THE EAST BAY AMATEUR RADIO CLUB, INC.

QLF THE BLOWN FUSE

CLUB STATION W6CUS

VOLUME LXV NUMBER 3 MARCH 2017

EBARC Meeting

March 24, 2017, 7:30 p.m.

"ARRL Update"

Jim Latham, AF6AQ

EBARC meets this month at El Sobrante United Methodist Church, 670 Applan Way, El Sobrante (enter parking opposite 5156 Argyle Rd.)

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 Apr. issue: Mon., Apr. 3rd

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

MEETING VENUE
AND DATE CHANGE!

Because the El Sobrante Library will be unavailable for our meetings for the next few months we've found another nearby location. We will be meeting at the El Sobrante United Methodist Church on the 4th Friday of each month from January through April. (NOTE THE DATE CHANGE TOO). The location is:

El Sobrante United Methodist Church
670 Appian Way, El Sobrante

Parking entrance is opposite 5156 Argyle Rd.
GPS coordinates: 37.981938, -122.294720

Directions: from the *center* of I-80 and the Appian Way exit, it is 1.0 miles to Appian and Argyle Rd. (If you get to the El Sobrante Post Office on your right, you have gone too far.) Turn left onto Argyle Rd., pass the parking lot on your right, then enter the lot on your left.

In May we should be able to return to our usual location and schedule, i.e., the El Sobrante Library on the 2nd Friday of each month.

Grizzly Peak "Manager" Needed
Randy Jenkins, KA6BQF

A new net control and manager is needed for our support of the Grizzly Peak Bike Ride on May 7th. This also involves the advance planning with the bike group, agreements with repeater groups, and staffing the event with ham volunteers. Please contact me ASAP at ka6bqf@arrl.net or 707-557-5521.

HENRY-1 Balloon Launch

Planning is progressing for launch at UCB of the HENRY-1 balloon, depending on weather conditions. Originally scheduled for March 14th, there may be a change in the launch date. See the "BREAKING NEWS" tab at ebarc.org for the latest updates.

March 24th EBARC Meeting
Peter Hoffman, W6DEI

Our March 24th meeting will feature Jim Latham, AF6AQ, ARRL Eastbay Section Manager. Jim will give us an update on ARRL activities, particularly those related to our local Section. It's been awhile since we've had an ARRL representative speak to our club, so come prepared with any questions you might have for Jim.

The June 2017 meeting will, as is traditional, be a Field Day organizing session. Even if you never participate in contests, this is the one "contest" you should make an exception for. More than competition, Field Day is about having fun, learning new stuff, and both personal and group satisfaction for a job well done. If your primary interest in ham radio is emergency preparedness there is probably no better training ground to practice your skills than Field Day. So please join us for the June meeting and the June 23-25 event itself.

Exact dates for other future presentations have not yet been pinned down, but we do have some interesting topics and speakers in the queue.

- Alan Bowker, WA6DNR, will speak to us about AMSAT (amateur radio on satellites). Alan has been a featured speaker at AMSAT Symposiums and can give us the latest on what the AMSAT group is up to and how best to make some radio contacts using the satellites currently in orbit. Alan's presentation will likely be in either April or May.
- HAMSCI: Ham Radio Science Citizen Investigation is organizing a crowd-sourced data collection project to help analyze the effects of the August 21st 2017 solar eclipse on ionospheric radio wave propagation. Ionospheric paths will change throughout the day as the moon passes across the sun and different portions of the Earth's ionosphere are affected. The Reverse Beacon Network (RBN) and similar systems like PSK Reporter and WSPRnet will be used to collect data about open propagation paths and signal-to-noise ratios. The concurrent Solar QSO Party (kind of a contest, but not exactly) will help encourage as many radio contacts as possible that day. Logs from the "contest" will be uploaded along with the RBN data. All of the collected data will be made available to academic institutes for analysis so we're hoping to collect as much data as possible. There are many ways hams can participate in this data collection: being a node on the RBN using a standard receiver or an SDR, working the contest, etc. We plan to have a presentation at one of our upcoming EBARC meetings to help you get involved by discussing the technical requirements of setting up a receiving/reporting station and how to participate in the contest. Check out page 82 of the February *QST* magazine for more information.
- Astronomy… Okay, this isn't exactly ham radio, but we do have several members who volunteer as docents at the Chabot Observatory and are working to arrange a presentation on what's going on at that excellent local facility. There may be some tips on viewing the aforementioned eclipse. The talk might include some radio-astronomy as well, just to make it a little more ham-relevant. But in any case, it should be very interesting, whether it relates directly ham radio or not.

Tech & General License Courses
Ken Fowler, KO6NO

Spring courses for Technician and General class ham licenses start April 11, 2017, eleven sessions each, at Alvarado School, 5625 Sutter St., Richmond, CA 94805

Preregister at the West Contra Costa Adult Education Office (in Serra School) or online at: http://www.wccae.info/index.html (preferred). Serra School's phone is (510) 231-1453. The WCCAE Class fee is $15 for each class.

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

A Brief History of Amateur Radio
Randy Jenkins, KA6BQF

Experimentation in what was to become a new field called "radio" started around 1888 when Heinrich Rudolph Hertz proved the existence of electro-magnetic waves. In the 1890's Italian inventor Marconi developed a communications system based on "Hertzian Waves". The term

"radio" came along later. Many amateur wire telegraphers started experimenting with wireless communications.

The word "radio" was coined by Edouard Branly, a French physicist, in the year 1897. The word is based on the verb "to radiate." The word "radio" appeared in a 1907 article by Lee De Forest. The United States Navy adopted the term "radio", in 1912. The word became popular in the 1920s in the United States.

By 1910, there were many instances of harmful interference by unlicensed experimenters with governmental and commercial operations. In 1910, Congress passed the Wireless Ship Act, which required many ships to carry wireless equipment and operators.

In 1912, Congress passed the Radio Act of 1912, which restricted experimentation in the medium and long wave bands, and relegated experiments to the short wave bands. Licensing procedures were set up for all users of radio. Licenses were initially controlled by the Department of Navy. Later, the license issue was transferred to Department Commerce & Labor. There were two classes of amateur licenses issued; First Grade, and Second Grade. An Unlimited Endorsement was later available to First Grade operators.

In 1914 through 1916 in WWI, licensed amateur operators were required to cease operating, and dismantle their equipment.

In 1915, the American Radio Relay League (ARRL) was established to further the interests of amateur radio operators. Hiram Percy Maxim was the first president of the ARRL. ARRL remains the largest advocacy organization for Amateurs in the United States.

In 1923, regulators added the Amateur Extra First Grade license, again with Unlimited Endorsements available.

In 1927, Congress passed the Radio Act of 1927, which created the Federal Radio Commission (FRC), under the Department of Commerce. Licensing responsibility was transferred to the FRC.

In 1934, Congress passed the Communications Act of 1934, which created the Federal Communications Commission. Licensing responsibility was transferred to the FCC.

Under the FCC, Amateur licensing was reorganized to three classes of licensees. Class "A", "B", and "C": Class "A" licenses were awarded to First Class Licensees with Unlimited Endorsements (including Amateur Extra First Class licensees with Unlimited Endorsements). Class "B" licenses were awarded to First Class Licensees without Unlimited Endorsements (including Amateur Extra First Class licensees without Unlimited Endorsements). Class "C" licenses were awarded to Second Class Licensees. The Class "C" license was awarded to operators who took their license exam at 'a location other than an FCC office.' Class "C" licenses could be upgraded to Class "A" or "B" by taking a license upgrade exam at an FCC office. Class "C" licenses carried the same operating privileges as Class "B" licenses.

During WWII, Amateurs were once again prohibited from operating. The ban was lifted during 1946.

In 1947, the FCC removed the portion 27.00 MHz – 30.00 MHz from the Amateur 10 meter band, to reallocate to other services.

In the 1950's amateurs were experimenting with Single Sideband (SSB) communications. In 1951, the FCC reorganized the Amateur licensing structure, called Incentive Licensing. There were six classes of license that an Amateur could hold; Novice, Technician, General, Conditional, Advanced, and Amateur Extra. The FCC created the Novice Class license as the entry level license, with a 5 wpm

code requirement (Element 1A) and a written test (Element 2). The Novice Class had CW operating privileges in the HF bands. Originally, the Novice Class license was issued for a term of one year, and could not be renewed (you had to upgrade, or lose your privileges), later raised to five years (renewable), and eventually to the current renewable ten year license term.

The FCC created the Technician Class license, with a more difficult written test (Element 3), which added all operating privileges in the bands above 30 MHz. Operators were required to possess a Novice Class license, as a prerequisite, to test for this license. This license was issued for a five-year, and eventually for the current ten-year renewable license term. In 1987, the FCC replaced the (Element 3) exam with the (Element 2) exam as a requirement to hold this license. In 1991, the FCC created the current No-Code Technician Class license. During 1994, the FCC started referring to Technician Class licensees, who also possessed a Novice Class license (and therefore had HF privileges), as Technician Plus licensees.

The FCC created the General Class license, with the same (Element 3) exam as the Technician Class license, and with a requirement to pass Element 1B, a 13 wpm code test. Existing Class “B” operators were converted this class of license. This license was issued for a five year term (renewable), and eventually to the current renewable ten year license term.

The FCC created the Conditional Class license. Existing Class ”C” licensees were awarded this license. The Conditional Class could be converted to a General Class license, by taking an upgrade examination at an FCC office. In 1978, the FCC eliminated this class of license, and all existing licensees were converted into General Class licensees. This license was issued for a five year renewable term.

The FCC created the Advanced Class license. The requirements to hold this license were to hold a General Class license, and pass the Element 4A exam. Existing Class “A” were converted to this license class. This license was issued for a five year term (renewable), and eventually to the current renewable ten year license term.

The FCC created the Amateur Extra Class license. The requirements to hold this license were to hold an Advanced Class license, and pass the Element 4B exam and pass Element 1C, a code test at 20 wpm. This license was issued for a five year term (renewable), and eventually to the current renewable ten year license term.

In 1982, Congress passed Public Law 97-259 which amended the Communications Act of 1934.

In 1984, the FCC authorized the current volunteer examiner system.

In 1987, the FCC changed the requirements for several license classes. (See comments above.)

In 1991, the ITU proposed to eliminate the Morse Code requirement to hold a domestic Amateur Radio license. It still would be required for license classes with international privileges.

In 2000, the FCC reduced the number of license classes that could be newly earned. The legacy licenses, Novice, and Advanced, could be renewed, but no new licenses could be earned. The FCC created the current (No-Code) Technician Class license. Licensees who earned their Technician Class license before 1987 were awarded Tech (Plus) licenses, with operating privileges of both Novice and Technician Class licensees. The Morse Code requirement for all licenses was reduced to 5 wpm. Licensees who held a current Technician issued before March 21, 1987, could apply at a VE session, to have

their current license upgraded to General. The license term was increased to the current ten year license term.

In 2003, the ITU eliminated the Morse Code requirement to hold any Amateur Radio license.

On February 23, 2007, the FCC eliminated the Morse Code requirement for all US issued amateur licenses. Technician Class licensees gained CW operating privileges in the 'Novice Bands' HF bands. Novice Class licensees gained all operating privileges in the bands above 30 MHz.

In 2014, the FCC, ruled that some expired licensees could be granted certain credits for their former licensed status.

You should receive the 2017 EBARC roster soon via snail-mail!

Proposed EBARC Bylaws Changes

The proposed club bylaw changes are posted on the website: http://ebarc.org/pdf/bylaws-proposed-changes.pdf. Please review them and offer suggestions. They will be discussed at our April meeting, and voted on at the May meeting.

Future Bay Area Events

- Current Bay Area Public Service Events: See *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 16th St.), Oakland. The remaining test dates for 2017 are; Apr. 23rd, Jul. 23rd, and Oct. 29th. The fee for 2017 is $15. Info: 510-918-4627 or 510-741-8227.
- CoCoCo ACS Training: Details from mcmillan50y@yahoo.com 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, contact any EBARC officer, see Web page *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, 1st VP - Program Chair / Webmaster..... 684-6543
Ken Fowler, KO6NO, 2nd VP - Hospitality / Club Station Mgr. 222-0830
Sharon Primbsch, AA6XZ, 3rd VP - Membership / *Blown Fuse* Editor..... 741-8227
Ron Antaki, KK6NDJ, Secretary..... 375-3756
Randy Jenkins, KA6BQF, Treasurer / Finance Committee Chair..... 707-557-5521
Member-at-Large (to be announced).....
Member-at-Large (to be announced).....

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 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, West CoCoCo: Mike McMillan, K6MCM, mcmillan50y@yahoo.com, phone 510 223-3052.
Frequencies: #1=145.110-, #2=147.570s.