



Cherry Juice

Newsletter of the Cherryland Amateur Radio Club

VOLUME 53
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CARC to present At Maker Fest April 29

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#1082



President's Corner

By-Laws, Classes, MakersFest and Field Day

Greetings and Happy Spring!

As you may already know, the new By-Laws were adopted by unanimous vote at the March 2023 general meeting. The new By-Laws pave the way for more meaningful and effective operation of the club going forward. Thanks to all who contributed to this effort. *— pgs 14-18 are the by-laws, as adopted - ed*



Scott, WX1J, and his team are almost done with the Technician classes and have 5 students preparing to take their tests in May. As these folks come out with their tickets, they will need mentors to help them with everything from selecting equipment to setting up stations and getting on the air. This is an opportunity for all members to put their skills to work and help these new hams get started. Please contact Scott, WX1J, if you want to help. It's a truly rewarding experience.

The club will be participating in the TADL Makerfest 2023 on April 29 from 10am to 2pm at the Civic Center. We will be demonstrating ham radio for the attendees. There are many exhibitors participating in this event. If you would like to help, please contact Scott, WX1J, for details. We will be demonstrating HF FT8, APRS and DMR for the event.

At the next General Membership meeting, we will be offering an opportunity to program your radios with the latest codeplugs for the analog and DMR configurations. Please bring your radio and programming cable and we'll do the rest. It's a great opportunity to get up to date. Also, we will be voting to update our club insurance. This includes adding the necessary insurance required to remain our repeaters on the WPBN tower and general liability coverage for the club in general. This is both urgent and important so please make every effort to attend.

Coming in May, we will begin preparations for Field Day 2023. Ward, N8WK, is our Field Day Chairman. If you want to help with setup and teardown or operate one of the stations, please get in touch with Ward. We will also be operating a Get On The Air (GOTA) station for new hams to get acquainted with operating and to have some Field Day fun.

There is no shortage of opportunities to participate and have fun with all the upcoming Cherryland ARC events this spring. You can reach the club leadership any time at email.cherrylandarc.com

73
Jim WB2LHP
CARC President



SKYWARN

COVERING ALL OF DISTRICT SEVEN

Prior to this year, Skywarn was relatively local or a region covered by a repeater. Now, **Northern Michigan Skywarn is comprised of all District 7 counties.** The effort to make this district wide stems from the 2022 Gaylord tornado. During that event spotters were not available in the area of the tornado and this, and having eyes on the storm as it developed into a tornado could have increased warning time significantly.

Skywarn will continue to use W8TCM, 146.86 repeater in Traverse City – that for Skywarn training and activations, will be linked to the Northern Michigan Linked Repeater Network covering all District 7.

The activation and protocols remain unchanged.

Before severe weather strikes an advisory net will be activated and the net will be placed into condition Green.

As the threat of severe weather increases or a severe thunderstorm warning has been issued the net will then be placed into condition Yellow which is a directed net.

The last condition is Red which means there is an active tornado warning issued by NWS Gaylord. This is also a directed net and only those with eyes on the tornado should report to net control.

Another new addition to Skywarn is the use of **Non ham radio operators.** This will allow those who are CERT members or the public to participate and provide more data.

Licensed hams and unlicensed CERT participants, and interested general public, are able to communicate with designated ham stations who will be assigned to them during net operations. Both licensed hams and non-licensed CERT volunteers will use a free APP – available at



All of this is something that we hope will increase warning times and provide more eyes on the storm.

April 22nd we will be conducting a district wide drill starting at 9:30 AM with an hour long classroom session and then a hour long field exercise.

Below is a qr code that takes you to our linktree page. It also has links to our zello group for those who are not amateur radio operators.

For those interested in volunteering for CERT, Grand Traverse County does not have a CERT Team, I would recommend joining the Benzie County CERT. They are very active.

Having a district wide net provides seamless coverage to all counties in District 7.

Sky Spotter Training

If you have not attended a NWS training there is still time to do so: <https://www.weather.gov/apx/Outreach/Events>

And there are On-Line training on April 20 and June 6 from, 1 – 3pm – Pre-Register – All training is free.

73,

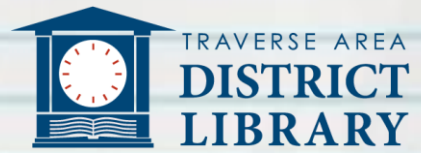
Michael Vandermey
KD8REH

District Emergency Coordinator



[Linktr.ee/nmiskywarn](https://linktr.ee/nmiskywarn)

Technician Class Update



Way back, CARC held classes to prepare people for Technician license exams. It was popular, helpful and brought many of the hams active on the air today to get their start in the Ham Radio Journey. One thing, then another, the classes fell by the wayside.

In 2022, then President, Ernie Abel, K8RCT put forth a plan to start classes again. The plan was to use the ARRL manual as the guide and give the students a complete background on the subjects in order to help them KNOW- that the answer they choose is right answer. The cost was a barrier – that either the club and/or the student needed to cover. With some brainstorming – we came up with solutions.

First was: Where do we conduct the classes? Discussions with the wonderful people at the Traverse Area District Library explored ideas for CARC to develop a course curriculum and materials and to conduct the classes, as part of a STEAM program at the Library. It seems like a good fit for both the place and the emphasis on helping people of all persuasions- whether they want to be a ham or not- to have the opportunity to explore electronic principles, circuits, radio wave propagation, space communication and uses of those scientific truths, theories and technologies in the real world, commercial or amateur.

Step 1: TADL stepped into the concept with CARC by first allowing us to present an information session – called: “Introduction to Amateur Radio”, (I know- not very original...), which was held on March 18, 2023 in the main meeting room at the library. We invited STEAM students from TCAPS, and the general public to join - on not a lot of notice, and pretty low key. But it was a start- We had 5 attend, and 3 signed up to learn more. One is in our class now. But it was a proof that we can produce a presentation that is informative, hands on and educational. The live audio/visual presentation was followed by hands-on exploration of actual amateur radios.

Step 2: Conceptually, the development took shape, we proposed a series of 7 modules that would be taught at the Library – with the caveat that we could not have more than 8 people in the room, due to fire-code regulations. We agreed, TADL agreed. And the dates were set.

Step 3: CARC announced the classes forming - six people stepped forward with their interest in the class. All six arrived at the first class – and have stayed with us now through five of the seven modules.

So here, let me back it up- The concept was that the class would be free. No financial barriers to the students. And if they took the course, passed the exam, they would receive a year’s membership in CARC and a VHF/UHF Radio. (Those who signed up and came to the first session did not know about the radio or membership.)



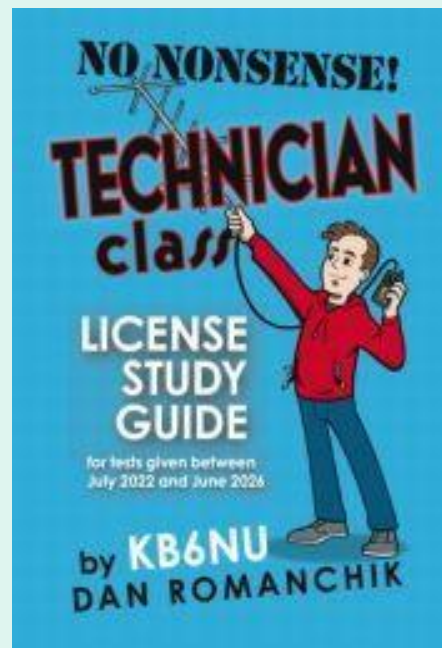
Technician Class Update - continued

What we have done- is to start with the “No Nonsense Technician License” book by KC6NU, Dan Romanchik, of downstate Michigan, as the basis of our instruction.

Dan organized the complete FCC Technician License question POOL into logical Topics.

CARC broke those topics into 6 Modules. The plan was to cover each of the 6 Modules in one meeting of 1 Hour 45 Minutes, each week.

Downloading Dan’s book is free of charge.



Then – CARC took that tempo, and created the back-ground material that would be taught. We kept our philosophy of teaching the complete subject background material that gave the student the information to answer the questions in the pool – and KNOW they chose the right answer – not because they memorized them, but because they really understand the principles.

At this printing of the “Juice” – we have conducted five of the six modules- The original sign-ups have stayed with us, and have poured amazing energy into absorbing the material, that, as they say, is like “drinking out of a fire hose”, but they have the materials and a week to review it, relive it and come back with questions- and they do come back with questions- So that’s a healthy exchange of ideas. One person’s question is likely the question of others.

I can tell by the questions- that; they are absorbing the material, engaged in the subject, and actively pursuing an understanding of the topic- not just memorizing the answers.

Technician Class Update - continued

So, What do we have here?

A methodical exploration of an idea: Can we offer a course in real-world application of STEAM concepts? The answer is yes. Can we do it for No Cost? Well - not exactly- The course material, that covers the subject, is mission critical. Making print copies of course material for each student does cost something, but it's worth the investment. Once the teaching materials have been developed- they are cost free- in PDF files. If we print them, it costs us. If we send them to the students, it costs them their printer ink and paper. - So there is a question about the proper road forward- but one will emerge.

The Future? The materials CARC has produced will continue to evolve, and the concept is scalable to larger audiences. CARC will continue to work in cooperation with the TADL Sight & Sound group to allow more STEAM students and those interested in entering the Radio World- or advancing in their journey to have the opportunity to learn, explore and experience the Electromagnetic World of Radio as one-aspect of the science, technology, engineering, arts and math world.

Become Involved!

How can you become involved? . . . (There's always hope). The materials are already defined for the Technician Class license materials. You can use them and you can teach a class or series of classes.

Next on our development list is a General Class set of Modules- and then Extra Class set of modules.

We welcome people who want to help develop those curriculum materials as well. Hey! – look! - it's a great way to refresh your knowledge too!

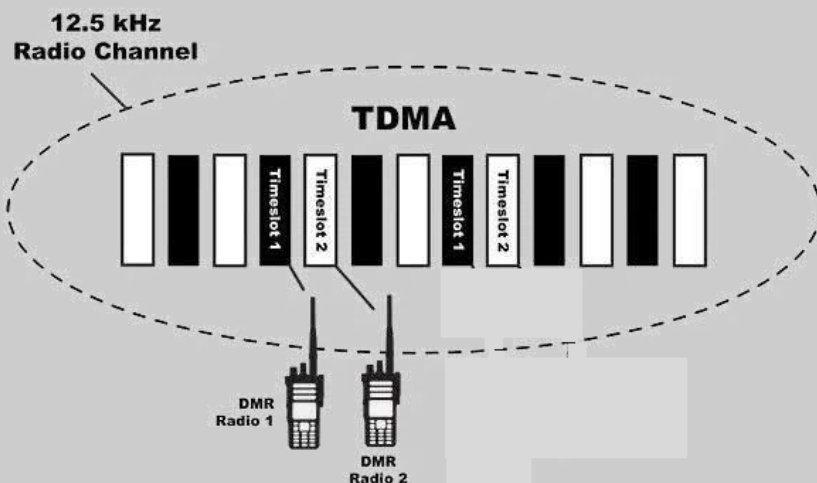
Can you help? Send a note to email@cherrylandarc.com Subject – *Yes I Can and Will!*

NB: This plan works because it's a joint collaboration between Traverse Area District Library, Sight and Sound division and CARC, Exploring the possibilities of experiencing the real STEAM world hands-on!

73,
Scott WX1J

The Purple Crystal

An Article About Repeaters by Joe N8CN



TS	TG	Ch
1	2416	District 7 AuxComm
1	51	Mi5 StateWide1
2	52	Mi5 StateWide2
1	53	Mi5 Event1
2	54	Mi5 Event2

Continuing down the DMR trail

Last month, we covered some “very basics” which should have gotten you “on the air” on the 442.500+ W8TCM DMR repeater here in Traverse City. This month I want to take a step into the “Mechanics” of DMR to help you understand how “so many things” can be happening on a single repeater.

The image above is “A Radio Channel or Frequency.” Let’s pretend it’s for our club repeater. As time goes on (the X axis, from left to right), the time is divided up into timeslots. Each timeslot occupies 30ms. This means that each second that our DMR repeater is transmitting, it is switching timeslots 33 times. It spends 30ms on Time Slot 1, another 30ms on Time Slot2, etc..

Essentially each Time Slot” is data moving from the repeater to your radio, in chunks, at a rate of 16 times each second. In each of those 30ms “slots” there is a data packet that is sending DATA (not voice) for your radio to decode. In fact, 3600bits of information can be received in each 30ms slot. So each second, around 600kb of data can be moved in each timeslot.

At the SAME TIME (or, rather, over the same period in *different chunks of time*), another ~600kb of data can simultaneously be sent over the OTHER timeslot.

What this REALLY means is that two “data streams” that are independent can be sent at the same time from our repeater. This means that, in the image above, DMR Radio 1 can be listening to a net on the District 7 AuxComm talkgroup and another user with DMR Radio 2 can be listening to an event on the Mi5 StateWide2 talkgroup!

Reassembling the Data into Voice

An “Audio Codec” is a method of encoding/decoding a data stream to represent an Audio signal. DMR uses a codec called “AMBE+2”. This particular codec only needs 2560 bits per frame to function, which means there is overhead (3600 bits total) for error correction and signaling. The AMBE+2 codec is quite efficient and resilient in operation where loss can occur. So for signals which are weak, degraded, or intermittent, the usability characteristics of the Audio signal through this codec perform quite well.

So you can see that a single audio signal needs less than half of the bandwidth available in a TDMA signal to be heard. So transmitters like our repeater are able to simultaneously transmit two independent audio signals or “channels” on the same frequency at the exact same time. In fact, there’s even room on each signal for a small amount of telemetry and signaling data at the same time!

Continued on Page 6

So now that you've got an idea of how "timeslots" in DMR work, you can see the HOW and WHY it's possible to have different talkgroups available on a repeater, and why they might be on different timeslots.

Since only one signal can be on a timeslot at any given time, there can be a situation where you might see your radio receiving a signal from the repeater, but you're not hearing anything.

For instance – let's say you're on the channel of your radio that is set to receive TS1 TG2416. The green light on your radio is on, solid, but you're not hearing anything.

If you change channels to TS1 TG51, let's say you STILL don't hear anything. Finally, if you change channels to TS1 TS53, you hear a net in progress. Whew. Good thing you didn't try to use one of those other two channels....

So – how do you tell which talkgroup is in use more easily?

A method I use is to create Receive or Channel Groups. I use a simplified approach to this – I have two channel groups, called "TS1-groups" and TS2-groups". Inside each group, I add the TalkGroups that I would expect to see on each timeslot, like so:

TS1-groups	TS2-groups
2416	52
51	54
53	

Now in your channels, change the Receive Group to TSn-Groups for each channel depending on the TalkGroup it is set up for. (Leave the Contact as-is, which determines which TG you transmit on). Now when you're on any channel, you will hear (and see) which talkgroups on that timeslot are really in use!

73, Joe, N8CN

News you can use

- Upcoming ISS Contact in Grand Rapids -

On April 20, 2023 at 2:20pm local time (18:20:54 UTC), the **West Michigan Aviation Academy High School** in Grand Rapids (W8ISS) will attempt to make contact with the **International Space Station** (NA1SS). - You may be able to listen-in on your own radio!

From the perspective of the WMAA, the peak elevation of the ISS will be 29 degrees, so the ISS downlink should be able to be received in the Grand Traverse area. The downlink (ISS to Earth) frequency is 145.800MHz. (The uplink frequencies are not publicized.)

The WMAA's mentor is **Gordon Scannell, KD8COJ**, who was one of our mentors for the CARC+TADL ISS contact in 2019. He sent us these images and information on the upcoming contact. Thanks Gordon!

The contact will be live broadcast on YouTube at the address:

<https://www.youtube.com/@ARISSLIVE>



CARC Membership Application Form

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

P.O. Box 987

Traverse City, MI 49685

Membership Plans

Single Membership \$ 24.00

Family Membership \$ 26.00

Student Membership \$ 5.00

* All members live in the same household

Coming Highlights

April

DMR D7 Auxcom Net 19,26
Project Nights 18-Jan
CARC Club Meeting 25-Apr

May

CARC Board Meeting 2-May
Cadillac Swap 6-May
DMR D7 Auxcom Net 3,10,17,24,31
VE Test Session 13-May
Project Nights 9,16,30
CARC Club Meeting 23-May

June

CARC Board Meeting 2-May
DMR D7 Auxcom Net 3,10,17,24,31
VE Test Session 13-May
Project Nights 9,16,30
CARC Club Meeting 23-May

2022-23 Great Lakes Div. ARRL Sanctioned

Hamfest Calendar

ARRL Sanctioned Hamfests through July 2023:

4/22/23 - [St Joseph](#), Centreville, MI

4/30/23 - [Athens County ARA Hamfest](#), Athens, OH

5/6/23 - [Wexauke ARC Swap](#), Cadillac MI – see flyer attached

6/3/23 - [IRA Hudsonville Hamfest](#), Hudsonville, MI

6/4/23 - [Chelsea ARC Swap Meet](#) w/Mich Electronics Expo, Chelsea MI

6/17/23 - [Midland ARC Hamfest](#), Midland MI

6/18/23 - [Monroe Hamfest](#), Monroe MI

7/15/23 - [GMARC Trunk Swap](#), Shelby MI

UPCOMING VE SESSIONS

5/6/23 - [Wexauke ARC](#), Cadillac MI

- ARRL VEC

- 10am @ Mackinaw Trail Middle School

- Walk-ins Welcome but pre-reg preferred.

- Contact: Gordon Baldwin W8CT,

231-839-6690, w8ct@arrl.net.

5/13/23 - [Cherryland ARC](#), Traverse City MI

- ARRL VEC

- 10am @ Traverse Area District Library

- Walk-ins Welcome but pre-reg preferred.

- Contact: Hope Francisco AA8SN,

231-218-0622, hopeaa8sn@gmail.com.

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

BOOM!

LET'S MAKE STUFF!

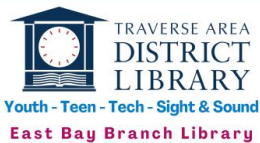
Civic Center
Apr. 29
10 - 2 pm

Rain Date
 Apr. 30 Noon - 4 pm

FREE!

MAKER FEST 2023

Be there. Make. things. happen.



The Wexaukee Amateur Radio Club Presents the 63rd

Cadillac Amateur Radio And Computer Swap



**Card
Checker
On site**

**Saturday, May 6, 2023
Doors Open at 8 AM
Admission \$5.00**

**Mackinaw Trail Middle School
8401 S. Mackinaw Trail
Cadillac, MI 49601**

**Meeting
for
The UP
Net**

**Lots of
Vendors**

**Talk In on
146.980
K8CAD
Cadillac
Repeater**

Door Prizes

Table Information:

Table Rental:

\$12.00 per 8 foot table

Payment due with reservation

Table Request Forms

Available at

<http://www.wexaukee.org>

Wexaukee Amateur

Radio Club

PO Box 163

Cadillac MI 49601

Testing Information

Testing for all Licenses
Classes

Will be held on site

For testing procedures see

<http://www.arrl.org/what-to-bring-to-an-exam-session>

Testing Questions

w8ct@arrrl.n

TEST SESSION 10:30 A.M.

TESTING FEE \$15.00

SEE WEBSITE FOR MORE
INFO



Wexaukee Amateur Radio Club Hamfest

Saturday, May 6, 2023

8 am to Noon

Hamfest Location:

MACKINAW TRAIL MIDDLE SCHOOL

8401 S. MACKINAW TRAIL

Cadillac, MI 49601

Tables must be paid for in advance. Any tables that were not purchased in advance will be on a first come first served basis at the door at 6 am.

Table Request (8 foot tables):

Number of tables = _____ X \$12 each _____

Everyone has to have a ticket:

Number of Tickets = _____ X \$5 each _____

Total: _____

Your Name and Call: _____

Address: _____

Your E-Mail Address: _____

Please mail a check payable to "Wexaukee Amateur Radio Club" and this completed form to:

Wexaukee Amateur Radio Club

PO Box 163

Cadillac, MI 49601

Table issues can be discussed with Don or Jan at dlabrenz@comcast.net or 231-206-5691.

Set up starts at 6:00 am on Saturday. Set up can be pre-arranged for Friday night. We are setting up on Friday night also and have staff on site until 6 pm or so.

Special Requests: _____

Official Use: Request # _____ Received Date _____ Check _____ Cash _____ Amount _____

Newly-Adopted Bylaws for yor review

CHERRYLAND AMATEUR RADIO CLUB

BYLAWS

Preamble:

We, the membership, wishing to secure for ourselves the pleasures and benefits of an association of persons commonly interested in Amateur Radio, constitute ourselves the **Cherryland Amateur Radio Club** of Traverse City, Michigan, a Michigan non-profit corporation, (herein referred to as the **Club**), and enact these bylaws as our governing law.

Mission:

It shall be our purpose to further the exchange of information and cooperation between members, to promote radio knowledge, fraternalism and individual operating efficiency, and to so conduct club programs and activities as to advance the general interest and welfare of Amateur Radio in the community.

ARTICLE I: Membership

1. This organization will not discriminate against any person on the basis of age, gender, race, religion or national origin.
2. Any person having an active interest in Amateur Radio shall be eligible for membership.
3. Application for membership shall be made to the Treasurer and upon payment of the appropriate membership, the application shall be accepted.
4. Membership Classes and Qualifications:
 - a. Regular Membership – any FCC licensed radio amateur.
 - b. Associate Membership – any unlicensed person with an interest in Amateur Radio.
 - c. Family Membership – a spouse, son or daughter of a regular member who holds a valid FCC Amateur Radio license and resides in the same household.
 - d. Student Membership – any licensed Amateur attending elementary, middle, junior high or high school full-time.
 - e. Honorary Membership

1. A newly licensed amateur is eligible for an honorary membership valid until the end of the first year of licensure.

2. Honorary Life Memberships can be conferred following a recommendation by the Board and a majority vote of the members at a regular club meeting.

5. A “member in good standing” is one whose dues are paid and who abides by the Club Bylaws. A member whose dues are in arrears 6 months or more is considered inactive and will be removed from the membership roster. An inactive member must pay the full annual dues for reinstatement. The Board may, at its discretion, continue in effect the membership of a member who has failed to pay his or her dues by a majority vote.

6. With the exception of Associate Members, all classes of members shall have full voting rights and are eligible to hold office.

7. Membership Dues. Dues and any assessments deemed necessary by the Board shall be set at the October Board meeting preceding the year they become effective. Said dues and fees will be presented to the general membership at the November regular club meeting to accept or reject by a majority vote.

8. Membership in the club may be terminated for the following reasons:

- a. Misappropriation of club funds or property.
- b. Malicious or grossly negligent damage to or destruction of club property.
- c. Activities or behavior at the club station which would be an embarrassment to either the club or the host facility.
- d. Any action resulting in loss of one’s FCC Amateur license.
- e. Any act which results in public disgrace or disrepute upon the club.

9. If a charge is made against a member which could result in termination of membership, said charge will be investigated by the Board. If the Board decides to proceed with the matter, the member involved shall be notified and given the opportunity to either appear before the Board or respond in writing to answer and defend against the charge. After the member has been given a minimum of 2 weeks to respond to the charge, the Board shall act on the charge and by a majority vote either reject the charge, continue the membership with stipulations, or expel the member. An expelled member will not be eligible for a refund of dues.

ARTICLE II: Officers and Directors

1. The named officers of the club shall be:

- a. President
- b. Vice-President
- c. Treasurer

d. Secretary

e. Digital Content Editor

f. Emergency Coordinator

g. In addition to the named officers there will be three (3) elected Directors

2. The Board of Directors (hereafter referred to as the Board) shall consist of the 5 named officers and the 3 elected Directors.

3. The named officers of the club shall be elected for a term of one (1) year at the regular club meeting in January of each year. The Directors will serve a term of three (3) years and only one (1) will be elected each year.

4. No person shall hold more than one (1) elected office.

5. Two (2) or more members of the same household may not serve concurrently as officers and/or Directors.

6. Vacancies occurring among elected positions shall be filled at the next regular club meeting.

7. January Elections. It shall be the duty of the Board to present a slate of proposed candidates for the five named offices and 1 Directorship at the January regular club meeting. In addition, the President will call for any nominations from the floor. With the exception of Associate members, any other class member is eligible for office and may be nominated by any regular member or self-nominated. Election will be by simple majority of the members present by show of hands. Any member may call for a paper ballot should he or she contest the election.

8. Elected officials (Officers and Directors) may be removed from office upon a proper vote of three-fourths (3/4) of the voting members in attendance at a regular meeting; provided that notice of the proposed vote is communicated to the membership at least two (2) weeks prior to the vote.

ARTICLE III: Duties of the elected officials and the Board.

1. President: The president shall preside at all Board and regular Club meetings, appoint or remove committee chairpersons and committee members, and be responsible for the conduct of club affairs, activities and proper functioning of all officials and committees.

2. Vice-President: The Vice-President shall assume all duties and authority of the President whenever the President is incapable of performing the responsibilities of the office.

3. Treasurer: The Treasurer shall collect all monies, pay bills, report the financial condition of the club, maintain the current club membership roster and publish the Club Directory as determined by the Board.

4. Secretary: The Secretary shall record minutes of all meetings and provide copies of said minutes to the President and the Digital Content Editor. In addition, the Secretary shall be responsible for all official club correspondence.
5. Digital Content Editor: The Digital Content Editor shall edit and publish, by either electronic means or print media, the monthly Cherry Juice newsletter, manage the club web site and any social media platforms the club may choose to use for distributing club information.
6. Emergency Coordinator: The Emergency Coordinator will act as liason between the Board and all public service agencies and organizations requesting our assistance in service to the general public and the community.
7. Directors: The Directors shall attend all Board meetings, be prepared to chair or serve on committees appointed by the President and assume the duties of other Board members if necessary.
8. The Club shall maintain a Technical Committee consisting of three to five regular club members appointed by the President with the advise and consent of the Board. This committee is tasked with maintaining the proper function of club equipment and reporting to the Board the status of the voice and digital repeaters. In addition, the committee will maintain an accurate inventory of club assets and develop a protocol for visits to the repeater sites.
9. The President shall appoint any other committees deemed necessary for the efficient operation of the Club.
10. The Board shall conduct most of the Club business at the Board meetings, thus relieving the regular Club meetings of routine Board activities and providing more time for programs. Expenditure of club funds or disposal of club assets in excess of fifteen hundred (1500.00) dollars shall require a majority vote approval of voting Club members at a regular Club meeting. Upon the request of any Board member, any matter may be referred to the club membership for discussion and guidance. Any matter voted on by the Club members shall be binding upon the Board.
11. The club recognized and affirms our association with the **Traverse Bay Amateur Radio Group**, a Michigan non profit corporation (hereby referred to as TBARG), as the emergency communications arm of the Cherryland Amateur Radio Club. The Club agrees to provide technical assistance and the use of Club equipment as requested by TBARG to support emergency communications to the community.

ARTICLE IV: Trustees

1. The Board shall appoint such a Trustee or Trustees as necessary to conduct discussions with the Federal Communications Commission (FCC) on any and all matters pertaining to the issuance and maintenance of Amateur Radio Station licenses issued to the Club. The Trustee(s)

shall be responsible for the Club's compliance with the rules and regulations prescribed by the FCC relative to the operation of the Club's radio equipment where the FCC regulations pertain. He or she shall act as the Club's liaison with the ARRL and coordinating councils concerning Amateur Radio spectrum allocation and use. All actions of the Trustee(s) shall be under the direction and control of the Board.

2. A Trustee shall hold office until the expiration date of the Club station license for which he or she is responsible, or until he or she is no longer willing or able to serve and a successor is appointed.

ARTICLE V: Meetings

1. The Board shall meet on the first Tuesday of each month. The regular Club meetings will take place on the 4th Tuesday of each month. All Board meetings are open to the entire membership.

2. The order of business at the regular Club meetings shall be determined by the Club President. A treasurers report shall be read or distributed at each meeting. The President shall allow ample opportunity for the members present at each meeting to discuss old business and introduce new business.

3. Quorums. Twelve (12) regular members shall constitute a quorum at regular Club meetings. Any combination of 5 named officers and Directors shall constitute a quorum for meetings of the Board.

4. At times when in-person meetings cannot be held due to extenuating circumstances, the Club leadership may choose to meet via video conferencing to ensure the smooth and continuous operation of the Club. A quorum will still be required to conduct Club business.

ARTICLE VI: Amendments to the Bylaws

Proposals to amend the Bylaws must be submitted to the Board. Proposals must be distributed in the Club newsletter and read at a regular Club meeting before being voted upon at the next regular meeting. A simple majority vote will be sufficient to amend the Bylaws.

ARTICLE VII: Dissolution

Upon dissolution of this organization, after payment of all just liabilities, any remaining assets shall be conveyed to an organization having similar purposes or to a recognized charitable organization under Section 501 (c)3 of the Internal Revenue Code of 1986, as amended. No portion of the assets may be transferred to any member or members.