Zero Beat

April, 2026

President's QRM

As we move into a busy and exciting part of the year, I'd like to take a moment to highlight a few important items for all members of the Hazel Park Amateur Radio Club.

First, our upcoming club elections are just around the corner. These elections are more than a routine process—they are an opportunity for each of us to help shape the direction and future of HPARC. Strong participation ensures that our leadership reflects the ideas, energy, and priorities of the entire membership. I encourage everyone to attend, vote, and consider getting more involved. Whether that means running for a position or supporting those who do, your participation truly matters.

To our newer members, I want to extend a special invitation—this is your club as much as anyone else's. Fresh perspectives and new ideas are what keep an organization growing and relevant. Don't hesitate to jump in, ask questions, volunteer, or take part in nets and activities. You'll find that amateur radio is at its best when we learn from each other and work together.
On the technical front, the DART repeater continues to be a central part of our club's mission and activity. Your on-air participation helps us evaluate performance, improve coverage, and ensure reliability. If you haven't checked in recently, I encourage you to key up, make a contact, and let us know how things sound from your location.

As radio operators, we also understand the value of being prepared. It's simply good practice to keep radio batteries charged, backup power options ready, and fuel levels in our vehicles from running too low. These small habits ensure that, should the need arise, we are ready to assist our community and support one another.

Finally, ARRL Field Day is right around the corner. Field Day is one of the best opportunities we have to combine operating, learning, and camaraderie. Whether you're a seasoned operator or brand new to the hobby, I encourage you to participate and be part of the experience.

Thank you all for your continued support and involvement. HPARC remains strong because of you.

See you on the air.
Joe WB8ADX

General Meetings are heald the second Wednesday of the month, 7:30 pm at the Hazel Park Library and on Zoom With Socializing At 7:00 pm .

See you there!

Club Officers:

President: Joe WB8ADX

1st. VP: Len AD8FK

2nd. VP: Andrew AJ0WX

Secretary: Reuven KB3EHW

Treasurer: Bob N8REL

Parliamentarian: Hugh KE8BED

Director: Dave W8HOO

Zero Beat Editor: Mike N8VDZ

Hamvention 2026 Dayton, Ohio

The ARROW Communications Association and the Toledo Mobile Radio Association (TMRA) are proud to sponsor a motor coach trip to the Hamvention 2026 in Dayton, Ohio. This one-day trip leaves early in the morning on May 16, 2026, and returns the same day after Hamvention closes for the day at 5:00 p.m. The bus has two pickup spots, in Ann Arbor and in Toledo (Rossford). Please join us!

Tickets are $95 per person January 1st 2026 – April 17th 2026 or $110 per person April 18th 2026 – May 15th 2026.
Please note that this does not include the Hamvention ticket, which you need to purchase separately.
To Register and see full Details visit:
https://w8rp.org/daytonbus2026/

There are two pickup/drop off locations on May 16th, 2026
Ann Arbor – 601 W Stadium Blvd, Ann Arbor, MI – Departing 4:30 am
Toledo – 727 Lime City Rd. Rossford, OH – Departing 5:30 am

On board, you can stretch out, relax, take a nap, chat with other hams, and enjoy a light breakfast with coffee as the coach takes you directly to the country's largest amateur radio event!

Need to get Caught up on the Repeater Upgrade?

The Repeater Grant Team is working hard to get the repeater replaced. Please check out the News feeds at HPARC.org

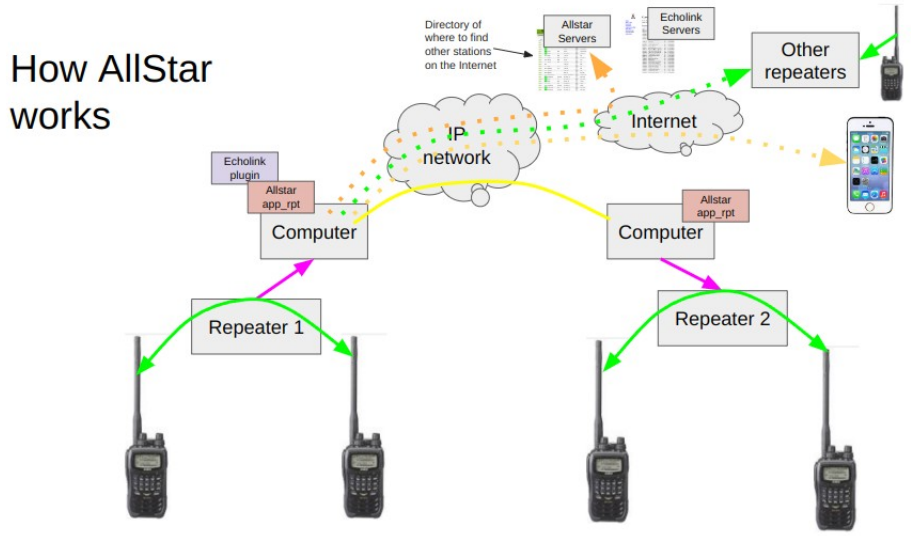
Exploring AllStar Link: A Powerful Tool for Ham Radio Communication

AllStar Link is a network of interconnected repeaters and simplex nodes that communicate over the internet using Voice over IP (VoIP) technology. Think of it as a global "party line" for repeaters, allowing hams in different cities, states, or even countries to converse as if they were on the same local repeater. It's built on open-source software, primarily running on Linux-based computers, and utilizes the Asterisk PBX (Private Branch Exchange) software, which is widely used in commercial telecommunications.

How Does it Work? The Basics

At its core, an AllStar node is typically a small, dedicated linux computer – often a Raspberry Pi – connected to a radio. This radio can be a transceiver dedicated to the AllStar link, or it can be a "port" on a repeater controller. This node is then connected to the internet. When you transmit on a repeater linked to AllStar, your audio is digitized by the node, sent over the internet to other linked nodes, and then re-transmitted by their connected radios. This happens in near real-time, making the experience seamless.

Let's visualize this with a simple diagram:



This illustration shows how your audio signal, after being picked up by your local radio and processed by an AllStar node, travels across the internet to reach a distant repeater, effectively connecting you to other hams far away.

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Join us for breakfast, every Saturday, 8 am at the Cozy Cabin Restaurant, 12 Mile just east of Dequindre.

Beyond Just Linking Repeaters

While linking repeaters is a primary function, AllStar offers much more flexibility. You can set up a "standalone" node, often called a "hotspot," using a low-power radio and connect directly to the AllStar network from home. This is particularly useful for hams who might be outside the range of a local linked repeater or want to access the network without going through a repeater at all.

The software can also replace traditional repeater controllers, allowing remote administration of the repeater. It can also be used as a voter, so a repeater can have multiple receive sites that all feed into the main site where the best signal is chosen to be retransmitted.

Why AllStar? The Advantages

- **Expanded Reach:** Connect with hams around the world, making local repeater nets global.
- **Emergency Communications:** AllStar can provide resilient communication pathways, even when traditional infrastructure is down, by routing traffic over diverse internet paths.
- **Flexibility:** Easily link and unlink repeaters, create private nets, or connect to special events.
- **Remote Operation:** Operate your home radio from anywhere with an internet connection using an AllStar client on your computer or smartphone.
- **Open Source & Community Driven:** The software is free, continually developed by a dedicated community, and offers a lot of room for experimentation.

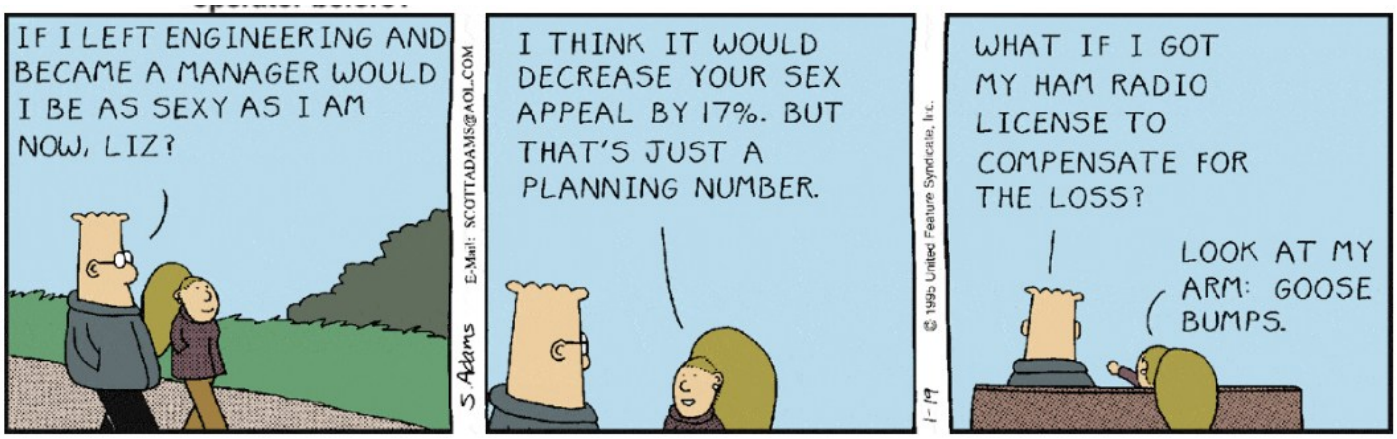
Getting Started: What You Need to Know

While AllStar leverages Linux and networking concepts, don't let that deter you. There are many excellent resources available online, from comprehensive guides to active forums, to help you get started. You don't need to be a Linux wizard to set up a basic node. Many pre-configured images for Raspberry Pis are available, simplifying the installation process.

The learning curve primarily involves understanding some basic Linux commands for configuration and managing the Asterisk software. However, the satisfaction of building your own node and connecting to the wider amateur radio world is incredibly rewarding.

AllStar offers multiple entry points into its network, whether you're using a traditional repeater, a personal hotspot, or even client software on a computer or mobile device. This versatility is a major reason for its growing popularity.

AllStar Link is a powerful and flexible tool that truly brings ham radio into the 21st century, blending traditional RF communication with the global reach of the internet. It's an exciting area for any amateur radio operator to explore, offering endless possibilities for communication and experimentation.



From the Treasurer, Bob N8REL

Hazel Park Amateur Radio Club
Income Statement: Actual v Budget
FYE 06-30-2026 as of March 31, 2026
period as indicated

**** does not include Repeater Grant activity....see separate statement *****

	Current Month - March			Year to date		
	month ACTUAL	month BUDGET	Variance fav/ (unfav)	Actual YTD	Budget YTD	Variance YTD fav/ (unfav)
Summary						
TOTAL INCOME	215.00	300.00	(85.00)	1,154.00	2,120.00	(966.00)
TOTAL EXPENSE	663.15	661.00	(2.15)	2,288.77	4,722.00	2,433.23
Net	(448.15)	(361.00)	(87.15)	(1,134.77)	(2,602.00)	1,467.23

ARDC Grant progress by month	at June 30, 2025	at July 31, 2025	at Aug 31, 2025	at Sept 30, 2025	at Oct 31, 2025	at Nov 30, 2025	at Dec 31, 2025	at Jan 31, 2026	at Feb 28, 2026	at March 31, 2026
Avail at Beginning of Month	26,743.00	26,263.20	26,263.20	16,895.20	16,007.20	16,007.20	7,590.33	7,590.33	7,590.33	7,590.33
used	479.80	0.00	9,368.00	888.00	0.00	8,416.87	0.00	0.00	0.00	(191.25)
Remaining Grant fund NOT including Club contrib	**26,263.20**	**26,263.20**	**16,895.20**	**16,007.20**	**16,007.20**	**7,590.33**	**7,590.33**	**7,590.33**	**7,590.33**	**7,781.58**

IT'S MY HOBBY, WHAT CAN I DO?

NEW HAM OR OLD, WHAT MIGHT I DO AS AN AMATEUR RADIO OPERATOR

ANTENNA BUILDING

Why make instead of buy or vice versa

The art of antenna building is educational, cost saving, fulfilling, challenging and most of all, fun. But when asking the question *Why make instead of buy?* We can also look at the question of what coax should I use? And the answer is always, use the best coax you can afford. Let's focus on UHF/VHF for a moment because of loss. The higher you go in frequency the more loss possible per foot of coax. Most Data Sheets measure loss by 100' of coax. When comparing coax, be sure you are comparing apples to apples, as some use meters, and some use feet. (100 meters = 328+ feet, so not even close, but a little math and you can get close.) Coax can be purchased in many "grades" from crap to best. (Note, I did not say great or perfect. The higher you go in frequency, there will always be loss with current technology.) For comparison, here are 3 different coax brands. #1 RG-58, Generic Mfg, thin, 4.95mm, easy to use (flexible) loss 13-14dB, yep, that is 90% of your signal being lost, so never use for long runs. #2 LMR-400 from Times Microwave Systems, 10.4mm diameter, hard to use (not flexible) has only 2.7 dB loss over 100'. This is considered "excellent," but keep in mind 2.7 loss is still 47% loss in signal. Finally, Hyperflex 13 by Messi & Paoloni, 12.7mm diameter, easy to use, (very flexible) 1.9dB loss over 100'. That is only 36% signal power loss. I would never recommend RG-58, so I'll skip that one, but the cost for LMR-400 is $1.65 per foot, and for the "Hyperflex 13 $2.78 per foot. We generally say, "As a ham, I may want this or that, but I can only afford this. So that is what I get." And that's one big reason to build instead of buy your antennas. I can build a really good dual-band, 2M/70cm dipole antenna for under $50 (with no supplies on hand). Similar manufactured antennas go for $80+. The saved $$ can go into coax.

There is a plethora of antennas that can be built, and many can be built from stuff around

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the house. The first antenna I built came from a YouTube video where he claimed you can make an antenna from a coat hanger. My thoughts were, "Ya, and you can talk to people up to 30' away!" even though his claims were much greater distance. So with that, I asked my wife if I could destroy 2 of her wire hangers, and I went to work. To my surprise, when done, I had a VSWR of 1.8:1 (not great but not terrible). At a height of 7'6" inside my shack, I was able to reach the W8HP repeater 6.9 miles (straight line distance) away. I could not believe it. So, from a survivalist point of view, in a pinch in the middle of nowhere you you can probably make an antenna out of anything loosely described as metal. I have since made antennas from aluminum foil, scraps of wire, old TV antenna parts, aluminum rod, aluminum tubing, welding rods, stainless steel rod, copper foil tape, and I'm sure a few other things. The real antenna experts would say, "That's not really an antenna" on some, but in an emergency, having the knowledge to make a lifesaving communication…say no more.

When you enter the HF realm, you'll find the same antennas, only larger. Some are kind of cool-looking, such as a fan dipole for 40, 20 & 10 meter bands, which looks like a pair of bat wings, while some antennas are just a simple loop, and some are just a straight wire at an angle. All have pros and cons depending on a multitude of factors, including space and interference-causing factors.

If you are new to antenna building, a fairly simple antenna that will get you on the path is a Quarter Wave Ground Plane antenna for 70 cm. There are many YouTube videos that will show you how to build them step by step. Most of them are good for attic antennas, where you don't need to worry about a squirrel climbing on your elements and bending them, as they are just 14 AWG wire with no supports. But, what I like to do is take someone else's design, build it, and if it ends up being a good antenna, I look at it and say, "How can I make it better?" With the quarter Wave Ground Plane, I made a couple of modifications to one that was made with a panel mount PL-259 connector, 4 pieces of 14 AWG wire, 4 machine screws & nuts, and a 4' length of 1" PVC. This antenna was fragile, so I designed and 3d printed a fixture to hold the Panel mount PL-259 that also had places where I could insert rigid plastic tubing to enclose the element, and now it can be mounted on the PVC pipe and mounted outdoors without fear of a heavy bird or squirrel bending my radials. I then again said, "Can I make it better?" and so, I added more ground plane radials. The original had 4 and the last version has 12. In the end, it was more work than worth. But you don't know until you have the fun of building and testing.

Now why would you not build your own antenna? Well, talking to other smart hams, a straight vertical antenna that is professionally made also uses electronics traps, loading coils, RF chokes and other fun things that are hiding behind the white fiberglass radome and are making those antennas hard to reproduce with the same results. I have not tried to build one yet, but it is on my short list of antennas to make. I expect they are right about the time cost and effort required to make some antennas, making it better to buy, especially if the ultimate goal is getting on the air with a great antenna.

Part of the fun with antenna building is the satisfaction you get from making something and having it work. Sometimes you build something and it is not great. In my case, I do not design. I enhance. I start with someone else's design, and if it works, I enhance it. If it does not, it was their design and therefore not my fault that it is junk. :) You can also use software to model your own antennas. Your satisfaction can go even higher, like the caveman, "*UGH! I made fire*"

In the end, have fun. If building an antenna is work and frustration...it's your hobby, you can always buy.

Mike N8VDZ

TELL US ABOUT IT!

Member News

Did you :
Participate in a contest?
Build an antenna?
Travel and make contacts?
Bounce a signal off the moon?
Upgrade your license?
What are you doing in the world of amateur radio that you'd like to share with the club.
Send it to Mike N8VDZ