



# The Wireless

October 2024

The Garden City  
Amateur Radio Club

PO Box 482 • Garden City, MI 48135-9998

**Next Meeting:**  
Tuesday, October 15, 2024, 7:00pm  
Garden City Presbyterian Church  
1841 Middlebelt Rd.  
Garden City, MI 48135



*Photo courtesy KA1MDA*

## 2025 Officer Election

Yes, it's that time again. This month we'll open nominations for our 2025 club officers. Nominations will remain open until our November meeting at which time we'll select our team of officers for next year. Our current officers are:

- ♦ President Scott Deykes, WT8S
- ♦ Vice President Roy Watts, W8ROY
- ♦ Treasurer Rich Zarczynski, AC8FJ
- ♦ Secretary Don Fellows, KC8VCX

Any of our officers will be more than happy to share with you what they do, and even offer to assist if you'd like to give the job a shot yourself.

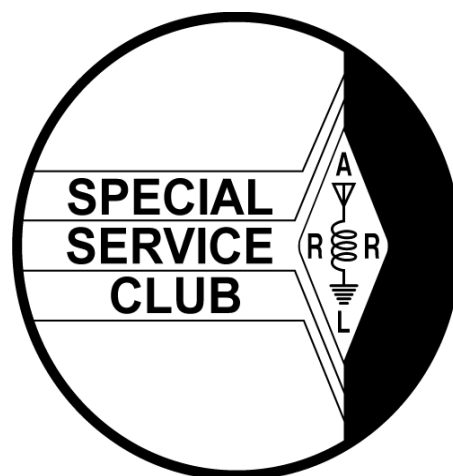
Remember, you can be nominated even if you are not there.

## A Reminder From Our Treasurer

Rich, AC8FJ, is currently accepting dues for 2025. At our last meeting, we voted to set 2025 dues at \$20, with no additional fees for new members.



*Photo courtesy W6XRL/4*







Join our Discord page and get up-to-the-minute updates about things happening in our club and with our club members. You can send messages to individuals or the whole group, in real time or post a note for others to read at their convenience.

It's free and easy to join. Just scan this code with your phone. You can also search Discord on the internet to download it to your computer, or contact Ray, KC8RC, and he will send you an invitation code.

Hope to see you on Discord soon.



Be sure to visit and use our repeater:

KK8GC  
146.860 MHz  
-600Hz offset (input on 146.260)  
100 Hz PL tone

And be sure to join us for our Sunday Night Social Net, at 9:00pm on the KK8GC repeater.

Also, please join us for breakfast, every Saturday morning at 9:00 am at Big Boys, on Ford Road at Harrison in Garden City. Everyone is welcome.



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## Amateur Exam Study Buddy is Now Available!

Hi All,

When our sons Chris and Brad were young and started showing interest in Amateur Radio, to help them along with their studies, I wrote a simple program to cycle through all the questions in the Technician question pool. While I was at it, I realized the program might be useful to others as well, so I provided it freely and also included the General and Extra question pools, too. Roughly two decades later, we are still receiving e-mail from folks using the software, reporting our study program has been an integral part of their success in obtaining their Amateur Radio license, as well as upgrading to General and Extra!

Since the original program was written in VB6, which is no longer supported, Chris and I have completely rewritten Amateur Exam Study Buddy! It is incredibly cool to have Chris, who originally used this software to help obtain his license, now take the lead in rewriting it! This new version functions much like the original, but is now a web based tool with a fresh new look, that will run on any browser and even your phone!

We like to think that Amateur Radio is the gift that keeps on giving! This Christmas and Holiday season, we would like to give the gift of Amateur Exam Study Buddy! This **free** site will help newcomers to the hobby obtain their very first license, or help existing hams upgrade to a new one! And more hams on the air gifts us all more potential QSO's and QSL cards on the wall!

Even if you already hold your Extra, please give Amateur Exam Study Buddy a good look and be sure to tell your friends about it! There isn't a manual, but the functions are basic enough that you should find it very intuitive. You can click Feedback on the home page to report a successful experience, any problems or suggestions.

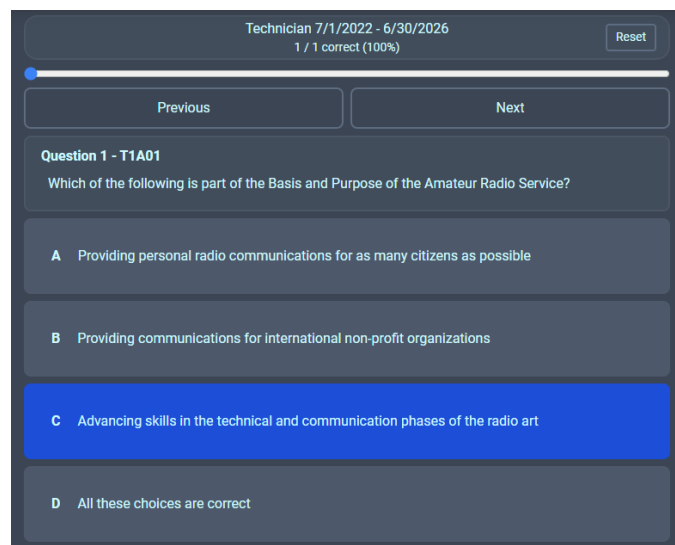
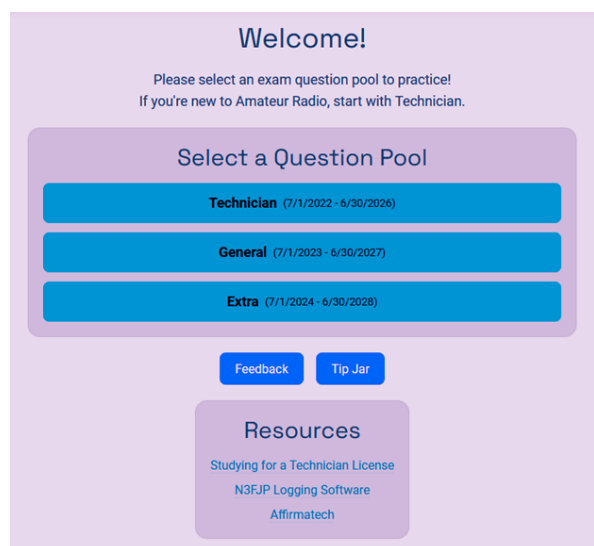
You will find Amateur Exam Study Buddy here:

<https://study.affirmatech.com/>

73,

N3FJP, KA3SEQ and KB3KCN

<http://www.n3fjp.com>



Thanks to Rich, AC8FJ, for forwarding this.

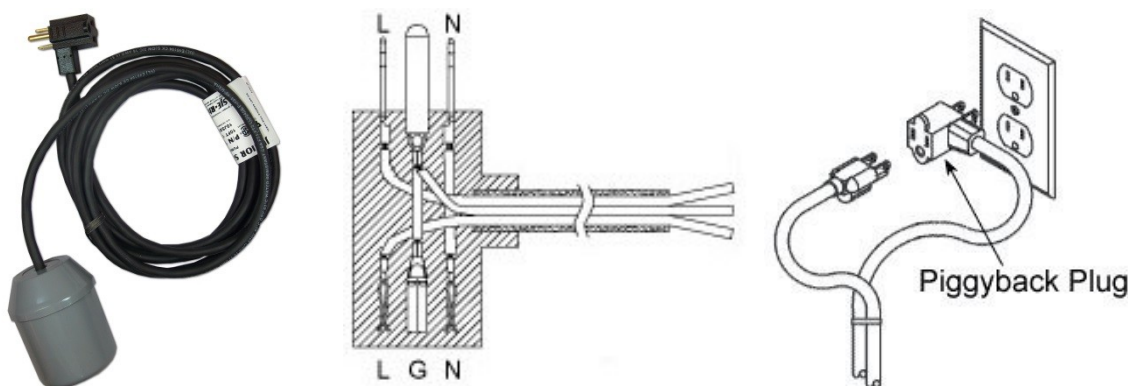


## Best of Matmatics: Lab Radio & Piggyback Cord

*Mat Breton, AB8VJ*

## Piggyback Current Measurement Loop

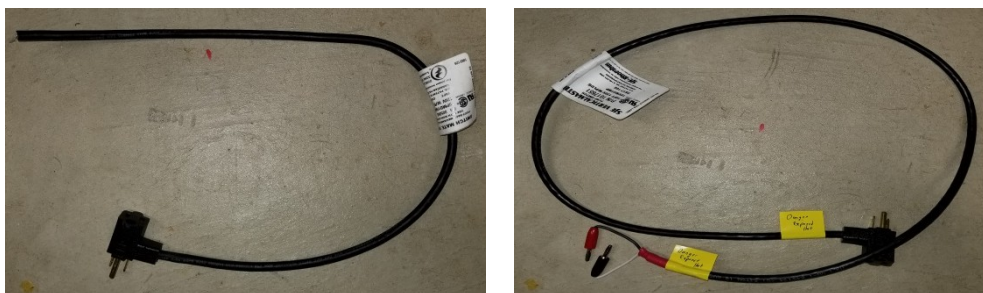
I replace the float switch in my sump pump every five years or so. Since I hate to throw stuff out, I kept a couple of the old things around in case I found a need. I recently did: when working on a different project, I had a need to “tap into” and measure the current going through a device with a regular IEC power cord. This actually happens a lot. What I would typically do is to hack a homemade power cable with separate power leads that I can tap into or measure. Each time this would waste my time and resources. The thought occurred to me that I could use one of these float switches to make a re-useable device. Monolithic float switches are available that use a “piggyback” configuration: you plug the switch into the socket, and then plug the appliance into that back of that (a combination of a plug and jack). This “inserts” the switch in series into the hot line without anyone having to do any re-wiring or being exposed to dangerous voltages.



*Float switch (left), Piggyback wiring (middle), and correct use (right)*

In the picture above you can see that while the ground and neutral feed-through the piggyback plug/jack, the “Line” or “L” is spliced into and out of the cord. You can buy the cords (called “Piggyback Float Switch / Sump Pump Control Cord”), or you can buy the entire float switch and cut the switch off.

What I did was cut the switch off of the cord and put a couple of banana plugs on the ends. This project only took me a couple minutes to complete. It didn't cost me anything.



*Original cut cord (left) and finished measurement cord (right)*

This allows me to remotely measure the current in a couple of different ways. I can plug them into my multimeter's internal shunt, or I can use a transformer to measure AC waveforms with my oscilloscope. In addition I can use it to externally switch something on and off.





*Use with a multimeter (left) and an oscilloscope (right)*

**Safety First:** Note that this if you plug this into an outlet there will be lethal voltage on one of the banana plugs. To remind myself I put yellow caution tape with writing to describe this (see pic above) ... just in case I forget or someone else tries to use my cord. This is a potential safety hazard: this setup is for experienced people only, and you must use caution just as you would with any exposed lethal voltages. Because I used standard banana plugs (and not CAT III/IV rated plugs), any test setup must be finished BEFORE you plug anything in, and you must make sure that you don't expose yourself to the line voltage while testing (hands-off setup). Unplug the power cord before you make any changes or disassemble any part of the test setup. You should not touch the meter, the cord, or any other part of the setup while it is energized.

I will be using this piggyback cord in several upcoming articles ... keep your eye out for it!

### Lab Radio

Back some time ago my lab and my shack were combined at one position. I used to use my general coverage receiver to get some "tunes" or music, listen to NPR or a sports channel as I worked in the lab. When I separated the lab and shack into opposite ends of the basement I couldn't easily do this.

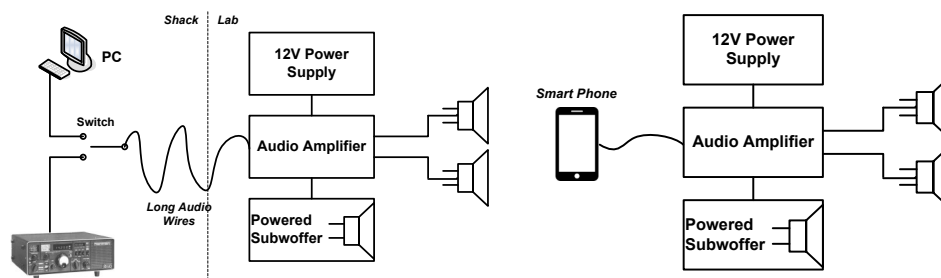
It is hard to imagine now, but back in the early '90's I had a car that had been made with no radio (just a blank panel where the radio would go) or speakers. I "hacked" a junkyard radio from a different mfg/vehicle and added an amp and speakers into it. I still had the amp and speakers laying around. I decided to use to make a lab radio setup.

My original thought was to get another old radio ... but this couldn't receive the new "HD" stations. I thought about getting an internet radio, but these have fallen out of favor and are expensive to buy and nearly impossible to keep running over time. I thought about running an audio line across the entire basement to the shack where I have a PC (for Pandora, I♥Radio, ...) and a general coverage receiver to get RF radio stations: This was my best idea, but it was still not the best idea.

When my (now ex-)wife (KB0LVT) asked why I was bringing a bunch of old audio wire into the basement, I told her the plan. She thought for a second, then asked why I wasn't just using my smart phone: it has an FM radio receiver AND music apps like Pandora. It can also store music locally. I wish I had thought of that: no running of long wires, more functionality, and future proofing. I brought the wire back to the garage and quickly implemented her plan.



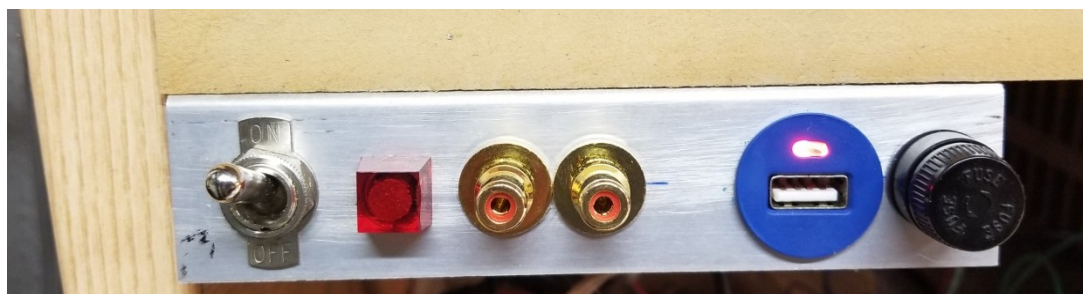




*My original solution (left), and final solution (right)*

I used old RCA cords, the old amplifier and speakers, an old powered subwoofer, a 12V power supply, a fuse, and a switch, indicator lamp, and piece of angle aluminum from the junk drawer to complete the project. Because the phone could be up and running for an extended period of time, I added a USB charging port (powered from the 12V power supply).

For no out of pocket costs I was able to get a nice sounding system for my lab. A bunch of old gear was saved from the trash. If I want to connect something other than my phone (a cd player, etc) it is very easy to do.



*The patch panel with switch, light, fuse, and USB charging port*



*Amplifier and power supply (left), one of the speakers (right)*



## The 2024 JOTA-JOTI Jamboree Takes Place October 18-20!

Calling all Scouts, Scouters and Friends of Scouting from around the globe! Make sure to mark your calendars for **October 18-20** and prepare to participate in the 2024 JOTA-JOTI Jamboree-on-the-Air-on-the-Internet. This virtual event is a phenomenal opportunity for Scouts worldwide to come together and share their experiences in the biggest digital Scouting event on the Internet and airwaves.

The 2024 JOTA/JOTI (Jamboree-on-the-Air-Jamboree-on-the-Internet) is the world's largest digital Scout event on the Internet and over the airwaves. Held annually on the third weekend in October, the event connects millions of Scouts worldwide for an entire weekend of online activities that promote friendship and global citizenship. JOTA-JOTI enables young people to participate in fun and engaging group activities over the Internet and amateur radio—focusing on developing 21st-century skills through Scouting. Participating in the JOTI/JOTA offers numerous benefits for your Scout. This event provides an excellent opportunity for Scouts to connect with other Scouts from all around the world. By participating, your Scout can communicate with other Scouts, learn about different cultures, and make new friends from around the globe. Using technology, your Scout will learn how to effectively communicate with others online, which is a valuable skill in today's digital age. Connecting with Scouts from other cultures and learning about different ways of life can help your Scout develop a sense of global citizenship. By gaining a better appreciation for diversity and becoming more aware of global issues, your Scout can grow as a person. The JOTI/JOTA is a fantastic opportunity for your Scout to connect with others, learn new skills, and develop a global perspective.

JOTA-JOTI 2024 features webinars, global campfires, talent shows, live shows, fun challenges, and more through an interactive 3D campsite. JOTA-JOTI aims to support young people of all ages to learn about communications technology, the values of global citizenship, and their role in creating a better world. At the ham radio station, communication typically involves talking on a microphone and listening to the station speakers. However, many forms of technical communication may also take place, such as video communication, digital communication (much like sending a message on your smartphone but transmitted by radio), or communication through a satellite or earth-based relay (called a repeater). The exchanges include such information as name, location (called QTH in ham speak), Scout rank, age, and hobbies. The stations you'll be communicating with can be across town, country, or even worldwide!

Millions of scouts participate and during the 2014 event, worldwide Scouting participation included 1.1 million Boy Scouts and 200,000 [Girl Guides/Girl Scouts](#), for a total participation of over 1.3 million--the largest Scouting event in the world.

## World Scout Frequencies (SSB)-

3.690 & 3.940 MHz

7.090 & 7.190 MHz

14.290 MHz

18.140 MHz

21.360 MHz

24.960 MHz

28.390 MHz

50.160 MHz

*Note: This article has been edited for the sake of available space. If you would like a complete listing of the frequencies and modes being used for JOTA, please contact Rich, AC8FJ, or Don, KC8VCX, and we'll be glad to send you the complete article.*

