

THE EAST BAY AMATEUR RADIO CLUB, INC.

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# THE BLOWN FUSE

CLUB STATION W6CUS

VOLUME LXV NUMBER 11

NOVEMBER 2017

## EBARC Meetings

November 17, 2017, 7:30 p.m.

"SETI"

Dan Werthimer



The East Bay Amateur Radio Club meets this month at the El Sobrante Library, 4191 Applan Way, El Sobrante.

The Executive Board meets monthly before each general meeting. For the date, time, & location, contact President Jay Sparks, KJ6HSH, at 384-4233.

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*The Blown Fuse* is published monthly by the East Bay Amateur Radio Club, Inc. and is free to its members. *The Blown Fuse* welcomes articles of interest to its members and amateur radio in general. *The Blown Fuse* reserves the right to edit or reject any material submitted. Material submitted becomes the property of *The Blown Fuse*. Permission is hereby granted to reproduce material printed herein provided proper acknowledgment is given. Editor: Sharon Primbsch, AA6XZ

Deadline for Dec. issue: Tue., Nov. 28<sup>th</sup>

*[Articles may be submitted by "snail" mail, by dictation over the 'phone 510-741-8227, or by e-mail to [aa6xz@earthlink.net](mailto:aa6xz@earthlink.net)]*

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## November 17<sup>th</sup> EBARC Meeting Peter Hoffman, W6DEI

Our November 17<sup>th</sup> speaker is Dan Werthimer, Chief Scientist at SETI Institute. SETI stands for "Search for Extraterrestrial Intelligence," which Dan will discuss. While SETI is not exactly ham radio, it is very much about radio, using large arrays to monitor the radio spectrum for signs of intelligent signals. Are we alone in the universe? Like so many things, we just don't know. But also like so many things, we're doing our best to find out. Come hear Dan tell us about those efforts.

**NOTE: The November meeting is on the 3rd Friday (not the 2nd Friday) of the month due to scheduling issues with the El Sobrante Library. Next month we return to our usual 2nd Friday schedule.**

## President's Message Jay Sparks, KJ6HSH

Due to Veteran's Day, the ES Library is closed on our regular Friday meeting. The November meeting has been rescheduled for the following week, Friday Nov. 17<sup>th</sup>.

Peter Hoffman, W6DEI, presented part 1 of antenna modeling using 4nec2 software. Part 2 is scheduled for the January 12<sup>th</sup> meeting. Peter showed that it is possible, even for novices, to develop useful models. Several links are posted on the [ebarc.org](http://ebarc.org) website. Thank you, Peter!

Ken Fowler, KO6NO, led an elmering session in Hayward recently. We'll be interested to hear his report, as GOTA sessions seem to be popular with other clubs.

In other events, several members participated in the Oakland mini Maker Faire held at the Park School. This well-organized and very popular event is aimed at primarily elementary aged kids. Their parents and community are involved in hands-on arts and crafts, including electronics. This is the second year EBARC has participated. The club was rewarded with a photo-op by the ARRL President Rick Roderick, who was in town for Pacificon. His message from that venue; "Rick charged all hams with ensuring the next generation of Amateur Radio operators." I agree and look forward to working with ARRL for next year's Field Day and other events.

Hope to see you on Nov. 17<sup>th</sup> when we will be joined by SETI scientist, Dan Werthimer.

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## Your EBARC Badge?

If you recently ordered an EBARC badge from Sharon, but didn't get it in October, please "pick up and pay" at the December meeting. Otherwise, contact her; [aa6xz@earthlink.net](mailto:aa6xz@earthlink.net).

**Treasurer's Report  
August 2017  
Randy Jenkins, KA6BQF, Treasurer**

AUGUST GENERAL FUND<sup>1</sup>

Beginning Balance ..... \$6,576.61

Income:

Refreshment Kitty ..... \$27.00  
Total General Income: ..... \$27.00

Disbursements

Field Day Chairs ..... \$142.63  
Refreshments..... 50.79  
Total General Disbursements ..... \$193.42  
Ending Balance..... \$6,410.19  
(portion as petty cash ..... \$76.00)

<sup>1</sup>\$100 earmarked for youth scholarships.

AUGUST STATION FUND

Beginning Balance: ..... \$1,585.69  
Total Station Income ..... 0.00  
Total Station Expenditures ..... 0.00  
Ending Balance..... \$1,585.69

*[The general fund ending balance was mistakenly reported as \$6,576.71 for July.]*

**Treasurer's Report  
September 2017  
Randy Jenkins, KA6BQF, Treasurer**

SEPTEMBER GENERAL FUND<sup>1</sup>

Beginning Balance ..... \$6,410.19

Income:

New Members: AC6RF, KM6HDD ... \$30.00  
Refreshment Kitty ..... \$22.00  
Total General Income: ..... \$52.00

Disbursements

Field Day Chairs ..... \$117.36  
Refreshments..... 19.80  
Publicity Postcards..... 247.44  
Donation to ESUMC (mtg. venue).... 350.00

Total General Disbursements.....\$734.60  
Ending Balance .....\$5,727.59  
(portion as petty cash..... \$40.00)

<sup>1</sup>\$100 earmarked for youth scholarships.

SEPTEMBER STATION FUND

Beginning Balance: .....\$1,585.69  
Total Station Income .....0.00  
Total Station Expenditures .....0.00  
Ending Balance .....\$1,585.69

**EBARC General Meeting Minutes  
October 2017  
Michael McMillan, K6MCM, Acting Secretary**

**Opening:** The October 13, 2017 meeting was called to order at 7:31 p.m. by President Sparks at the El Sobrante Library. Sign-in sheet was circulated, 20 members and guests signed in. A round of self-introductions was made. Minutes of previous meeting were not available.

**Program:** First Vice-President Hoffman reported that tonight's program is the first part of "Antenna Modeling." The workshop will combine a live presentation with a hands-on experience. The software we'll use is 4nec2. Next month's program will feature a speaker from SETI. December will be the annual holiday party with optional help with antenna modeling if needed. The second part of "Antenna Modeling" will return in January.

**Hospitality:** Second Vice-President Fowler reported General class cancelled. Technician class may be offered if fees can be negotiated with Adult Education School. Elmer class offered tomorrow in Hayward, help welcome. Class will cover radio basics for about eight students. He is working on a weekend day trip to historical radio station at Pt. Reyes, date to be determined.

**Membership:** Third Vice-President Primbsch reported badges and membership cards are in.

October 29 will be a VE session in Oakland followed next day by a VE session for UC students. She will miss the November meeting.

**Finance:** Treasurer Jenkins reported club financial information. For September, General fund ending balance was \$5,727.59; station fund balance was \$1,585.69. Donation to United Methodist Church of \$350 made for meeting space.

**Secretary:** Member McMillan available to take minutes.

**Public Events/Education/Announcements:**

The 4Cs/EBARC Christmas Party coming in December, check websites for information. East Bay Mini Maker Faire coming in Oakland on October 22, emphasis on kids; need help setting up day before. Faire same day as Pacificon. Animal response team active at Contra Costa College. Discussion of hams active in current fire emergencies; not much publicity noted. History of radio broadcasting will be given tomorrow by the California Historical Radio Society

**President:** President Sparks reported receiving five boxes of old CQ and QST magazines, asked for suggestions on what to do with them. Use as handouts at Maker Faire. Club needs to establish a Nominating Committee for coming election; member Ott volunteered to lead committee.

**Next Meeting:** the next meeting will be on November 10, 2017. *[...no, it has recently been moved to November 17<sup>th</sup> – Editor]*

**Closing:** There being no further business, the membership meeting was adjourned at 7:53 p.m.

**Presentation:** After a break for a great assortment of refreshments, First Vice-President Hoffman led the presentation. He began with a quick refresher of our club website, explaining key features and links

(EBARC.org). Free antenna modeling software (4nec2) was then explained. This allows you to optimize your antenna design before construction – much easier to do than after construction. We began with a simple 33-ft dipole. After entering desired frequency, length, height, and thickness of antenna element, a click of a button produced information on gain, directionality, SWR ratio and more. It was then a simple matter to test what would be the effect of raising it 10 more feet up, or using AWG #14 wire instead of #12, or shortening it a few feet.

We then looked at the effect of adding a 34.66-ft reflector wire behind the dipole, making a two-element Yagi. Again, a click on a button and the software recalculated all the information. It became a game of “what if?” What if we changed the spacing between the two elements, would that change the gain? What if we raised or lowered the reflector, would that change the take-off angle? How does height change SWR? All the calculations are done by the software, you just have to come up with design parameters you want to test.

There were plenty of laptops available so members could all play with the software and get an introduction to antenna modeling. It was straightforward once you became familiar with the software menus. Part 2 of the workshop, dealing with additional features of the software, will be held during the January meeting.

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**More 4nec2 Hints!  
Peter Hoffman, W6DEI &  
Martin Rothfield, W6MRR**

In January we'll conduct Part 2 of the Antenna Modeling Workshop, but we hope you won't wait until January to continue mastering the 4nec2 software. In the meantime, here's what you can do:

(1) There's the excellent set of tutorials on YouTube by a British ham who goes by the YouTube handle "dx2hunt." If you go to Youtube.com and search for "4nec2 dx2hunt" you'll find these tutorials - start with "Part 1" obviously. They each run about 20 minutes and they're very well done. They'll take you through the input editor (as we did in October), the output analysis, using variables (symbols) to enable the 4nec2 Optimizer, and on to creating matching networks to achieve a 50 ohm match. These tutorials are where we'd suggest you begin.

(2) There are links to the YouTube tutorial, October's presentation slides, and a 4nec2 tutorial in PDF format on the LINKS page of the EBARC website.

(3) I think both Martin and I would be amenable to offering individual elmering, so feel free to shoot either or both of us an email with your questions. If you bring your laptops to the December meeting we can spend some of our social time working with 4nec2.

In January, Part 2 of the workshop will cover using variables/symbols and running the 4nec2 optimizer. The optimizer turns a simple antenna modeling program into one that can actually help you refine your antenna design to achieve the results you're looking for. The workshop will have the same format with a short presentation and then more hands-on time with the software. We'll use an example antenna in the workshop to illustrate the aforementioned techniques, but feel free to bring in your own individual antenna designs to work on as well.

As this was kind of our first hands-on workshop we'd appreciate any comments or suggestions you might have. Would you like to have more workshops at our monthly meetings? Do you

prefer the standard presentation where we all sit and listen? What other ham topics do you think would lend themselves to the workshop format? We'd love to hear from you:

Peter (w6dei@arrl.net)

Martin (dcmk1mr2@gmail.com)

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## 2018 EBARC Officers' Election

EBARC needs YOU to step up and stand for election to one of the Executive Committee positions. The positions are; President, 1<sup>st</sup> VP (Program Chair), 2<sup>nd</sup> VP (Hospitality), 3<sup>rd</sup> VP (Membership), Secretary, and Treasurer.

To volunteer, please contact the nominating committee chair, Mathison Ott, at (510) 701-0234 or mathisono@gmail.com. Nominations will be also be accepted at the November meeting. The election will be in December (either by snail mail or electronically).

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Many thanks to Michael McMillan, K6MCM, for preafrooding this month's *Blown Fuse*.

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## Future Bay Area Events

- Current Bay Area Public Service Events: See [www.ebarc.org](http://www.ebarc.org), click on "Current Events", then scroll to "Public Service."
- EBARC, ORCA, and ARCA sponsor joint ARRL VEC Amateur Radio Test Sessions quarterly at 9 a.m. in the Media Room, 1605 Martin Luther King Jr. Way (at 16<sup>th</sup> St.), Oakland. The remaining test date for 2017 is Oct. 29<sup>th</sup>. The fee for 2017 is \$15. Info: 510-918-4627 or 510-741-8227.
- CoCoCo ACS Training: Details from [mcmillan50y@yahoo.com](mailto:mcmillan50y@yahoo.com), [www.cocoacs.org](http://www.cocoacs.org), or via RACES net, 6:45 p.m., Thursdays on 145.11 MHz.

The East Bay Amateur Radio Club, founded in 1947, is a California non-profit organization of amateur radio operators in Contra Costa and Alameda counties. The club is open to anyone interested in amateur radio. Annual dues are \$30 for individual membership, \$35 for a family membership, and \$10 for students K-12. For information, send email to [ebarcw6cus@gmail.com](mailto:ebarcw6cus@gmail.com), contact any EBARC officer, see Web page [www.ebarc.org](http://www.ebarc.org), or write EBARC, P.O. Box 1393, El Cerrito, CA 94530. You can also follow us on Twitter using @w6cus.

## 2017 East Bay Amateur Radio Club Executive Committee

Jay Sparks, KJ6HSH, President..... 384-4233  
 Peter Hoffman, W6DEI, 1<sup>st</sup> VP - Program Chair / Webmaster..... 684-6543  
 Ken Fowler, KO6NO, 2<sup>nd</sup> VP - Hospitality / Club Station Mgr..... 222-0830  
 Sharon Primbsch, AA6XZ, 3<sup>rd</sup> VP - Membership / *Blown Fuse* Editor..... 741-8227  
 Ron Antaki, KK6NDJ, Secretary..... 375-3756  
 Randy Jenkins, KA6BQF, Treasurer / Finance Committee Chair..... 707-557-5521  
 Robin Spalding, N6RLS, Member-at-Large..... 528-1144  
 Jim Fast, KK6NDG, Member-at-Large ..... 237-7145

## 2017 EBARC's Other Committee Heads and Contacts

Jack Burris, K6JEB, W6CUS Trustee..... 415-305-2547  
 Club Station Manager, Stanton Gleason, KD6SWU..... 385-4044  
 Field Day Chair, Ken Fowler, KO6NO ..... 222-0830  
 Silent Key Chair .....  
 Social & Digital Committees Chair .....  
 RFI Committee Chair.....  
 Historian.....

## AMATEUR RADIO NETS

NET	DAYS	LOCAL TIME	FREQ, MHZ
West Contra Costa EMCOMM Net	Thurs	1845 (PL 82.5-)	145.110
KARO/ECHO ARES/RACES(ACS) Net	Thurs	~1900 simplex	146.415
EBARC "Explore Net" (HF)	Mon	1930 (USB)	28.425
NALCO RACES/ARES Net	Thurs	1915 (PL 131.8+)	440.900
Oakland ARES Emergency Communications Net	Thurs	1930 (PL 77-)	146.880
Contra Costa Communications Club Net	Thurs	1930 (PL 82.5-)	145.110
Tech Net	Thurs	2000 (PL 82.5-)	145.110
"Over the Hill Gang" Breakfast/Commute Net	Mo-Fr	0710 (PL 82.5-)	145.110
Northern Calif. Net VHF Session (traffic)	Daily	1930 (PL 107.2-)	145.410
"QRM Net"	Tues	1930 (PL 82.5-)	224.300
9 a.m. Talk Net	Mo-Fr	0900 (PL 100.0-)	145.230
Youth Net	Sat	1400 (PL 100.0-)	145.230

RACES(ACS), West CoCoCo: Mike McMillan, K6MCM, [mcmillan50y@yahoo.com](mailto:mcmillan50y@yahoo.com), phone 510 223-3052. Frequencies: #1=145.110-, #2=147.570s. ACS details are at [www.cocoacs.org](http://www.cocoacs.org)

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**ID-5100A | VHF/UHF Dual Band Digital Transceiver**

• Analog FM/D-Star DV Mode • SD Card Slot for Voice & Data Storage • 50W Output on VHF/UHF Bands • Integrated GPS Receiver • AM Airband Dualwatch • FM Analog/DV Repeater List Function

**ID-51A | VHF/UHF Dual Band Transceiver**

• 5/2.5/1.0/0.5/0.1W Output • RX: 0.52-1.71, 88-174, 380-479 MHz\*\* • AM/FM-FM-N/WFM/DV • 1304 Alphanumeric Memory Chls • Integrated GPS • D-STAR Repeater Directory • IPX7 Submersible



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• High RF output (50W) • Multiple Scan • Dual receive on same band (VxV, UxU) • Echolink® memory (auto dialer) • Echolink® Sysop mode for node terminal ops • Invertible front panel • Choice of green/amber for LCD panel • 104 code digital code squelch



**TM-281A | 2 Mtr Mobile**

• 65 Watt • 200 Memories • CTCSS/DCS • Mil-Std specs • Hi-quality audio

**TH-F6A | 2M/220/440**

• Dual channel receive • .1 - 1300 MHz (cell blocked) RX • FM, AM, SSB • 5W 2M/220/440 TX, FM • 435 Memories • Li-Ion Battery



**YAESU**  
The radio



**FT-991 | HF/50MHz/2M/440 Transceiver**

• 160 M-440MHz - SSB/CW/FM/C4FM Digital/AM/RTTY/PSK • 100 W (2M/440: 50 Watts) • 3.5" TFT full-color touch panel operation • High speed spectrum scope • Roofing filters: 3kHz & 15kHz • 32-bit high speed floating point IF DSP



**FTDX1200 | 100W HF + 6M Transceiver**

• Triple Conversion Receiver With 32-bit Floating Point DSP • 40 MHz 1st IF with selectable 3 kHz, 6kHz & 15 kHz Roofing Filters • Optional FFT-1 Supports AF-FFT Scope, RTTY/PSK31 Encode/Decode, CW Decode/Auto Zero-In • Full Color 4.3" TFT Display



**FT-450D | A100W HF + 6M Transceiver**

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**FTM-400DR | 2M/440 Mobile**

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