



The Newsletter from the Larkfield Amateur Radio Club

Volume XX Issue 8  
Editor: Thomas Price KC2PSC

October 2019

## June 13, 2019 Board Meeting Minutes

- Board meeting started at 7:19PM.
- Modify the thanks to the repeater committee to include additional names who helped repair the .210 repeater. QSX will update the repeater committee thank you text.
- The board had authorized Thomas, KC2PSC, to setup a [board@larkfield.org](mailto:board@larkfield.org) e-mail address that would feed to the board members. The e-mail address was setup and a test e-mail was sent. If you didn't receive the e-mail please talk to Thomas.
- Peter Deluca is leading the field day efforts and the club appreciates his hard work. Field Day is June 22/23.
- Holiday Party RSVP cards for 2019 party. Tabled to a later meeting.
- The club account included approximately \$1800. \$59 was paid to Jack, K2JX, for 440 packet rig.

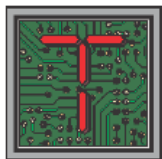
## June 13, 2019 General Meeting Minutes

- Meeting began at 7:31 PM.
- The club account included approximately \$1800. \$59 was paid to Jack, K2JX, for 440 packet rig.
- The repeater committee reminded members to use the tone in and out on .210 repeater to alleviate the static. There was a lively discussion about band openings and co-channel interference from other regional repeaters on our frequency.
- There was nothing new to report in regards to membership.
- There was a discussion about mentioned that the youth are on these platforms.
- QSX includes an article from GSBARC. It was mentioned the possibility of having a presentation potentially on SOTA for a club meeting.
- Steve, N2PQJ, re-iterated the reasons that the Huntington RACES left ARES.
- Field will be at Harborfields Library. It will only be on during the day. It will be a light setup with HF, VHF, and minimal antennas.

# In the Classroom with AB2ZI

## Conductance

By Kevin, AB2ZI



Teaching amateur radio classes keeps me thinking of different way to explain many of the concepts presented in the topic of electronics. One of the concepts that seems to really confuse students when they get to the Amateur Extra level are the ones presented in chapter 4 of the Extra Class License Manual; specifically the concepts of admittance (Y), susceptance (B) and conductance (G).

These quantities are reciprocals of others that you already are familiar with: admittance is the reciprocal of impedance, so  $1/Z$ , susceptance is the reciprocal of reactance  $1/X$  and conductance is the reciprocal of resistance,  $1/R$ .

I believe a discussion of resistance and conductance will serve to shed a light on the concept of a reciprocal quantity and why we use them so we'll only look at them for this article.

From your first license, the Technician, you should be familiar with the fact that **resistors in series add together**. In a series circuit, there is only a single path for current to travel from the source (a battery, ac voltage or other signal) through the components and back to the sources opposite side. For a battery, this would be the electrons traveling from the negative terminal around to the positive (or vice versa if you are a fan of conventional—positive to negative—current flow).

You can visualize this as a file of people walking down a corridor. If there is a narrowing of the walls, your progress will be slowed. The more restrictions we add (more resistors) the less the rate of progress through the corridor. We see this with current in a circuit. If there are 10 Ohms of resistance and 10 volts pushing the electrons then by Ohm's law ( $I = E/R$ ) we can expect 1 ampere of current flow. If we add another 10 Ohms in series with that first resistor we now have 20 Ohms of resistance and our current is down to  $1/2$  or 0.5 amperes.

So what happens when we have a parallel circuit? If we again begin with just our single 10 Ohm resistor with

10 volts applied we see our 1 amp of current flow. Now however, if we add a second 10 Ohm resistor, this time in parallel with the first, we have given the current a second path to follow. Think again back to our file of people walking down a corridor. By adding a second corridor we can get twice as many people through. Adding a third path in parallel increases the current even more, thereby reducing the amount of overall resistance. For resistors in parallel we therefore cannot just add them together because we are not adding resistance, we are adding *conductance* paths! The formula you learned for adding resistors in parallel (the main one) was called *the reciprocal of reciprocals* formula which was written:

$$\frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \dots}$$

Since conductance (G) is  $1/R$ , we can rewrite this formula as the reciprocal of conductances:

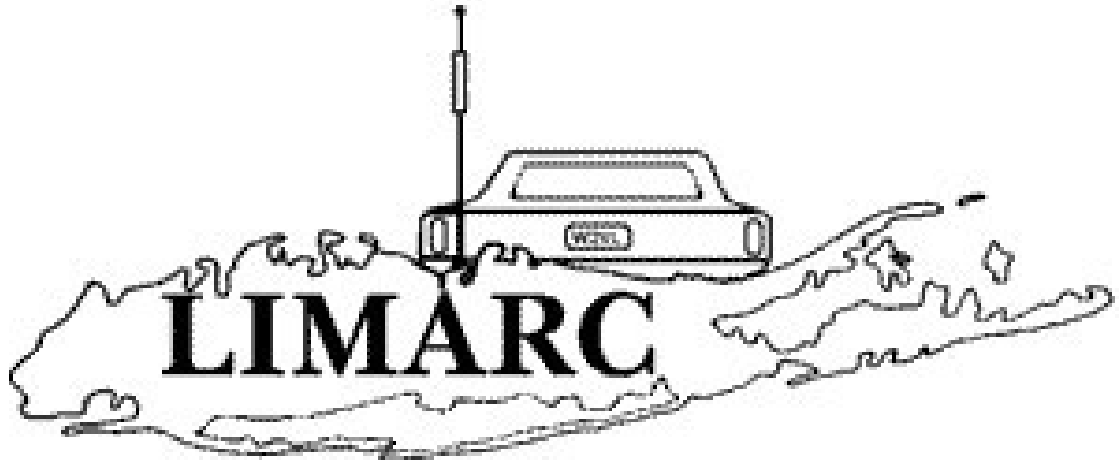
$$\frac{1}{G_{R1} + G_{R2} + G_{R3} \dots} = \frac{1}{G_{Total}} \text{ and } \frac{1}{G_{Total}} = R_{Total}$$

In parallel the conductance are added together and the reciprocal of that total is taken to find the total resistance (remember, since  $G = 1/R$  then  $R = 1/G$ ).

The reason chapter 4 makes everyone's heads explode is that when we have parallel *reactive* circuits, that is circuits with capacitance and/or inductance with the components in parallel, we have to not only take into account the conductance of the circuit, but also the reciprocal of the reactance which has a phase shift introduced between the current and voltage (ELI the ICE man). This means that instead of just a straightforward reciprocal of reciprocals type calculation, we also have to deal with phase angles being introduced and this results in having to do some right-angle trigonometry to find the solution to impedance. The intermediate step is called an admittance calculation and when we take the reciprocal of the reactance ( $1/X$ ) this results in a sign change of the angle involved. So if the reactive part of the circuit is inductive, the phase angle changes to a negative angle which is the sign for a capacitive reactance. But remember, when we take the reciprocal of the reactance we no longer have a reactance, we have a *susceptance*, *B*! Following the admittance calculation we then find the impedance of the circuit by taking the reciprocal of the admittance ( $1/Y = Z$ ) and changing the sign of the phase angle to its opposite. So that negative angle I just mentioned would return to a positive angle which properly matches what is expected for an inductive circuit.

I hope this helps and doesn't cause any undue confusion. There are many ways to picture all of these concepts. Find the one that works best for you and remember, the more you practice the more familiar you will become with them and soon it will all be second nature to you.

73 and see you in class. 📡



***Long Island Mobile Amateur Radio Club***

**Long Island Outdoor Hamfest**

**Sunday October 27<sup>th</sup>**

**Doors open at 9AM**

**General Admission \$6**

**201 Levittown Parkway**

**Levittown, NY 11801**



# Larkfield Amateur Radio Club Holiday Party

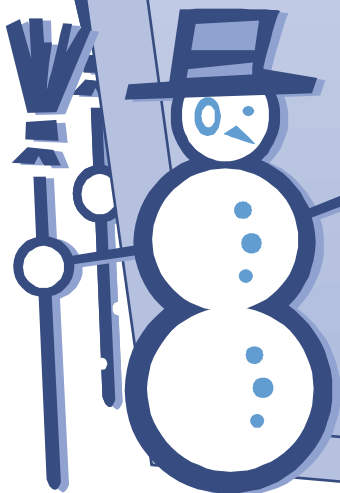
**December 12<sup>th</sup>, 2019**

7:30 PM  
Huntington Senior Center  
423 Park Avenue, Huntington

**Join us for an evening of food, family and friendship,  
all with a bit of amateur radio mixed in.**

**A donation of \$5.00 per guest is requested to help  
fund this event.**

*Please RSVP to [KC2TAF@ARRL.NET](mailto:KC2TAF@ARRL.NET) with your name, call sign, and if you will be able to join us, and let us know how many guests will be joining you. Your prompt reply will enable us to order an appropriate amount of food and drink.*



## September 12, 2019 Board Meeting Minutes

Call to order  
Discussion of upcoming elections for officer and director positions.  
President's Report: (VP report)  
Treasurer's Report:  
Publications, Social Media

Old Business:  
    Holiday Party RSVP cards for 2019 party – incorporate into QSX  
New Business:  
    As presented  
Adjourn

## September 12, 2019 General Meeting Minutes

Call to order  
Pledge  
Introductions  
President's Report – (VP report) – time to step up for 2020 officers and directors  
Treasurer's Report  
Secretary's Report – correspondence (if any)  
Repeater Report  
Membership  
VE Sessions: Latest held on 10/10 and 12/14. Thanks to our VE team.  
Good & Welfare

Night Timers  
Social Media / Yahoo Group / Website Report  
Publications / QSX  
ARES / RACES / Public Information  
Announcements  
Old Business  
    Field day re-cap - Thanks to Peter AA2VG for all his hard work  
New Business  
Presentation  
Adjourn

October Club Meeting  
October 10, 2019  
7:30 PM  
Huntington Senior Citizen Center

## **Groups IO**

Please join the Clubs Yahoo group. Not a member already send an e-mail to the following address:

**[larkfieldarc+subscribe@groups.io](mailto:larkfieldarc+subscribe@groups.io)**

**Join our facebook group**

**<http://www.facebook.com/Larkfieldarc>**

## **ARES/RACES NETS**

Sunday 0900 New York State RACES 3993.5 LSB

Monday 1900 Huntington – 147.210

Monday 1930 Smithtown – 145.430

Monday 2000 Nassau County ARES RACES – 443.525

Monday 2015 Babylon – 146.685

Monday 2030 Brookhaven – 145.210

Monday 2030 Islip – 147.345

Monday 2100 Suffolk County RACES – 145.330

## **Huntington RACES**

**<http://www.huntingtonnyaresraces.org>**

**The Larkfield Amateur Radio Club**

Affiliated with American Radio Relay League  
Officers (one year terms)

President  
Vice President Neil Harris KC2TAF (2019)  
Secretary:  
Treasurer: Rich Florio W2TMA (2019)

**General Directors (two year terms)**

Donald Clarke AB2BN (2019-2020)  
Art Van Nostrand KD2NJM(2019-2020)  
Matt Lazarus N2RBP(2019-2020)  
Peter Deluca AA2VG(2019)  
Roger Rapp W2GLE (2019)

WA2PNU Station Trustee Jonathan Schwartz KC2PBE  
WR2ABA Station Trustee Jonathan Schwartz KC2PBE  
W2LRC Station Trustee Jonathan Schwartz KC2PBE

Members of the Larkfield Amateur Radio Club are invited  
to use the  
W2RGM Dix Hills Repeater System:

2 meters  
147.075 MHz out/147.675 MHz in  
4z/136.5 Hz PL

70 centimeters  
448.500 MHz out/ 443.500 in  
2a/114.8 Hz PL

**THE LARKFIELD AMATEUR RADIO CLUB OPERATES:**

WR2ABA HUNTINGTON REPEATER  
2 meters  
147.210 MHz out/147.810 MHz in  
4z/136.5 Hz PL

W2LRC HAUPPAUGE REPEATER  
2 meters  
145.430 MHz out/144.830 MHz in  
4z/136.5 Hz PL

W2LRC HUNTINGTON APRS  
2 meters  
144.390 MHz In/Out

USA EASTNET FLEXNET NETWORK  
2 meters  
WA2PNU (0-15) Nodes 145.070 MHz  
WA2PNU (-4) Node 145.070 MHz (BBS)

The Larkfield Amateur Radio Club wishes to thank Bruno KC2ESI, Jack K2JX, Joe N2QPD, Bob AC2AZ, Thomas KC2PSC, and Pat WB2CMF for their dedication and efforts in maintaining the Club's repeaters and our packet and APRS stations. Their collective efforts and donations of equipment along with the overview of Bob AC2AZ and Peter AA2VG have kept us "on the air". Still to go, another 440 MHz repeater and adding IRLP or Echolink to one of our repeaters. We need volunteers for this new work.

**General Meetings 7:30 PM**

October 10, 2019  
November 14, 2019 December 12, 2019

**Board Meetings 7:00 PM**

October 10, 2019  
November 14, 2019 December 12, 2019

**GOOD AND WELFARE**

**Attention members:** Our Good and Welfare Chairperson is Helene Lazarus (XYL of Arnie N2PLS). Please inform her (499-2837) of news about club members so she may make submissions to this publication.

It is with much sadness that we announce the passing of Ed Ebert, KC2E a former President of the Larkfield Amateur Radio Club on July 29, 2019

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**2014 DUES SCHEDULE**

**Regular Membership: \$35.00**

**Members Age 65 or older: \$25.00**

**Members Age 17 or less: \$25.00**

**Disabled Members: \$25.00**

**Living Outside Club's Operating Sphere: \$15.00**

**Add \$10.00 if you want QSX via U.S. Mail**

**Make your check payable to: LARC**

**And Mail to:**

**Larkfield Amateur Radio Club Inc.**

**PO Box 1450**

**Huntington, NY 11743**

**VE SESSION SATURDAY October 10th  
HUNTINGTON TOWN HALL  
100 MAIN ST., ROOM 114  
WALK-Ins WELCOME**

Team Liaison is Rich W2TMA. Fee is \$15. All elements will be offered and exams start at 9:00AM. You must have 2 forms of ID, one of which includes a photo. If upgrading, bring an original and a copy of your license and an original of any CSCEs.

**The next Executive Board and General meetings will be on Thursday, October 10th at 7:00PM and 7:30PM, respectively.**

**You can submit articles or photos for publication by e-mail at:  
larkfieldqsx@gmail.com**

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**Larkfield Amateur Radio Club, Inc.  
Post Office Box 1450  
Huntington, NY 11743**