



LONG ISLAND MOBILE AMATEUR RADIO CLUB, INC.

SERVING THE AMATEUR RADIO COMMUNITY SINCE 1965

LIMARC



www.limarc.org

January 2018

Volume LIII No. 2

Next meeting to be held:

Wednesday, Feb. 14, 2018

8:00pm Levittown Hall

Main Meeting
Kit Building and
fun program called "Will it Blend?"
Craig KD2CXX

Save The Dates!!

Hamfest - Levittown Hall - February 25th – see Pg. 17

VHF Radio Station - Levittown Hall - March 10th - 2:00pm

Anniversary of Lindbergh's Flight - May 21st -

Cradle of Aviation



Greetings!

LIMARC is fortunate to have many hams that support the club year in and year out, even though you will never hear them on the repeaters. Their support is greatly appreciated and for some, an acknowledgement that LIMARC provides some of the best local communications in the metropolitan area. ARES for example, is always welcome to use some of our repeaters in support of their events. In addition, the knowledge that LIMARC has provided great communications support during various emergencies serves to remind many about LIMARC's value.

I wanted to take this opportunity to let you know about some of the upcoming events which also provide participation opportunities for many of you.

For many years now, we have been operating three special events stations in support of our community. In May and in July, we operate at the Cradle of Aviation Museum under their callsign, K2CAM. May celebrates the 1927 solo flight of Charles Lindbergh across the Atlantic. He left from Roosevelt Field. In July, again as K2CAM, we celebrate the moon landing of Apollo 11, so much of the equipment having been built on Long Island. For 2019, the museum expects to celebrate that event for the whole year, and we hope to be an integral part of that celebration. We have supported two ARISS contacts with the Cradle, and this year we are providing support to Freeport HS and its contact with ARISS.

Each September, we provide a month's long exhibit in the Levittown library, and usually have a one day mini-field day where we set up stations and give people an opportunity to see what we do.

On March 10th, we will begin what we hope will be a regular program where we will set up stations at Levittown Hall following the completion of VE Testing. We hope to be able to give members as well as other interested parties, an opportunity to get on the air.

Our various nets provide valuable resources of information. The Tech Net, Info Net, Swap-n-Shop, computer net, astronomy net, and Trivia and Nostalgia nets, are well received.

We do a great deal, and we appreciate the continued support of our members.

73,

Richie Cetron, K2KNB

President

LIMARC Board Meeting Minutes

January 03, 2017

Officers present: President - Richie K2KNB, Vice President – Craig KD2CXK, Secretary – Ken WB2KWC, Treasurer – Jerry WB2ZEX

Directors present: Ken KD2GXL, George WB2IKT, Bob W2OSR, Lew N2RQ, Jim KD2EDX

Guests present: Steve WB2KDG, Bill KC2SYL, Gary W2MIT, Jim W2KFB, Eric KE2EJ

The minutes of the December 2017 board meeting were approved.

President: Richie K2KNB told us that the General Membership meeting dates (2nd Wednesday of each month) at Levittown Hall have been approved except for the month of June where Levittown Hall is not available. The June General Membership meeting will be held the first Wednesday of June (June 6) and a new date for the June board meeting will need to be found.

VE: Richie K2KNB said that all of our VE test dates have been approved, see the <https://www.limarc.org/> web site for test dates (please check the time of the test).

Hamfests: Richie K2KNB told us that we have confirmation of the site for the February 25 and October 28 Hamfests however the site availability for the June outdoor Hamfest has not been confirmed (the date will be either June 3 or June 10).

Special Events Operation: Richie K2KNB said that we are working with the Cradle of Aviation Museum to finalize plans for operations commemorating the Charles Lindbergh transatlantic flight anniversary (tentatively May 21) and the Apollo 11 moon landing (tentatively July 20).

Insurance: Richie K2KNB said that we have received certificates of additional insured for Elliot to cover access to our repeater sites, 1055 Stewart Avenue (formerly Briarcliffe College) for our outdoor Hamfest and BOCES for Field Day.

Vice President: Craig KD2CXK said that he is working on a project to test simplex propagation in the subway. This will test propagation without additional infrastructure (e.g. repeaters). The program for the January meeting will be on home security systems. The February meeting program will be a hands-on program about kit building and a fun program called “will it blend?” involving putting small electronic devices a table and asking the members to decide what they think will blend in a blender. March will be our membership meeting for us to socialize over pizza and distribute 25, 35 and 40 year membership pins.

Treasurer: Jerry WB2ZEX said that we received a thank you card and a \$100 check from the XYL of Jerry K2CFG in appreciation of us helping sell Jerry’s equipment after he passed away. We ended 2017 with \$16,907.93 in the checking account, \$2,098.66 in the memorial funds for a total of \$19,006.59. We currently have \$14,370.18 in the checking account, \$2,098.66 in the memorial funds for a total of \$16,468.84.

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Membership: Jerry WB2ZEX said we ended 2017 with 402 members and have 283 paid for 2018. There are 26 honorary and lifetime members. We have some individual memberships paid through 2022.

Technical: Eric KE2EJ said that the receiver at the Nassau University Medical Center is down. The IRLP computer for Glen Oaks is now working; it needs to be put back to the repeater site.

Club Mission: Ken KD2GXL said that he is writing an article for the Log about our club mission. We need to improve in the areas of education, mentoring and self-promotion. One of the things we would like to do is have a club station operation after each VE session. This will probably appear in the next issue of the LIMARC Log.

Field Day: Richie K2KNB said that this year we will try to begin setup on Friday at 4PM. We need to make some decisions on tents.

Public Service: Jim W2KFB reported that Nassau County ARES is looking for a new District Emergency Coordinator. The Ocean to Sound Relay will be on September 23rd.

Bylaws: Gary W2MIT said that the bylaws committee is working on wording for the sections on voting and quorums. If you have any suggestions please send them to bylaws@limarc.org.

50/50: Steve WB2KDG will take over as chairman of the 50/50 committee assisted by Marty W1EMR.

Good and Welfare: Ellee N2RRE had a reaction to some of her medication but is out of the hospital now. Marty W1EMR had a stent removed.

The meeting adjourned at 9:28PM

Respectfully submitted;
Ken Gunther WB2KWC
LIMARC Secretary

GOOD AND WELFARE

We extended our condolences to Alice, WB2IJY, Lew N2RQ and their daughter Vivian on the loss of their daughter Laura.

Ellee N2RRE had an adverse reaction to medication but is out of the hospital now.

Marty W1EMR had a stent removed.

Jeannie Wiencis, xyl of Tim, KB1HQJ, is recovering from surgery at North Shore Plainview. The surgery was quite serious and your good wishes would be much appreciated. You can email Tim at kb1hqj@ncaresmail.net

LIMARC General Meeting Minutes

January 10, 2017

Pre-meeting: Neil W2NDG gave a presentation demonstrating a BITX transceiver and showed us different kits that were available. More information is available at Neil's web site

<http://fofio.blogspot.com> .

The business portion of the meeting started with the Pledge of Allegiance at 8:02PM.

President: Richie K2KNB told us that HRU was quite successful. The Saturday date was a problem for some but we had no choice because of a site scheduling problem. The next HRU will be on January 5, 2019. Our next Hamfest will be on February 25. After the March 10 VE session we will set up an HF station so that those that just got their license will have a chance to immediately get on the air. 2018 LIMARC Special Event operations at the Cradle of Aviation Museum will include the Lindbergh memorial operation on May 21 and the Apollo moon landing in July. We have tentative approval for our outdoor Hamfest either June 3 or June 10. An added benefit of 2018 LIMARC membership is free admission to the outdoor Hamfest.

Vice President: Craig KD2CXX said that the February program will be "will it blend?" where we will take small electronic gadgets and try to guess how far they will break down in a blender. When the weather warms up Craig will bring down telescopes to see what is in the night sky. Craig learned to solder from his dad and will have a hands-on class at one meeting to pass on that knowledge to others.

Secretary: Ken WB2KWC told us that LIMARC has received a thank you note from the Nassau University Medical Center in appreciation of our donation of toys in December.

Treasurer: Jerry WB2ZEX said we have \$14,947.12 in the checking account, \$77.98 in the Paypal account and \$2,099.59 in the memorial funds for a total of \$17,124.69.

Membership: Jerry WB2ZEX said we gained 2 new members at HRU: Kenneth K1WS and Susan AC2RR putting us at 291 members for 2018.

CW: Rich K2UPS has started teaching CW classes at W2LCW, the Long Island CW Club. There will be beginners, intermediate and advanced classes. Find out about the CW events sponsored by the club on their website <http://www.longislandcwclub.org> .

School Club Roundup: Lew N2RQ said that the next session of the School Club Roundup will be February 12-16. Since we are the sponsoring club it would be nice to have good SCR participation from LIMARC members. The results of the October session can be found on the ARRL web site at http://www.b4h.net/arrlscr/scr_scores201710.php .

ARES: Jim W2KFV said that Dave AK1NS has stepped down as the District Emergency Coordinator. John KD2AKX has temporarily taken his place. We need volunteers for the Ocean to Sound Relay on September 23. Richie K2KNB said that if you cannot commit to ARES full time you can join the ARES Reserve. To qualify you need to take a 1 hour class. For further information contact John KD2AKX at KD2AKX@aol.com

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Scouting: Bob W2OSR said that he is planning for the Jamboree On The Air.

Field Day: Bill KC2SYL is working on a marketing plan to publicize our Field Day effort. We've asked for site access on Friday at 4PM to start setup.

Good and Welfare: Ellee N2RRE is recuperating in the hospital.

The business portion of the meeting ended at 8:27PM followed by a presentation by Craig KD2CXX on security cameras.

Respectfully submitted;
Ken Gunther WB2KWC LIMARC Secretary

MEMBER APPRECIATION NIGHT

Our March 14th General Membership Meeting is Membership Appreciation Night. Pins are given out to LIMARC members that have been members for exactly 25, 35 or 40 years. The members listed below meet those requirements. If you feel you should be included, please email me (wb2zex@limarc.org) as soon as possible

25 Year Members

Diane Ortiz K2DO

Steven Lomasky WB2HOZ

Richard Ser N2PPN

Karl Johnson N2RLD

Nancy Rosner N2TKA

Len Goldstein N2ZQ

35 year members

Robert Loysch WB2DNG

Leland Willett N2EMG

Albert Bockelman K2ES

George Dyer WA2NIF

40 Year Members

William (Bill) Capitman WB2CUK

Douglas Frie N2EJ

Steve Schuck WB2WAK

A Vision for 2018 and Beyond

All organizations, whether they are for profit companies, non-profits, fraternal, or volunteer, have one thing in common, vision. Some call it a "mission statement", others an "objective" or "purpose". Those that lack vision, wander about and eventually fail. What is LIMARC's vision?

Is it "to provide the best repeater service from Manhattan to Montauk"?

A recent NCIS episode recently had ham radio prominently in its plot. However, like most things Hollywood portrays, a very inaccurate portrayal. It showed ham radio as glorified CB operators. Although if LIMARC's vision is only about the best repeater service from Manhattan to Montauk, it is not far from the mark. However that is not what LIMARC's Objectives are. We can all access the Objectives in the copy of the By-Laws posted on the LIMARC website. Let's take a look at them:

ARTICLE II — OBJECTIVES The goal of LIMARC is to encourage and foster mutual interest in amateur radio communications. The objectives are as follows:

1. LIMARC, in cooperation with other organizations and agencies, shall promote the advancement of public service and safety through amateur radio communications.
2. LIMARC shall promote participation of its members in emergency communications so that the safety of the public may be better served.
3. LIMARC shall promote the improvement and advancement of the art of mobile communications in the interest of public service.
4. LIMARC shall operate an on-air net, as scheduled by the Board of Directors. This net will be open to all radio amateurs. It will be a vehicle for promoting public service, good operating techniques, and for informing participants and listeners of LIMARC activities.
5. LIMARC shall own, operate, and maintain repeaters to extend the range of mobile and/or other types of communications by club members and/or operators temporarily visiting within a repeater's coverage area.
6. LIMARC shall, from time to time, promote contests in which operating skills may be improved, issue certificates of merit, promote social programs, and sponsor activities for and on behalf of its membership.
7. To insure the financial strength of the club, it shall be a basic tenet of LIMARC to operate within a budget promulgated annually as noted hereinafter.
8. LIMARC shall assist its members and all other radio amateurs with an ongoing education program to improve their technical proficiency as amateur radio operators.
9. LIMARC and its members shall promote amateur radio, and the advantages resulting from licensed amateur radio operators, to the public at large.

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That is a lot of objectives for our Club and for the most part, we as a Club, reach those goals. There are a few I would like to focus on in this article that I believe as a group we can do better in, Education, Promotion, and Contest/On the Air (OTA) activities.

Education

Classes, Elmer/mentoring, OTAs, Hands-on/project building, School Clubs/Youth

Classes

The Board has directed an Educational program to run classes to prepare for exams for Technician and those looking to upgrade to General and Extra. The course of study will be designed so that it ends in conjunction with scheduled VE Test Sessions. Stay tuned for announcements coming soon regarding these classes.

Elmer

Some people learn by reading a book others from a hands on practical experience, and yet others a mix. Our club has many operators with decades of experience, why reinvent the wheel? Adopting "best practices" is the way many successful organizations and individuals progress. Some may not feel comfortable in front of a group teaching others, but there are still many other ways that their knowledge can be shared. Write an article for the newsletter, operate at OTA and tell less experienced operators why what you are doing works for you. Imitation is the best form of flattery.

Being an Elmer or mentor is an area that can be improved upon. Some members may not feel comfortable teaching others, some members are. One of the worst things we can do is to not encourage new members to learn proper operating techniques. It is easy to criticize a new licensee regarding how horrible their signal is or lack of operating knowledge but how many members offer suggestions on improving signal quality a newbie would understand or positive reinforcement of good techniques? Field Day is also a perfect opportunity for experienced operators to teach and not just operate.

OTA

Is operating W2VL call sign at Field Day and the two K2CAM events at the Cradle of Aviation the only On the Air (OTA) events we should run?

These are great opportunities for those with Tech and General licenses to operate with higher level privileges, to gain experience with the help of a mentor. You know the phrase "try before you buy". HF rigs can be expensive to buy. Perhaps you want to learn more about operating on HF before making the decision to buy. It is also a great opportunity learn hands on experience to take the next step in your licensing path, even learn about the digital modes available.

Are the only two events that have a Long Island connection Lindbergh's flight and the Apollo Moon landing? Yes they are worthy of running OTAs and we are glad to have the relationship with the Cradle of Aviation museum to make them possible. But what about the other ten months of the year? Isn't there some other connections with Long Island that can be commemorated with an OTA?

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Levittown celebrated their 70th anniversary in 2017, a missed opportunity, what events could be considered for 2018?

A proposal for 2018 the Board is considering is running OTAs after the VE sessions scheduled in the odd months. This proposal would be a visible promotion to the public about the benefits of ham radio as well as an educational chance for those members that do not have an HF Station but would like to try. This is modest start to a program we can build upon.

Hands-on/project building/soldering

One of the challenges our club faces is the lack of a permanent home where we can start work on a project (radio kit, accessory item, antenna, etc), put it to the side and pick it up at a later date. Not everything can be done in an hour at our monthly pre-meetings. Maybe we can bring it back month after month to work on or once again think outside the box, if there is interest in this area, how about meeting on a Saturday or Sunday whether it be Levittown Hall or another public facility to work on these projects?

School Clubs/Youth

While not specifically mentioned in our bylaws, what can we do to engage today's youth and recruit new hams/members? A reality that is apparent to all Hams is also pointed out by the ARRL, the median age of Hams is quite grey (being polite here). Starting a school club is difficult but not impossible. Do you or a family member work at a school or on a school board or advisory panel? That is the easiest way to bring up the topic with School Administration about starting an after school activity. Most schools on Long Island generally will not let non-school personnel be involved in after school activities in the school facility (there are always exceptions). That being said, getting an available faculty member to be the club adviser is tough with all the clubs in the schools. This is where educating the educators about available grants and guidance from the ARRL is key and how local ARCs like LIMARC can assist. This is also the opportunity on how amateur radio can be incorporated in a STEM curriculum. There are not too many School Clubs in the New York-Long Island section, a proposal by the Board was floated at the end of 2017 to grant complimentary annual membership without voting rights to students under 18 that successfully passed the licensing process. Many of these students have no family members who are hams and could benefit from being in a club like ours. The thought was by drawing in these students into the club, we would be encouraging them to continue on their path in ham radio and grow a youth movement not only in ham radio community but in LIMARC. Maybe a parent bringing them to a monthly meeting would be spurred on into getting a license themselves. When this was brought up at General Meeting, unfortunately some members of LIMARC felt that by offering it in a complimentary fashion, inferred the value of membership of being worthless. I am sure these same members never accepted free trials or free products ever in their life. (haha). Attracting youth will continue to be a challenge in 2018 especially without the help of our members. Are you in a position you can help?

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Promotion

Word of mouth is always a great way to promote LIMARC and ham radio. But any time we set up an OTA, library display, classes, and/or a VE Session, we are the ambassadors in promoting LIMARC. I believe the more OTAs LIMARC does in highly visible locations, we are promoting LIMARC and the benefits of Amateur Radio.

Contesting

School Club Roundup (SCR)

School Club Roundup comes around twice a year, Fall and Spring. LIMARC is the sponsoring club with this event, shouldn't W2VL be OTA for this event? Even if only a few hours a day throughout the week. I know most people work, but it's time to think outside your time zone. While most school clubs in the Eastern time zone are probably done for the day when you get home, there are still others in the West and college stations still operating. Whether you operate from your own station or from a portable club station, get on the air, make contacts with the kids. Try a new mode if you want to do so. The point is that you can have some impact on the future of ham radio. There should be greater participation from our members for an event LIMARC sponsors. I would even suggest there be a tweak in the scoring that allows bonus for contacts with W2VL, and operators entering as a LIMARC member. These tweaks won't effect our members scores, but would provide the school clubs an opportunity to chase us and get an extra endorsement on their certificate by the number of LIMARC contacts they made.

General Contesting

Almost every weekend there is a contest somewhere. Have you thought of trying it to see what's it all about? What if W2VL was OTA for a few hours on a Saturday afternoon (after a VE session perhaps). Sure we won't place in the top ten, but learning the skills necessary for proper operating, and best practices is priceless. It is a vehicle for promoting good operating techniques that could be invaluable in the advancement of public service and safety through practicing our skills in radio communications. Our club has many operators that participate in contests, perhaps they can take a break for a few hours and mentor others. After all, serious contesters greatest wish is that newbie's know the ropes.

What are your thoughts and interest? Can you help in any of these areas? The Board would like to know, please send your comments to LIMARC@LIMARC.ORG

Respectfully submitted for your information and consideration.

Ken Kobetitsch
KD2GXL

But What the Heck Is ‘Impedance’, Anyway. Or How Complex Can a Complex Number Get?

Impedance.

Many of us Hams spend a lot of time and effort thinking about impedance and making sure that their antenna systems have just the right amount of impedance...

But what the heck does that mean? Different people, at various times, will describe the same exact impedance in all kinds of different ways:

“You’ll want to have an impedance of as close to 50 ohms as possible.”

“The best load for your transmitter is 50 ohms of purely resistive impedance.”

“You need to ‘aim’ for an impedance of 50 ohms with a zero-phase angle.”

“Your impedance, Z , should be $50 + 0j$.”

They’re all talking about the same impedance, but they don’t sound like the same value. What the heck is an impedance value anyway, and why can you express it in so many very different ways...

I have tried to explain this in other ways over the years, but this time let’s explain it in a novel way, a more general explanation than usual – something you might hear from a ‘*weekend mathematician*’, rather than a fellow amateur radio operator (assuming that you might find yourself chatting with a ‘*weekend mathematician*’).

Mathematics requires numbers, but numbers come in all kinds of forms.

The earliest representation of numbers were *whole numbers*. An example of those, although nowhere near the earliest example, are those Roman Numerals that many of us were taught in grade school (but that’s now just as rare as learning to write in script in school, today).

Symbol	Latin name	Value
I	<i>unum</i>	1
V	<i>quinque</i>	5
X	<i>decem</i>	10
L	<i>quīnquāgintā</i>	50
C	<i>centum</i>	100
D	<i>quingenti</i>	500
M	<i>mille</i>	1,000

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Ah, yes MCMLV was a wonderful year, right?

Whole numbers start with 'one', and go on and on...

But not to infinity, because they didn't have infinity back then. Surprisingly, they didn't even have zero back then!

Around the same time, we figured out the zero, we figured out negative numbers, and with them, the idea of integers was 'born':

$$\dots, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, \dots$$

Then we figured out numbers that included the ratio of integers, and called those *rational numbers*!

$$\dots, -3, -2\frac{1}{2}, -2, -1\frac{1}{2}, -1, -\frac{1}{2}, 0, \frac{1}{2}, 1, 1\frac{1}{2}, 2, 2\frac{1}{2}, 3, \dots$$

But what about those wacky numbers that can't be written as simple ratios or fractions? Quite logically numbers that can be described by ratio are *Rational Numbers*, and those numbers that cannot be described as ratios are called *Irrational Numbers*! The square root of two $\sqrt{2}$, is a great example of an irrational number. The value of the square root of two cannot be written as a fraction or a decimal number that doesn't continue forever. Pi (π) is sometimes written as 3.14159, or 22/7, but those are just approximations. Its real value in decimal units goes on for infinity. The same goes for *Euler's number*, *e*. There are many *irrational numbers* for your new number line.

Now you have the ***Real Number Line***, which you often see represented on a Cartesian Graph (you know, the graphs with the X and Y axis's). (We'll get to *Unreal Numbers later*.)

Most of the time we only need to be bothered with real numbers. We have all grown very comfortable with them. You can think of them as one-dimensional units since they are completely unambiguously defined by a single value...

But are all units of measurement one dimensional?

Of course not! When you go out to buy some paint, the guy in the store will not be very happy if you tell him that you need enough paint to cover an 8 feet high wall – he needs its length as well, a two-dimensional value. Sure, you can multiply one by the other and tell him the square foot area, but sometimes that simplification is insufficient. You certainly know If a guy needs to move a sofa into your house, giving him the area of your opening to that room is not sufficient. An area is often best described as a two-dimensional value.

And so is impedance!

I will spare you the tedious details, but it is very useful to use something called *Complex Numbers* for impedance values, and again, in Mathematics, this is a very well-chosen name. *Complex Numbers* are a "complex" (a whole made up of interrelated parts) of numbers.

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Complex Numbers, used to describe *Impedance* are numbers made up of distinct types of numbers:

$$Z = R + jX$$

Z is the *complex impedance*

R is the *pure resistance*

X is the *pure reactance*

And 'j' makes everything interesting (or confusing).

The 'j' defines the X value to a completely different number line than the value of R.

Historically, 'i' is used most of the time to define *Complex Numbers*, but when it came to electronics, the letter 'i' was used so often, in-order to limit any more confusion, it was decided to use the designation 'j' instead.

If you take **any real number** and multiply it by itself, the number is **always** a positive number. Five times five is 25. Minus five times minus five is also 25. There is **no real number** multiplied by itself that will leave you with a negative number as a resulting solution.

Never.

But this isn't the case for 'j.'

'j' times 'j' equals -1 (If you can wrap your head around that definition). j and any value, jX are called *Imaginary Numbers* and exist on an *Imaginary Number Line*, totally different from that *Real Number Line* previously mentioned!

The best way to deal with this curious definition is that jX is just another number line than your *Real Number Line*. Everyone has agreed upon when using Cartesian Coordinates, that the **X** axis is the *Real Number* of the pure resistive component of a given *Impedance*, and the **Y** axis is the *Imaginary Number* of the pure reactance component of a given *Impedance*. Inductive reactance has a positive value; capacitive reactance has a negative value. Since we have yet to discover anything with a *negative resistance*, you can throw away half of your Cartesian graph, where the **X** axis crosses the origin into negative resistance.

The surface of one half of a Cartesian graph is giving you a great representation of your impedance value(s), and the surface of your Cartesian graph is a two-dimensional surface – which is a good thing since impedance is a two-dimensional number (as I mentioned at the beginning of this journey)!

You can describe a two-dimensional number in a *number* of ways.

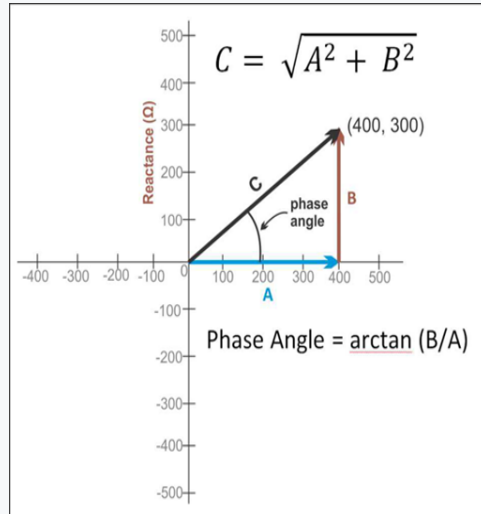
You can describe it as a point on the surface of your graph using its **X** (R) and **Y** (X) coordinates:

$$Z = R + jX$$

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Or you can describe it in polar coordinates (you remember those, don't you?). The distance of the value on the Cartesian graph from the origin point (the hypotenuse?), along with the angle formed from that line/hypotenuse and the **X** axis baseline. Hypotenuses? Angles? Hello right angle, meet Mr. Pythagoras!



So, the impedance of your dream, $Z = 50 + j0$ can also be written as $Z = 50$ ohms with a 0-phase angle, or '50 ohms of purely resistive Impedance'.

Six of one, half a dozen of the other...

People shorten it further and describe it more simply as '50 ohms', but that's only half of the story. Take, for example, a purely inductive impedance of 50 ohms:

$Z = 0 + j50$ or $Z = 50$ ohms with a phase angle of +90 degrees, or 'a purely inductive impedance of 50 ohms'.

You could shorten that value, as well, to simply describe it as 50 ohms of impedance, but the purely resistive impedance and the purely inductive impedance are two very different animals entirely!

Keep in mind that different circuit impedances can all possess the same one-dimensional *scalar* Impedance value, yet also possess any phase angle from -90 degrees to +90 degrees.

So, that's another way to look at electrical impedance.

See! *Complex Numbers* aren't that complex after all!

I hope that this offered you some insight, without too much confusion.

73,

Roy AC2GS

(When Roy AC2GS isn't writing informative articles, or *puttering around* with some concept that seems strange, but beautiful, he can be found hosting an informal Technical Net every 2nd and 4th Wednesday of each month at 9 PM on the KC2RC Repeater 146.730 MHz, the PL tone is 88.5 Hz – we stream it live on the Internet (<http://live.kc2rc.com>) and have archived links to audio recordings of them (<http://archive.kc2rc.com>) - you are all welcome! In addition, he also is in charge of the LIMARC TechNet's Mailbag for anyone that can't get onto the Net by radio (or EchoLink), by emailing their questions to TechNet@LIMARCTech.net. He can also be heard trying to cogently answer the odd Physics questions on the LIMARC TechNet!)

Dues Increase for 2018

Membership has approved a dues increase of \$5.00 across the board. This is the first increase in almost 10 years. In the last few years we have spent a great deal of money on upgrading equipment including the purchase of two DMR repeaters. In addition, several costs, mostly insurance, have gone up and do affect our operating budget.

The two main sources of income for the club are dues and hamfest income. Hamfest attendance is generally down, although we are fortunate in having great vendor support. However, weather conditions for the outdoor hamfest over the last two years have been generally poor, and seriously affect our income from that event. The dues increase insures our ability to meet our financial responsibilities regardless of the income from the outdoor hamfest.

We appreciate your support and understanding and remind you that the increase goes into effect January 1, 2018. Pay your dues before then and save!

LIMARC Membership Report – February 2018



Please welcome the following new/returning members:

Susan Schoer AC2RR
Ken Smalley K1WS
Christian Lombardo

It is that time of the year again. If you haven't already done so, it is time to renew your membership for 2018. Regular membership dues are \$40. Senior dues (65 y/o or older) are \$30. Full time students and associate members are \$20, and family membership is \$15. Dues may be paid in person at any LIMARC function, can be renewed by PayPal. LIMARC's PayPal address is limarc@optonline.net. Dues can also be mailed to PO Box 392, Levittown NY 11756-0392.

If you have an optimum (optonline) account, please make sure that emails from elog@limarc.org, or membership@limarc.org are not being blocked by your spam filters.

LIMARC Field Day 2018 Board of Directors

Discussion Feb 2018

Insurance - *Partially Complete*

Reservations - *Site Partially Complete Follow up*

Below are the Open Items -

Vehicles Rentals Amenities Food

Public Relations - *press government registration ARRL source*

Scripts *desk literature creation/ source, acquisition and distribution*

Site layout and mapping - *Objectives stations scores operator's guests staffing equipment testing alternates*

Project - *HALF - HANDS ARMS LEGS FEET*

OBJECTIVES:

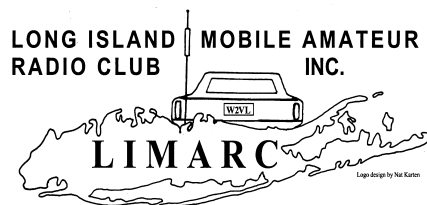
Pre-Setup - *Load truck*

Setup Empty truck stage equipment build infrastructure

Post Event - *Take down infrastructure Load truck Empty truck at storage location*

Asset source - *Community service scouts non-profits youth clubs students family members*

Recognition - *Community service credits for participants emergency comms experience*



HAMFEST!

~ Sunday, February 25th 2018 ~

Levittown Hall, 201 Levittown Parkway, Hicksville, NY 11801

Doors Open at 9am to Buyers Vendors Set Up at 7am

Amateur Radio Dealers & Equipment ~ 10am VE Session ~ Tune-Up Clinic (Get your Rig Checked!!)

LCD Monitors, Computer, CB Equipment, ARRL Information

Long Island Mobile Amateur Radio Club Information DXCC and WAS Card Checking

General Admission \$6.00

Licensed Ham's Non-Licensed spouse & children under 12 are free.

Free Parking! Food & Refreshments! Door Prizes!

Have a Few Items to Sell?

LIMARC will have a table set up to sell items for others. There's no charge to club members.

Non-members pay just 10% of their selling price. Please make sure to mark your price clearly on the item.

VENDORS > One \$22.00 Space includes a 6' table & chairs.

Bring your own table for \$15 per space and you'll still get chairs! If bringing your own table, you must notify us by February 10, 2018

The \$6.00 Admission Fee is separate.

7am Vendor Set Up. Close-in and drop off parking for Vendors. Vendors Must Comply With NY State Sales Tax Laws. The sale of guns, ammunition or pornographic material is prohibited. Send your check to LIMARC, PO Box 392, Levittown, NY 11756-0392. Use the vendor registration form at www.limarc.org Limited Selling Spaces! Only some spaces have electric. Reserve your Space Now!

Talk-In on W2VL Repeater 146.850 (136.5 PL)

For more information, see www.LIMARC.org or contact our Hamfest Co-Chairs at 516-694-4937, or email us at hamfest@limarc.org.

Dave AK1NS and Richie K2KNB

Directions:

By way of the LIE from the West (travelling from NYC)

Take Exit 38 to Northern Pkwy East to Exit 33 Wantagh Pkwy South. Take Exit W2 East onto Old Country Rd. At the 3rd light turn right onto Levittown Pkwy. (There's a Dunkin Donuts there on your left). The Hall is at the end of the short strip mall on your left, turn left at the light to park.

By way of the LIE from the East (travelling from Suffolk Co.)

Exit the LIE south prior to exit 40 and change to the westbound Northern State Parkway. Follow the directions below:

By way of Northern Parkway

Take the parkway to exit 33 (Wantagh Parkway South). Take Exit W2 East onto Old Country Rd east. At the 3rd light turn right onto Levittown Pkwy. The Hall is at end of the short strip mall on your left, turn left at the light to park.

By way of Southern Parkway

Take exit 27N Wantagh Pkwy North to exit W2 onto Old Country Rd east. At the 3rd light turn right onto Levittown Pkwy. (There's a Dunkin Donuts there on your left) The Hall is at the end of the short strip mall on your left, turn left at the light to park.

FREE MONEY FOR LIMARC EVERY TIME YOU SHOP !!!!!

Gary Buchwald – W2MIT

Actually, your year-round shopping on Amazon.com will help LIMARC as long as you go to Smile.Amazon.com and designate the Long Island Mobile Amateur Radio Club Inc. as your charity of choice.

What is AmazonSmile?

AmazonSmile is a simple and automatic way for you to support LIMARC every time you shop, at no cost to you. When you shop at smile.amazon.com, you'll find the exact same low prices, vast selection and convenient shopping experience as Amazon.com, with the added bonus that Amazon will donate a portion of the purchase price to LIMARC!

How do I shop at AmazonSmile?

To shop at AmazonSmile, simply go to smile.amazon.com from the web browser on your computer or mobile device. You may also want to add a bookmark to smile.amazon.com to make it even easier to return and start your shopping at AmazonSmile.

In fact, here's a direct link which will take you to smile.amazon.com and will automatically designate LIMARC as your supported charity:

<https://smile.amazon.com/ch/11-2469363>

Which products on AmazonSmile are eligible for charitable donations?

Tens of millions of products on AmazonSmile are eligible for donations. You will see eligible products marked "Eligible for AmazonSmile donation" on their product detail pages. Recurring Subscribe-and-Save purchases and subscription renewals are not currently eligible.

Can I use my existing Amazon.com account on AmazonSmile?

Yes, you use the same account on Amazon.com and AmazonSmile. Your shopping cart, Wish List, wedding or baby registry, and other account settings are also the same.

How do I select a charitable organization to support when shopping on AmazonSmile?

On your first visit to AmazonSmile (smile.amazon.com), you need to select a charitable organization to receive donations from eligible purchases before you begin shopping. We will remember your selection, and then every eligible purchase you make at smile.amazon.com will result in a donation.

How much of my purchase does Amazon donate?

The AmazonSmile Foundation will donate 0.5% of the purchase price from your eligible AmazonSmile purchases. The purchase price is the amount paid for the item minus any rebates and excluding shipping

(Continued from page 14)

& handling, gift-wrapping fees, taxes, or service charges. From time to time, we may offer special, limited time promotions that increase the donation amount on one or more products or services or provide for additional donations to charitable organizations. Special terms and restrictions may apply. Please see the relevant promotion for complete details.

Can I receive a tax deduction for amounts donated from my purchases on AmazonSmile?

Donations are made by the AmazonSmile Foundation and are not tax deductible by you.

How can I learn more about AmazonSmile?

Please see complete AmazonSmile program details.

REMINDER

LIMARC is a 501(c)(3) not-for-profit corporation. As such, all monetary donations are tax deductible, and donations of equipment are deductible either to the amount that the club might sell the item for, or the fair market value. As we move forward in trying to provide assistance to schools wishing to set up amateur radio programs, please consider us for your donations.

REMINDER

If You Hear Something, Tell Someone

Those of you who use the repeaters on a regular basis are all too aware of the fact that there are certain individuals who have nothing better to do with their time than to interfere with people on the repeater. An organized effort is underway to locate and identify these individuals. **YOU CAN HELP.** If you hear malicious interference on any of the LIMARC repeaters, please hit the reverse (HM/RV) button on your radio and see if you are able to hear them on the input. Please email your findings to rfi@LIMARC.ORG. Indicate whether you heard them on the input or not. Please include the time of day, the repeater, your location and type of antenna (if you have a beam, include the heading).

Thank you for your cooperation.

DOOR PRIZE DONATORS

Below is a list of individuals, organizations and companies that contributed to the 50th Anniversary celebration.

Please consider making future purchases from them as a thank you for their generosity and loyalty to our club!



www.kjielelectronics.com



- www.dxengineering.com



- www.qsradio.com

Dave Schneider Components - Quality components



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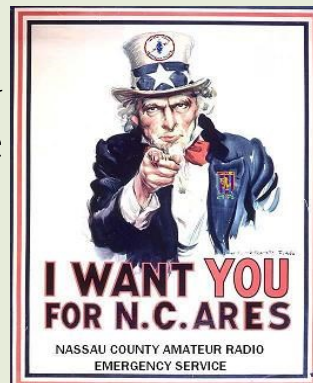
IT Helpdesk
Services

www.Jaglabs.com



All Nassau A.R.E.S. Members

Nassau County A.R.E.S. meets on the second and fourth Thursdays of the month. All are welcome to attend! ARES meetings are held at the Nassau Co. Red Cross, 195 Willis Ave in Mineola.



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Old Bethpage, NY 11804

516-217-1000

DISCOUNTS To LIMARC MEMBERS

Show Your Membership Card

Ask for Jeff



VE Testing Schedule for 2018



LIMARC VE Test Sessions are held on the second Saturday of every odd numbered month at the Levittown Hall, Levittown Parkway, Hicksville, NY. Please remember to bring **two** pieces of identification (one with a photo), your **original** license **and** a copy of it, any **original** Certificates of Successful Completion of Examination (CSCE's) **and** copies of them. *Also remember to bring the proper fee in check made out to ARRL VEC or exact change (NOTE: the 2018 fee remains at \$15.00).* The LIMARC VE Team will supply the FCC Form 605. For further information, contact Al W2QZ at (516) 623-6449 or Jim W2KFV at (516) 997-6023.

2018 SESSION DATES AND TIMES AS POSTED

Feb. 25 Hamfest 10:00am, March 10 1:00pm, May 12 1:00pm

July 14 9:00am, Sept. 8 9:00am, Oct. 28 Hamfest 10:00am Nov. 10 1:00pm

2018 Meeting Schedule

All general meetings are held at: Levittown Hall 201 Levittown Parkway, Hicksville, NY. Meetings start at 8:00PM.

All Board meetings are held at the Levittown Library 1 Bluegrass Ln, Levittown, NY. Meetings start at 7:30PM.

LIMARC AT A GLANCE-2018

Month	Bd. Meeting	General Mtg	VE Session	Hamfest	Other
Jan	3rd	10th	13th		SATURDAY 6th — HRU
Feb	7th	14th	25th	25th	
March	7th	14h	10th		
April	4th	11th			
May	2nd	9th	12th		
June	TBA	6th			FD - 23 -24
July	TBA		14th		
August	TBD				
Sept	TBA	12th	8th		
Oct	TBA	10th	28th	28th	
Nov	TBA	14th	10th		
Dec	TBA	12th			

LIMARC Repeater Nets (W2VL 146.850, unless otherwise noted)

Monday: Info Net, 8:30 PM

Net Control Operators

Week 1-Lew N2RQ; week 2-Richie K2KNB; week 3-Ceil W2CTG; week 4-Harry KC2FYJ; week 5-Rick K2RB

Following the Info Net

Stay tuned for the Swap – n – Shop Net, 8:45 PM (approximately)

Bill **WB2CUK**, Net Control

3rd and 4th Wednesday, Computer Net with Ken **WB2KWC**

Sunday: Tech Net, 8:00 PM – Dick **K2RIW**, Net Control

1st and 3rd Tuesday, Astronomy Net, 8:30 with Craig **KD2CXK**

Any month with 5 Wednesdays, Nostalgia Net, 8:30 with Richie **K2KNB**

LIMARC Repeaters: **W2VL** 146.850 – IRLP node 9126;

W2KPQ 147.375 - IRLP node 9126;

W2KPQ 224.820; **W2KPQ** 449.125- IRLP node 4969; **W2VL** 1288.000

WA2LQO 146.745; **Digital Mobile Radio W2KPQ** 449.375 (No PL)

All analog PL tones are 136.5

Ceil Gomez, W2CTG Editor of *The LOG*,

W2CTG@LIMARC.org

LIMARC PO Box 392 Levittown, New York 11756-0392

Published monthly except July & August

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				Lew Malchick	N2RQ	

Email for officers and Board members can be sent to their call sign @limarc.org. In addition, all can be reached at LIMARC@LIMARC.org

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From The Editor

Please send all items for entry into the LOG to W2CTG@LIMARC.org. I will be glad to accommodate all appropriate requests. If you miss a deadline (the deadline is the 15th of the month) I would be glad to place your item in the LOG next month, space permitting.

Thanks, and 73, Ceil W2CTG - Editor, The LOG