



Official Publication of the  
West Allis Radio Amateur Club

# Hamtrix

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Volume 73, Issue 6 June , 2024

## JUNE CLUB HAPPENINGS



**NUT NET**  
3.985mhz  
Monday-Saturday  
8:15am CT

**WARAC 4th Tuesday**  
**Breakfast**  
At the Forum  
Layton & Hyw 100 at  
8:30am

**The Milwaukee-Florida Net**  
**time is:**  
7:15 – 8:00AM Central  
8:15 – 9:00AM Eastern  
Mon through Sat

**Meeting**  
**Tuesday June 11, 2024 7pm**  
**New Berlin Community Center**  
**14750 W. Cleveland Ave.**  
**New Berlin, WI**  
**Between Moorland and Sunnyslope**

### Presentations

**Scouts and Ham radio**  
**Mark Tatera**

**Field Day Preparation**  
**Dave Garnier WB9OWN**

**Premeeting dinner**  
**New Berlin Ale House 5:15pm**  
**16000 W. Cleveland Ave**  
**West of Moorland Rd.**

**2024 ARRL Field Day**  
**June 22<sup>nd</sup>**  
**Colonel Heg Memorial Park**

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## WARAC 4th Tuesday Breakfast

### NOTE NEW LOCATION

Several years ago there was talk among Nut Net members that we should get to meet each other. A breakfast get together idea was started. It was open to all hams, XYL/partners and anyone who wanted to learn about amateur radio. Even visiting OM/XYL couples joined us.

So, on the fourth Tuesday each month at 8:30 am we meet at **The Forum Restaurant, corner of HWY 100 and Layton, Greenfield, WI**. Looking forward to seeing you, mark your calendar.

Phil, W9NAW

## WARAC

### Find Us On The Air

#### VHF Simplex 146.55 Mhz



Looking for a Club Member to chat with? Fire up the VHF rig and give a shout out on the VHF Simplex Frequency 146.55. You'll be surprised how often someone is listening. Hit the PTT and say "Hello"

#### DMR - BM TG 3155 WI State




The WI State 3155 TG is available on all the local DMR Repeaters AND via your HotSpot. Put yourself monitoring and come find a Club Member

#### Nut Net - Mon to Sat on 3.985 Mhz @ 8:15 AM



Join The Nut Net on 80 Mtr SSB from 8:15 to 9:00 AM Mondays thru Saturdays. Check-ins are from all over WI. You'll be a Nut Netter regular in no time. This is a general discussion net that gets your day started out right.

#### Milw - Florida Net - Mon to Sat 14.290 Mhz 7:00 AM



Join Tom, K9BTQ, for this early morning Check In Net, Mon thru Sat on 20M from 7:00 AM to 8:00 AM. Get the news to get your day started out just right.

#### 6 Meter Chat - Wed, Fri 50.160 Mhz @ 9:30 AM



Paul, W9PCS, hosts this informal 6m online get together on Wed and Fri starting at 9:30 AM. This is a round table discussion and everyone is welcome to drop by and join in.

## WARAC Meeting minutes for May 14, 2024

The meeting was called to order at 7:08 by Feroz Ghouse.

The minutes of the April meeting were published in Hamtrix. Dave Ingold moved, and Phil Gural seconded, the motion to approve the minutes as published. The motion passed by unanimous consent.

Bill Reed gave the treasurer's report. There was one expense, \$21 for name badges. There is approximately \$6,000 in checking, \$5,000 in the CD, and \$12,000 in the scholarship fund. The ARRL has cashed the check we wrote for the scholarship. Bill had the spreadsheet present in case there were questions.

Feroz reviewed the Boy Scout event that many club members recently attended. Thanks to all who came to this great event. There were two sessions and a total of about 20 scouts who participated. Due to the solar flare, HF conditions were not good, but the scouts enjoyed working line-of-sight on higher bands. Brayden Irwin, Frank Humpal, and Feroz all led sessions.

There is a brat fry this coming Saturday, May 18<sup>th</sup>, at Sendik's. The club usually makes about \$300 from this event. If you are working the grill, please wear a hat.

Wednesday Park Ops will look a little different this summer. Mike Johnson will send out emails in advance of events. Times may vary from the usual 2:00 PM start.

For the first program, Chuck Dellis talked about the Wisconsin QSO Party results. The results document was published on the website earlier today. It's notable that the weather was good, band conditions were good, and logs and QSOs were both up year-over-year. Contacts were made with 70 of the 72 Wisconsin counties, all 50 states, and 10 Canadian provinces/territories. Chuck talked about the winners in each category as well as the plaque winners. Many appreciative thanks were given to the Wisconsin QSO Party committee, consisting of Chuck along with Tom Macon, Howard Smith, and Jeff Pahl.

The second program featured Dave Garnier talking about the Field Day setup. We'll be operating only on the Saturday of Field Day weekend, which is June 22, 2024, at Colonel Heg Park in the town of Norway. There will be a virtual meeting next week about specifics. We discussed the shelter (open on four sides) and what we might do in case of inclement weather.

The third program was Max Falk and Brayden Irwin discussing the Raspberry Pi setup they were working on, which will be powering the digital station for Field Day.

The fourth and final program was about the NanoVNA and some of its capabilities, presented by Chuck Craven. Chuck discussed his 2 GHz preamplifier to enable him to listen to satellites, and how he ultimately needed the gain from his 4 foot dish to make out the signals. Two good books about the NanoVNA were presented, and many of the uses of NanoVNAs (band pass filters, baluns, ununs, preamps) were explored.

There was no old business and no new business.

Rich Hawthorne moved, and Frank Humpal seconded, a motion to adjourn, which passed unanimously. The meeting adjourned at 8:11 PM.

Respectfully submitted,  
-Michael Falk, Secretary Emeritus

# The Amazing Solar Flare

Tom Langer de KD9FPC

May, 2024

If you have been trying in vain to operate this past week in the midst of the biggest solar flare in 20 years, please bear with me as I try to share my awe and amazement. If you are like me, we would always watch the Space Weather Woman (Dr Tamitha Skov) and check the solar chart on QRZ. And that's where it stopped. An aside, even if it says Poor, I still try anyway. Hard to get me to quit.

This time it was different. This time I decided to do a little research, which then turned into a lot of research. The reason is that the more I learned about solar flares, sunspots and the rest the more was needed. I even got up to see the Northern Lights and studied all the reports and studies that I could find about what is truly an amazing and awesome phenomenon. OK, stick together as we wade knee deep in some science of the flares and spots.

Flares have been with us since the formation of our universe. The sun goes through a cycle every 11 years. It is anticipated the highest point in this cycle, thus the more flares, is predicted for 2025. Predictions are difficult to nail down entirely. While science knows what a flare is, no one understands, really, what causes them to form. A quote from Professor Nour Rowafi sums it up best it seems... "The sun will do what the sun wants".

The largest recorded flare on record is known as the Carrington Event in 1859. It lasted nine days and wiped out the telegraph system. It was an X rated flare in its time. Solar flares are rated A, least powerful, B, C, M and X, the most powerful. There are other definitions now. In any event, our recent flare was classed as "severe". As mentioned, our largest flare in 20 years.

In 1972 a severe flare triggered floating mines left over in the waters off of Vietnam. A 1989 flare took out Quebec's power for over 9 hours. There are certainly other examples, but we'll leave it that solar

flares are able to do a lot of damage.

So, assuming flares have and may cause a lot of damage, how come there isn't more news of problems since flares are constantly happening? We'll look at the flares themselves. As The Planetary Society reports a flare, aka a Coronal Mass Ejection (CME) launches off towards earth. With it comes an electro-magnetic radiation (EMR) field. It's HF, X-ray and gamma rays. So that I am able to properly cite the remaining sources will mention them right now: The NASA Air and Space Agency, The European Space Agency, the BBC, The Indian Express, Space.com, Earth Island Journal and a few other less known sources.

Anyway, we have a mass EM field hurtling at us at light speed. CME's are "gobs of plasma" that launch off of the sun arriving here on earth in a matter of minutes. One report has it at 8 minutes. These CME's are generally linked to seeing a sunspot. The CME will generally come from above a sunspot. However, it is thought that CME can be independent of a sunspot. This past set arrived in our atmosphere at 9:32 PM on 5/10 and 7:44 AM on 5/11, both EDT.

By now you must be wondering why this huge gob of plasma just doesn't hit the earth and burn it all up. Well, and this is where the amazing, awesome and miraculous creation that we live on, comes to the rescue. From the National Weather Service; "...Earth's magnetosphere, ionosphere and atmosphere do a great job of protecting us from the most hazardous effects (ed. - of CME). If a CME arrives at Earth, it can produce a geomagnetic storm, which, in turn, can cause anomalies and disruptions to the modern conveniences we have come to rely on."

It is the magnetosphere that blocks the CME from hitting earth directly. Generating terawatts of energy, it stops much of the sun EMR in its tracks. The UV rays are filtered out by ozone. The atmosphere gives us our Northern Lights (Aurora Borealis). Our atmosphere is primarily made up of oxygen and nitrogen. When coming to the

atmosphere, the EMR turns the oxygen atoms green and the nitrogen atoms blue, purple and pink. And voila, you have the greatest light show on earth. The bigger the flare/CME, the farther south these lights may be seen. This past set of flares triggered the Northern Lights as far south as Alabama.

All of this also explains why photographs and pictures (smart phones, whatever) present the Northern Lights in such brilliance. Because the Lights are the product of EMR, and cameras being very sensitive to energy, they can capture the image better than the human eye. Tip: Next time you are trying to find the Lights, take plenty of pictures. When you get home you may be quite amazed what the camera saw!

So, let's play the assume game. Let's assume the earth's protection wasn't up to a horrendous CME flow, and our grid and systems in the state they are now, what happens to us and our things?

- Nuclear reactors go into thermal run away, overheat and explode
- The electrical grid folds up when transformers start blowing up and lines crumble
- Any solar panel is toast
- Because they need electricity to drive pumps, natural gas and water lines stop operating
- Security systems, radar and all of the rest fail

- Aircraft lose communications and GPS guidance
- Ground GPS fails
- Communication is gone
- The internet fails

Why bring all of this up you ask? Not to be a downer. It shows us again how incredible the sun really is and how amazing is this place called earth we live on. And, if I may be allowed, it is yet another testament as to how awesome God really is. Think about it, we have 8 planets and their assorted moons and "mini planets" all circling the sun on the same orbit at the same speed and this is how it's been since creation. Call it the Big Bang Theory if you want, a much greater power had to light the fuse! Combine this with black holes, other galaxies and space as far as our human eyes and machines are able to view, we are blessed.

I must add at this point that I am NOT a scientist. After wading through reams of material, this is my understanding. If something seems in error, it's on me. And if you want to be fascinated some more, take a look at the sources mentioned. Or, just Google solar flares or CME. So, grab your satellite equipment, play a little EME bounce or just plain transmit and think about what is going on around us. Personally I would add a telescope to the list.

<https://www.qrp-labs.com/qmxp.html>

**2024 Challenge for our membership. Have someone you meet, Ham or Ham wannabe come to a meeting this year!**

ELMER

by Rich Regent, K9GDF





June 2024 \* Hamtrix \* By Michael Johnson, WO9B

## Digital Putzing

Time to catch up with a few News Feed items. Hamvention puts a spotlight on all the corners and cubbies of our hobby. Some of it is really neat and just a bit under the radar.

### MESHTASTIC

Have you heard of Meshtastic? Any idea what this is? The quick explanation is it is a ham/non-ham mesh networking mode using the 915 Mhz frequency band that supports mesh networks in a Peer-2-Peer mode via Bluetooth and WI-Fi integration. WHAT???? I know, it is barely comprehensible and I've been staring at it for a month. The neat part is that Meshtastic devices are relatively cheap (\$70 or so) and the range is, well, pretty cool. These are an interesting option to the ham 2.4 Ghz mesh networks that just never seem to get any traction. Is this a passing fad or a game changer about to take off? Who knows, but now that you know about it, keep an eye out for developments. Here are a couple of links to get you started: [Meshtastic.org](https://meshtastic.org), the mothership for the movement. [MeshMap](https://meshmap.org) an online map showing known network nodes. H1 meshtastic device.

### AIOC

Which stands for **All In One Connector**. This is a brilliant little device that plugs into the Kenwood/BaoFeng/Anytone type HT and will act as your programming cable, sound card modem, digital interface cable for APRS, AllStar, M17 ... whatever, leveraging a USB-C connection. Pick them up from [NA6D's](https://na6d.com) webstore (\$25 or so) and go have some fun.



### MORSE NEWS

For those wanting to take in their news via CW, [Morse News](https://morse-news.com) is the answer. Here is a handy Windows program that will convert an RSS news feed into CW. I would not have paid much attention to this, except with the ARRL network troubles of late, code practice opportunities became harder to come by. Morse News puts the throttle back into your hands, so to speak.

### QRP Labs QMX+ 160-6 Meter Transceiver Kit

The innovators at QRP Labs have generated yet another radio kit worth a look. The new **QMX+Multi Mode Transceiver** is the logical next step in their ever increasing catalog. Though it is a QRP, it offers both CW and Digital (FTx, RTTY, Olivia, ect) modes for 160 meters through 6 meters all in a small package that will cost \$170 delivered. Add \$60 and 4 months for a pre-assembled and tested unit. As kits go, these are not that difficult to assemble, but be warned you will be winding toroids for until your fingers bleed (Just kidding, but there are about 17 of them). These are remarkable radios that push SDR and component assemblies to the limit. Not to mention a heckuva lot of fun. Father's Day is just around the corner...hint, hint, hint. FYI, SSB Mode is rumored to be available soon.



## Contest Corner and DX Report

Michael Falk, AA9RK

It's summer vacation! Ham radio every day and every night! POTA activations every week! And a hot month of ARRL contests...

Max KD9NZB and I will be roving again for the June VHF Contest, June 8<sup>th</sup> and 9<sup>th</sup>. For sure we will be QRV in all four quadrants of the EN52/53/62/63 grid corner. (Those grids meet at approximately 70<sup>th</sup> and Beloit in West Allis. There's a plaque sunk into the grass. Really.) This is a 33-hour contest; contacts count on any band from 50 MHz up; and the exchange is just your grid square. Propagation enhancement makes or breaks this contest. Sporadic-E is king on six meters (though many stations will also work meteor scatter), and any sort of enhancement on the other bands will make long distance contacts possible.

The weekend of the 15<sup>th</sup> and 16<sup>th</sup>, the All Asian DX Contest and the Stew Perry Topband Challenge on 160 meters, both CW contests, are on the air. ARRL Kids Day runs on Saturday from 1PM to 7PM local, from 80 meters up through 2 meter repeaters, so get your kids on the air.

The main event in June, of course, is Field Day. Field Day isn't a "contest", exactly, but stations try to make as many contacts as they can, there are rules, there are scores, and results are published, so it's as close as an "operating event" can be to a contest without being one. Running from 1PM local time on Saturday, June 22<sup>nd</sup> to 4PM on Sunday, June 23<sup>rd</sup>, activity on the bands is never higher. Lots of hams and prospective hams will be on the air for the first time (or for the first time in a long time), so activity tends to be a little slower and more laid back. Of course, be sure to visit the WARAC Field Day station at Heg Park in the Town of Norway, between Wind Lake and Waterford on Old Loomis Road. We will be a Saturday only operation.

There isn't much on the contest calendar for the weekend after Field Day – I guess we are all a little radioed out by that point – but the first week in July hosts a few of my favorite operating events of the year. I love both of the Radio Amateurs of Canada contests. I wrote about their winter contest back in

the December Hamtrix, and their other contest is for Canada Day, the entire UTC day on Monday, July 1. (In practical terms, this means 7PM Sunday to 7PM Monday for us.) Everybody contacts everybody, CW and phone, but you get more points for contacting Canadian stations. Canadians send their province or territory, and everyone else sends a serial number. It is laid back and fun, but there is a lot of activity.

Another event which isn't a contest is the 13 Colonies event. Special stations will be on phone, digital, and CW modes, using the call signs from K2A to K2M. It runs from July 1 to July 7. I believe I got clean sweeps in 2020, 2022, and 2023, and Max got his first clean sweep in 2023. This is a great chance to practice your pileup-busting skills. Some stations even run split, which those of us with flea-powered stations don't get a chance to do very often. It is great fun to hunt down these stations, watch the spots, switch modes, and do what you can to get these special stations in the log.

The ARS Spartan Sprint's future was in limbo after its founder, Richard Fisher KI6SN, became ill, but the WA7BNM crew (also known for 3830scores.com) have taken it over. That event is a QRP CW event on the first Monday of each month, with emphasis on creativity, ingenuity, and "backwoods operation" (which often means a picnic table in the park for me).

...

I spent most of my column space ranting and raving about how much I like the early summer contests and events, and school has meant I am out of the loop with the DX world, but here are a few Dxpeditions on the air right now or soon:

- FT4GL, Glorioso Island is still on the air until June 19. They are mostly on FT8 in DXpedition ("Fox and Hounds") mode. Glorioso is a French territory in the Indian Ocean that doesn't get on the air much.

- VP6DF, Pitcairn Island, is active on 15/12/10 meter CW until June 9<sup>th</sup>.

•KH0N, Saipan in the Northern Marianas, is mostly FT modes until June 12<sup>th</sup>.

•OX3LX, Greenland, is QRV on digital modes and CW until June 15<sup>th</sup>.

•VK9LA, Lord Howe Island (off the east coast of Australia), will be on all modes and all HF bands from June 14<sup>th</sup> through 24<sup>th</sup>.

Did you get Tanzania last time? 5H3DX is a part-time, "holiday style" DXpedition, CW and FT modes, from June 18<sup>th</sup> through 30<sup>th</sup>.

See you next month,

-Michael AA9RK

## Swap Corner

**If you have something ham related you are looking for or you would like to sell or give away. I would be happy to post them in Hamtrix**

### Editor

**It is time to thin the herd. I have acquired too much radio stuff. I am ready to sell:**

Ten Tec Omni D : All solid state, 160-10m (no WARC bands), 100 W transceiver. It has a couple of small quirks (PTO needs to be greased; SWR meter isn't accurate), and it still has all the original filter caps. If you're going to use this rig hard, it might need a little work to update it. But I made POTA CW and CQ WPX SSB contacts with it recently, and got good signal reports. I have the matching power supply and an Astatic Microphone for it. \$400 or best offer for radio, power supply, and mic. I'm inclined to make a good deal for a club member. I also have the matching CW keyer and a Signalink USB which is wired for this radio, if you are interested.

Ten Tec Argo 556 : This is a QRP rig with 10 watts of output power. It works on CW, SSB, and digital (if you have a Signalink or similar). This radio has band modules; to change bands, you pop a piece out of the radio and pop a new piece in. That system works very well. I have nine band modules (160, 80, 40, 30, 20, 17, 15, 12, and 10 meters). The modules go for upwards of \$70 apiece on eBay. I'm asking \$500 for the radio, microphone, and all nine band modules. It works like a dream on CW with an internal keyer and fast QSK. It is a power miser and gives me a lot of hours of operation on one battery. (I have installed Powerpoles on the power cable.) Recently this rig saw some use on 20 meters FT8 with the Signalink, and it has been my Winter Field Day rig twice. Again, let me know if you are interested in the Signalink to go with it.

UT5JCW Transverter : This is a 144/28 transverter, meaning you transmit on (for example) 28.390 MHz and it will come out on 144.390 MHz. This is a Ukranian transverter which I bought in 2020. It needs 5 watts of drive on 10 meters for 15 watts out on 2 meters. It has some frequency stability issues as it changes temperature, which is a known issue with these transverters. It is fine on FM, pretty good on SSB, and usable on CW, but difficult to use on FT8 without modifications. When I got my FT-991, which is an all mode radio on VHF, I didn't need this transverter anymore. I paid something like \$120 new for this, but I will sell it for \$50. It is installed in the aluminum housing, and comes with a power cable onto which I've installed Powerpoles.

**Contact Michael AA9RK: (414) 254-5619 or aa9rk@e-falk.com**



## Refreshing an AL-80B Amplifier

By Michael Johnson, WO9B

Last fall, fueled by true inspiration, I decided that my ham radio endeavors had reached a point where an amplifier was a necessary addition to the Ham Shack Stack. The “whys” and “whats” behind this decision aren’t critical; it’s all about scratching that itch. Moreover, quests like this always lead to unexpected opportunities. With each telling of my desire, the circle of conspirators widens until, before you know it...you own an amp.

Now, if that itch is satisfied with a new amplifier, the narrative shifts toward shack integration, ATNO DX QSOs (All-Time New Ones), and the glory of contest operations. But that’s not my style. Instead, I acquired a used amp at budget-friendly pricing, fully aware that there might be a catch. The question was: How much of a catch?



In my case, the opportunity came in the form of an Ameritron AL-80B. It’s an excellent choice due to its relatively compact size, 120 V power requirements, durable 3-500 tube, and respectable power output—somewhere below 1 KW. The AL-80B has been popular for quite some time (around 25 years?), resulting in a wealth of internet information. Additionally, it’s still in production (although MFJ threw a wrench into that recently), ensuring availability of parts.

My intentional choice of a tube-based amplifier over solid-state models was driven by a personal preference. Therefore, I focused on tube models, and the 3-500 tube stood out. I rated it higher than either the 811A or 572B tubes. The latter have seen price increases, quality declines, and availability challenges, making the 3-500 my preferred tube for this tier of amplifiers.

While I knew exactly what I was buying, the real question was: What had I gotten myself into? Fortunately, the ham who sold me the amp is a friend, which eased the process. He performed an initial checkover of this unknown SK (silent key) estate sale amp. Since there was no tube, he tested it with a spare to confirm that it indeed produced power. Satisfied, I purchased the amp, and it spent the next two months finding its way into my shack. Throughout the winter, it sat on the project table while I conducted necessary background research, explored mod recommendations, and most importantly, acquired a new 3-500 tube.

As spring approached, I realized my procrastination had run its course. It was time to turn this project into reality. Opening up the amp and poking around proved to be enjoyable. Aside from a bit of 20-year-old dust, the overall condition was surprisingly good. I eventually inserted the new tube and flipped the power switch. And it glowed! I was beginning to appreciate the allure of a glowing valve. The welcome news: No major issues. I cautiously played with it for a week, confirming that everything worked as expected. Still, the amp was over 20 years old and could benefit from some refreshing.

**Continued next page**

## Refreshing an AL-80B Amplifier (cont)

My winter internet surfing led me to Tom Rausch, W8JI, of [.CTR Engineering](#). Tom, the original designer of the amp back in the '80s, became my go-to expert. His credentials elevated him to the role of project consultant.

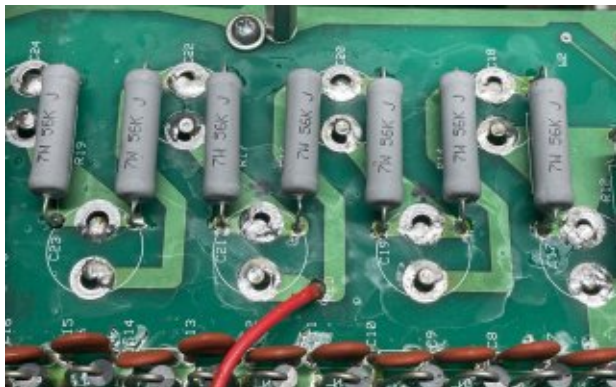
Tom's AL-80X Mods list was concise and straightforward: Filter Capacitors and Bleeder Resistors, Electronic Bias Mod, 12 V Buss Fuse Replacement, and Adding GDTs (Gas Discharge Tubes) to the Tube Socket. Most of these modifications



occur on the easily accessible Main Power board, front and center when the cover is removed. Since it's a product from the '90s, there's ample space for part replacement. The image shows the original board with a series of bleeder resistors (pink) and the screw heads for the filter capacitors.

Interestingly, those pink resistors are notably problematic—falling into the category of MFJ's poor choice components. The Bias and Buss mods involve replacing or adding a single component, making it a straightforward task, even for someone like me.

The original filter capacitors are of the screw-in type, as you can see above. Replacing them is a straightforward, no-solder process. However, there's a catch: screw-in electrolytic capacitors are no longer readily available, and if you manage to find them, they come with a hefty price tag. Enter W8JI, who sells solder-in substitutes with modified rivet tops attached to the electrodes. These rivets fit snugly into the existing screw-in holes, making soldering a



breeze. Simultaneously, I replaced the bleeder resistors—a surprisingly simple and straightforward task.

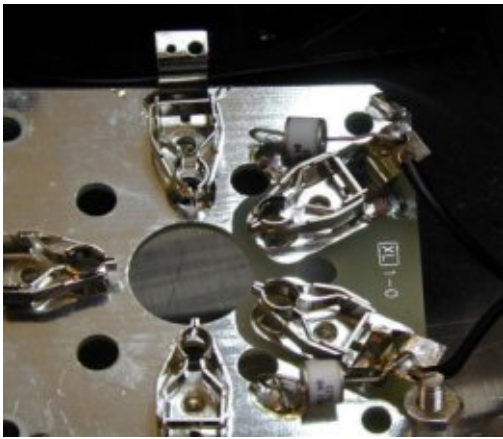
The final two changes to the Power Board involved adding a small Zener Diode to the Electronic Bias circuit and removing a small glitch resistor and replacing it with a resettable fuse component in the 12V accessory circuit. Both of these changes were simple, solder to the board components familiar to anyone

**Continued next page**

## Refreshing an AL-80B Amplifier (cont)

who has assembled a kit.

That sums up the modifications to the Power Board. While I spent some time cleaning up residual solder connections, I refrained from reflowing any. A gentle Q-Tip and some alcohol did the trick. As the saying goes, "If it ain't broke, don't fix it."



Completing Tom's list of mods, the final task involved the tube filament circuit: Removing Existing MOVs (Varistors) and Installing GDTs (Gas Discharge Tubes). These GDTs provide updated protection against dramatic tube failures. The process required removing the tube socket (which is essentially a bolted-in circuit board) and soldering in the GDTs. The existing MOVs were somewhat buried behind heat/RF shielding but were easily identifiable. With a bit of effort, they were snipped and removed.

With all these changes in place, it was time to flip the switch and bask in the glow of Old-School amp tech. Personally, I'm eagerly anticipating cranking it up during winter months to infuse some welcome BTUs into the ham shack as I explore the bands with my new QRO signal.



## Editorial

If you have been operating in the HF bands you have had the opportunity to see how the activity of the sun effects our hobby. I am a regular on the morning Nut Net which is a group of Hams that gets on Monday to Saturday at 8:15am on 3.985 MHz. Because it has hams around WI and some of the surrounding states, you get a good feeling for how propagation is for 80 meters.

You also begin to see how normal operation helps you learn the basics of message handling. You know asking for a repeat and or a relay is just part of the hobby. I think that this may be unconscious training which would help any of us if the time came where an important message had to be handled, even under less than ideal conditions. Just being a Ham radio operator!

On a different note a big thank you to all who came out to our Sendik's fundraiser. We broke our unofficial fundraising record. Now if only I can figure out what we did differently. HI HI

73

Frank KA9FZR



**DON'T KEY LIKE A PHONE MAN**



## **SLOW SPEED CW QSO NET**

***Monday's - 8:00 PM - WBOAFB Repeater 147.045 + 127.3 Tone***

### **CW Practice**

One of the best and maybe the only way to get better at CW is practice. Having someone else who also wants to practice also helps. Just makes it more fun.

The West Allis Radio Club is going to try to help. We are running a CW practice net on Monday at 8pm The repeater is 147.045+ 127.3 the CW portion is on HF

Mike WO9B has been joining me and setting up some practice but we are open for suggestions on where to go with this. Come join us.

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FEROZ GHOUSE WU9N

Vice President  
MikeJohnson WO9B

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