMN	WA3YWU
K3GT	KC3MBM	KC3RPE	K3ZAU
AB3GY	N3MHZ	KC3RPP	W3ZVX
KC3GZW	KC3MIQ	W3RRK	
NC3H	K3MJ	I2RTF	

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

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 . . . . .

More opportunity for Distracted Driving
https://tinyurl.com/2l4ht52k

And, here is what looks like the first step being able to make yourself part of the IoT (Internet of Things)
https://tinyurl.com/yc733uwd

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 June 1, 2023
Closing Date For Submissions : May 15, 2023
K3JZD AT ARRL DOT NET

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

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

An 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.

**** Skyview VE Testing ****

For Testing Dates, See :
http://www.arrl.org/find-an-amateur-radio-license-exam-session
Time: Usually 8:15 AM

Location: Skyview Clubhouse Meeting Room
2335 Turkey Ridge Rd
New Kensington PA 15068-1936

Contact: Bill Dillen
(724) 882-9612
Email: bdillen@comcast.net

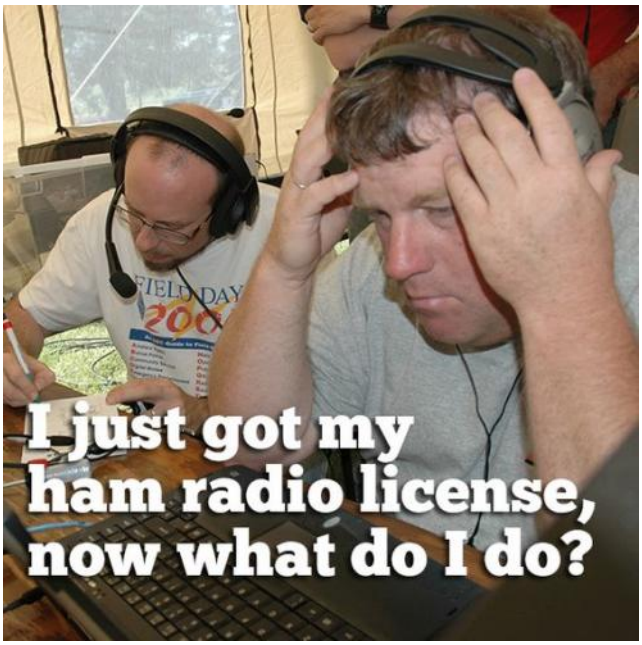
Please E-Mail or call to register!!!
While walk-ins are accepted, the exam session may be cancelled if no candidates are scheduled.

Q5er Editor & Publisher: Jody Nelis - K3JZD

This newsletter may be freely forwarded.

Permission is granted to other Amateur Radio publications to reprint articles from this issue, provided the original author and ***"The Skyview Q5er"*** are credited.

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 !!!

And See : https://tinyurl.com/y79tqsr8

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

Subscribe to K3MJW **groups.io** reflector for All Current News & Activities : https://groups.io/g/K3MJW
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 ??

Send in pictures of your Ham Shack