



# Cherry Juice

Newsletter of the Cherryland Amateur Radio Club

## Christmas Party

Tuesday, December 5<sup>th</sup>, 6pm

New Approaches Center - Details Pg. 2!

VOLUME ISSUE

53 7

December // 2023

Published Dec 3, 2023

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#1082

# President's Corner

December 2023



As Thanksgiving is now behind us and we roll into the holiday season, I've taken stock of all the many things the CARC has accomplished this year. The list is long and impressive. The only way this could happen is with the help and support of the membership and folks stepping up to lead the way. We also have many new Hams in the club who are bringing their energy, enthusiasm and interest to the Club. Congratulations and welcome to all of them.

I'd like to personally thank Glen Johnson for the use of his meeting room at the New Approaches Center. 99% of what we do happens at Glen's facility. We have unprecedented space and access which allows us to explore all the aspects our hobby has to offer. He does this free of charge and on his own time. Most clubs do not enjoy this level of support. Please be sure to thank Glen when you see him.

As the year winds down, I'd like to remind everyone that there are open seats across the board for leadership opportunities. This includes the Officers, Board members and Directors. Leadership is not hard. It just takes a willingness to serve and the drive to move the Club forward. We will provide guidance and assistance to help you succeed. It can actually be a lot of fun too.

Our year concludes with our Christmas Gala Gathering at Glen's office on Tuesday, December 5th. It's very informal. The Club will provide food and drink. Hope to see you all there. I wish you all Happy Holidays, Safe Travels and Good DX.

73's Jim WB2LHP

# President's Corner

November 2023



*Editors note: oops! Due to the release dates of the Cherry Juice, we had two updates from Jim to send along! Here are November's updates!*

Wow. It's almost Thanksgiving and the big holiday season. Now where did I put all those outdoor lights?

It's been another busy couple of months with the club. Scott WX1J and his team have just completed another successful Technician licensing class. We have 3 candidates testing this month. Scott has done a masterful job of organizing and preparing these sessions. Up next is the General licensing class beginning in December. Check the website for complete details and to sign up.

Our next Project Nights for New Hams will cover transceivers and power supplies as Mike KD8REH continues the journey of setting up a viable ham radio station. Mike's sessions are fun and hands-on. Don't miss these next two on November 21 and 28.

Our annual Christmas Party will be held on December 5th. There's a new twist this year. Instead of the traditional sit-down affair, we will be holding a reception-style event at Glen's office at the New Approaches Center. We will have party trays with all manner of food along with non-alcoholic refreshments. It's very casual and informal so we can chat and mingle. We will also be presenting the 2023 Ham of the Year award. Come join us for a fun and relaxing evening.

# President's Corner

November 2023



*Continued from pg. 3*

Ernie K8RCT is organizing a group to ring the bell for the Salvation Army on an upcoming Saturday in December. It's been an annual event for the club for many years. If you are interested, please contact Ernie and let him know.

A big shout out to Dave K8WPE, Tony KE8SBZ and others who have helped some of our elderly hams with antenna issues. It's a great example of hams helping hams and giving them an opportunity to get back on the air. Many thanks.

I'm sad to say that I will not be returning as CARC president in 2024. The reasons are many but they are all 100% health related and are in no way a reflection of the Club, the Board or any of its members or activities. Every year in January, we elect a slate of Club officers and Board members. Every position is open so if you are interested in an opportunity to help lead the Club forward, please let us know. The Board will help you and guide you.

I have accomplished what I set out to do as president, with a lot of help from some very fine people. I feel the Club is well positioned for whatever direction it chooses going forward. I've enjoyed working with each and every one of you and wish you all the best. Thank you all. 73 Jim WB2LHP



# UPDATE

TRAVERSE BAY AMATEUR RADIO GROUP

## EMERGENCY COMMUNICATIONS

### TBARG NEWSLETTER

Effective 12/31/23, I have decided to resign as the Grand Traverse Emergency Coordinator/Radio Officer for Grand Traverse County. Chuck Brew has assigned Joe Erlewein to this position. The TBARG organization will continue to support Grand Traverse County, Munson Healthcare, Benzie County and other District 7 agencies as needed.

**AUXCOM Certification** – Thanks to sponsorship from the Benzie Emergency Manager, Rebecca Hubers, Bob Baron and I have AUXCOM certification for Benzie County as a result of attending a 20 hour training on October 21 and 22 of 2023. Also in attendance were Adam Price and Jim Duff. We are planning to get statewide certification in the coming year. The goal of the AUXCOM classes is to look beyond just a single approach to communications (i.e., ham radio) and to provide additional useful services to those involved in crisis management.

**A FOCAL POINT FOR EMERGENCY INFORMATION** – During a Skywarn NET in May of 2022, ham operators were the first to know of the Tornado in Gaylord. Unfortunately, distributing this information rapidly was a problem. ***There are ham operators all over Northern Michigan who could provide an “intelligence network” of weather conditions, power outages, road closures, and other valuable information.*** This information is extremely helpful to the Gaylord NOAA office and other local agencies. Please bookmark the link below and add a phone contact on your smartphone with:

TBARG: [GTSkywarn@gmail.com](mailto:GTSkywarn@gmail.com) <https://tinyurl.com/TBARG-Info>

Please send photos and other useful information using the [GTSkywarn@gmail.com](mailto:GTSkywarn@gmail.com) email address.

**Attached to this email is the TBARG contact information to add to your contacts list.**

Using the TBARG-Info link, you will also find information on radio code plugs, Winlink, Zello, ICS Forms, FLDigi (sending text over radio), and other useful information as needed. In the future, we will be posting a live video feed of weather conditions from Traverse City.

**TBARG SUPPORT FOR A LOST INDIVIDUAL IN EMMET COUNTY** – On request from Emmet County Emergency Management, TBARG loaned it’s mobile Starlink satellite internet system and a cache of radios to their mobile command post. The search was in an area of nearly nonexistent cell coverage. Emergency Manger Matthew Blythe noted:

*“The use of star link and the cache of radios for the Search and Rescue efforts for Mr. Moffitt were a life saver. The area of Emmet county that the search took place in has very poor cell signal and almost no internet capabilities.”* Matt also noted *“The cache of radios was utilized in the field. Unlike most organized SaR, we walked into a case where there were 100 civilian (untrained) search volunteers. The radios were the only way we were able to provide communication with the search team leaders and SaR command. It gave us the ability to hand a civilian team a radio to communicate with the fire department team leader.”*

The CCE AUXCOM group (Petoskey area) under the direction of Chuck Brew and Adam Price donated over 300 hours of labor to this effort – my compliments to the CCE group and Emergency Manager Matthew Blythe for their hard work and professionalism. This is exactly what AUXCOM is all about.

Glen Johnson K8SGZ  
TBARG (K8GTC)  
Munson Emergency Communications  
Benzie CERT



**COMING Feb. 10  
2024**

# **50<sup>th</sup> Annual Swap-N-Shop**

**A**s the Cherryland Amateur Radio Club gears up to celebrate our “golden” Swap-N-Shop anniversary next year, We wanted to begin communications now regarding an important change to the event.

For the last few years the Cherryland ARC has enjoyed hosting the event at GTACS’ own St. Francis High School downtown TC. The change in venue was due to the demolition of the Immaculate Conception Elementary School.

For 2023, there will be a new location for the Swap-N-Shop:

**St. Elizabeth Ann Seton Middle School  
1601 N Three Mile Rd, Traverse City, MI 49696**

Join us for the swap at this new location on Feb 10<sup>th</sup>, 2024.

Be sure to stay tuned to our [radio-nets](#), [email list](#), [website](#), [social media](#) announcements so that you can absorb all the details for the next swap! Or just [keep reading our lovely newsletter](#). 😊

And be sure to mark your calendars for the

**Cherryland Amateur Radio Club  
50<sup>th</sup> Annual Swap-N-Shop  
February 10<sup>th</sup>, 2024**

**To reserve a table, visit:**

**[THIS LINK: https://forms.gle/gtMKY19cF77hyxjr8](https://forms.gle/gtMKY19cF77hyxjr8)**

# Spotlight: The J&S Breakfast Crew!

You might have noticed that Tuesday Mornings on the 86 repeater have been busier than most mornings. Or maybe you've seen the "Breakfast With Hams" event listed in the activity emails. Or maybe you saw the previous Cherry Juice article showcasing the breakfast. Or, more likely, maybe you have heard the local gossip spreading organically about the fun social ham antics occurring over a delicious breakfast almost every week on Tuesday mornings!

Your author has only managed to attend a few of these breakfasts (due to an unfortunately scheduled weekly recurring work obligation) but in those few that I've attended, I've been introduced to several new QRP kits that members have been building and experimenting with, learned a few tricks and tips about tuning a couple of antennas, provided some grounding advice that has seemed to help at least one other member, and have had a lot of delicious eggs and hash browns.



Not only can you rub elbows with a bunch of hungry club members in various stages of experimentation, discovery, and general celebration of the joy of amateur radio, but you do that while you enjoy some of the most delicious corned beef hash on the east side of TC.

Whether you're new to all of this Ham Radio stuff, or you're a seasoned DX RadioSport contender, we all know that there's one thing that draws people together in commonality: Good Food.

We hope you can make it down to J&S Hamburg South in TC some Tuesday morning at 9am. The address is 1083 W South Airport Rd, Traverse City, MI 49686. Drop in and hang out with some hungry hams some time!



# The Purple Crystal

An Article About Repeaters by Joe N8CN



## 444.35 N8DMH repeater gets new antenna, feedline

The view from the top of the D tower at Munson Medical Center in Traverse City was, well, “just ok” given the looming clouds and impending precipitation as Drake and I began steps in preparation for the replacement of the X-50 antenna with a Hustler G6-440 UHF antenna donated by Mike W8VPC some time ago. A departure from previous Purple Crystals, I hope you enjoy this “narrative” of some recent work at one of the area repeater sites – maybe even just for the mental imagery the next time you use “the 3-5” in TC.



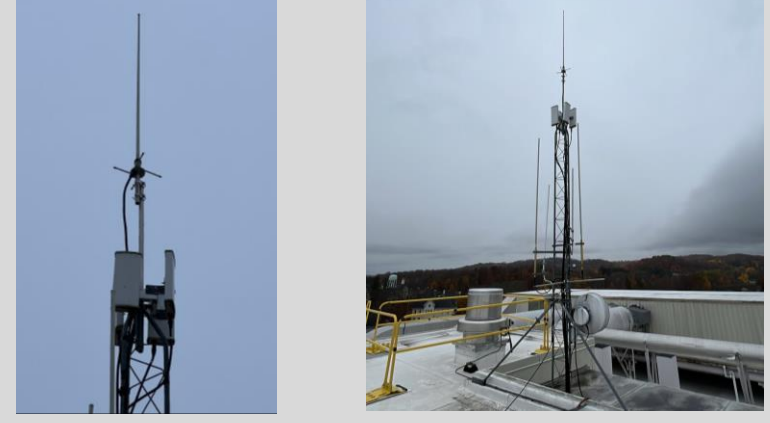
The 444.35 repeater is in a decent spot to provide downtown TC and hospital-campus coverage, as well as further out given the direct-view horizon on almost all sides. It’s been a very nicely performing system, originally put in as a POC for hospital coverage as part of a TBARG initiative with Munson. The reality of its decent performance has been a huge surprise to everyone – it’s a very nicely working UHF system with a nice, meaty coverage-area. Pictured above are the views from the tower. To the right, Drake is preparing to remove the existing X-50 antenna on its short 4’ mast on top of the tower section that rises above the VHF HEARN antennas, and the abandoned 5GHz WiFi p2p patch antennas on the tower. The GMRS repeater antenna is the lower left X-50, fed with an older length of RG-8 style coaxial cable.







One improvement we attempted (but did not achieve) was mounting the new antenna on a 10' mast. The X-40 was on a 4' aluminum mast. That put it about a foot above the existing WiFi antennas on the tower, which is alright, we guess.. But using a 10' mast would really distance this antenna from other noise sources and give it that little "extra" air. Unfortunately, this looks GREAT on the ground, but less great in the air when you're attempting to drop the not-heavy end of this into the top section of a tower that is about at the level of your head. The mast+antenna is quite top-heavy, and we didn't have a gin pole handy for the assist.



Drake was able to insert the 4' mast into the tower, anchor it, and then attach the new antenna to the mast, then raise the mast up to the highest point possible using the top-section mast anchor bolt. Also, this wasn't a near-death sentence for either him or the combination of the longer mast and antenna.

The X-50 replacement was really the least of our worries; It's a decent base-station antenna, and is also dual-band, and has gain, and can be an alright repeater antenna. BUT, it was also being fed with years-old, non-gloss RG-8 coaxial cable – and over 100ft of it. Assuming it's only 100ft, and all 100ft was in good (new) condition, the loss (attenuation) in RG-8 type cable from 400-520MHz is 3.1dB. Again, best case scenario, 3.1dB of loss on a UHF repeater is a big deal. 75W out of the duplexers means that 51% of the power is lost before it gets to the antenna – and the antenna would be fed with 36.7W. It also means that we were losing a LOT of the signals the repeater was trying to “hear” in order to repeat in the first place. Also, lossy feedline contributes to de-sense, and can also introduce unexpected resonance characteristics that might not be desirable.

The bigger part of the job was deploying the ~75ft of ½” Hardline (LDF4-50). This has a loss characteristic of only 1.6dB/100ft at 400-520MHz. Sure, we have less than 100ft, but it was of unknown origin, so let's just say we have 1.6dB of loss in the hardline. We made up for the difference in length with a short run of LMR-400 which was “available” at the time – about 20ft or so. LMR-400 has 2.7dB of loss per 100ft, so this likely added another 0.8dB of loss after connectors and such.

We didn't get too far along with the feedline when Drake shouted something I can't publish here. We had suffered a blow; the Duplexer “tee” harness had come apart at one of the N-Male connectors. Fortunately they were not “crimp” style but “positive lock” style, which meant there “might” be enough wiggle room to reveal a bit more shielding and re-terminate the ground shield to the connector, without having to re-do the center pin and re-measure and re-cut the entire termination (time-consuming). It seemed to work, but we noticed that in the process, the other side of the harness also had a “freely spinning” N connector on the cable. Not great. It made us question the origin of the harness, which came with the duplexer; it was also an unknown. For the time being we put the “loose” side on RX and continued; Drake would re-visit the site the next day and replace the entire harness.

Drake did *most of* all of the climbing. I was happy about this because I was too scared to get up on the tower even with the harness and monkey with things. It felt funny to be using the GMRS repeater to coordinate the climb and trips to get tools and parts, etc, especially because Drake was almost standing on the antenna for that repeater most of the time.

The repeater cabinet looks like this – from top to bottom, there's a PDU, network switch, Vertex GMRS repeater, MTR-2000 N8DMH 444.35 repeater (controller and RPi for Allstar and MMDVM are on top of it, Duplexer for the 444.35 repeater, power supply and TNC/Radio/RPi for WinLink which shares the X-50 antenna with the GMRS repeater). A small “flat pack” duplexer is behind the scenes for the GMRS repeater.

‘til next time! 73 de Joe N8CN



# News you can use

## International Space Station SSTV EVENT

### MAI-75 SSTV targeting Dec 7 and 8

Now that the SSTV system in the Service Module appears to be back in working order, it looks like MAI will have some SSTV on Dec 7 and 8 during Moscow passes. The current periods of planned activity are:

- Setup and activate Dec 7 about 08:55 UTC, Turn off Dec 7 about 14:25 UTC
- Activate Dec 8 about 08:15 UTC, Turn off and tear down Dec 8 about 14:10 UTC

These should be the standard PD120 format transmitting with gaps of 2 minutes and using 145.800 MHz.

Reminder - No ARISS award will be available for this session since it is not transmitted globally (just a few of the daily orbits) .

It appears the theme for this session will highlight one of MAI's cosmonaut graduates - Yuri Usachov.

## ISS Passes for EN74 during this period

[View the current location of ISS](#)

Date (UTC)	AOS (UTC)	Duration	AOS	Maximum	Max El	LOS	LOS (UTC)
			Azimuth	Elevation	Azimuth	Azimuth	
7-Dec-23	15:21:44	0:10:07	206	23	149	68	15:31:51
7-Dec-23	16:57:55	0:10:50	250	55	343	59	17:08:45
7-Dec-23	18:35:23	0:10:21	282	23	340	66	18:45:44
7-Dec-23	20:12:42	0:10:31	299	28	31	89	20:23:13
7-Dec-23	21:49:30	0:10:52	299	74	213	127	22:00:22
7-Dec-23	23:26:48	0:08:41	283	10	223	176	23:35:29
8-Dec-23	14:33:49	0:09:19	193	14	133	73	14:43:08

# AMATEUR RADIO LICENSE CLASSES



## General Class License Course

7 Classes between December 4 and January 31.

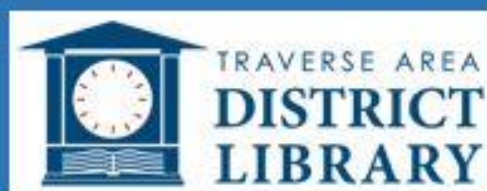
VE EXAM: February 10. Yes, You will be Ready

### General License Class

Module	Date	Topic
1	December 4, 2023	Electrical Principles
2	December 11, 2023	Electronic Components & Circuits
3	December 18, 2023	Signals, Radio Wave Propagation, Antennas
4	January 8, 2024	Radio Practices, Electrical & RF Safety
5	January 15, 2024	Operating Procedures
6	January 22, 2024	FCC Rules & Regulations
7	January 29, 2024	Review & Preparation for the Exam

**Text Book:** *No Nonsense General Study Guide* by Dan Romanchik, KB6NU at [KB6NU.com](http://KB6NU.com) or Amazon.

**Location:** Traverse Area District Library  
3100 Woodmere Avenue Traverse City  
Register by email to: [email@cherrylandarc.com](mailto:email@cherrylandarc.com)



A community service  
in coordination with



# Membership Reminders

## Membership Dues

Club Member dues are annual, and each membership begins on January first.

You are also able to renew your membership early!



## CARC Membership Dues:

- Individual  
\$24.00
- Family in same house  
\$26.00
- Student Discounted Rate:  
\$5.00

You may send your dues to:

Ward Kuhn N8WK  
1114 Peninsula Drive,  
Traverse City, MI 49686



## ARRL Affiliation

The Cherryland Amateur Radio Club has been ARRL-Affiliated for many years, we are affiliated club number 1082.

To maintain affiliation, 51% of the Cherryland ARC voting membership must be licensed amateurs, and 51% must also maintain an active membership with the ARRL.

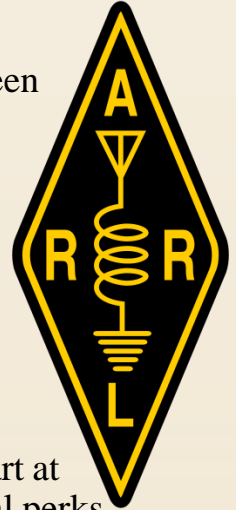
[ARRL Membership](#) costs for 2023-2024 start at \$59 but there are other levels with additional perks.

The [basic membership level](#) gains you access to one of the magazines *QST* or *On The Air*, access to online services (digital versions of the magazines, archive search, email forwarding, and electronic news).

Additional [benefits of ARRL membership are numerous and listed here](#), but let me just say that over the years as a Ham Radio operator, I have come to appreciate that the ARRL exists and works for us all as an advocate for all aspects of Amateur Radio. Whether your interests are Emergency Communications, DXing, Building, Experimenting, Contesting, or just starting out and learning, the ARRL has a division that caters to the topics of your interest. In my experience, the ARRL has always been helpful and eager to assist in your Amateur Radio journey.

We urge you to consider becoming an ARRL member, not only to keep us at our goal of greater than 51% membership, but to have the ARRL “In Your Corner” as you explore areas of the hobby.

It’s something you won’t regret!



## December 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>26-Nov</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>1-Dec</b>	<b>2</b>
<b>SMASH Net</b> 3.935 MHz 9:00 AM	<b>TBARG &amp; MESH</b> Nets 146.86 MHz 8:00 PM	<b>Nov Meeting</b> At New Approaches, TC 7:00 PM		<b>NMLRN Net</b> 146.86 MHz or other NMLRN repeaters. 9:00 PM		
<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>SMASH Net</b> 3.935 MHz 9:00 AM	<b>TBARG &amp; MESH</b> Nets 146.86 mHz 8:00 PM <b>UPGRADE</b> <b>CLASSES</b> at New Approaches	<b>CHRISTMAS</b> <b>SOCIAL</b> New Approaches 5123 N. Royal Drive, Traverse City, MI 49684 6:00 PM		<b>NMLRN Net</b> 146.86 MHz or other NMLRN repeaters. 9:00 PM		
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
<b>SMASH Net</b> 3.935 MHz 9:00 AM	<b>TBARG &amp; MESH</b> Nets 146.86 mHz 8:00 PM <b>UPGRADE</b> <b>CLASSES</b> at TADL	<b>Project Night</b> At New Approaches, TC 7:00 PM		<b>NMLRN Net</b> 146.86 MHz or other NMLRN repeaters. 9:00 PM		
<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>
<b>SMASH Net</b> 3.935 MHz 9:00 AM	<b>TBARG &amp; MESH</b> Nets 146.86 mHz 8:00 PM <b>UPGRADE</b> <b>CLASSES</b> at TADL	<b>Project Night</b> At New Approaches, TC 7:00 PM		<b>NMLRN Net</b> 146.86 MHz or other NMLRN repeaters. 9:00 PM		
<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>SMASH Net</b> 3.935 MHz 9:00 AM	<b>TBARG &amp; MESH</b> Nets 146.86 MHz 8:00 PM	<b>NO Meeting</b> <b>MERRY</b> <b>CHRISTMAS</b>		<b>NMLRN Net</b> 146.86 MHz or other NMLRN repeaters. 9:00 PM		
<b>31</b>	<b>1-Jan</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>SMASH Net</b> 3.935 MHz 9:00 AM	<b>TBARG &amp; MESH</b> Nets 146.86 MHz 8:00 PM	<b>Board Meeting</b> At New Approaches, TC 7:00 PM		<b>NMLRN Net</b> 146.86 MHz or other NMLRN repeaters. 9:00 PM		

# CARC Membership Application Form

# Coming Highlights

## December

General Class	4-Dec
Christmas Social	5-Dec
General Class	11-Dec
Project Night	12-Dec
No Mtg	26-Dec

## January

CARC Board Meeting	2-Jan
Project Night	9-Jan
Project Night	16-Jan
CARC Meeting	23-Jan
Project Night	30-Jan

[Visit our Calendar!](#)

## VE EXAM FEB 10

at the **CARC Swap-N-Shop**

**Contact:** Hope Francisco  
(231) 218-0622

**Email:** [aa8sn@arrl.net](mailto:aa8sn@arrl.net)  
Walk-Ins allowed, but pre-registration is recommended to complete all necessary forms.

St. Elizabeth Ann Seton Middle School  
1601 N Three Mile Rd, Traverse City, MI 49696

Last Name: \_\_\_\_\_ Nickname: \_\_\_\_\_

Callsign (if any): \_\_\_\_\_

Street \_\_\_\_\_ State: \_\_\_\_\_

Email: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Occupation: \_\_\_\_\_ (if applicable)

ARRL Member?      Yes      No

Please complete the form above and mail along with your payment to:

Ward Kuhn, N8WK  
1114 Peninsula Drive,  
Traverse City, MI 49686

### Membership Plans

Single Membership	\$ 24.00	
Family Membership	\$ 26.00	*
Student Membership	\$ 5.00	

\* All members live in the same household

## Great Lakes Div. ARRL Sanctioned

# Hamfest Calendar

ARRL Sanctioned Hamfests through February 2024:

2/10/2024 – [Cherryland ARC Swap-N-Shop](#), Traverse City, MI

2/17/2024 – [Livonia ARC Annual Swap-N-Shop](#), Livonia, MI

## Cherryland Amateur Radio Club

President	Jim, WB2LHP	Board Member	Mark, KC8ZAP
Vice President	Mike, KD8REH	Board Member	Drake, N8DMH
Treasurer	Ward, N8WK	Board Member	Scott, WX1J
Secretary	Hope, AA8SN	Cherry Juice Editor	Joe, N8CN