

The Short Circuit

<http://www.k6ox.club>



The official publication of the Antelope Valley Amateur Radio Club

June 2023

President's Corner

Andy Gippetti W2AJG



Field Day is almost here and I want to thank our Vice President, Loretta, for getting us a new venue for the event. In the past, we have been celebrating Field Day at the Rawley Duntley Park in Lancaster. The main issue we had with the park was how hot it got during the long weekend. Temperatures would get unbearable and would cause havoc to our equipment as well as our bodies. This year we will be spending the Field Day weekend up at Mountain High. The higher attitude should help bring the temperatures down to be more bearable. Also having Field Day at a different location will be a new adventure for all of us with equipment, antennas and RVs to set up.



Field Day has always brought found memories of fun times to me. In 2017 I had just upgraded my Technician license to General a week before the Field Day event. I knew nothing about transmitting on HF frequencies or how to make a contact during a contest. When I attended my first Field Day at the park, with AVARC, I went directly to the ARRL GOTA (Get On The Air) station. There I was taught how to use the HF radio and also what to say when answering a CQ contesting station. To my surprise I quickly was able to make my very first contact and received a GOTA card for making a contact. Field Day was meant to educate, train and show the world what Amateur Radio was all about. It also is a time to have good memories with fellow ham radio operators & friends.

(Continued on page 4)

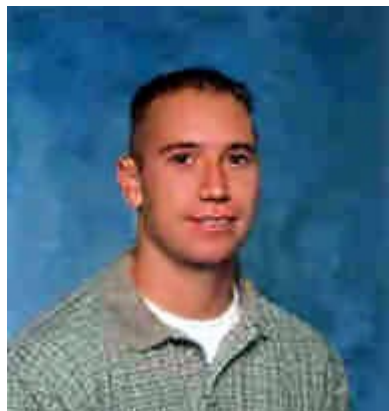
Meeting Notice

Thursday, June 22nd, is the next meeting of the AVARC at the Quartz Hill Library, 5040 West Avenue M-2. Talk-in is available on the Hauser Repeater (146.73 MHz. PL 100) if you need directions. Eyeball QSO starts at 7 pm, and the meeting starts at 7:30.

This will be a hybrid meeting, both in person and on the Zoom online video app. Current members should have received the meeting invitation link via the email announcement of the previous month's newsletter. If you are not a Zoom user, installation instructions can be found at: <https://zoom.us/signup>. Sign up for the free account, and it will then lead you to download and install the necessary plug-ins to join our meeting.

If you are a guest or former member, please send an email to meeting@k6ox.club, stating your name, callsign (if any), and interest in the Club, and we will send you the meeting invitation link.

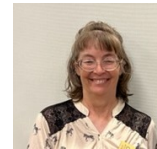
June 22 is **Mike Crowover AB5EB** with the 3YOJ Bouvet Island DXpedition. It will and also be about Field Day discussions since it is this very weekend.



Mike Crowover AB5EB

From the VEEP

Loretta Smalls AJ6HO



From the V.P's Desk

**Loretta A Smalls
AJ6HO**

Sometimes you have to break a few eggs to make an omelet. That can also be said for those crazy do it yourself hams who are not satisfied with just buying radios and antennas and talking into a mic. Yes, it can be a frustrating and even an expensive learning experience and I want to use my Down East Microwave 10 GHz Transverter as an example. Don't get me wrong, I do not regret getting it or even getting into microwave, I have learned TONS fumbling my way through this project. So let's get started with the first thing I broke on this unit.

Those pesky DC pull through connectors; It did not take me very long to break off all of them. One was for the TX switch, one for ACC and the other was for 13.8 V. I tried other connectors to make a substitution but what I ended up doing was taking those wires off to the side of the box instead of through those tiny holes in front and rewiring them outside the box. That seemed to work out better and made it easier to work with and easier to see what I was doing.

The next challenge was trying to wire a toggle to the PTT. That took me another week or so to figure out. Finally, I figured out that a toggle is simply a device that opens or closes a circuit. It does NOT connect positive to positive or negative to negative. I used a

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From the Secretary's Desk



Antelope Valley Amateur Radio Club

General Meeting

May 25, 2023 at the Quartz Hill Library and also via Zoom 7:00 P:M

Those Present; President Andrew Gippetti W2AJG Vice President Loretta A Smalls AJ6HO Treasurer David Haberman AK6DH Secretary Pat Okawa KJ6CJI Master At Arms Tom Kane KN6GLI Board Member Dan Sherwood W6DAS Board Member Brian Basura N6CVO with Miss Remy (no call) Trustee Keith Hoyt K6GXO Ex Officio George Becker KC6UVM Guest speaker Michelle Thompson W5NYV

Others present:

Mike K6YQO Mark W6WML Larry K6HLH Allan KJ6ZYQ Larry KI6BKP Margie KG6TBR Betsy AJ6GF Rodney KK6GOS John K7XE Bud N1ROE Marc KN6WYJ Derek KN6ZCI John KN6WQN Monroe NS6W Don KK6RHO Jorge KK6DTB Gary (no call)

The presentation from Michelle Tompson W5NYV is detailed elsewhere in this issue.

Meeting called to order by President Andrew Gippetti W2AJG at 19:33 P:M followed by salute to the flag and introductions.

Motion was made to approve previous general meeting minutes, as posted in The Short Circuit, by David AK6Dh and seconded by Loretta AJ6HO. Motion was approved by all and motion carries.

Treasurer's Report

David Haberman AK6DH

Checking: <as stated>

Invoice: \$ 361.40 Paying back George KC6UVM and for the club Zoom

account.

Deposits: <as stated>.

Cash On Hand: <as stated>

Total: <as stated>

Members: 13 life and 46 paid for a total of 59

ARRL %: 82%

New Business:

We have the library for June 22 5:30 P:M and for August 24 5:30 P:M but we do not have it for July. There will be in person testing for June and August. On line testing continues via GLAARG at <https://glaarg.org/>.

We are stealing a page from Brian N6CVO and start a new ham forum for those new members who feel a bit overwhelmed. We can all relate to that, so we will open the meeting up for any questions or issues new hams might have.

We discussed Field Day logging software and that resource can be found at the ARRL at <http://www.arrl.org/field-day#rules> which includes th N3FJP software.

Loretta handed out ARRL flyers for anyone that wants to post our event in Wrightwood.

Future Presentations:

See board meeting minutes

Announcements:

Short Circuit articles are due by June 14.

The next board meeting is via Zoom June 12 7:00 P:M. We will be using the new club Zoom link.

The next club meeting June 22 at the Quartz Hill Library starting at 5:30 P:M. Some members meet at the El Toreo on L and 40th West for dinner before the meet-

ing around 4:00 P:M.

Loretta AJ6HO submitted the Field Day event to the editors at the Tri-Community News Plus newsletter for Phelan, Wrightwood and Llano. <https://4newsplus.com/>.

The 50/50 was won by Derek KN6ZCI.

Motion was made to close the meeting by Larry KI6BKP and seconded by Adrienne WA6YEO. Motion was approved by all and motion carries meeting was adjourned at 21:33 P:M

AVARC Board Meeting

June 12 2023 via Zoom 19:00 hrs.

Meeting called to order by President Andrew Gippetti W2AJG at 19:00 hrs.

Those present were: President Andrew Gippetti W2AJG Vice President Loretta A Smalls AJ6HO

Treasurer David Haberman AK6DH Master At Arms Thomas Kane KN6GLI Board Member Dan Sherwood W6DAS Board Member Brian Basura N6CVO Ex Officio George Becker KC6UVM Short Circuit Editor Adrienne Sherwood WA6YEO and Miss Minnie

Mike K6YQO Mark W6WML Dale KØBGL

Treasurer's Report

David Haberman AK6DH

Checking: <as stated>

Invoice: \$ 0

Deposits: <as stated>

Cash On Hand: <as stated>

Total: <as stated>

Members: 13 life and 47 paid for a total of 60

ARRL %: 82%

The badges are paid for but are not ready yet.

Old Business:

We have the library for June and August but not for July.

From the VEEP...



(Continued from page 1)

simple two wire toggle from one of those Harbor Freight lights from their solar kit and connected the two wires from the toggle to a ground on the transverter chassis to the negative connection from the power source. Yes I thought the postive went to a positive and the negative to negative but that is not how a toggle works. So by attaching the toggle to the negative black to a ground on the chassis the toggle now closes the circuit to allow the PTT to turn on for transmitting, then turning it off to open the circuit to allow the transverter to go back to recieve. I got it working and made a few contacts but my work was still rudimentary and kind of sloppy.

Enter seasoned microwaver Alex N6VHF who took one look at my unit one day, while we were out on the field during a Microwave contest and brought it over to his truck. Next thing I know wires were flying off, solder iron came out, electrical tape out the wazoo and voila; I have a new and more secure transverter. Cleaner, and more efficient. He reminded me of Harry Stamper in the movie 'Armageddon' and the Armadillo in the hanger. So I named my precious baby 'Armadilla.' I don't think I thanked him or Pat N6RMJ or Larry K6HLH enough for taking so much time to help me with my equipment.

One day, I was participating in another microwave event hosted by the San Bernardino Microwave Society. I was excited to use my Armadilla when I noticed that when I try to transmit my transverter was making clicking sounds. I was having trouble making contacts. I did manage to make a contact with none other than Alex himself then my equipment was done. It was the end of the world for me. I wanted to cry. I broke my Armadilla. What could have gone wrong? I did notice a wire had come loose but I could not figure out where it came from. I should have paid

more attention to Alex when he fixed it before. I even took photos but those photos did not show me what I needed. Folks, if you are documenting anything, get all angles. Take detailed notes and ask lots of questions.

Before I get into what happened let me just give one solid piece of advice when something goes awry with your equipment. Please, please just start with the simple stuff. Start with the easy stuff. Start with what you can visibly see and touch such as loose connections, or something that became unplugged. A wire could have come loose or a microphone pulled part way out, etc... Do this BEFORE you start tearing into wiring, or anything else. I knew this yet I didn't listen to my inner ham and just assumed I have something wired wrong. I opened up my transverter and started rewiring when I did not need to.

While I was working on the wiring, trying to figure out why the TX light was coming on when it should'nt be, I blew something. I did not know what but I knew I blew something because now I wasn't able to RX or TX. I got the help form Larry K6HLH who has some serious test equipment and we learned that power was not the problem. The transverter was okay except that it was not producing an signal or recieving anything. I needed to figure out why. I was ready to send it back to Down East Microwave to see if they could repair it when I thought I would try one more thing. I took a flashlight and started searching for ANY sign of blackened areas, or any other sign that something was not right and I found it. In a very tiny corner of the transverter, a very tiny little square showed a blackened area around it and it was split in half. I looked at my DEMI schematic and found I had blownC 124.4 uF (micro Farad) Tant

Q2MMBT3904. I had to look this up. You will find stuff like this in the study manuals for our ham license but microwave stuff is pretty specific and sometimes I have to look stuff up.

I learned that Tant means Tantalum Capacitor. MMBT means Multi Modal Bit Transformer. Judging from the naming of the part and what it does the part I blew is responsible for storing energy and data from one point and switching it to another. Which makes sense since the transverter takes microwave signals from 10 GHz and converts it to VHF so the radio can interpret it and vice versa. Like I said, learning experience, and it always will be for me. I also know not to beat myself up over it because even experienced, seasoned radio people have problems like this, even after decades of practice building stuff. So for those of you who are afraid to try, don't be. You will be amazed at what you can learn from experimenting. I don't recommend experimenting on something as expensive as the DEMI txvtr, start with perhaps building your own matching unit, or Arduino projects for beginners.

So discovering what actually went wrong with my radio, I felt mixed emotions about it. Sad that I had caused that kind of damage to an expensive unit, but also glad it was repairable. Another skill I need to learn but since I want to add 24 GHz to my repetoir I am okay with it. So what initially went wrong in the first place to cause such epic catastrophe? The microphone had come part way out from the radio and was causing the intermittent TX. That was all it was and I nearly completely destroyed my Armadilla before figuring that out. Still not sure how that other wire cam loose but it was no doubt a very simple fix and I made it more complicated than it needed to be, so folks, check the easy stuff first.

On a final note, even after Larry
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President...

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Our next in-person general meeting will be on June 22nd at the Quartz Hill Library. This meeting will still be a hybrid face to face and Zoom meeting starting with greetings at 7:00 pm and the actual meeting starting at 7:30 pm. The main topic at this meeting will be our Field Day planning. See you all there.

73,
Andy W2AJG

Calibrating WSJT-X

by **BrianB N6CVO**

Recently I looked a bit closer at my WSJT-X setup, commonly used for FT-8, and was shocked to find that I was reporting received 10m WSPR frequencies around 42hz high! That's huge in a sub-band that is only 200hz wide and where some sites are using frequency discrimination to differentiate individual transmitters.

After a bunch of searching, I found the following website that goes step-by-step through calibrating WSJT-X and it's not hard. After following these steps I'm now getting sub-Hz receive accuracy. This is not only good for WSPR reports but also greatly improves your PSKReporter results for other modes such as FT-8, PSK31, etc.

Testing and improving station frequency accuracy & precision ve3bux.com

<https://ve3bux.com/2020/04/testing-and-improving-ft8-frequency-accuracy-precision/#:~:text=This%20is%20done%20by%20clicking%20on%20%E2%80%9CTools%E2%80%9D%20and,which%20you%20have%20selected%20in%20your%20configuration%20file.>

I recommend all WSJT-X users do this procedure at least once and preferably on a regular basis. It's good to make sure we are posting accurate data.

Hopes this helps someone and 73.

Secretary's Desk...

Day. <https://www.n3fjp.com/>.

Some of us will be going up to the Mountain High North Resort a week before Field Day to get an idea of how we will set up. The best way to get up there is off of the Pearlblossom Highway going towards Phelan and take the Largo Vista Road on the left. This will take you to Big Pines Hwy where you will make a left. Follow Big Pines until you reach Hwy 2 and make another left then an immediate hairpin left onto Table Mountain Road. This road will take you to the North Resort. You can always go to Google Maps and follow the roads and get a better idea of where we will be for Field Day.

The best way to go back is to Follow the Big Pines Hwy to Bob's Gap Road which will take you to the 165th and Pearlblossom Hwy for the protected traffic lights to make a safer left turn back onto the 138 (Pearlblossom Hwy.)

Presentations:

June 22 is Mike Crowover AB5EB with the 3YOJ Bouvet Island DXpedition. It will and also be about Field Day discussions since it is this very weekend.

July 27 since we do not have the library we may be just on Zoom. We moved Ed Fong with Ed's Antennas to this meeting.

August 24 we will have Brian Basura N6CVO to share his Ridge Rally and Nevada Sliver State Race.

September 28 Nominations begin, presentation will be on microwave activities if we don't find another speaker/ TBD.

October 26 Paula Gebault N6OQQ with this year's Ridge Rally which will be Dec. 2. Our club elections also this evening.

November 16 a week early for Thanksgiving. Presentation TBD.

December 15 a week early for Christmas

and it will be at the Lancaster Elk's Lodge. We should make this another member brag night.

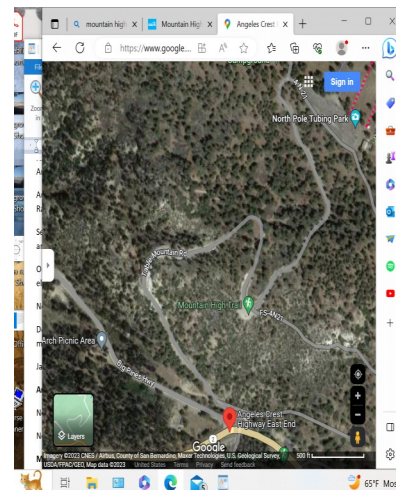
January 25 2024 will be the state of the club address.

Announcements:

Next club meeting is this June 22 at the library.

Next board meeting is July 10 via zoom at 7:00 P:M

Motion was made to adjourn by Vice President Loretta A Smalls AJ6HO and seconded by Dan W6DAS. All present approved and motion carries. Meeting was adjourned at 19:55 hrs.



From the VEEP...

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K6HLH replaced the Tant Capacitor I blew, I was kind of afraid to do anything more to it so I sent it to Down East Microwave Inc. for any other repairs. I will update everyone on the status once I know more about my Armadilla.

Sincerely and humbly,
your V.P Loretta A Smalls AJ6HO

Presentation to AVARC by Michelle Thompson W5NYV

by Loretta A. Smalls AJ6HO

Michelle Thompson W5NVY is a brilliant person who is involved with not just microwave radio but with some pretty technical research projects with the Open Research Project Institute. One of those projects is called Ribbit and another one is the Dumbbell 40 meter antenna which will be printed in the ORI newsletter soon. They are working on a prototype for a 160 meter Dumbell which is some pretty cool stuff. I encourage everyone to check out the Open Research Institute website and look at all the projects in the works. Interesting thing about the Ribbit project aka Rattlegram is the ability to send a message from your smart phone through amateur radio to another smart phone. Is is sent acoustically by keying your mic during the message. It is similar to using ANDFImsg from your Android tablet via amateur radio using FLdigi. Pretty cool stuff, and another awesome tool to use in EM-COMM.

Michelle inspired me to get more involved in microwave but also to learn more about her research projects like Ribbit. We need more women like her to inspire more girls to get into STEM activities like amateur radio and even non ham science project like Radio Jove, a fun way for kids to learn about radio astronomy.

One of the things she shared with us was "There has never been a better time for amateur Radio", and boy is she ever right about that. Let's start first with part 97 and why should there be amateur radio in the first place.

*First and foremost is emergency communications. Ham radio has been there when all else has failed in any disaster event.

*We offer a public service, Field Day and GOTA stations being an example, along with other community events we participate in involving CERT and ARES.

*Advancing the art and the technological advances in amateur radio has certainly made this an ever evolving art form. It's not just a hobby for many of us.

*International good will, and we certainly can all claim success with the many DXing QSOs and contests.

Part 97 can be found here; <https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97>

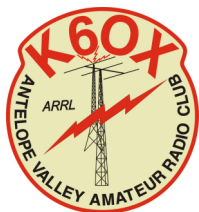
There are so many facets to this part 97 and why there should be amateur radio. What we really need to do is come up with ideas to get more youth into this hobby. Even if just one enters the hobby that one person might inspire another young person and so on. Boys and Girl Scouts is a great start if anyone is involved. Speaking of Scouts Michelle is also involved with the Scouts and her troop went to the U.S.S Midway. It is no surprise that these scouts radiated to the radio room, especially where the code table was and spent most of the time there practicing sending code to each other. So it is very possible to get our young folks interested in Amateur Radio. Morse Code, by the way, is far from dead, in fact it is alive and well and sounds like the kids could really get into it.

Michelle also addressed the decline in participation and involvement in radio clubs and activities. Many of us are aging out and not very many young folks have chimed in. There is a significant drop in those testing, and even those that got their licenses, very few have actually got on the air, let alone become involved with any clubs. We need to come up with ways to get folks into the hobby, and keep them motivated to stay. As Michelle pointed out, Amateur Radio is always evolving, never stagnant, always moving forward especially towards STEM. Young folks that are lucky enough to have family members who are hams usually move on to lucrative careers that reflect these STEM skills, including careers with NASA.

Speaking of clubs Michelle detailed different types of clubs and why it is more than okay to be members of more than one club. There are those clubs who follow a traditional format such as the ARRL and 501C3 clubs like ours, and also non-traditional clubs that have no dues or hierarchy but share information and projects. Both types are necessary to appeal to various types of folks, and we can glean a variety of knowledge and techniques from all types of clubs and groups to enhance our skills in amateur radio.

<http://www.k6ox.club/> <http://aadarc.org/> <https://w6ife.com/> <https://aralb.org/> So many others that may pique a particular interest.

Michelle Thompson N5NYV is an impressive person, and inspiring. You can check out the projects her and her team are working on including Ribbit and Oppulent at the Open Research Institue here; <https://www.openresearch.institute/>. Keep checking it for more projects she mentioned about the Dumbbell antenna for 40 and 160 meters. The 40 meter one has yet to be published on the website and the 160 meter one is still in the works. There is a recording of the presentation for those who want a copy. Thank you Michelle for an excellent presentation.



Antelope Valley Amateur Radio Club 2023 Officers

President	Andy Gippetti	W2AJG	433-2106
Vice President	Loretta Smalls	AJ6HO	350-7039
Secretary	Pat Okawa	KJ6CJI	718-3986
Treasurer	David Haberman	AK6DH	917-4594
Master-At-Arms	Tom Kane	KN6GLI	350-7039
Board Member	Brian Basura	N6CVO	268-6061
Board Member	Dan Sherwood	W6DAS	480-5227
Trustee	Keith Hoyt	K6GXO	533-4025
Ex Officio	George Becker	KC6UVM	488-6894



AVARC board meetings are held on the first Thursday of each month. All members are welcome to attend, although they should let the president or another officer know that they are planning to attend, as the meetings usually include a pot-luck dinner at the home of one of the officers.

The club net is on Wednesdays at 8:00, on the Hauser repeater (146.73 MHz PL 100). The net includes Amateur Radio Newslines, and all members and guests are invited to check in.

The Antelope Valley Amateur Radio Club K6OX
 Post Office Box 1011
 Lancaster, CA 93584-1011

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To ARS:



Amateur Radio is a National Resource

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