

January 2024

# The Airscoop

K8PL

## From the Editor

Welcome to 2024. We ended 2023 with our Christmas party at the Family Inn. We supported the annual 4<sup>th</sup> of July race assisting with communication and safety at various check points to keep runners safe. We supported the annual road rally in Powers using some new communication techniques with our communication trailer. We upgraded our 147.15 repeater to work on digital mode. We started a new Wednesday evening digital net using our new repeater. We also expanded opportunities to connect with other hams by having a weekly Wednesday noon lunch at the Hong Kong Buffet.

We will elect new officers at the January meeting. What do you as member of the Delta County Amateur Radio Service want to see happen in 2024? Now is the time to start thinking about our two big events, our annual hamfest, and field day. It may be early to start thinking about events that happen in June and August but it seems like those dates come sooner than we think.

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## Club Station

# An Indiana Club's Approach to Introducing Ham Radio to Young People

*Members of the Northeastern Indiana Amateur Radio Association (NIARA), W9OU, noticed that many local radio-related events, as well as their membership, were lacking youth representation. In this month's column, NIARA member John Maag, KD9QDL, shares how they built a trailer to showcase the many facets of ham radio and inspire youth involvement.*

Because we don't have a clubhouse, NIARA felt the best way to introduce ham radio to younger generations was by bringing it to them. While club members communicate via <https://groups.io>, this wasn't conducive to reaching the public and diversifying our membership with youth members. NIARA's fully equipped portable training center allows us to travel directly to schools and events, exposing ham radio to the Boy Scouts of America, Girl Scouts of the USA, and Explorer Scouts. We've also been able to bring it to ARRL Field Day, Parks on the Air® activations, special event stations, local fairs, and other community-based projects and events.

### Trailer Design and Equipment

Our project started with a grant proposal that we sent to Amateur Radio Digital Communications. After putting together a spreadsheet, we figured out that we needed around \$29,000 to build the trailer and purchase equipment that showcased all that one can do with ham radio. Grant approval took approximately 3 months.



More than 50 people came to check out NIARA's trailer at the 2023 Fort Wayne Hamfest in Indiana.

We determined that we needed a dual-axle 7 x 14-foot trailer to give us enough room for three operator and logger stations — two positions for HF operations and one position for VHF, UHF, and GMRS operations — and to provide the necessary storage space. It would also give us enough room for a power station consisting of four 100 W solar panels, four 100 Ah lithium iron phosphate batteries, an exterior ac plug, a transfer switch, a solar charge controller, a battery charger, a 2000 W pure sine wave inverter, and a dual circuit breaker for ac and dc power. Storage areas were also needed for the radios, miscellaneous equipment, coaxial cable, and antennas. To demonstrate different modes, we wanted each station to have a Windows 10 computer with a 20-inch monitor.

As a club, we decided to include equipment from a variety of manufacturers: a Yaesu FT-991A, an Icom IC-7300, a Yaesu FTM-400 UHF/VHF Fusion with a SignalLink for Winlink, an AnyTone AT-D578UV III Plus capable of VHF/220 MHz/DMR, and a Retevis GMRS radio. We also incorporated a Yaesu DR-2X repeater for UHF that's capable of Fusion mode. This is beneficial for operating demonstrations, it can also be used during Field Day, and our Amateur Radio Emergency Service® group can use it for disaster support or to support a local event.

The HF radios have an 80-, 40-, and 20-meter dipole antenna, a Buckmaster seven-band off-center-fed antenna, and a Buddipole™ Deluxe Package antenna kit. Four 25-foot carbon fiber push-up poles were needed for the antenna setups, with mounting points at the four corners of the trailer. Four 50-foot coaxial cables are used for the antenna systems. Both HF radios have an MFJ-949E Versa Tuner and a RigExpert AA-600 antenna analyzer for tuning the antenna's systems for the trailer radios.

The radio systems use voice and digital modes. Each station has an NUC compute stick with Windows 10 and a wireless keyboard and mouse. TVs with HDMI inputs are used for the computer monitors. We chose TVs because that would also allow us to view local TV stations during an emergency.

### Putting It All Together

After purchasing the trailer, Jeff DeLuconay, KB9QG; John Rostorfer, W99K, and I (John Maag, KD9QDL) re-enforced the internal walls using 1/2-inch plywood. We also added foam insulation to the ceiling and covered it with 1/2-inch plywood.

The first thing that needed to be defined was the power system. In addition to the radios' power system, the computers use 12 V dc power, and the repeater can use 12 V dc and/or 120 V ac. The 120 V ac power consists of an external connector for line power, a cut-over switch, and a 2000 W pure sine inverter, and it powers the TVs, a coffee maker, and a water cooler. To protect the dc and ac power, a split fuse panel is used for power distribution.

We laid out the trailer based on how the equipment will be stored while traveling, the power distribution, where the radios will be located on a tabletop, and the necessary antenna storage. We squared off the nose of the trailer for the power system and radio storage, and we painted the plywood and cabinet structure. Then we installed water-proof linoleum flooring so the floor can be easily cleaned.

We attached a tabletop for the radio bench and installed it using angle brackets and a support board. I built cabinet doors with whiteboard and attached them with 40-pound pull magnetic latches to ensure they won't open during travel. Above the TV monitors, we mounted cabinets to store masts, antennas, and a Buddipole, as well as mounted cabinets on the wall behind the radio bench to store extra parts and equipment for the trailer. The radio equipment is stored up front on foam pieces for protection while traveling. We wired the lighting to remote switches and put it on a separate fused circuit.

In order for the radio cables to reach the outside antennas, I built a coaxial cable feed-through panel for seven coaxial cables and one Cat5 cable. The coax was labeled with colored tape on the inside of the trailer and on the feed-through mount on the exterior weatherproof box.

### NIARA's Trailer in Action

After 13 weeks, it was finally finished. Our trailer allows us to teach people of all ages about the hobby, but our main focus is on the younger generations. Club members are always available to answer questions and help get visitors on the air using our equipment. So far, it seems that most of the youth we've introduced to ham radio have been primarily excited to learn about digital modes.

At the beginning of the year, we plan when and where to take the trailer. We've found success with reaching out to various schools and upcoming events and asking if we can bring the trailer to demonstrate how to use amateur radio, but sometimes we're invited places as well. In 2023,



The inside of NIARA's fully equipped ham radio trailer.

we were invited to the Fort Wayne Hamfest, and more than 50 visitors previewed our trailer. Several hams even asked if we could bring it to one of their events!

More build photos and details are available on our website at [www.w9ou.org/digital-communication-trailer-updates](http://www.w9ou.org/digital-communication-trailer-updates). If you have any questions, you can email me at [jdmaag6101@gmail.com](mailto:jdmaag6101@gmail.com).

All photos by John Maag, KD9QDL; Jeff DeLuconay, KB9QG, and Dave Southern, KC9FY.

### Write for "Club Station"

QST's "Club Station" column is a designated space for clubs to share specific and practical ideas about what has contributed to their success, in the hope that the information will help other clubs grow and thrive. Visit [www.arrl.org/qst-club-station-guidelines-and-profile-form](http://www.arrl.org/qst-club-station-guidelines-and-profile-form) for more information, including author guidelines and a Club Profile Form (this form is required in order for "Club Station" submissions to be considered complete).

### ARRL Special Service Clubs

ARRL offers the Special Service Club (SSC) program for clubs that demonstrate that they're working to improve the amateur radio community by completing special projects, holding license classes, and working with local groups on events, among other activities. Visit [www.arrl.org/ssc-application](http://www.arrl.org/ssc-application) for more information about this program. Below is a list of new and renewing SSCs as of November 20, 2023.



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|--|----------------|
| Renewing SSCs                          |                |
| Mecklenburg ARS, W4BFB                 | Charlotte, NC  |
| Toledo Mobile Radio Association, W8HHF | Toledo, OH     |
| Gloucester County ARC, W2MMD           | Pitman, NJ     |
| South West Idaho ARC, K7SWI            | Nampa, ID      |
| Hazel Park ARC, W8HP                   | Hazel Park, MI |
| Clark County ARC, W7AIA                | Vancouver, WA  |

If you have any ideas for articles or information you want published in the newsletter please send your feedback and comments to me at [ronald.j.harsh@gmail.com](mailto:ronald.j.harsh@gmail.com)



## Secretary's Report

### **MINUTES of the DELTA COUNTY AMATEUR RADIO SOCIETY**

Located in Escanaba, Michigan

November 20th Meeting, 2023

Monthly Meetings at State Wide Realty

President N8DP Dave Vice-President NJ9V Paul Newsletter Editor-Treasurer Jim

Secretary, KD8SDE Maureen

N8DP Called the Meeting to Order at 7PM.

The Secretary's Report was read and by Maureen and accepted by Roger and Bob; after one correction noting that the old repeater will be activated on the Danforth Road in Escanaba...not in Gladstone. Roger and Bob accepted and motion passed.

In Correspondence, Les noted the check for the rental of the Ecom Trailer should be sent to Jim Harsh, Treasurer.

Discussion regarding 2024's Hamfest found that we would indeed have one in Rapid River. We will have to get things lined up way earlier than last year! Walt will handle, again, the Donation letters, emails, phone calls, etc., as Maureen asked him to reclaim that job. She will help with the Food detail if we dont hire someone out to do it. Walt volunteered he would handle the Table Rentals.

Repeater Update: N8DP received the New Repeater: Yasu DX2R. The shipping was FREE! It is a Remote Base...NOT a link. The extra \$15.00 noted for the Repeater will be deposited into our kitty for future need.

We will not be involved with the Turkey Trot this year as they were late in asking us.

It was noted that the outdoor motion detector light at the Ham Shack needed to be changed, perhaps rewired. We will decorate for Christmas in the Village next Monday night.

Roger noted a Test & Tune will take place on 1/27 at a Race Practice; the Hardwood Run will take place on 6/15, and the Felch Run on 8/24/24. The two radios together didn't work at the last race, so they will make adjustments.

THE CHRISTMAS PARTY WILL BE AT THE FAMILY INN, AS USUAL, IN WELLS. TIME IS 3rd Monday of the month at 5PM Social and 5:30 PM Dine.

Les Motioned to adjourn and was 2nd'd by Walt. Carried.

Hams present were: N8DP, K8WLT, N8UPR, WA8LE, KA8RPB, K2PM, KC8DCY, W9SGD, N8XAH, W8KEU, K8AO, KB8PLR, K38YER, KD8SDE.

Note: Jim Meinken gave me a check to relay to Jim Harsh for either Dues (if we begin collecting them in 2024), or as a Donation.

Respectfully submitted by KD8SDE, Maureen. 73.

MERRY CHRISTMAS AND HAPPY NEW YEAR TO ALL!

## Treasurers Report

## Website

I encourage you to check out our website [www.k8pl.org](http://www.k8pl.org) for updated information. You can also check out our facebook page <https://www.facebook.com/groups/dcars.k8pl> for updates on current events. I will be working to develop a google chat account where people can post information and chat with other members.

## Coming Events

Jan 6<sup>th</sup>. Monthly Breakfast Gathering at Family Inn

Jan 27 Hardwood Rally Test and Tune

Feb 3 Breakfast Gathering 0900 at the Family Inn

Every Wednesday Noon Gathering at the Hong Kong Buffett

Feb 19 DCARS Meeting at 7pm

Swap Meets

**Michigan (Livonia) – Feb. 17 D F H R**

8 AM – noon. *Spr:* Livonia ARC. Monaghan Banquet Center, 19801 Farmington Rd. *Tl:* 145.350 (100 Hz). *Adm:* \$5.

[www.livoniaarc.com/larc-annual-swap-and-shop](http://www.livoniaarc.com/larc-annual-swap-and-shop)

**Michigan (Traverse City) – Feb. 10 D F H R V**

8 AM. *Spr:* Cherryland ARC. St. Elizabeth Ann Seton Middle School, 1601 N. Three Mile Rd. *Tl:* 146.86 (114.8 Hz). *Adm:* \$5.

[www.cherrylandarc.com/?page\\_id=56](http://www.cherrylandarc.com/?page_id=56)

**Minnesota (St. Cloud) – Feb. 17 D F H Q R S V**

9 AM – 1 PM. *Spr:* St. Cloud ARC. St. Cloud National Guard Armory, 1710 Veterans Dr. *Tl:* 147.015 (100 Hz). *Adm:* \$10.

[www.w0sv.club/hamfest](http://www.w0sv.club/hamfest)

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