



Q5er – The Official Newsletter of the Skyview Radio Society



Space Weather News for Sept. 15, 2020

<https://spaceweather.com>

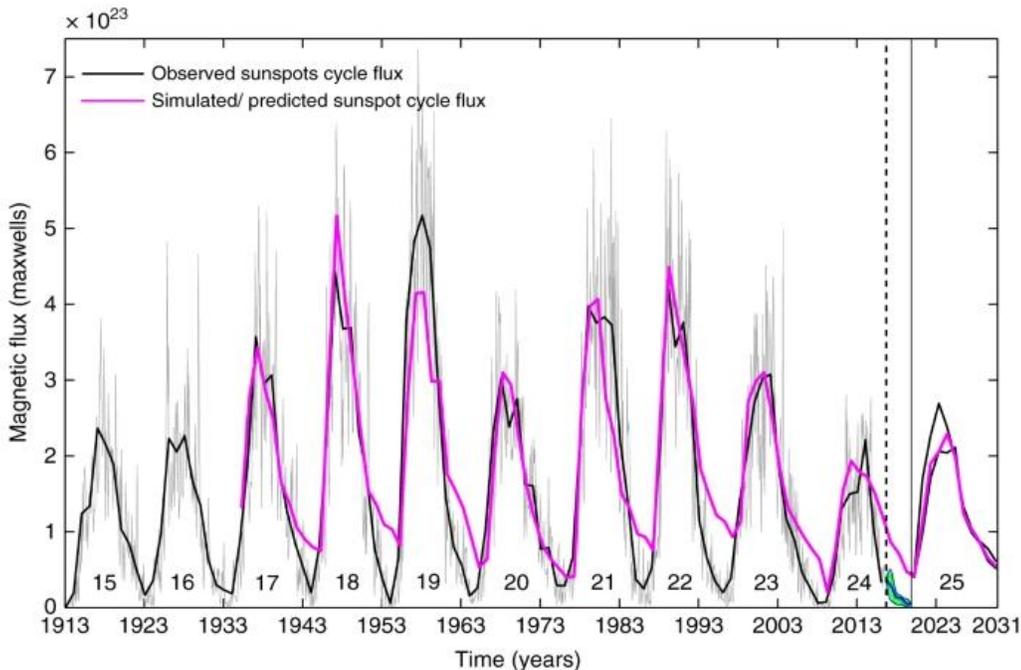
<https://www.spaceweatheralerts.com>

SOLAR CYCLE 25 HAS BEGUN: Solar Cycle 25 is officially underway. NASA and NOAA made the announcement during a media teleconference earlier today. According to an international panel of experts, sunspot counts hit rock bottom in Dec. 2019, and have been slowly increasing since. What can you expect in the months ahead? Visit [Spaceweather.com](https://spaceweather.com) for answers.

Lots of people are making predictions for Cycle 25. This one is based on a model, which was run for the previous eight cycles and had a pretty good correlation.

(We will know in 2031 if this model is correct)

<https://www.nature.com/articles/s41467-018-07690-0>



October 1, 2020

- Mobile Radio in 1919
- Disguised Cell Tower
- Hacking Vehicle Software
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- And More

The Sunspots Are Coming

The Sunspots Are Coming

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2020 is Skyview's 60th Anniversary !!



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 has a little more meat to it. Dan has shared detailed information on his latest homebrew project. Junk box builds are the best. The beginning of Rich's multipart article on setting up a shack should be interesting to those of you who are new to the hobby. Those of you who have antenna restrictions will probably appreciate the article that I found that talks about a GADS antenna and what can be accomplished with it. And Bob has given us a blow by blow description of what it takes to do a KLM KT-34XA Beam Upgrade.

NOTE: As this is being published, the Skyview Club-house is adhering to PA State Government requirements and is open at limited capacity.

Members Only. Use at your own risk.

Follow <https://groups.io/g/K3MJW> for updates.

Jody - K3JZD

From the Treasurer

I think that everyone will agree that 2020 sucked.

Being here for the 100 year virus has made us a part of history. But having it come at the bottom of the sunspot cycle sure made it suck even more !!

So, we had to cancel our 2020 Swap and Shop. We were not alone—that was the decision that nearly every other WPA club eventually made. Quite simply, no one wanted to be the canary in the coal mine.

Will that hurt us financially? The answer is No. We have established our dues structure to cover all of our annual fixed costs. So, that is covered for 2020. In fact, a little over-covered because the expected additional fixed costs for our building addition that had been factored in to the dues structure were not realized due to it being delayed. The Swap and Shop income supports maintenance and improvements. Fortunately we had a buffer built up there. But nonetheless, we will have to be a frugal for a year.

Jody - K3JZD



How about this - a disguised cell phone tower !!

Photo found on the Internet

Internet search inspired by an article in the September 2020 Wireless Association of South Hills WashRag

<http://n3sh.org/washrag.php>

**Ham Radio is a Contact Sport
(Minimum QSO : 6'-0")**

Do Tree Leaves Affect HF Signals ??

de Jody—K3JZD

Look closely and you can see my tri-band three element Mosley antenna in the yellow circle. Enlarging the page helps.

This picture of my antenna was taken from a street that is SE of my white ranch house. While it looks pretty clear to this directions, there is a line of big trees behind where I was standing.

I rarely walk up this hill. But, having done so, I now see that I'm pretty much surrounded by residential trees that were not there whenever I moved into my house nearly 50 years ago.

Do you think maybe I will do better on HF during the Winter months ??



What The Heck is a GADS Antenna ??

de Craig - WB3GCK

ED : After working a few people who reported that they were using a 'GADS Antenna', I finally put Google to work to find out what the heck is a GADS Antenna. That led me to this article by Craig - WB3GCK

The WB3GCK Downspout Antenna Revisited

Craig LaBarge - December 2016

After years of trying to come up with a good way to get on the HF bands from my little townhouse (without attracting a lot of attention from my neighbors), I started experimenting with using my aluminum rain gutter and downspout for an antenna. The results have been surprisingly good. In fact, it has turned out to be the ultimate low-profile antenna!

The downspout has a vertical run of about 16 feet, connecting the horizontal rain gutter which is about 16 feet long across the front of the house. Including the feed wire into the shack, the total length is in the neighborhood of 42 feet; over a quarter wavelength for 40 meters and almost a half-wave for 30 meters. The house is made of brick, so the entire system is isolated from ground.

I use my downspout like a random wire antenna, using a commercial autotuner (or internal tuner, in the case of my KX3). I feed the antenna through a homebrew 1:1 unun. I use a short run of coax between the unun and the autotuner on my operating table. A length of #22 stranded hookup wire is used to connect the output of the unun to the downspout outside.

To connect the wire to the downspout, I first sanded the downspout and connected the wire using three sheet metal screws. I used multiple screws to help ensure a low resistance connection. After making the connections to the downspout, I sealed them up using an adhesive/sealant called Goop. Goop is available at most hardware stores.

With the downspout behaving essentially like an end-fed wire, it really helps to work this type of antenna against a good ground. Fortunately, my basement operating position is only a few feet away from where the water supply pipe enters the house. I used a piece of 1/2-inch copper pipe as a ground bus between my operating position and the incoming water pipe. A tinned copper braid strap and a couple of ordinary automotive hose clamps were used to connect the bus to the water pipe. A short braid strap connects the ground stud on the unun to the copper ground bus.

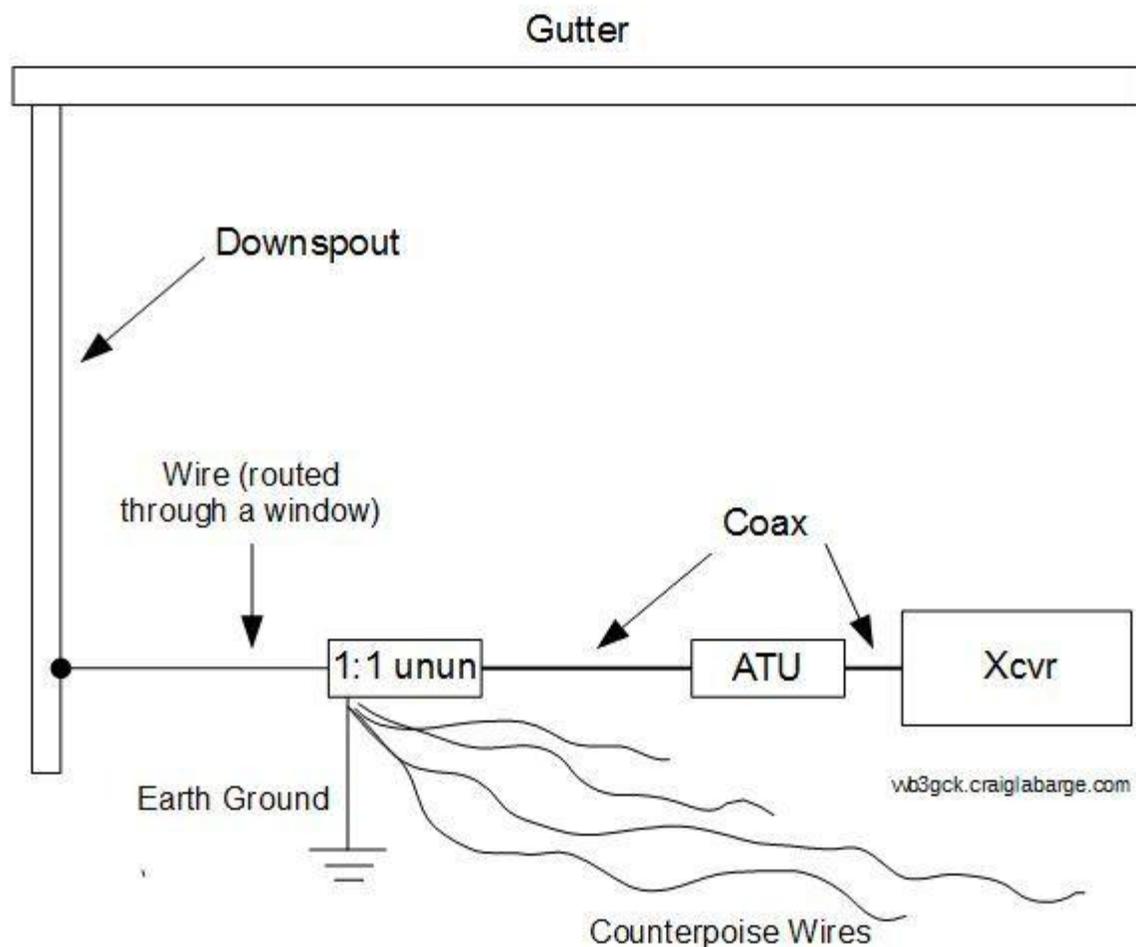
For good measure, I attached counterpoise wires to the ground stud of the unun; one each for 40, 30, 20, and 15 meters. The counterpoise wires are made from garden variety stranded hookup wire cut to a quarter-wavelength. I just run these wires around the shack, hiding them under the rug. Operation on the 80 meter band has been successful using just the ground bus.

How well does it work? During the first few months of operation, I worked 49 states; all with 5 watts or less. I've also worked a bunch of DX stations (though I'm more of a casual rag chewer than a DX-chaser). The length of the "antenna" is somewhat short for 80 meters, but performance on that band has been a big surprise. Signal reports on 30 and 40 meters, my primary bands, have been consistently good. In fact, the downspout has been my main antenna at home for more than 20 years.

While this arrangement has served me well, it is not without an issue or two. I find that it helps to clean up and re-do the connections at the downspout periodically. Typically, I do this maintenance every other year or so. Also, I have noticed that my local noise levels on 80 and 40 meters have steadily increased over the years. I attribute this to the proliferation of electronic gadgets both in my house as well as my neighbors' houses. Those bands are still usable, though.

Some words of caution are in order, however, if you plan to use your rainspout as an antenna:

Make sure your gutter and downspout are isolated from ground.



Make sure there is solid electrical continuity between the various sections of your downspout and gutter. Mine are fastened with pop rivets (not the greatest for RF work, but they appear to be doing the job.)

Watch your power. I wouldn't recommend running a kilowatt into your rainspout. Ham radio is fun, but not worth burning down your house.

Make sure people and pets won't come in contact with the "antenna" while you're transmitting. This isn't too much of a problem at QRP power levels, but be careful.

So, if you find your HF antenna options are limited by either space or legal restrictions, take a look at the outside of your house. There just might be a free multi-band antenna hanging out there!

72, Craig WB3GCK

There you go — a 'GADS Antenna' is a

Gutter And Down Spout Antenna

ARTICLE REFERENCE

<https://wb3gck.com/2016/12/18/the-wb3gck-downspout-antenna-revisited/>

ALSO, SEE THIS FOLLOW UP ARTICLE :

<https://wb3gck.com/2020/04/05/downspout-antenna-maintenance/>



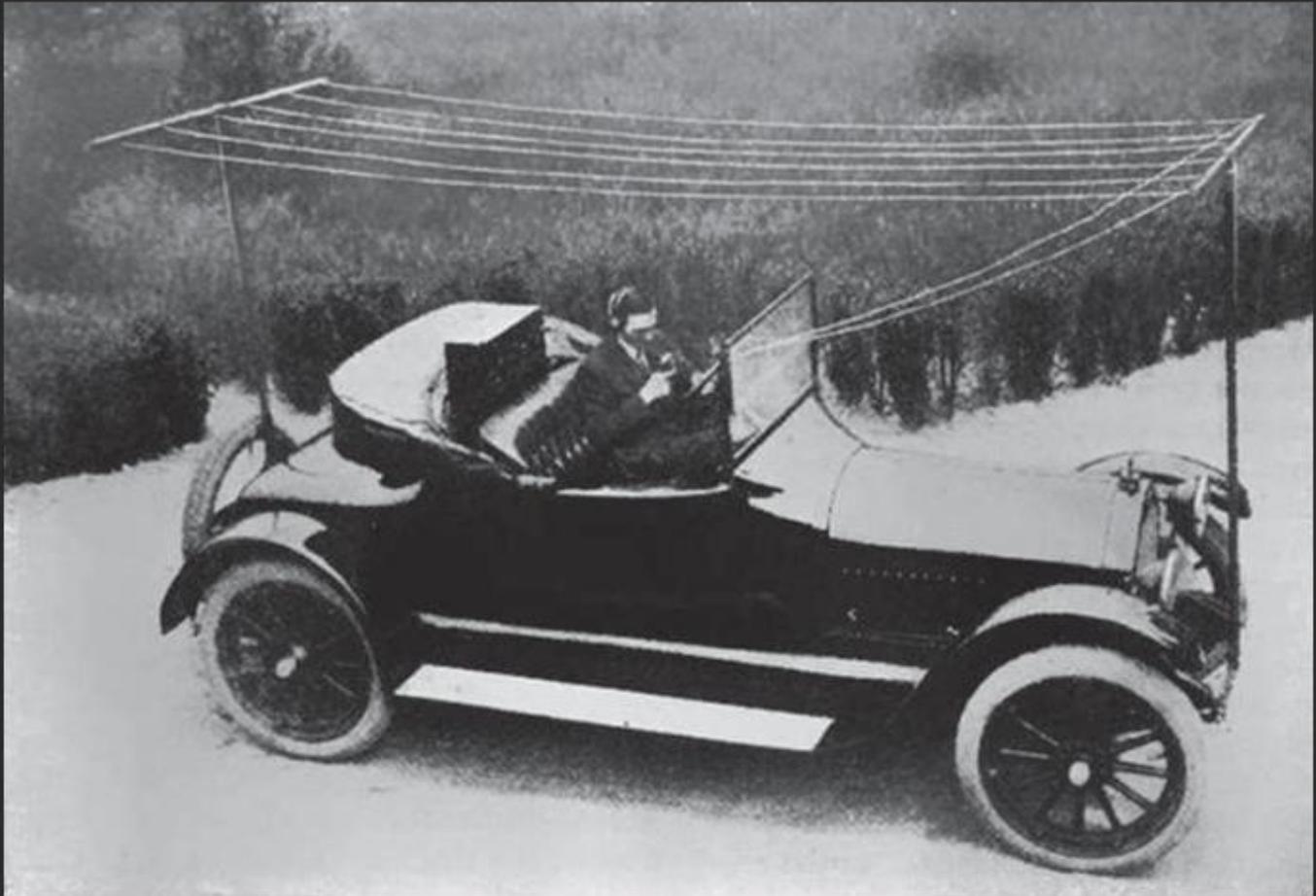
HAM RADIO MOBILE OPERATIONS CIRCA 1919

by: Al Williams

19 Comments



July 16, 2020



You used to be able to tell a die-hard ham radio operator on the road by the number and length of antennas protruding porcupine-like from their vehicle. There are still some mobile high frequency operators that have respectable car-mounted antenna farms, but they have nothing on Alfred H. Grebe. In 1919, he fitted a **medium wave transmitter in his car** that operated around 2 MHz. Since it needed a very large antenna, Grebe rigged a wire antenna that looked like a clothesline between the two bumpers. Obviously, you had to stop, set up your antenna, and then operate — you couldn't talk and drive. But this may have been the world's first automotive radio setup for voice communication.

The car had a separate battery for the radio and a dynamotor to generate high voltage for the tubes. Although many radio enthusiasts found ways to add receivers to their cars in the 1920s, it would be 1930 before Motorola made radios especially for cars in production quantities.

That wasn't what Grebe was most famous for, though. He worked as a ship's operator. After making a few receivers for friends, he decided to open up a business. Grebe radio, though, is hardly a household name today. But he was best known for setting up radio stations, including founding the station that would eventually become WCBS, often called the father of news radio.

Hacking a Vehicle's Software

de slashdot.com

Ed: Kind of an interesting article that I found on <https://slashdot.org> Software is hackable, right? So you control automobiles with software, and you have hackable automobiles.

Not really something new as some of that has been going on for years. But, now we have a manufacturer who is detecting whenever someone messes with their software. And that manufacturer has the ability to remotely punish you in any number of ways.

Seems like they have a good deterrent, in spite of the arguments presented by the community.

Like a few days ago Microsoft informed me that they had updated their "Terms of Use" and wanted me to agree with it. I use Microsoft Windows, so they own me. Can you see a Blue Screen of Death coming if you do not accept the new Microsoft Terms of Use ?

Tesla Can Detect Aftermarket Hacks Designed To Defeat EV Performance Paywalls (thedrive.com)



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Posted by BeauHD on Tuesday September 08, 2020 @10:02PM from the right-to-modify dept.

As recently highlighted by a Tesla Model 3 owner on Reddit, your connected car knows when you've hacked it, and it [might be logging that data to use against you in a future warranty claim](#). The Drive reports:

The [image](#) you see above is a warning message popped up on the man's Model 3 infotainment screen after he installed the latest over-the-air OS update from Tesla a couple weeks ago. Prior to the update, he had also added an aftermarket module from an outfit called Ingenext that allows the dual-motor Model 3 to achieve its quickest 0-60 mph time without Tesla's requisite \$2,000 "Acceleration Boost" option. Its presence didn't trigger a warning prior to the software update, and though the car still drove normally, the owner couldn't get the display to clear. Ingenext is a Canadian company focused on activating the latent performance and comfort features baked-in to Tesla vehicles. One particular modification developed by the company is called "Boost 50," a \$1,458 upgrade which claims to shave up to a half-second off the zero-to-60 MPH time when installed in a Model 3 equipped with dual motors but not the performance option.

[...]

Ingenext's founder Guillaume Andre told The Drive that he feared Tesla could use the detection of aftermarket parts to justify blocking vehicles from using the Supercharger network and make customers "a prisoner of the Tesla system". The owner of the Model 3 that began getting the pop-ups told us that he planned to visit a Tesla Supercharger to ensure normal functionality, but has not yet reported the results of his findings. [...] Ingenext got to working on finding just how Tesla detected its "undetectable" mod. After some prodding, it was determined that the vehicle had used a separate communications network to detect the presence of the module and ultimately determined that a second small hardware module could be installed to combat the detection. Ingenext dubbed its fix the "Nice Try Module" and has already begun shipping it to customers.

The Tesla community is torn on this matter. Some argue that owners who purchased the module knew the risk of not going through the official channels, akin to using a cheat code to unlock a DLC upgrade in a video game. Others bring up the very valid point of right to repair -- but does that also include right to modify? After all, you do own the vehicles you spent upwards of \$40,000 on. Nearly every enthusiast-focused vehicle has an off-the-shelf tune of some sort that can be purchased. Ingenext says that this is only the beginning of a fight that it anticipates will be an uphill battle, if not for it, than for all aftermarket companies who develop performance mods for Teslas.

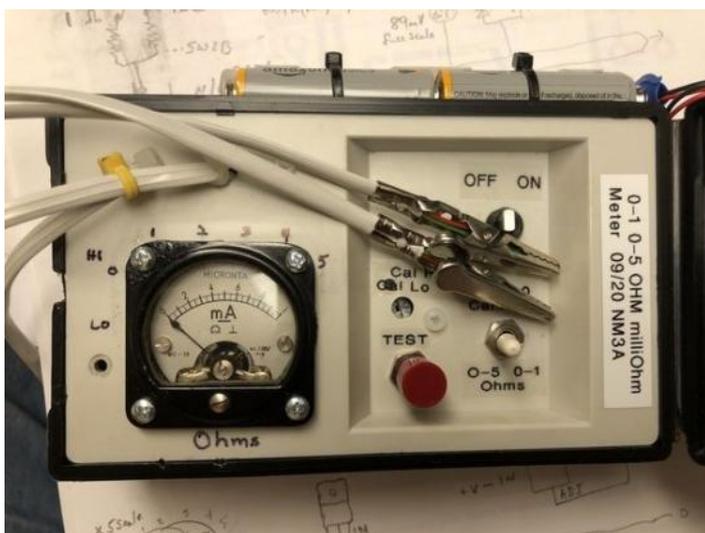
How about this for an operating console ??



MilliOhm Meter Project

de Dan - NM3A

Jim, KQ3S had some issues with his QCX+ build a few weeks ago. He suspected a short in the 5VDC or 12VDC supply lines. On the QRP-Labs reflector, it was suggested to use a milliOhm meter to sample along the supply lines. This would show decreasing resistance as you got closer to the short and of course increasing resistance after you passed the short. As most DMMs do not measure below about 1 ohm, this is not usually practicable.



So I got to looking and found a QEX article from July/August of 2014 which describes a linear scale stand alone milliOhm meter. The author, Don Dorward, VA3DDN describes his meter which uses a constant current supply and a milliAmpere meter. His circuit is actually an update from an article in QEX from September 2011 by Steve Whiteside, N2PON. Don's circuit is quite a bit simpler than Steve's but needs 3volts supply, while Steve's circuit gets by with a single AA battery. Steve's has the advantage of multiple ranges of 0-0.3, 0-0.6, 0-1.5 and 0-3 Ohms. Don's has a single 0-2 Ohm scale.

I had all the parts to build Don's circuit except for his LM1117T voltage regulator. He used that to keep the voltage supply to 3 volts. (I would have been happy to use that, but would have required a purchase.) I also liked Steve's multiple range ideas, so I combined the two meters and added a couple of twists of my own. I did not mind needing a little higher supply voltage, so I used an

LM317T to get the constant current. I used a switch to get 0-1 and 0-5 Ohm scales. The switch is a DPDT so I used this to swap appropriate calibration resistors for each scale. I needed at least 4.5 volts to reliably power the LM317T, but I used a 6 volt battery pack to get very long life from the tester.

This type of meter will peg the needle with an open circuit, so I normally have the calibration resistors in circuit all the time. When you want to measure an unknown, a push of a normally closed momentary switch takes the calibration resistor out of circuit and the resistance at the end of the probes alone is measured. While there are meter protection diodes, this makes you even more unlikely to damage the meter with an open circuit.

As with VA3DDN, I had similar design goals:

- Use standard components from my 'junk' box.
- Minimize component count
- Minimize temperature drift
- Low battery requirement with significant discharge tolerance
- Linear scale with multiple ranges.

Using the LM317T as a current source, a resistor R is connected between the Vout and the Adjust leads. The output from the R/Adjust lead junction is then a constant current rather than a constant voltage. The formula to calculate this is $I_{out} = 1.25V/R$. The LM317T has a minimum input voltage of 3 volts which must be added to the 1.25 volts across the Adjust terminal. This means that a minimum voltage of 4.25 supply must be used. Three AA cells will satisfy this with a moderate reserve for battery discharge. Although I did not test it, any supply voltage above about 4.3 volts should provide stable current for the meter. I had a 4 AA cell battery holder and this gives a large reserve for battery discharge. A 5 volt wall wart could also be used, but I wanted this to be very portable. The LM317T has stable output over a wide range of temperatures and it is driven well below its design current limit, so drift should not be an issue.

My junk box had meters from 50 microamps to 1 milli-

amp. I chose a 1 milliamp standard meter. It is small enough to fit in the box I planned to use. I picked up a box with test resistances at a hamfest for a dollar. The circuit was probably dedicated to test specific instruments and was not useful to me. I took out the circuit, but used the DPDT (center off) switch for range switching and the DPDT as an ON/OFF switch. A hole was drilled to accommodate the meter and another hole was drilled for the momentary normally closed switch. The circuit was drawn out and built on a small pre-drilled generic circuit board. It was built 'ugly' or 'dead bug' style. The switches were wired to the circuit board with point to point wires. The calibration resistors were simply mounted between the DPDT switch and the momentary N/C switch. Holes were also drilled to allow for adjustment of the current setting resistors.



Double wires are used all the way to the test probe tips to eliminate measuring the resistance of the probe wires. The wires are actually soldered to the tip of the alligator clips. Gauge of the wires is not important. The wires I used are telephone interconnects. These are small wires, probably about 26 gauge equivalent, but they are multiple, coiled around thin strings and encased in a thick outer coating. All this makes them extremely resistant to breakage and should last many years. They are somewhat difficult to strip and solder, so you may consider using telephone type push-on connectors- I chose not to and soldered them as I did

not have those connectors in my 'junk' box. Others have used zip cord with good results.



To determine the current needed, you first need to measure the voltage needed for full scale meter deflection. A 10k resistor is placed in series with the meter and the power supply voltage is slowly increased until there is full scale deflection of the meter. A digital voltmeter is then used to read the voltage across the meter. Mine was 89 millivolts. For a 0-5 Ohm scale, you want a 5 Ohm resistor to give full deflection so

$$I_{\text{constant}} = 0.089 \text{ V} / 5.0 \text{ Ohm} = 18 \text{ mA.}$$

For the 0-1 Ohm scale,

$$I_{\text{constant}} = 0.089 \text{ V} / 1.0 \text{ Ohm} = 89 \text{ mA.}$$

Calculating the calibration resistance for this constant current for the LM317T for the 0-5 Ohm scale is:

$$I_{\text{out}} = 1.25 \text{ V} / R \text{ or } R = 1.25 \text{ V} / I_{\text{out}} \text{ or } R = 1.25 \text{ V} / 18 \text{ mA} = 70 \text{ Ohms.}$$

And for the 0-1 Ohm scale:

$$R = 1.25 \text{ V} / 89 \text{ mA} = 14 \text{ Ohms.}$$

As I wanted to be able to adjust this for exact values, I split these values into 3 parallel resistances with a variable resistance in the third leg. For the 0-5 scale, I used two 150 Ohm resistors in parallel with a 330 Ohm and a 2KOhm variable in series. For the 0-1 scale, two 33 Ohm resistors in parallel with a 50 Ohm and a 100 Ohm variable in series.

The meter has reverse connected 1N5819 Schottky diodes across it for open circuit meter protection. There is also a small fuse consisting of 12" of #30 wire (should be 3" of #40, but I do not have anything that small) wrapped around a 10KOhm resistor. This is to protect the meter against accidentally connecting up to a powered circuit. The meter is marked in 50 microamp divisions, but can easily be read to 10 microamps by interpolation. This gives a minimum readable change in resistance of 0.01 Ohm (10 milliOhms) in the 0-1 Ohm range and 0.1 Ohm in the 0-5 Ohm range. The width of the needle is about 1/100th scale, so any needle motion is approximately 1 milliOhm.

Accuracy depends on the components used to calibrate the meter. One percent or higher accuracy resistors are readily available and can be used to accurately calibrate the unit. I used 5% resistors, but I have found that they usually have a much higher tolerance and are usually about +/-2%. That is plenty accurate for my purposes.

Practical Matters for a MilliOhm Meter

On looking for a test for the unit, I decided to check my jumper cables. I have three sets, one in each car. All of them are 12 feet long. The FIRST set looks like it is 00 gauge cable, but on closer inspection, it is probably #10 with a huge chunk of insulation around it. The wire was

crimped in to the handle end of the clamps. This cable tested at 110 milliOhms. Twelve foot of #10 should be 12 milliOhms.

The SECOND set was true #6 gauge with the cable going to annealed copper clips at the tip of the cable clamps. It appeared to be a very well made set. It tested at 3 Ohms (3,000 milliOhms)! As you can guess, it should be about one or two milliOhms. The THIRD set was similar to the first in construction. It was #8 gauge copper and, as my first set of jumpers, was the oldest by far. It tested at 20 milliOhms! (N.B. These readings were at the low end of the scale and at the limits of what can be measured with my 0-1 Ohm range. In addition, the copper plated steel clamps on the first and third have some resistance as does the oxide on them. So, absolute numbers may not be entirely accurate, but the comparisons are fairly accurate.)

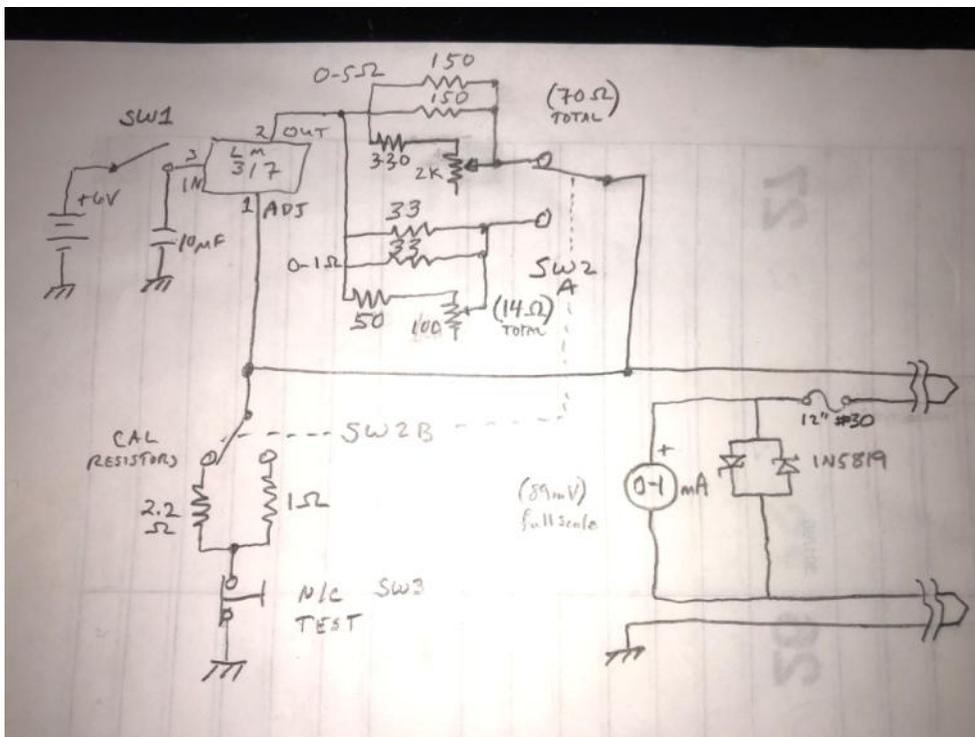
So, what was the difference? The THIRD set was soldered by me when I got it as I did not trust the crimps. The solder still looked great and the proof is in the pudding. The other two simply had factory crimp connections.

So, I soldered the FIRST and SECOND cable sets and retested them. This time the FIRST set tested at about 30 milliOhms and the SECOND set was about 1 milliOhm as

the needle barely moved. Take home message? While well made crimps may provide excellent connections at first, as the cable oxidizes, their electrical competency may deteriorate over time. There are probably crimps with specialized parts and tools that can stand the test of time, but for my money, I solder them all after I crimp them.

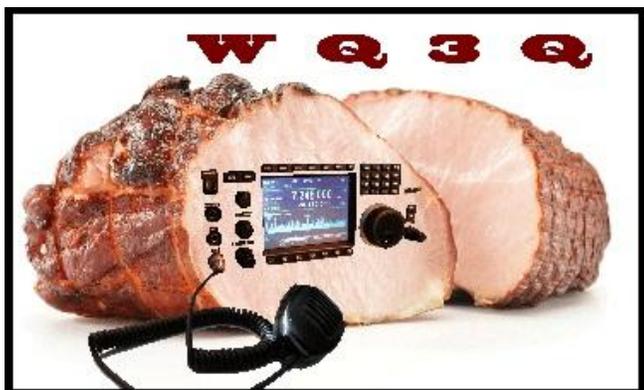
I am sure I (and you) can find lots of other uses for this tool. Might make a great little winter project!

Dan Walter, NM3A



Upgrading My Shack - Part 1

de Rich - WQ3Q



Well the time has finally come that I prepare to move my “shack” from my home office to the carriage house above the garage.



It will obviously take some time, so this will be the first installment of my trials and tribulations. I want to set up where I can reach more stations and participate more effectively in contests and nets. This means... of course... more stuff!!! With more stuff though I need more space, so the area above the garage is the perfect place to go. This includes getting some height to my antennas. It reminds me of the novel, “A Tower Grows in Lower Burrell.” (or something like that.)

Having been approved by both the local ZONING OFFICER (my wife) and the MINISTER OF FINANCE (my wife again) I began the search for the needed materials to complete the job. My intention is to have a place to work on smoke’n’ solder projects as well as for my radio stuff. I also plan on putting up my N-Gauge train layout too. A lot to do! I want to have two towers- one for the tri-bander up 40 feet and one 30 feet up for my weather station, and an Antron 99 and the 2-meter antenna.

As my first job in getting equipment, I acquired some equipment from SK estates. An amplifier, a tower, a rotor, SolarCon/Astron 99 and a 3-beam Thunderbird TH-6 antenna. There is some audio upgrades coming too.



These will be added to my Ten-Tec Omni VII, G5RV dipole, and a DXE multi-band vertical and ID 5100A 2-meter rig.

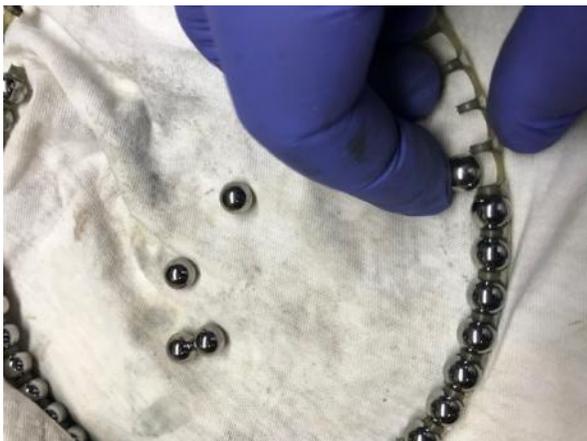


Next, I began scoping out where to place the towers. That took some time as I want them to tilt over for any needed access. I started digging the hole for the 40 foot tower last Fall, but the weather closed in on me and some personal issues did too, so it is taking until now for me to restart that effort.

It had about a foot of mud back in it when I opened it up again. I obviously didn't keep out the rain and snow very well. So... I had to dredge out that muck in order to start over. It was about at that time I was asking myself if this was really worth the effort. Well, the "ham" in me overcame the "wuss" in me and I dug out that mess.



I will have to be doing multi-tasking as the fall weather will close in soon and all outside work will be halted. So I am working on the second tower that will hold the Antron99, my 2 meter antenna and my weather station. I will be putting up the forms for the cement base and aligning the tower for fit to the garage.



In between that effort, I even refurbished the Ham IV rotor, by replacing the potentiometer, cleaning out the old grease and re-lubricating it and fixing the control unit. And miracles of miracles, no extra parts, all of the ball bearing are in place and it works!!!!



I will begin work on redoing the room above the garage. It will need new wallboard, upgraded electrical and flooring and a new access door. It can wait as I can work inside during the fall months and be comfortable.

So, this is phase 1... a little of everything to beat the weather. Still lots to do like getting that cement in (hopefully it will be done by the time you read this.) I hope to have updates each issue of the Q5'er with pictures. I am open to any suggestions to help me on what I am doing. If you care to share, send me a note via my email at rybar1949@gmail.com. Heck, if you want to come out and help that works for me too!

73, Rich/WQ3Q (aka Quack Quack)

KLM KT-34XA to M2 KT-36XA Conversion

de Bob - WC3O

In 2013 the PITT Panther Amateur Radio Club bought a new StepIR beam for their club station in Oakland. They were replacing an older KLM KT-34XA 6-element tri-band beam. The PITT club kindly donated the old beam to Skyview! Our intent was to mount the beam on the crank-up tower. At the time we were using an old Hy-Gain TH-5 MK2 5-element triband beam there that we obtained from a silent key estate. Actually, it's the beam that is now permanently mounted and pointed to the South on the repeater tower. This is the antenna that we refer to as "The South Beam".

When the new (to us) KLM beam arrived at the clubhouse (Strapped to the top of a Subaru) we needed to make some upgrades. We replaced the boom to element brackets and bought a new 4:1 high-power balun. When we installed the antenna it worked very well. Well, yes and no... Over time we noticed that the SWR on the antenna was sometimes good. Sometimes, not so good. Sometimes, REALLY bad. You never knew if it was going to behave. The KT-34XA beam had a wonderful reputation as a great performing beam. Unfortunately, it also had a BIG reputation for intermittent electrical connections due to poorly designed connecting straps and poorly designed junctions. Many people scrapped their KT-34XA antennas whenever they became problematic.

KLM eventually went out of business and the antenna design was bought by M2. M2 re-engineered and computer optimized the old design. They released a new version of the old antenna known as a KT-36XA. The most important change in the new design was that the old aluminum strap clamps and poorly designed junctions were replaced by high quality, machined aluminum brackets. These new brackets make the antenna MUCH more dependable over time. They also make the elements much more rugged. Add to that, the new design claims an additional 1 dB of gain. It was a big improvement.

M2 eventually came out with an upgrade kit to basically convert the old KT-34XA beam to KT36XA spec. We purchased an upgrade kit at Dayton a couple years ago and

just now, finally got around to rebuilding our old antenna. I had read in some reviews that the upgrade was a royal pain in the ass to implement and took A LOT of time to perform. I figured, how bad could it be? As it turns out, they were right! Oh what a time consuming pain it was!



While the antenna is a great performer, it is also a VERY complicated antenna. There are so many connections, measurements and orientations that need to be paid close attention to when building up one half of an element. That, times 2 (for each half of the element) times 4 for each element! (There is one of the six elements that is just a straight element for 10 meters) Each connection point needed to be cleaned with Scotch Brite



and coated with SS-30 copper based anti-seize, as well as all of the MANY stainless steel screws/hardware. I was never so happy when all the elements were complete!

Add to that, the feed system was re-designed. You use some new parts, and re-use some of the old parts. The instruction manual was unclear as to what was what. Did I mention I was really glad this project was done?



While the antenna was down we also rebuilt the old Hy-Gain TailTwister rotor and replaced the old "Gas pipe" mast with a proper 11 foot 2 inch OD, ¼ inch thick chromoly mast. The old Tri-Ex crank-up tower was not really designed for the physically larger TailTwister rotor and the lobes on the rotor housing would rub against the tower brackets. We ground the lobes on the rotor housing down enough so that they no longer rub. In addition, we also installed a computer interface in the rotor control box to allow automatic control and computer control of the antenna!



The antenna was mounted on a mast in the lower yard of the clubhouse to be rebuilt. Each element was removed and rebuilt in the meeting room, then re-installed on to the antenna. After double, triple and

quadruple checking all of the MANY measurements it was time to re-install the antenna on the tower. Both the removal and re-install was made MUCH easier be using a lift supplied by Marty, AG3I. We had plenty of man power to carry the antenna around and aid in the whole process.



In the end:

In the end the SWR curves are not quite as good as the curves shown in the instructions. There are a few variations between the KT-36XA design, such as the balun used and the mounting location of the balun in relation to the T-match feed. We will work on that as time allows. The beam performs very well, however. Feel free to use it.

In hindsight:

When I was thinking about our options for this antenna, I pondered replacing the beam with a new DX Engineering Skyhawk beam. You can't take both roads, but I hear that is also a really great antenna. It has MUCH less complication (Less connections to give you trouble) and gives similar gain and SWR curves. I think we paid around \$700 for the upgrade kit. A new Skyhawk is around \$1450. By the way, a new KT-36XA is around \$2600. I think our \$700 investment will take the club well into the future with very good dependability / performance and mucho DX. Time will tell.

MANY thanks to all involved with this project. Contest season is upon us and we're coming off of the bottom of the sun spot cycle. Let's have some fun!



Bob WC3O

Welcome New Members !!

Welcome the following Skyview Radio Society Members who have joined us since publishing the August 2020 newsletter:

— None During this Period —

(We missed out on our Swap & Swap Membership Special this year)

However, New Members joining in the last Quarter of 2020 are paid up throughout 2021

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 30SEP20

NM3A	KB3HGJ	AB3LS	KB3RBV
WB3ACC	WA3HGW	KC3LVC	K3RMB
AD3AD	KA3HPC	KC3LZH	W3RRK
W3ANX	KA3HPM	N2MA	I2RTF
KB3APD	KB3HXP	KC3MBM	KA3RXY
KC3AY	AG3I	KC3MIQ	KQ3S
NA0B	KC2I	K3MJ	KD4SBJ
N3BPB (SK	KC3IIO	KC3MNN	KB3SOU
W3BUW	WA3IKQ	KC3MNO	K3STL
KF3C	W3IU	K3MRN	KB3SVJ
KC3CBQ	K3JAS	N3MRU	N3TIN
W3CDW	KC3JBS	KG4MSB	N3TIR
K3CLT	KB3JGG	KS3N	W3TLN
K3DCG	N3JLR	G4NFS	N3TTE
KC3DIA	KA3JOU	KB3NSH	AG3U
KC4EGG	N3JPB	KC3NYN	NS3U
KC2EGL	ND9JR	AJ3O	N3UIW
KC3EJC	KC3JSF	WC3O	W3UY
AB3ER	KB3JXG	KC3OCA	K3VRU
KC3EVT	KC3JXO	KC3OCB	W3VYK
KB3EYY	K3JZD	KC3OCC	N3WAV
WB3FAE	KC3KEI	K3OGN	K3WM
KC3FEI	WA3KFS	N3OIF	N3WMC
K3FH	KB3KHR	KB3OMB	W3WTJ
K3FKI	AC0KK	KB3ORO	K3WWP
KC3FWD	N3KNB	KR3P	KZ3Y
N2GBR	W4KV	NK3P	KG5YFN
KC3GIL	KC3KXG	K3PC	N3YJN
KC3GIN	KC3KXZ	KC3PEM	KB3YJQ
KC3GPM	WA3LCY	W3PRL	W3YNI
K3GT	KC3LHW	KC3PXQ	W3YNX
AB3GY	K0LIN	AE8Q	WA3YWU
KC3GZW	KG4LLQ	NU3Q	K3ZAU
NC3H	KC3LNG	WQ3Q	
WD3HAY	KC3LRT	NJ3R	

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

— Nothing For This Issue —

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 **December 1, 2020**
Closing Date For Submissions : **Nov 15, 2020**
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: William C. 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.

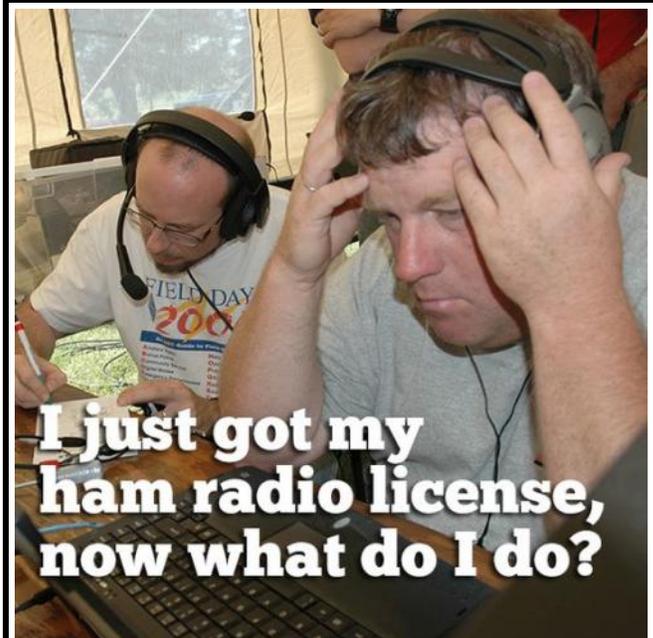


Q5er Editor & Publisher: Jody Nelis - K3JZD

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email your comments and article submissions to: [K3JZD AT ARRL DOT NET](mailto:K3JZD@ARRL.NET)



I just got my ham radio license, now what do I do?

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>

Subscribe to K3MJW [groups.io](https://groups.io/g/K3MJW) 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 ??

Where are the pictures of your shack ??