

The VOX

The Official Newsletter of the

Lehigh Valley Amateur Radio Club - W3OI / KB3SYV Allentown, Pennsylvania (Lehigh County) - USA

2022 Officers

President: *Myles Bodisch* - KB3ZMA (KB3ZMA@gmail.com) Vice President: Jeff Bauer - WA3PNY - (BAUERJV@MAC.COM) Secretary: Steve Olock - KS3R0 - (solock@gmail.com) Treasurer: *Paul Ryan* - N0KIA - (paul.f.ryan@gmail.com)

2022 Board of Governors

Phil Bigg - KB3HMK (PHILBERT17@ptd.net)
Matthew Kriebel - KB3UZE (kriebz@gmail.com)
Dan Longo- KB3HWD (longodg@yahoo.com)
Mark Miller - AK3M (AK3M@rcn.com)
Rod Wolfe - N3XG (n3xg.radio@gmail.com)

VOX Editor - Mark S. Miller (AK3M) ---- (AK3M@rcn.com) Net manager - Rod Wolfe (N3XG) - (n3xg.radio@gmail.com)

LVARC Repeaters

146.34 / 146.94 (PL 71.9) 147.735/147.135 (DCS 315) 147.420 (Club Simplex Freq.) 445.025 W3OI D-Star "B" module 147.165 W3OI D-Star "C" module

LVARC/RACES/ARES Net

Every Monday at 7:30p (ET)

- * 147.735/147.135 (DCS 315) Automatic Mode Select. Analog
- * FM or YSF, Yaesu System Fusion),

Many club announcements will be heard there

The **September** LVARC meeting will be held on <u>Tuesday</u> <u>September 6,</u> 2022 using **ZOOM** <u>AND</u> In-Person at <u>7:30p.</u>

The program: "5/8 Wave Antennas - Theory and Myth" Plan to attend this Meeting!

The LVARC holds it's monthly meeting the FIRST TUESDAY of every month BOTH In Person <u>AND</u> using ZOOM at 7:30p Eastern time. Meetings are held at the Tri-Clover Fire Co. in Orefield, PA.

LVARC TEST SESSIONS

The LVARC test sessions are held the THIRD FRIDAY of EVERY OTHER MONTH.

Contact Mark Miller (AK3M) at <u>AK3M@rcn.com</u> for details.

REGISTRATION IS REQUIRED

If you have questions, contact Mark (AK3M) at <u>AK3M@rcn.com</u>

UpComing 2022 LVARC Programs

September 6 - "5/8 Wave Antennas - Theory and Myth" de Rod (N3XG)

Note: — Programs or topics are subject to change.



This Month In Ham Radio Sunday Wednesday Thursday Saturday Monday Tuesday Friday 3 2 1 September 2m FM SIMPLEX net 2022 147.420 8:00 8 9 10 6 4 South LVARC Whitehall Net LVARC 2m FM 7:30p Emergency **D-Star** SIMPLEX Meeting Prepare **KB3YOT** Net net 7:30p 147.420 Expo 7:00p 2m AM/SSB 8:00 4:00p Net - 8:15p 17 13 15 11 14 16 12 LVARC 2m FM Net D-Star SIMPLEX 7:30p Net net 147.420 **KB3UZE** 7:00p 8:00 2m AM/SSB Net - 8:15p 22 23 24 18 21 20 19 LVARC LVARC 2m FM D-Star Net SIMPLEX "Hands 7:30p Net net On 147.420 7:00p AK3M Night" 8:00 2m AM/SSB Night First day Net - 8:15p of Fall 25 27 28 29 26 30 LVARC D-Star Net 2m FM 7:30p Net SIMPLEX N3XG 7:00p net 147.420 2m AM/SSB 8:00 Net - 8:15p

South Whitehall Emergency Preparedness Expo - See page 22

There will be an Emergency Preparedness Expo on **September 10** from **4:00p** to **7:00p** at **Springhouse West Park** - **4320 Farm Drive**.



Following the open house (at about 7:30) will be a firefighters movie geared to children.

The LVARC communications van will be available for those attending to visit. If you are interested in helping to man the van, contact Mark (AK3M) at <u>AK3M@rcn.com</u>.



Have You Been Checking Into the LVARC p

Have you been checking into the LVARC nets? See page 6 for a list of these nets. Check into one or all of these nets.

Abbreviations

"This is the Lehigh Valley, <u>RACES</u>, <u>ARES</u> and <u>ACS</u> <i>Net" Do you know what all these abbreviations mean?



RACES - Radio Amateur Civil Emergency Service ARES - Amateur Radio Emergency Service ACS - Auxiliary Communications Service

"Happily we bask in this warm September sun, which illuminates all creatures..." — <u>Henry David Thoreau</u>

2022 LVARC Test Session Schedule



October 21 2022 December 16 2022



Registration is NECESSARY.

To register, contact Mark (AK3M) at <u>AK3M@rcn.com</u>.

Test Information Update

The new Technician test took effect on July 1, 2022

Do you remember ...? Hess's logo?

here's here's here's

Send your "What Ever Happened To/ Do you Remember...," to Mark (AK3M) for inclusion in a future issue of the VOX).

2022 LVARC ARES Events

Here is a list of ARES events for 2022. **Your help is needed.** Specific dates will be announced and be in the VOX.

Check your calendar and volunteer early!



October 1 (Saturday) —- Women's 5K Classic

November 7 (Sunday) - Delaware & Lehigh Heritage Half Marathon Run/Walk



A <u>NEW</u> Technician test took effect on July 1, 2022.

If you are studying for the Technician test, be sure you are studying the *current* material.

Women's 5K Classic



Your help is needed to supply communications support for the Women's 5K Classic held on **Saturday October 1**.

Check your calendar and volunteer now to help by contacting Mark (AK3M) at <u>AK3M@rcn.com.</u>

A Review of the LVARC Nets

1. Monday Night LVARC Net - 7:30p - 146.94MHz



- 2. Monday Night 2m SSB Simplex Net 8:15p 144.250MHz
- 3. Wednesday Night D-Star Net 7:00p
- 4. Thursday Night 2m Simplex Net 147.420MHz 8:00p

Check into one or all!

"Radio affects most intimately, person-to-person, offering a world of unspoken communication between writer-speaker and the listener."

-Marshall McLuhan (Canadian philosopher)



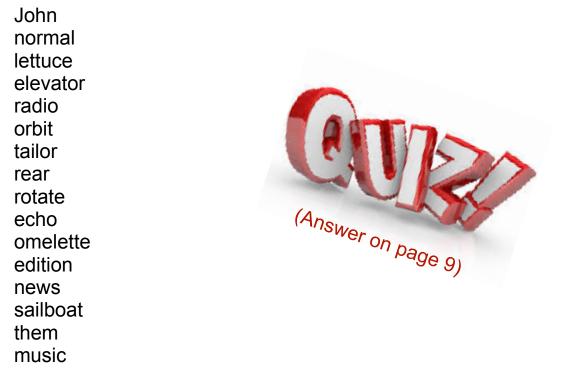
Want to Be Published?

Send an article to me (<u>AK3M@rcn.com</u>) for inclusion in the VOX. Perhaps you want to create an HF report or a VHF/UHF report, a contest report, a construction report or anything that you would like to share with the members.

How do the following words relate to each other?

Publish

?



Can you write a word that could be next _____

Don't forget to volunteer for LVARS ARES events. A successful ARES program cannot happen without your help! Volunteer your time and technical experience now!

LVARC Membership Form

for the

Lehigh Valley Amateur Radio Club (W30I)

Use this form for NEW or RENEWAL Membership

Mail with check payable to LVARC

Application Data	Item	Price	Total	
Name	Regular Membership	\$20.00		
Address	Family Membership	\$25.00		
City, State, Zip	Student Membership	\$15.00		
Home Phone	Lifetime Membership	\$500.00		
Cell Phone	Total encl	losed \$		
Call	_			
License Class				
Email Address				
Send completed application to: Paul Ryan (N0KIA) 5814 Lindbergh Street Orefield, PA 18069				

Quiz answer (from page 7)

After the first word, each word starts with the last letter of the previous word. The next word could be any word that starts with "C."

Member/Reader Responds to "Do You Remember?"

In the August 2022 issue of the VOX, the, "Do you remember ...," question was, "**Do you remember slide rules**. (submitted by Larry (NR3R)? Al (KB3JPP) remembered the days he used a slide rule. Read his article below.

The Lowly Slide Rule

Alfred Gruenke PE, KB3JPP

During one of my MBA classes at DeSales University a couple of years ago there was a mention of a slide rule. Most of the class consisted of Millennials, late twenties to early thirties who grew up with calculators. Their perplexed expressions and mutterings made it clear that they had no idea what a slide rule was.

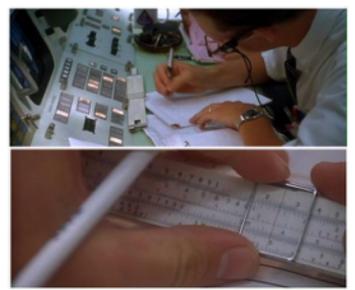
Naturally, I jumped in to enlighten the uninformed, and explained its function. I brought mine to the next class and demonstrated this wonderful device. It was viewed as a curiosity from the Dark Ages, akin to the Philosopher's Stone or the abacus. They were too enraptured by pocket calculators, which can do a lot more with minimal thought or understanding.

Then, it came up again in a recent conversation with my son in law David Arndt, a Civil Engineer graduate from Lehigh University. He asked me how accurate it was, how many significant digits, etc. I explained that the accuracy is well within manufacturing tolerances, especially for Electrical Engineers.

The normal slide rule was around ten inches long, though there were variations. The six inch version was designed to fit into a shirt pocket (inside a plastic pocket protector, naturally).

In the early 1970's pocket calculators were introduced, wiping out slide rules forever. I believe it was the fastest replacement of one technology by another in the history of the world! But it's important to remember that we went to the moon, and back, using the slide rule. Yes, they did calculations with the computers of the day, but be assured that every engineer associated with the space program had a slide rule, and knew how to use it. In the movie "Apollo 13" when the oxygen tank exploded and the mission had to be scrubbed, calculations were made at Houston Space Center with a slide rule.

There was also a circular version; it was unique because the user never had to reverse course; change from the left "1" to the right "1". It was used by the Peter Sellers character in the movie "Dr. Strangeglove, or How to Stop Worrying and Love the Bomb" in the final scene, as he tries to convince the US President as to what to do to counter the Soviets' Doomsday device.



To the Moon – and back. The slide rule calculation that saved Apollo 13; from the film "Apollo 13".

To those who went to school in the BC (Before Calculators) era, the slide rule was the premier multiplying device, primarily for engineers and other technical types. One can't add or subtract numbers with a slide rule. That's what paper and pencil are for, though there was a type of slide rule that did just that. I understand it was used by structural steel detailers.

The normal slide rule is based on the logarithm of numbers. Log $(a^*b) = (\log a + \log b)$. To multiply two numbers, add the logarithms. To divide one number by another, subtract the logarithms. Slide either the left or right "1" of the C scale of the slider over one of the multipliers on the D scale, move the cursor over the other multiplier on the C scale, read the answer on the D scale. One had to extrapolate the answer from the scales. The accuracy is around 1 part in a thousand, somewhat depending on the skill of the user to estimate distances.

Yes, I loved the slide rule, lovingly called a slip-stick. My love affair started as a Junior in Allentown High School in the late 1950's. I had been struggling with calculating square roots for years; I just never was able to do it right. So when my Chemistry teacher, Willard Clewell, offered an after-school session to teach anyone interested how to use a slide rule, I jumped at the opportunity. We did the usual $3 \times 4 = 12$ using the C-D scales, then went to more complex operations. Convert the numbers to single digits times 10 to an exponent. Read the answer and add the exponents. Simple.

Then, we went onto the A-B scales for calculating square roots. The A-B scale has two scales, a left hand scale and a right hand scale, located above the D scale. Convert the number to a number multiplied by an even exponent of ten. If the number has an odd number of digits, use the left-hand scale. An even number of digits, use the right-hand scale. Set the cursor (the transparent slider) to the number, read the answer on the D scale. Divide the x10 exponent by two, and voilà, the square root! The heavens opened, and the veil of darkness was lifted from my eyes. I was on my way to calculating the way engineers do. I never looked back!

For years I estimated calculations mentally by picturing a slide rule in my mind, moving the slider and cursor, and "reading" the answer. This technique was especially useful when estimating square roots.

641 532 Th A	torrate attraction of the second seco
T SRT	In Minandran Warden Warden Mar adar
DI	Annatorial and a second and a
ul l	<u> </u>

See how simple this is? The sq. rt. of 2, 200, 20,000 (A-B) is 1.41, 14.1, 141. (D)

Most slide rules also had trigonometric functions and log scales. More sophisticated ones had specialized scales.

I was a paper boy (remember those?) for the Morning Call at that time, and had accumulated a number of "credits" from my route. I traded them for a rather good slide rule that I used for years, well into the Engineering curriculum at Lafayette College.



K & E Log Log Duplex Decitrig Slide Rule. 1.5 * 4 = 6; $1.5 \times 10^3 * 4 \times 10^2 = 6 \times 10^5 = 600,000$

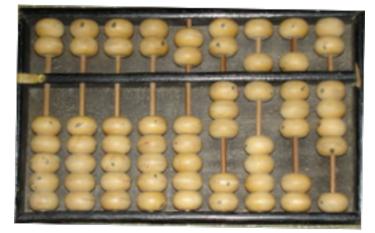
One of the Rites of Passage of Engineering students in college was to purchase a good, professional quality slide rule. Electrical Engineers used a K & E Log Log Duplex Decitrig slide rule. Decitrig means angles were in decimal units of degrees, not degrees and minutes. Mine has 22 scales. The price was a little over \$32.00. Other disciplines had other specialty scales. The instruction book was 124 pages. They always came in a very nice leather case to protect the precious contents. The Civil Engineers' case had a loop to attach to their belt, which we EE's mocked at every opportunity!

We treated our slipsticks with loving care. Before an exam, we could clean and "calibrate" them, to ensure that all the scales lined up. We all had a small screwdriver to do this. The slider had to be lubricated carefully, so that the movement of the slider and cursor was silky smooth, but firm enough so it held its position. I believe that some of us treated our slide rules better than we treated our wives!

Yes, in a world of calculators it's easy to forget the slide rule, and how ubiquitous they were. However, we lost something going from slide rules to calculators. The nice thing about a calculator is, you don't have to think very much; the bad thing is, you don't have to think very much. You just punch in the numbers and read the answer. When using a slide rule you have to be engaged. You have to think about the problem, and estimate the solution. You are more intimately involved. Errors, especially errors of orders of magnitude, quickly become apparent. Not so with calculators.

Since we are sashaying down Memory Lane, a short comments about the abacus. A generation ago it was common outside of North America, especially in the Far East. Mine was given to me by my father, who was pretty good at it. I never learned how to use it well. I keep it because, why not? Paper and pencil worked fine with me, though I can see its use when these are not available. In many parts of the world paper and pencil was too expensive, so the abacus remained in use until the recent past.

In the 1960's computer rooms often had an abacus in a glass case hanging on the wall, with the designation, "In Case of Power Loss Break Glass".



On the bottom, each bead is 1, on the top each bead is 5. The sum of the bottom and top is one digit. The above number is 3,684.

I will admit the only time I ever pull out my slide rule is to show someone how it used to be. Pocket calculators have become so powerful there is no comparison, but old loves never die. Especially first loves.

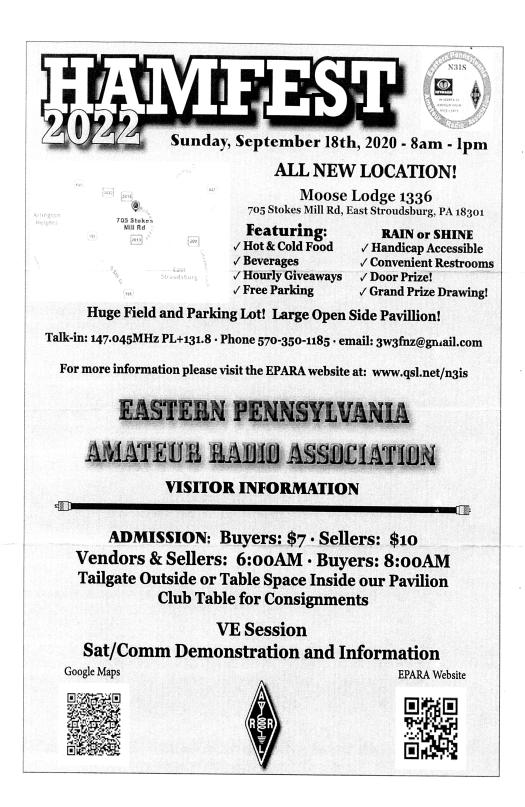
Besides, the batteries last forever. Even in the dark.

READER SUBMISSION

de Al KB3JPP)



CORRECTION: The Field Day pictures on pages 11 and 12 of the August 2022 VOX were taken and submitted by Doug (N3WGH).





in the LVARC in 2022?

September 10 - South Whitehall Emergency Preparedness Expo

October 1 - Women's 5K Classic October 21 - LVARC Test session October - Nominations for Pres Schuler Award

November 7 - D&L Half Marathon **November** - Nominations for 2003 officers and board begin **November** - Nominations for Pres Schuler Award

December 6 - Elections for 2023
December 6 - Holiday party
December 6 - Presentation of Pres Schuler Award 2022
December 16 - LVARC Test session

In 1943, Navy officer Grace Hopper had no choice but to fix a computer glitch manually. The source of the



problem? A moth. Hence the term "computer bug."



At the August 2, 2002 meeting, one new person was voted in as a new member. The LVARC welcomes **Stefan** [Steve] **Siegel** (**KC3UKE**).

Welcome to the LVARC Steve!

The VOX needs your input. Send your VOX submission(s) to Mark (AK3M) at <u>AK3M@rcn.com</u>. You may include text and/or graphics.

"Well done is better than well said." - Ben Franklin

August Test Session Results

At the August 19, 2022 test session, one tested and one passed.



CONGRATULATIONS to **Stefan** (Steve) **Siegel** (**KC3UKE**) who upgraded to General!

VEs in attendance included Mark (AK3M), Walt (KE3SP) and Don (N0VGA).

The next test session will be held on Friday October 21, 2022. Registration is NECESSARY. To register for the October 21 test session, contact Mark (AK3M) at <u>AK3M@rcn.com</u> NO LATER than Sunday October 16.



Paul (N0KIA) hosts the LVARC Hands On Night on the third Tuesday of the month at 7:30p. This feature is held in the LVARC meeting room at the Tri-Clover Fire Company and/or one line via ZOOM.

Paul needs topics for this event. Send your idea topics for "Hands On Night," to Paul at <u>paul.f.ryan@gmail.com.</u>

2022 and 2023 LVARC Test Sessions

If you are planning to upgrade or you know someone who wants to get their Technician license, below are the tentative scheduled test dates for test sessions in 2022 and 2023.

<u>2022</u>

October 21 2022 December 16 2022

<u>2023</u>

February 17 2023 April 21 2023 August 18 2023 October 20 2023 December 15 2023



Remember - **REGISTRATION IS NECESSARY**. Contact Mark (AK3M) to register.

Another ARES Event? de Mark (AK3M)

I am very proud of the LVARC ARES program as we have been able to successfully provide communications support for all promised agencies for the past many years. YOU are to be commended as this could not happen without your support. During 2022, the LVARC has served 5 events, thanks to your dedication to ARES!

I have been contacted by a ham who has asked us to provide communication support for a new event in 2023. I do not want to overwork LVARC volunteers which is the reason for this text. Below is all the information I have about this event. I would appreciate your input about us providing our service to a new event before I commit to doing this event.

Event: Gran Fondo Hincapie Lehigh Valley
Date: June 3 2023
Place: Veledrome and surrounding areas (water stops and start/finish)
Time: 0800- 1730
Number operators needed: 7 or more

Coordinator: Joe Coddigan (KK4QDC) You can go to **https://hincapie.com/granfondo/lehigh-valley/** to see about this event.

After looking Joe up on QRZ, I see he lives in North Carolina. He represents the orgainization and they apparently run this event in many places including the Lehigh Valley. Proceeds reportedly go to the local velodrome for youth cycling programs.

Again, before I commit LVARC operators and our resources, **IS THIS SOMETHING WANT TO SUPPORT?** Are we ready for a new ARES event?

I would like to hear from you to see if we could get 10 or so operators to support this event? You can simply respond to me via email YES/NO or you can send a narrative as to why or why not we should commit to this new event.

Email me at **AK3M@rcn.com** with your comment and/or if vou would volunteer.

August 2022 Minutes W3OI Amateur Radio Club

August 2022 08/02/2022

Combo Local and Remote via Zoom

The Meeting was called to order by MB @ 1931

Secret Word, was BaoFeng Emailed to KS3RO@ARRL.NET

MB covered hybrid zoom meeting procedures, zoom will be an active participant in the meeting

Remotes to Raise hand to signify a nay vote

Members attendance was members Local, and 10 members remote for a total of 20.

Online was interactive with full communications for both local and remotes

ATTENDEES

There were a total of members in attendance 11 remote members (as per the email method) and 8 Local Attendees.

The following Board Members were present at the meeting:

President – Myles Bodisch PRESENT

Vice President – Jeff Bauer PRESENT

Treasurer - Paul Ryan PRESENT

Secretary - Steve Olock PRESENT

Board Members:

Mark AK3M Absent

Phil KC3HMK Remote

Matt KB3UZE Remote

Rod N3XG PRESENT

Dan KC3HWD Absent

Proceedings:

A motion was made to approve the May Meeting minutes as published in the July VOX newsletter

Motion: by Scott KC3YOT and 2nd by Chuck W3CDY

Motion Passed -Yes

Guests: Two

Program: Following the regular meeting will be a presentation by Scott, KB3YOT about Winlink

Following the September meeting will be a presentation on the $\frac{5}{8}$ wave antenna, by Rod N3XG

Treasurer's Report (Paul - N0KIA)

It was noted that the interest bearing account is now producing some income and \$9.66 was listed as the income. No other income was noted

Motion to accept the Treasurer's report was made by Chuck W3CDY and 2nd by Walt KE3SP

Motion Passed: Y

Please whitelist <u>lvarc.w3oi@gmail.com</u> and <u>paul.ryan@gmail.com</u> and <u>kb3zma@gmail.com</u> if you have rcn or ptd for email address to allow yourself to receive the emails from the club

Committee Reports:

ARES/VE Report

VE REPORT

The next LVARC test session will be held at Hanover Elementary School on Friday August 19 at 6:00p.

The new Technician test question pool took effective July 1, 2022.

ARES REPORT

There will be two more ARES events where the LVARC will provide communications support .

October 1 (Saturday) - Women's 5K Classic (Contact Mark - AK3M@rcn.com)

November 7 (Sunday) - Delaware & Lehigh Heritage Half Marathon

Run/Walk (Contact Rod (N3XG -<u>n3xg.radio@gmail.com</u>.

Communications:

Website updates corrections are being plannedMatt KB3UZE is responsible for the website and interacting with the board about it.

Repeater report: Rod N3XG Voter on 94 swapped and upgraded to a very current radio

A minor delay when keying up can be an issue , please delay a split second before transmit while the voters do their thing

All feedback is appreciated, but for the feedback to be actionable, please note the what and when of the issues so that we can diagnose the issue

I'm not aware of any other repeater issues, and the Baeofeng bandit has not returned as far as I am aware.

Respectfully submitted,

Rodney N3XG

Club Station / Trailer:

Sept an antenna work party will be held at the fire station

Ground Plate needs to get moved due to a change in landscaping

Old Business:

A membership card for online download is being worked on by Steve K2OPA

New Business:

New Member, KC3TPQ , Andrew Smith

Move to accept by Scott KC3YOT, and 2nd by Chuck W3CDY

New Member, KC3UKE, Steve Siegel

Move to accept by Doung N3WGH and 2nd by Chuck W3CDY

Sick Call:

No none members on the sick call

Good of the Order:

Microcenter has listed a \$70 laptop of decent quality and stock is fleeting but restock occurs

Chuck W3CDY noted that there are Baofeng knockoffs that are not Baofeng, never were, and are actually less supported than baofeng.

W3CDY has some Baofeng supplies for offer.

Jeff WA3PNY noted a new modded TYT MD380UVG The magic is that it has M17 decode/encode. M17 is a new opensource digital codec and this a radio that can be moded (with great skill as surface mount components are involved) As is expected Jeff has plans to get an M17 repeater on the air sometime?!

Nets for W3OI

Club Net Monday 730PM 146.94

Monday 815 2M SSB 144.250

Wed 7PM dstar / digital d-rats / 147.7125

Thursday 8PM FM Simplex 147.420

Sunday 10AM 10 Meters 28.420 SSB +- 10

Here are the monthly check-ins for July.

July 4th: 1 check-in

KB3YOT Scott NSC It was very lonely that day.

July 11th: 7 check-ins

KB3YOT Scott NCS

WA3PNY Jeff

KC3EXO Rick

N3XG Rod

AB3LZ John

WW3TRG Tom

N3WGH Doug

July 18th: 4 check-ins

KB3YOT Scott NCS

WA3PNY Jeff

N3WGH Doug

KC3EXO Rick

July 25th: 7 check-ins

KB3YOT Scott NCS

WA3PNY Jeff

KC3EXO Rick

W3WGH Doug

WW3TRG Tom

KC3HOJ Mike

N3XG Rod

The LVARC Monthly Business Meeting Closed at 2010

Motioned by Chuck W3CDY, 2nd by Rod N3XG and the Motion Passed

Respectfully Submitted Steve Olock KS3RO, Secretary





Reference the **end fed zepp** antenna, got its name from the antenna on the Zeppelin air craft. They payed out a wire antenna.

READER SUBMISSION

de Larry (NR3R)



Food Truck: Big Poppas Backyard BBQ

4:30 - 7:30pm Activities

- Face painting
- Hands only CPR and Stop The Bleed
- Child safety Seat inspections
- Free Smoke /CO Detector installation sign up.
- SWT Volunteer Fire/Rescue Demonstrations
- Junior Firefighter Challenge obstacle course
- Drone & Police K-9 Demonstration
- Fun games and prizes
- Food Trucks and More

7:30 - 9:00pm Movie in the Park



Playing with Fire

A crew of rugged firefighters meet their match when attempting to rescue three rambunctious kids - starring John Cena

Saturday, September 10, 2022 Springhouse West Park 4320 Farm Drive, Allentown, PA 18104

Fun for the whole family

We are also using this event as a way for YOU to give back to the community. We will be collecting food donations for the Parkland Cares Food Pantry, School Supplies for the Parkland Educational Foundation and Pet Supplies for the Sanctuary at Haafsville.

Check SWT P&R Facebook page for more details!

The topic will be "Antenna Modeling"

LVARC "Hands On Night" Night

Is Anyone Interested in This?

I'm a member of the Lehigh University Class of 1972. I became trustee of W3AEQ in 2004 when my daughter, W1PAM, also attended Lehigh.

Since I'm not local to the area, do any of your members have a connection to the University and would be interested in organizing a ham radio effort involving it? The ARRI has resources to help you do it **http://www.arrI.org/collegiate-amateur-radio**. There's also a collegiate QSO party on October 1 that you might want to participate in.

It would be better is some closer to the University were now involved in this.

Thanks & 73

Gary Wilson, K2GW ASM, SNJ Section, ARRL



Lots happening at the LVARC!

Listen to the net, attend meetings and read the VOX to keep informed.

10 Highlights in this VOX





and more ...

- 2. South Whitehall Emergency Preparedness Expo on October 10.
- 3. Send your articles, pix., etc. for inclusion in the VOX to Mark (AK3M).
- 4. Submit your "What Ever Happened To ..." / "Do you remember?"
- 5. New ARES event?
- 6. Women's 5K Classic on October 1.
- 7. Reader submission on slide rules.
- 8. August VOX correction.
- 9. Hamfest 2022
- 10. Another ARES event?

