



The VOX



The Official *On-Line* Newsletter of the

Lehigh **V**alley **A**mateur **R**adio **C**lub - W3OI / KB3SYV
Allentown, Pennsylvania (Lehigh County) - USA



Officers

President: **Rod Wolfe, Jr.** - **N3XG** (n3xg.radio@gmail.com)
Vice President: **Brian Klock** - **KW3K** (KW3K@kw3k.com)
Secretary: **Phillip Bigg** - **KB3HMK** (philbert17@verizon.net)
Treasurer: **Brian Snyder** - **KB3QHA** (brian@teamsnyder.net)

Board of Governors

Chuck Ballard - **WB6CDY** (wb6cdy@arrl.net)
Gary Decker - **W3GRD** (SCOUTIH79@YAHOO.COM)
Robin Gable - **KB3GZV** (kb3gzv@arrl.net)
Matthew Kriebel - **KB3UZE** (kriebz@gmail.com)
Paul Ryan - **N0KIA** (N0KIA@arrl.net)

VOX Editor - **Mark S. Miller (AK3M)** ---- AK3M@rcn.com)

Webmaster - **Paul Ryan (N0KIA)** ----- (n0kia@arrl.net)

LVARC Repeaters

146.34 / 146.94 (PL 71.9)
147.735/147.135 (PL 167.9)
447.775 (PL 71.9)
Club Simplex Freq. - 147.420

LVARC/RACES/ARES Net

Every Monday at 7:30 (ET)
146.940 (PL 71.9)

D-Star

W3OI Dstar repeaters are now on W3OI at
147.165, W3EPE at 445.225 and W3OK at
145.110






Join us for a Mid-Atlantic regional net Tuesdays
on the 147.165 port at 7:30 pm.

To register for the Gateway or need information
on setting up the radio, please visit
<https://24.229.28.14/Dstar.do>

W3OI Home Page: <http://www.w3oi.org>

Contents for May 2013



Meeting Information	INFORMATIONAL page 3
L.C. RACES Net Information	INFORMATIONAL page 3
Minutes of the April 2013 Meeting	pages 4-5
This Month In Ham Radio	INFORMATIONAL page 6
VE Report	 page 7
RACES vs. ARES	INFORMATIONAL page 8
The Answer Man	 page 9
Field Day 2013 gear	 page 10
900MHz HT Sale	 page 11



LV RR 1/2 Marathon --- Sunday April 28

Your help is needed! Contact Mark (AK3M) --- AK3M@rcn.com



**Memorial Day
this month**

(May 27, 2013)



Newsletter submissions can be sent to Mark
(AK3M) at AK3M@rcn.com

Your submissions can be text and/or graphics.



The April, 2013 LVARC meeting will be held on
May 7, 2013 at the Tri-Clover Fire Company at 7:30.



LVARC / RACES NET

Don't forget to check into the Monday Night
 LC/LVARC/RACES Net on 146.94 (PL 71.9) with an
 alternate frequency of 147.735/147.135 (PL 167.9)
 The Net begins at 7:30 pm local time (ET).

**Many club announcements
 will be heard there !**

Monday Night RACES/ARES Check-In Summary - 2013

Month



Number of Check-In's



Number of Nets/Mondays

January
 February
 March

108
 105
 133

4
 4
 4

*Spring makes its own statement, so loud and clear that the
 gardener seems to be only one of the instruments, not the
 composer. --- Geoffrey B. Charlesworth*

REMEMBER:

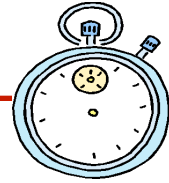


Registration for the monthly test session, must be
 made **NO LATER THAN THE**
SUNDAY BEFORE THE TEST!

Contact Mark (AK3M) at AK3M@rcn.com
 or call 610-865-9183

Minutes of the April, 2013 LVARC Meeting

de - Phil (KB3HMK)



The meeting was called to order by President Wolfe at 1934 Hrs, (EST).

The meeting opened with the Pledge of Allegiance, and then a moment of silence was observed for Silent Keys.

There were a total of 18 members in attendance, and the club was joined by 6 guests. The following Board Members were present at the meeting: Rod – N3XG, Phil – KB3HMK, Brian – KB3QHA, Paul – N0KIA, Robin – KB3GZV, Matt – KB3UZE, Chuck – WB6CDY and Gary – N3GRD.

Guests: Tony Cusumano – No Callsign
Marvin Charles – Formerly K2MFJ
Charles Kerchner Jr. – AB3RP
James Sagazio – KC3AFU
Kent Fitzgerald – KC3AFW
Dave Hill – N3XGE

Corrections additions to the minutes: KB3MJZ was listed as a guest. He should be listed as a new member.

Approved by: Chuck – WB6CDY

Second by: John – AB3LZ

Carried (Y/N) Y

Treasurer's Report (Brian – KB3QHA)

Starting Balance: \$4,327.35

Ending Balance: \$4,104.67

Approved by: Gary – W3GRD

Second by: Chuck – WB6CDY

Carried: (Y/N) Y

Committee Reports:

Repeater: At this time there is nothing to report on the repeaters. Rod explained to the guests where the repeaters and voter sites are.

Program: Tonight's topic will be Repeater Design and Operations. The hands on night will be April 16th. The program will be on Echolink. An Intro to the C.E.R.T. program will be coming. More info to follow.

Volunteer Examiners: At the March 15, 2013 LVARC test session, three tested and three passed.

(Minutes cont. on page 5)

(Minutes cont. from page 4)

CONGRATULATIONS to James Sagazio and Christian Mousseau who earned their Technician and Kent Fitzgerald who passed two tests and earned his General.

They received their calls on March 22, 2013.

James Sagazio - KC3AFU
Christian Mousseau - KC3AFV
Kent Fitzgerald - KC3AFW

The next test session will be April 19, 2013

Old Business: Ticket sales are still ongoing. Rod sent tickets out to members who have not been to a meeting or cannot make one. Tickets are due to Rod by April 11.

The annual picnic is scheduled for July 27. It's at the Rt. 100 Park in Upper Macungie. More info to follow.

April 28 is the first event for the year. It's a 1/2 marathon. If interested in helping out, contact Mark (AK3M).

The website issue has been resolved. If you experience any problems, please contact a board member.

Brian (KW3K) has some 900 MHz radios for sale. A proceed from the sales goes to the club. Contact Brian at kw3k@kw3k.com if interested.

New Business: The anniversary of the Super Outbreak is tomorrow. Rod asked that members listen to the repeaters for Skywarn and other emergency related events.

Non-compliant users have been dominating the repeater and the board has discussed solutions to rectify the problem. Rod will update the club at the next meeting.

Good of the Order: Mark Miller saw Henry Mohr (W3NCX) and is doing well. Henry is one of the original founding members of the club.

New member applicants: Marvin Charles – Formerly K2MFJ
Charles Kerchner Jr. – AB3RP
James Sagazio – KC3AFU
Kent Fitzgerald – KC3AFW
Dave Hill – N3XGE

New Members Motion to Accept by: Carl – AA3IX
Second by: Chuck WB6CDY
Carried (Y/N) Y

The LVARC Monthly Business Meeting Closed at 2013 hrs, (EST.)
Motion by: Chuck WB6CDY
Second by: Matt – KB3UZE
In favor: Y

Respectfully Submitted de KB3HMK, Secretary.

\$\$\$ W3OI Finances \$\$\$	
Balance ending March, 2013 - \$4,104.67	

This Month In Ham Radio

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	<div>ARES RACES Net 7:30</div> <div>Brian KW3K</div>	<div>LVARC Meeting Tri-Clover 7:30</div>	<div>Dist. 2 RACES Net - 7:30 147.255</div>	9	10	11
<div>Deadline to schedule test</div> <div>Mother's Day</div> 	<div>ARES RACES Net 7:30</div> <div>Paul N0KIA</div>	14	<div>Dist. 2 RACES Net - 7:30 147.255</div>	16	<div>LVARC Test Session 7:00 pm</div>	 <div>Armed Forces Day</div>
19	<div>ARES RACES Net 7:30</div> <div>Jeff N3MFT</div>	<div>LVARC Activity Night Tri-Clover</div>	<div>Dist. 2 RACES Net - 7:30 147.255</div>	23	24	25
26	<div>NO NET Memorial Day</div> <div>  </div>	28	<div>Dist. 2 RACES Net - 7:30 147.255</div>	30	31	

LVARC Meeting - Tuesday May 7 - 7:30 - Tri - Clover FC

Test Session - Friday May 17 - 7:00 pm - Red Cross Building

LVARC Activities/Events

Mark your Calendar

PRINT, CLIP and POST



Monday May 6 --- LC RACES/ARES Net - 7:30 pm (146.94)
Tuesday May 7 --- LVARC Meeting (7:30 - Tri Clover FC)
Sunday May 12 --- Deadline to schedule for license exam test
Monday May 13 --- LC RACES/ARES Net - 7:30 pm (146.94)
Friday May 17 --- LVARC Test Session (Registration required)
Monday May 20 --- LC RACES/ARES Net - 7:30 pm (146.94)
Tuesday May 21 --- LVARC Activity Night (7:30 - Tri Clover FC)
Monday May 27 --- **NO NET** - Memorial Day Holiday

2013

There may be additions and deletions to the above dates. Listen to the Monday Night Net, the newsletter and announcements at meetings for changes.

LVARC VE Report

de Mark (AK3M)

At the March 15, 2013 LVARC test session, three tested and three passed.

CONGRATULATIONS to James Sagazio and Christian Mousseau who earned their Technician and **Kent Fitzgerald** who passed two tests and earned his General.



VE's in attendance were **Mark (AK3M)**, **Walt (KE3SP)** and **Frank (W3FTU)**.

REMEMBER: The LVARC offers amateur radio testing. If you want to obtain your entry level license or if you wish to upgrade, the LVARC can help.

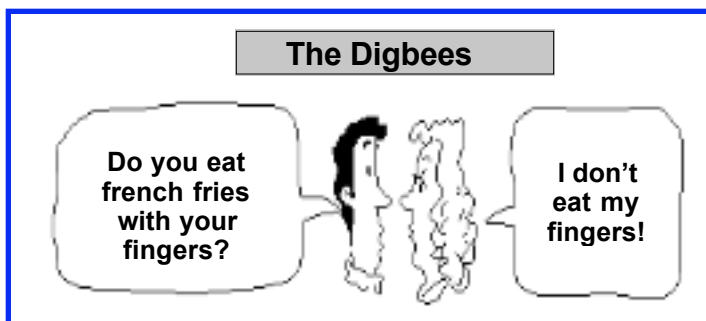
Test sessions are given the 3rd Friday of each month.

REGISTRATION IS REQUIRED!!! Registration must be made no later than the Sunday before the Friday test session.

To schedule a test or for more information, contact Mark (AK3M) at AK3M@rcn.com or call 610-865-9183.



Have an article, diagram or an opinion you would like to share with the LVARC members in this newsletter? Send it to Mark (AK3M). You can submit VOX material in any form. Send it via email (AK3M@rcn.com) or US mail (5508 Hale Ave - Bethlehem, PA 18017). You can send pictures, diagrams or text. **The newsletter needs YOUR material to continue!**



LVARC VE Program




CONGRATULATIONS to
James Sagazio - KC3AFU
Christian Mousseau - KC3AFV
 and
Kent Fitzgerald - KC3AF W
 who
 tested at the March 15 2013
 test session. They received
 their calls on March 22, 2013.

2013 LVARC Events

April 28 --- LVRR 1/2 Marathon

June 22 & 23 --- Field Day 2013

July 27 - LVARC Picnic

September 8 --- LVHN/VIA Marathon

October 12 --- Women's 5K Classic

Radio Before Radio

(from the ARRL website)



<http://www.arrl.org/radio-before-radio>

*There have been many new hams admitted to the amateur radio and LVARC ranks lately, so this might be a good time to review the difference between **RACES** and **ARES**.*
 (ed.)



RACES vs. ARES



RACES (Radio Amateur Civil Emergency Services) is a County sanctioned activity. An amateur may **only** participate in a RACES event *if he registered with the county*. Only the county can declare and activate a RACES event. An **ARES** event is sanctioned by the ARRL. An ARES event can include communications support for community activities such as a walk-a-thon, bike-a-thon, marathon, parade etc.

The Answer Man



Q - Does high SWR burn out my radio's finals?

(TNX to our **Answer Man**, Erik (AI3D))

Transmitting a radio when the SWR is high can happen for many reasons. Handheld radios may have their antenna placed against a metallic object, mobile antennas may brake if they hit tree branches, or perhaps an incorrect band button is pressed on your HF radio while transmitting. When a situation like this occurs, the antenna impedance, as seen by the radio, is no longer 50 ohms. Since your transmitter is tuned for a 50 ohm load, this mismatch creates power reflections between the antenna and radio. We call the ratio between forward and reflected power the SWR. The table below shows some SWR values and how much of your power is reflected back to the radio. The amount of power reflected is the same for HF, VHF, or UHF frequencies. However, coax cable losses increase at higher frequencies which reduce both the forward and reflected power. This month, I'll ignore coax cable losses since that's another topic.

SWR	Reflected Power (%)
1	0
1.5	4
2	11.1
3	25
5	44
10	66.9
20	81.9



The reflected power can combine constructively and destructively which may increase or decrease the voltage at the radio's output. With a worst case SWR (open circuit), the RF voltage is about double what is normally seen at the radio's output. More power may be dissipated in the RF transistor depending on how the reflected wave combines with the forward wave. This will cause extra heating in your radio's output transistor which may lead to damage.

The good news is that modern RF output transistors are usually able to withstand an SWR of 30:1 (which is almost an open circuit) so they won't be destroyed immediately. RF transistors contain thousands of smaller transistors in parallel. Even if 20% of these transistors were destroyed by heat or excessive voltage, the RF transistor may still be able to deliver its rated output power. In addition to transistor damage, the increased RF voltage due to high SWR does degrade the performance of output matching / output filtering circuits inside the radio. This means your transmitted output will contain more harmonic energy than normal.

Most modern radios (and RF amplifiers) have a built in protection circuit that will reduce the transmitter output power when high SWR is present. This is called an SWR Foldback circuit. The circuit works by sensing the voltage (or current) at the output of the radio. If the level is too high (typically over 2:1), the foldback circuit is activated. By reducing the transmitted power, we also reduce the unwanted harmonic energy that is transmitted. With an SWR of 4:1, the radio's output is almost zero.

In summary, high SWR causes extra harmonics and can damage the RF transistor and possibly other components in the output network of the radio. SWR foldback circuits act quickly to prevent damage to the radio and reduce harmonic levels. Even without the foldback circuit, some RF transistors can withstand high SWR for some period of time. This is why people say that having an SWR of 2:1 or less is typically good enough for ham radio transmitters. (Send your questions to Erik (AI3D) at ----- GEISSENE@GMAIL.COM)

From the **OOPS** Department



What was he thinking?



Field Day 2013



The ARRL store has many Field Day supplies for 2013.

<http://www.arrl.org/shop/Field-Day-Supplies-2013/>



Ham Radio Quotes --- *"Our city's vast and complex communications system, is indebted to the many trained amateur radio volunteers, who are efficient and dependable and lend a much needed hand in times of crisis or disaster. They are an invaluable part of our city's communication network ..."* --- The Hon. Rudolph Giuliani, Mayor of New York City (1994-2001)



"I want a specific vanity call but the FCC will not grant it or its not available. WHY?" - de Mark (AK3M)

There are several reasons a call cannot be issued on request. For example, you cannot have a call with the suffix, "SOS," "EMA," etc. There are more. See the ARRL web site for more information.



The following call signs are not available for assignment:

<http://www.arrl.org/vanity-call-signs>

Remember: If you have been removed from the role call on the LVARC Monday night net, it means you have not checked in for one month. To be put back on the list, you simply need to check in again and you will be added to the list.

Spring is here. The days are getting longer and the weather is getting warmer! Other than plans of picnics, trips to the beach, fishing and relaxing outside on the porch, **don't forget to make repairs to your antennas and feed lines** which may have suffered from the effects of Sandy and the winter WX in general.





900 MHz HTs For Sale

The LVARC has several Motorola GTX hand held radios for sale. They are reprogrammed to amateur frequencies in the 900MHz (33 cm) band. Included, are DC and drop in AC chargers. The price for the package is **\$50.00**. This is a great way to get on 900MHz for a small cost while helping the LVARC treasury. If interested in purchasing one or more of these HT's, contact **Brian (KW3K)** at **KW3K@kw3k.com**.



DON'T FORGET that **LVARC gear** can be purchased from Cafe Press. Follow the URL below to view and order LVARC shirts, bags, mugs, caps etc.



<http://www.cafepress.com/lehighvalleyarc>



Lehigh County RACES -- de Mark (AK3M)

In the April, 2013, issue of the VOX, you saw how to register for and become a member of Lehigh County RACES. I failed to mention that completion of **BOTH IS 100 AND IS 700** are required to register. Those courses are free on line from FEMA at

<http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=is-100.b> and
<http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=is-700.a>



When you have completed these courses, send a scanned copy of your certificates to me (Mark - AK3M) at **AK3M@rcn.com**. This is necessary to be enrolled in LC RACES. Remember RACES is different from ARES. These courses are **NOT needed for ARES** activities (see page 8).