



**K6QLF**

**VOLUME 5, ISSUE 8**

**AUGUST, 2010**

# Amateur Radio Club of Alameda

## President's Message

Last month we were reminded of the effectiveness of CW (Continuous Wave) in long distance communications, running the same power as our phone station, our CW team made many contacts on the east coast. CW owes this ability to the fact that it uses very little bandwidth (one of several great advantages) which improves the ratio between the signal and noise (natural and man made). The term CW itself does little to describe what is going on. In fact the name obscures the fact that the continuous wave is in fact turned on and off to create the dots and dashes of morse code, so it clearly isn't continuous at all.

The word "continuous" however is used to distinguish what happens when the key is pressed down. In Marconi's day a transmitter consisted of a spark generator. A spark is not

actually continuous, it is unpredictable and intermittent which makes it far from ideal for communications purposes. It was used originally because that was all that was available at the time.

It was a great step forward when a means to produce a signal at a single frequency was developed. As with many other inventions, this was an extension of technology that already existed. Electrical power was already being distributed as AC power (alternating current) but it was at the incredibly low frequency of 60Hz which is much too low for most practical uses in communications. What was needed was an alternator running at a much higher frequency. This was a difficult problem to solve for large scale rotating machinery, but it was solved by a Swedish-

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## ARCA/ARES Update

Sandy Lavine, **KO6JF**, ARES  
City of Alameda Emergency Coordinator

**ARES/Alameda MOU Follow-up**  
No news as of this date. We think the MOU presented to Chief Kapler has made its way to the City Manager and/or City Attorney. However we are campaigning outside of the Alameda Fire Department to make this happen.

### EOC Communications Readiness Update

On July 12 we met with Lt. Mark Landes of the Alameda Police Department to discuss ARES topics and to deliver the mounted Kenwood UHF/VHF station to the EOC.

For drills and in the event of an emergency, Lt. Landis had requested a list

of trained experienced communications operators to operate the EOC station. On July 12<sup>th</sup> I delivered a list of qualified ARES. APD will vet these operators, issue credentials, and maintain a list at the main desk.

We also discussed regular activation of the EOC UHF/VHF station. Lt. Landes requested that we activate the EOC at least quarterly during one of our Thursday evening NETs. The first activation will be on August 5<sup>th</sup>, 2010. We will rotate authorized operators each quarter to insure that all know the layout and are familiar with the equipment.

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## Alameda's Weekly Disaster Preparedness Net

Each Thursday at 1900  
444.575 MHz plus (PL 88.5)

- Aug. 5: Garret **KJ6GEC**
- Aug. 12: Sandy **KO6JF**
- Aug. 19: Howard **K6SID**
- Aug. 26: Michael John **KF6YRG**
- Sept. 2: Leeza **K0EAH**

## August Meeting at 3195 Mecartney, Bay Farm (new location - see map and directions on page 3)

### August 2nd - No Shop Night

August 27th - Monthly Mtg.

Sept. 13th - Shop Night

All meetings at 7:00 pm

## President's Message

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American engineer by the name of Enrst Alexanderson. Alex- anderson was working for General Electric and was able to design and build an alternator providing an output frequency of 50 kHz which is almost a thousand times faster than our AC power (but still much lower in frequency than what we typically use for the most radio communications today). There are still a couple of these alternators in existence today, one in Sweden and the other at the Smithsonian. By the way, the one that is owned by the Smithsonian has been offered to the Maritime Radio Society who are restoring the KPH station at Point Reyes (which will be visiting on August 14<sup>th</sup> – don't forget to sign up for that one!). Installing the alternator would literally be a massive job, but the first part is just getting it from the East coast to the West Coast, a rather expensive proposition.

As a side note, one of the great pioneers of radio, Major Edwin Armstrong (inventor of FM and the superhet receiver still used today) is credited with coming up with the first electronic oscillator which eliminated the need for a giant mechanical alternator, and introduced the term "Variable Frequency Oscillator" (VFO) forever into the radio vocabulary.

So back to CW. The successful adoption of radio telegraphy was based on a special code which we refer to as "Morse Code". It was not in fact invented by Samuel Morse, but

by his business partner Alfred Vail. The clever part of this code is that it was designed to make messages as short as possible. Messages could have been sent in telegraphy by assigning each letter of the alphabet a fixed number of dots and dashes. This is essentially what Morse was using to demonstrate the technology. Vail however improved upon this by realizing that not all letters of the alphabet are used as much as others. For example the letters "x" and "z" are rarely used in the English alphabet. How often have you used the word "xylophone" in a QSO recently?! Once you realize that some letters are used much more often than others you can move away from the idea that all letters are represented by a fixed number of dots and dashes and instead use a smaller number of dots / dashes for letters that are used more often. This obviously shortens the amount of time needed to send a message. When Vail analyzed typical messages in the English Language he recognized that the letter "e" appears more often than any other letter (Just count how many "e"s there are in the last sentence!) So he assigned the shortest possible code to that letter, a single dot. Not surprisingly the other vowels appear frequently too so they are also short in length. As a result the Morse Code is known today as a variable length code, although that term did not then exist.

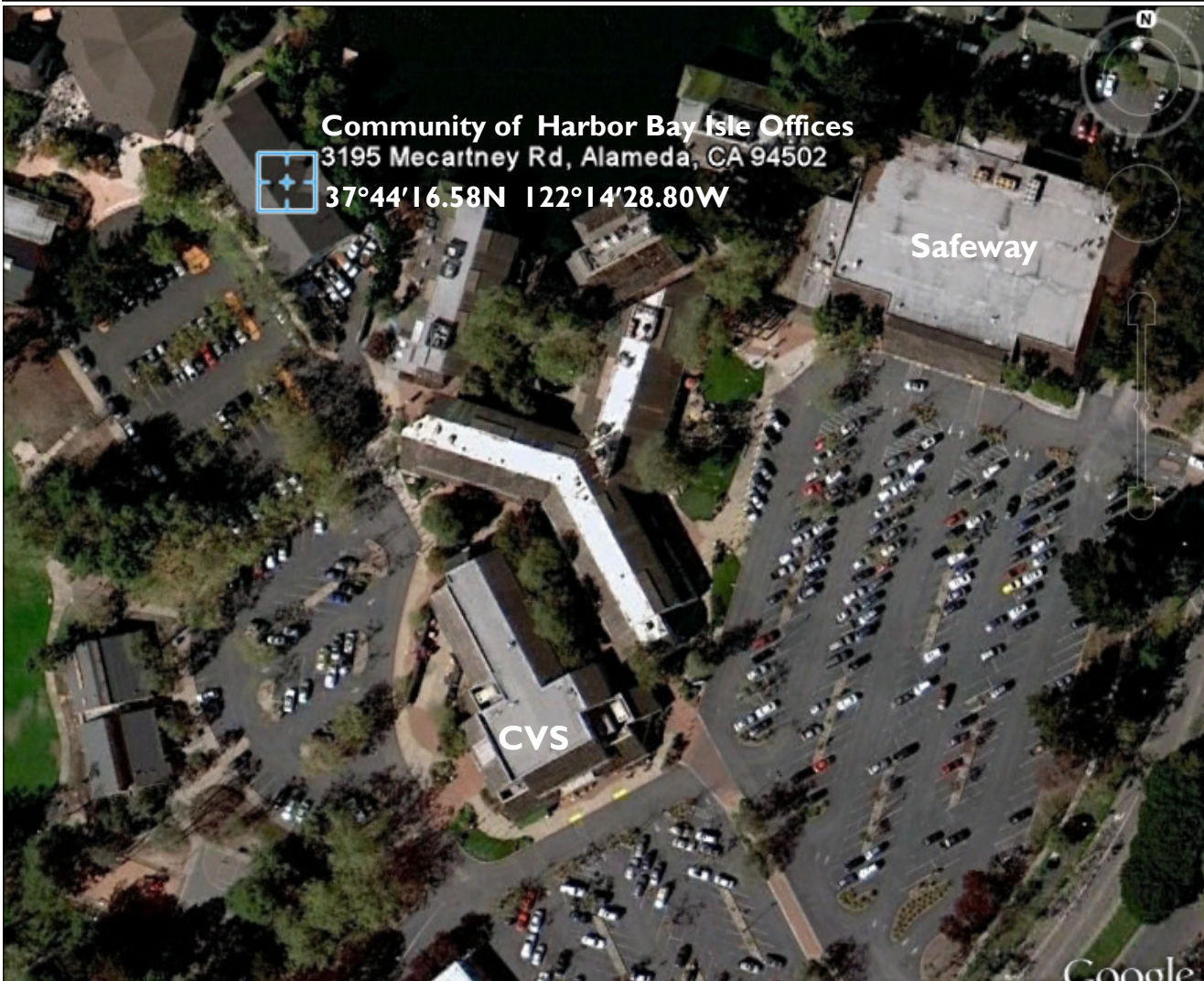
So leap forward 154 years (!)

and in 1998 Peter Martinez (G3PLX) introduced PSK 31. The timing of this was very fortunate as it capitalized on the growing use of personal computers. PSK 31 really uses the compute power of a computer because it uses digital signal processing (DSP) to decode the PSK messages. With CW this decoding happens in the CW operators head, a very impressive ability no doubt. In PSK 31, the computer accomplishes this with so much ease that it can in fact decode multiple messages at the same time. In fact the free software you can readily find on the web ( <http://www.ham-radio-deluxe.com/HRDv5.aspx> and the module DM 780 or PSK 31) can decode up to 20 messages at a time. This is all the more impressive because all of these messages are contained within the space of a single SSB voice channel, so as an operator you can see all of these messages simultaneously by tuning your radio into a single frequency (14.070 MHz on the 20m band). This is magic! Also because this is a digital mode, enterprising souls have dedicated time and effort (for free) to establish connection through the internet. There are PSK 31 monitor stations throughout the world (particularly in N America and Europe) that will send information to the internet about all signals that they receive ( <http://psk.gladstonefamily.net/pskmap.html> )

It was by this means that I could see that my coverage area for PSK 31 with my modest balcony

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## ARCA's August 27th Monthly Meeting Location Has Changed



## ARCA/ARES Calendar

### August

2nd - **No Shop Night**  
 7th - 8th - ARRL UHF Contest  
 10th - National Night Out  
 14th - KPH Tour; Pt. Reyes  
 21st - 22nd - ARRL 10 GHz and Up Contest  
 27th - **Monthly ARCA Meeting**

### September

13th - **ARCA Shop Night**  
 11th - 13th - ARRL VHF QSO Party  
 18th - 19th ARRL 10 GHz & Up contest

### 24th - **Monthly ARCA Meeting**

25th - ARES Table Top Training

### October

2nd - 3rd - California QSO Party  
 4th - **ARCA Shop Night**  
 9th - **ARCA Board Meeting**  
 15th - 17th - Pacificon  
 22nd - **Monthly ARCA Meeting**  
 24th - ORCA/EBARC/ARCA VE Session

### November

1st - **ARCA Shop Night**

### 6th - **SET (Simulated Emergency Training)**

6th - 8th - ARRL Sweepstakes (CW)  
 10th - Alameda SET  
 19th - **Monthly ARCA Meeting**  
 20th - 22nd - ARRL Sweepstakes (Phone)

### December

6th - **ARCA Shop Night**  
**No Monthly ARCA Meeting**  
 3rd - 5th - ARRL 160 Meter Contest  
 11th - 12th - ARRL 10 Meter Contest

## ARCA/ARES Update

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The City emergency preparedness drill was also discussed during our meeting on July 12<sup>th</sup>. We were requested to activate the EOC station for the November 10<sup>th</sup> drill. Two or three operators will be assigned to the EOC on that date. Lt. Landes requested that we activate the station a month in advance to test the system.

### September ARES Table Top Exercise

To answer training problems encountered during our last ARES/CERT drill and to prepare for the annual ARRL/ARES SET and the November City exercise, we will be holding a "Table-Top" exercise on Saturday, September 25<sup>th</sup> between 0900 and 1100. This will be a face-to-face exercise without radios. Resource and Tactical Nets will be activated and simulated traffic will be passed. The emphasis of this exercise will be:

- 1) Proper use of Tactical Call signs
- 2) Proper use of operator identification
- 3) Proper message protocol
- 4) Proper Net check in and check out
- 5) Attention to message precedence

In preparation for this exercise, a one hour EMCOMM presentation will be made at the September 24<sup>th</sup> ARCA meeting.

This exercise is not an "Entry Level" EmComm class. Atten-

dance is open to all interested parties, however only trained operators will be allowed to participate.

The location for this exercise will be a site in Alameda to be announced at a later date.

### Annual ARES SET

The ARRL Simulated Emergency Test (SET) is a nationwide exercise in emergency communications, administered by ARRL Emergency Coordinators and



Net Managers. The SET weekend gives communicators the opportunity to focus on the emergency communications capability within their community.

We are investigating the possibility of participating with Oakland ARES/RACES for this year's SET. Updates will be passed on in future Newsletters and at ARCA meetings.

### November Exercise

A reminder that there is a city wide exercise scheduled for

November 10, 2010, while the organizers have not formally asked ARES to participate, the Police department has requested us to activate the EOC station. We will be prepared to pass prepared simulated traffic as part of the "official" exercise and to handle any traffic from any other ARES sources if CERT decides to participate.

Due to problems encountered from un-qualified operators during our last ARES/CERT drill we will only be communicating with trained ARES operators.

### ARES E-Letter

The ARES E-Letter is an informative email newsletter about Amateur Radio Emergency Communications that is available to ARRL members via email free of charge directly from ARRL HQ. Subscribe on the ARRL web site. View current and past newsletters at:

<http://www.arrl.org/ares-el> .

### Alameda ARES Applications and Classes

Kudos to all of you who have completed ARRL and FEMA ICS classes. Licensed Amateurs who are interested in joining ARES can find applications on the ARCA website. Please submit completed applications and course completion information to Sandy Lavine KO6JF at KO6JF(AT)ARRL.NET.

## First Half of 2010 Sees Upswing in New Amateur Radio

With more than 18,000 new Amateur Radio licenses issued in the first half of this year -- 18,270 to be exact -- 2010 is shaping up to be a banner year for Amateur Radio. So far, the number of new licenses issued by the FCC in 2010 is outpacing the January-June 2009 totals by almost 8.5 percent; at this time last year, the FCC had issued 16,844 new licenses.

In 2009, a total of 30,144 new licenses were granted, an increase of almost 7.5 percent from 2008. In 2005, 16,368 new hams joined Amateur Radio's ranks -- just five years later, that number had increased by almost 14,000, a whopping 84 percent! The ARRL VEC is one of 14 VECs who administer Amateur Radio license exams.

Comparing 2010 to 2009, the only month that had higher license totals in 2009 was January: 1960 licenses were issued in January 2009, compared with 1726 in January 2010. Beginning in February, 2010 showed

higher new license numbers: 2263 in February 2010 versus 2749 in February 2009; 3463 in March 2009 compared with



3734 in March 2010; 3430 in April 2009 compared with 3508 in April 2010; 2717 in May 2009 compared with 3136 in May 2010, and 3011 in June 2009 versus 3417 in June 2010.

As of June 30, 2010, there are 694,346 licensed Amateur Radio operators in the US, an almost 1 percent rise over all of 2009. In 2009, there were 682,500 licensed Amateur Radio operators in the US, an almost 3 percent rise over 2008. In 2008,

there were 663,500 licensed amateurs; there were 655,800 in 2007. Broken down by license class at the end of June 2010, there were 16,299 Novices, 342,064 Technicians, 154,284 Generals, 60,059 Advanced and 121,640 Amateur Extra licenses.

“The ARRL VEC has been busy meeting the needs of the Amateur Radio community by helping people to become radio amateurs or upgrade their existing licenses,” said [ARRL VEC Manager Maria Somma, AB1FM](#). “So far in 2010, ARRL VEs have administered 20,929 exam elements at 3600 [ARRL VEC-sponsored exam sessions](#). The number of amateurs who want to be Volunteer Examiners and who want to teach Amateur Radio classes is also going up -- we’ve seen a spike in the number of applications from General and Extra class radio amateurs who want to give back to their community by [serving as ARRL examiners](#) and instructors.”

## President's Message

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about the same as ARCA's CW coverage at Field Day. Almost real time indication of propagation of *your very own* signal around the world! How great is that??!

By the way PSK31 is related to Morse Code in that it also uses a variable length code, and just like CW operators it uses word

abbreviations for frequently used words (not just letters). This is a natural way of reducing message length, as cell phone text message users well know (LOL). I hope that I have whetted your appetite so that you will be ready to give it a try yourself sometime soon. Details will be forthcoming next time -- oh, and don't forget that Field Trip

to Point Reyes on, Saturday, August 14th (details on page 3, in the July ARCA Newsletter, at [www.ARCAM.org](http://www.ARCAM.org)). To make a reservation, email Mike at [Mike.Piper@cox.net](mailto:Mike.Piper@cox.net) indicating your interest in attending.

73  
David, KI6AWR

# ARCA

**Next Meeting: Friday, August 27, 2010**  
**New Location: 3195 Mecartney, Bay Farm**

## Monthly EB Radio Club Events

- 4th Friday\* Amateur Radio Club of Alameda  
7:00 PM, 431 Stardust, Alameda
- 3rd Friday Mount Diablo Amateur Radio Club
- 3rd Friday Hayward Radio Club
- 2nd Saturday Electronics Flea Market in Sunnyvale  
(closed in winter)
- 2nd Friday East Bay Amateur Radio Club
- 1st Sunday Livermore Swap Meet (closed in winter)
- 1st Saturday ORCA Monthly Meeting - Oakland

\* Some exceptions. See [www.arcaham.org](http://www.arcaham.org) for more details

Amateur Radio Club of Alameda meets 7:00 PM at  
431 Stardust Place on Alameda Point.

East Bay Amateur Radio Club meets at 7:30 PM at the  
Salvation Army, 4600 Appian Way, El Sobrante.

Hayward Radio Club meets at 7:30 PM 1401 West Winton  
Ave. in Hayward behind Hayward F.S.#6,  
next to the Hayward Air Ntl. Guard Base.

Oakland Radio Communications Assoc. meets at  
9:00 am at Fire Station #1, 17th @ MLK Way

## EB Weekly Nets

- Thursdays Alameda Emergency Preparedness  
7:00 PM 444.575 MHz plus PL 88.5
- Thursdays Oakland ARES/RACES Net  
7:30 PM 146.88 MHz minus PL 77
- Wednesdays ACSCCT Net  
7:00 PM 147.240 MHz & 442.20 MHz
- Thursdays NALCO ARES/RACES  
7:15 PM 440.9 MHz plus PL 131.8
- Mondays EBARC  
7:30 PM 10M "Explore Net" 28.425 MHz,  
USB
- SundayVHF NTS Net  
7:30 PM 145.110 (-) PL82.5

## ARCA Officers

- |             |               |               |
|-------------|---------------|---------------|
| President:  | David Haycock | <b>KI6AWR</b> |
| Vice Pres.: | Mike Piper    | <b>KD6AOK</b> |
| Secretary:  | Joe Springer  | <b>KC6ZZT</b> |
| Treasurer:  | Bruce Gillis  | <b>KI6CYT</b> |

### Ex-Officio Directors:

- |               |              |               |
|---------------|--------------|---------------|
| CERT Liaison: | Fred Blas    | <b>KI6BES</b> |
| ARES RO:      | Sandy Lavine | <b>KO6JF</b>  |

### ARRL Pacific Division Officers:

- Director: Bob Vallio **W6RGG** - [w6rgg@arrl.org](mailto:w6rgg@arrl.org)  
Vice Director: Jim Tiemstra **K6JAT** -  
[k6jat@aol.com](mailto:k6jat@aol.com)  
East Bay Section Manager: James Latham **AF6AQ**  
[af6aq@arrl.org](mailto:af6aq@arrl.org)  
<http://www.eastbaysectionarrl.org/>

The ARCA Newsletter is published monthly. Any articles can be used with attribution. Articles, news and photos submitted make for a more interesting newsletter; thank you!

Please submit materials for the next issue by Aug. 25th to Bruce **KI6CYT**, [KI6CYT@arrl.net](mailto:KI6CYT@arrl.net). Thanks again!

**ARCA on the web:**  
**[arcaham.org](http://arcaham.org) and**  
**[groups.yahoo.com/](http://groups.yahoo.com/group/arcaham/)**  
**[group/arcaham/](http://groups.yahoo.com/group/arcaham/)**