

Cathay August 2014

www.cathayradio.org

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Mission: The Cathay Amateur Radio Club is basically an active social club of Ham Radio Operators and their spouses. We support local community requests for HAM emergency communications. Several of us are trained in CPR/ First Aid and are involved with community disaster preparedness.

Monday Night Net Time: 9 PM Local Time/PST, Frequencies: 146.67MHz -600KHz PL85.4 and 442.70 +5MHz PL 173.8. The repeaters are linked only during the CARC Monday night net.

Update: Link to repeater 442.70 is currently not active until further notice.

The CARC Monday night net is the best way to find out the latest club news.

All check-ins are welcome.

Message from the President: George Chong, W6BUR

Hello CARC Members and Friends;

This summer has been just flown by; the good news is we have an upcoming fun event.

I am pleased to announce that Edison – WB6IQN is going to host his wonderful Tech Session and I shall be attending it with much anticipation.

Tech Session Intro

The Technical HAM Session is a combination HAM party event and technical presentation by our former CARC president, Edison Fong. Ed - WB6IQN will be hosting a Technical HAM Session at his home in Sunnyvale on August 9, 2014.

Free lunch will be provided and a raffle will be held for prizes. Further details are within the **Technical HAM Session** portion of this newsletter.

Public Service Announcements Intro

Have a last minute announcement: The California Historical Radio Society is having their annual Radio Day By the Bay Event; 9am - 3pm, **Saturday July 26, 2014**

Featured Tech Article Intro

This month's article is about a hydrogen-oxygen fuel cell that has been engineered into a portable pocket sized consumer item. A fuel cell is a device that utilizes a catalyst such platinum to convert chemical reactions into electricity.

For consumer use, there have been safety concerns of high pressure storage of hydrogen to supply a fuel cell. This stumbling block has been reasonably overcome by the use of metal hydrides.

Metal hydrides have the remarkable ability to absorb and store large quantities of hydrogen via a chemical bond formed under low pressure.

When the pressure is released from the storage container containing the hydrogen and metal hydrides, rehydrating occurs thus releasing the stored hydrogen.

The hydrogen and metal hydrides storage systems are inherently safer than either highly compressed hydrogen gas or cooled liquid hydrogen. Some metal hydride compounds are able to store up to twice the volumetric amount of hydrogen than in a liquid hydrogen state.

Until recently fuel cell were very specialized devices that were very expensive and reserved for special applications. One such special application has been the space programs, providing steady electrical needs for satellites, space craft, and probes.

Those fuel cell using hydrogen and oxygen are considered green technology because along with the electricity, the by-products are heat and water.

This consumer product is currently available in sporting goods stores. For further details read the Tech Article Section.

Bill Chin's (*KC6POF*) provides us with additional web research on the Hydrogen Reactor:

The manufacture's own website had a little information:

<http://www.brunton.com/products/hydrogen-reactor-plus-hydrogen-core#product-details>

Amazon and REI sell it but had little or no buyer reviews. Most likely too new.

There was this one online reviewer who brought up some very important concerns about the product: <https://www.youtube.com/watch?v=1-yLqwGS2dA> . For example, availability of product, cost, practicality because of the hardware required and physical size of the "reactors" .

Wired Magazine writes that the technology is exciting, but for now li-ion is more practical.

I think the point is that it's a technology that deserves some watching.

While maybe not quite ready for wide consumer purchase, but definitely worth following its development.

CARC Final Wrap-up News

Chat sub s'em to all you CARC members!

- George W6BUR.

Public Service Announcements

HAM CRAM / HAM Licensing

For upcoming HAM Licensing locations please refer to:

<http://www.arrl.org/find-an-amateur-radio-license-exam-session>

Bart Lee – K6VK

California Historical Radio Society (CHRS) Radio Day By The Bay 2014 – LIVE! in Alameda

- **July 26, 2014**
- **9 AM – 3 PM**
- **\$5 Donation** – Children under 12 Free
- Your Master of Ceremonies is Mr. Alameda, KCBS morning news anchor, **Stan Bunger**
- **At The Kofman Auditorium, 2200 Central Ave.**
 - A Live vintage radio and Hi-fi auction
 - With guest auctioneer, KGO evening news anchor, **Peter Finch** and Chairman **Mike Adams**
 - Auction Bidder paddles are **\$5**
 - A Live radio play by the **Broadcast Legends:**
 - **The Lone Ranger – “The Telltale Bullet”**
 - Live music by the **Golden Gate Radio Orchestra**
 - A 19 piece Big Band featuring vintage radio music

- **Ben Fong-Torres** announces the **2014 Class of the Bay Area Radio Hall Of Fame**
- **CHRS Volunteer of the Year** will be announced
- And special radio personality interview: to be announced
- **And at CHRS Radio Central, 2152 Central Ave.**
 - The auction items may be viewed at the auction preview starting at 8:30 AM
 - The Doggie Cafe (barbecue) and CHRS bake sale will be open
 - The CHRS museum store will be open
 - The GIANT electronics flea market will be open all day
 - Parking in the lot next door to Radio Central, on the street or in the High School lot

Our biggest fundraiser of the year is coming soon. It's been a very hectic year for CHRS so we are getting a very late start... But we can do this! Since we are in a mixed residential neighborhood, we cannot have the whole event on sight. But, all of your favorite events are back.

The Live auction, using a slideshow, the Live music, the Live radio play and the Radio Hall Of Fame and Volunteer of the Year announcements will be held one block away from Radio Central at the Kofman Auditorium. The Kofman is a 2000 seat theater and is part of Alameda High School.

The Auction preview, our popular Doggie Cafe Barbecue and CHRS Bake Sale plus our GIANT Electronics Flea Market will be held at Radio Central.

Our auction catalog will be up soon. Tell all your friends that this year we have lots of high end audio gear for auction, Macintosh, Krell, Dyna, Heath, HK Citation, Mastersound, Crown, Leak and more!

Stay tuned. If you have donations for the Flea Market or Items for the auction, we need to

know ... now. All consigned auction items this year will be a 50/50 split with CHRS.

LATEST ON California Historical Radio Society (CHRS) BUILDING PURCHASE...

The following statement was read at Radio Day By The Bay and is the latest information we have at this time about CHRS purchase of its future home at 2152 Central Avenue, Alameda – The New CHRS ‘Radio Central’

On April 23rd 2014 CHRS took possession of the historic building at 2152 Central Avenue in Alameda CA. It will now be known as CHRS ‘Radio Central’ and is now the Permanent home of the California Historical Radio Society and its’ programs, the Bay Area Radio Hall Of Fame and the Society Of Wireless Pioneers.

CONGRATULATIONS AND HAPPY 40TH BIRTHDAY CHRS! - Our favorite Historical Radio Society has done something that most non-profits only dream about... We have raised enough money to buy a permanent home!

As of today, **OUR CASH TOTAL BUILDING FUND DONATIONS = \$1,053,700!**

It is spread across 448 donations! We need \$1.16 Million.

This building is 114 years old and in some areas shows its’ age. We have some roofing issues, asbestos issues, minor termite damage and one tiny moldy closet. Don’t be scared, this building has great bones and all these problems can be corrected. We have a Boys Room and Girls Room with many more stalls than we will ever need and a bunch of 24” sinks. We need to turn these rooms into adult ADA bathrooms. It’s all doable. It just takes lots of money. Oh yes... We also have to build a Museum.

For additional information see: <http://www.californiahistoricalradio.com/>

Auxiliary Communications Service (ACS)

The Auxiliary Communications Service (ACS) was organized by the San Francisco Office of Emergency Services (OES) following the 1989 Loma Prieta Earthquake to support the communications needs of the City and County of San Francisco when responding to emergencies and special events.

The Auxiliary Communications Service holds General Meetings on the third Tuesday of each month at the San Francisco Emergency Operations Center, 1011 Turk Street (between Gough Street and Laguna Street), from 1900 hours to 2100 hours local time. All interested persons are welcome to attend.

The ACS Net begins at 1930 hours (7:30 p.m.) local time each Thursday evening, on the WA6GG repeater at 442.050 MHz, positive offset, tone 127.3 Hz. The purpose of this net is to practice Net Control skills, practice checking in with deployment status in a formal net, and to share information regarding upcoming ACS events. Guests are welcome to check in. ACS Members should perform Net Control duty on a regular basis. On the second Thursday of each month, the net will be conducted on the output frequency of the WA6GG repeater, 442.050 MHz no offset, tone 127.3 Hz, simplex.

For more information, please attend an ACS meeting or check in on a net, or call 415-558-2717.

Upcoming meetings: Tuesday 7pm, Aug 19, 2014
Tuesday 7pm, Sept 16, 2014
Tuesday 7pm, Oct 21, 2014

Gilbert Gin (KJ6HKD)

Free Disaster Preparedness Classes In Oakland:

<http://www.oaklandnet.com/fire/core/index2.html>

CORE is a free training program for individuals, neighborhood groups and community-based organizations in Oakland. The underlying premise is that a major disaster will overwhelm first responders, leaving many citizens on their own for the first 72 hours or longer after the emergency.

If you have questions about the recertification process, you may contact the CORE Coordinator at 510-238-6351 or core@oaklandnet.com.

Free Disaster Preparedness Classes In San Francisco – NERT Taught by the San Francisco Fire Department (SFFD)

RSVP to sffdnert@sfgov.org or call 415-970-2024 to register. Visit www.sfgov.org/sffdnert to learn more about the training, other locations, and register on line.

Upcoming Special NERT Events.

August

2nd: NERT Leadership College 8:30am-3:30pm, SFFD DOT*

Learn how NERT neighborhood teams work and how to organize or support a neighborhood group. Leadership college is for new Coordinators, and any NERT graduates thinking about being a NERT leader or vital part of a neighborhood team

[Register](#)

9th: SFPD ALERT Training

pre-registration required to meet background check requirement. More information [here](#)

4th: NERT Communications 201: Messaging 6:30pm-9:30pm, SFFD DOT*

Improve your communications and messaging skills. Learn how to write a short, effective emergency message using scene size-up. A valuable skill for every NERT. Emergency messages include five key elements: Identify, Location, Condition, Action, and Needs—become familiar with I.L.C.A.N. Class open to all NERT Grads! (No Ham license or radio required to attend.)

[Register](#)

5th: National Night Out - support SFPD in this community friendly Nationwide event and help get the word of preparedness out to your neighbors in your local police district. Contact Diane Rivera if you are available to assist for this evening event (times will vary). diane1rivera@aol.com

6th: NERT Communications 301-303: Hands-on buttons & knobs & antennas, 6:30pm-9:30pm, SFFD DOT*

Get hands on help with using your radio. Assistance will be provided with programming, changing frequencies, setting tones etc. J-pole? We'll cover that and mag-mounts and more. You must have completed pre-requisite: NCT101 or have approval to take this class

[Register](#)

7th: NERT Communications 401: Hands on message passing and Scribing, 6:30pm-9:30pm, SFFD DOT*

Talk, talk, talk, listen, listen, listen, write, write, write. Practice sending and receiving radio messages. Improve your communications and messaging skills. A valuable skill for NERTs. Ham license required.

[Register](#)

19th: NERT Communications 501: NET Control for NERT staging area, 6:30pm-9:30pm, SFFD DOT*

Learn Net Control procedures and avoid "cross-talk" in a Staging Area. A Ham Operator, acting as Net Control, regulates the flow of radio traffic coming from multiple NERT Field Teams into a Staging Area. This is a skill that must be learned and practiced. Join us for this new addition to the NERT Communications training. Ham License required. Join us for this new addition to the NERT communications training. Prerequisites: NCT 101-401

[Register](#)

23rd: NERT Workshop: Plan & Play 8:30am-1:00pm, SFFD DOT*

All NERTs are invited to this workshop in planning a real-time drill. using drill-in-a-box tools, plan a tabletop drill and put it on! This workshop is excellent practice for planning neighborhood drills as well as exercises for meetings and team events

Register

27th: NERT Leadership meeting, 6:30pm-8:30pm, SFFD DOT*

Volunteer leaders are the backbone of NERT. Want to be more involved in NERT leadership? Meet NERT Coordinators from all over the City. All NERT grads are welcome.

Register

*** SFFD DOT is the Division of Training @ [19th Street/Folsom](#). (enter through yard on 19th and park along back wall) Division of Training classroom is in the 1-story building directly next to the Fire Station on the corner.**

San Francisco Police Department: Auxiliary Law Enforcement Response Team (ALERT)

The Auxiliary Law Enforcement Response Team (ALERT) is a citizen disaster preparedness program designed. The ALERT program is for volunteers 16 years of age or older, who live, work, or attend high school in San Francisco.

Graduates of the San Francisco Police Activities League (P.A.L) Law Enforcement Cadet Academy are also eligible to join.

ALERT volunteers will first complete the Fire Department's Neighborhood Emergency Response Team (NERT) (www.sfgov.org/sfnert) training and then graduate into an 8 hour Police Department course specifically designed for ALERT team members.

ALERT members will work closely with full-time and/or Reserve Police Officers in the event they are deployed after a disaster. The Basic ALERT volunteer will have no law enforcement powers other than those available to all citizens.

SFPD ALERT Training

The next ALERT training classes have been scheduled for **Saturday, August 9 2014 and Saturday, October 25, 2014. The classes will be held at the San Francisco Police Academy, in the parking lot bungalow, from 8am-5pm (one hour lunch break).**

IMPORTANT- All participants must complete the background interview process in order

to be eligible to attend the ALERT training class.

Eligible ALERT participants may register for a training class by contacting the ALERT Program Coordinator, Mark Hernandez, at sfpdalert@sfgov.org, or by telephone at 415-401-4615.

SFPD ALERT Training Drill

All active/trained ALERT members are asked to join us for our next training drill, scheduled for **Saturday, September 6, 2014** and **Saturday, November 1, 2014**. The drill will be held in the Police Academy (350 Amber Drive) parking lot from 9am-1pm. Details will be emailed to active ALERT members, prior to the date of the exercise. Participation is not required, but strongly encouraged.

PUBLIC INFORMATIONAL MEETING

An informational meeting will be held at the San Francisco Police Academy, located at 350 Amber Drive, Parking lot bungalows, on September 18th, at 7pm. All members of the public are welcome. Interested individuals will have their questions about the program answered at the meeting.

For more information on the San Francisco Police Department ALERT Program, email us at sfpdalert@sfgov.org, or call Sergeant Mark Hernandez (SFPD, Ret.), SFPD ALERT Program Coordinator, at (415) 401-4615.

For additional information on the web please refer to:

<http://sf-police.org/index.aspx?page=4019>

Featured Tech Article

Bruton Hydrogen Reactor



After successfully introducing the MINIPAK to camping /outdoor channels in the US and Europe, leading outdoor gear brand BRUNTON is now launching the BRUNTON REACTOR, designed in cooperation Brunton and Horizon, and manufactured by Horizon.

Introducing the future of power, it combine hydrogen in the core and oxygen in the air to generate clean power. With the Hydrogen Reactor you are not tied to anything. No waiting for the sun to co-operate, no bulky batteries to carry, no power pack to charge. Grab it and get on the move, take an extra Hydrogen Core or two on long trips, each one packs as much power as a fist full of AA batteries.

This pocket sized high-science device combines hydrogen and oxygen to produce electricity on-the-move and under any condition.

Simply lock the Hydrocore fuel into the Hydrogen Reactor™ to power USB devices like smartphones, tablet computers, UV water purifiers, rechargeable lights, portable game consoles, GPS transceivers and other small electronic devices.

- **Live Swappable Energy** – Just exchange empty for full and keep charging without waiting, ideal for disaster readiness; solid state with no natural discharge.
- **Environmentally Safe** – No toxic chemicals. Recharged from water.
- **Hydrogen Power** – Lock rechargeable Hydrogen Core to Hydrogen Reactor for hours of power off-the-grid and on-the-go
- **2 Hydrogen Cores** – Each is Capable of 3 iPhone recharges (4500mah); 5v 1amp output



The Brunton Hydrogen Reactors come with the guarantee "Buy it. Try it. Bust it." Use whenever or however; treat it as indestructible and if something destroys it or if it malfunctions, just return it to Brunton for repair or replacement. . .

Brunton Hydrogen Reactor Charger Specs

| Specification | |
|--------------------------------|-------------------------|
| Best use | Multisport |
| Charge time (hrs) | 1.5 hrs. |
| External charge | USB |
| Battery included | Yes |
| Battery type | Lithium polymer |
| Battery storage capacity (mAh) | 1500 |
| Power output to device (mA) | 1000 |
| Material(s) | Plastic |
| Dimensions | 2.7 x 2.7 x 0.47 inches |
| Foldable | No |
| Weight | 1.98 ounces |
| Trademarked terms | iPhone |

Tech Session in Sunnyvale Saturday August 9, 2014 (this includes free lunch for all attendees)

Time: Saturday August 9th – 12 noon – 3PM

Topic: *Ready to go Software Define Radios You Can Buy for Under \$40* – Ron Quan KI6AZB

Place: 1163 Quince Ave. Sunnyvale, 408-245-8210 monitor 146.52 MHz

Menu - lasagna, pizza, salad, drinks, and chips. Ice cream for dessert.

Cost: **FREE to Cathay Members and Guest - Raffle Tickets: \$5 each**

Directions: *If you are coming from the DeAnza Flea Market, just head North on Stelling Rd. Go 2 miles, past Homestead Road, past Fremont Ave. (Stelling Rd. will change names to Hollenbeck Ave. after you cross Homestead Rd.) After Fremont Ave., watch for the first signal light which is Torrington, make a left. Go one block and you will run into Quince Ave. We are at 1163 Quince Ave. I will monitor 146.52 MHz if anyone gets lost.*

If you need precise directions from where you are coming from, go to www.googlemaps.com. They seem to give the best directions or give me (Ed Fong) a call on the phone.

This event is after the DeAnza Swapmeet. Before going home, come on by and have a great lunch and meet new friends. Why pay for lunch after the swap and then to HRO's? Drop by, save your money and have lunch and still have time to go to HRO's.

This year's speaker will be **Ron Quan KI6AZB** – The author of “*Build Your Own Transistor Radios* – copyright 2013, MacGraw Hill”. Meet the author, ask him all kinds of questions about radios. He's the world's expert.

Last year Ron gave an overview of Software Defined Radios (SDR). A lot has happen in a year. Most people shun SDR radios because they all virtually need a computer. They are not very portable and the luxury of just “turning on your radio” to check the bands is cumbersome.

Over the last 30 years hams have gotten use to turning on their solid state radios and within a few seconds, would get on the air. In the old “tube days” we would need to wait a few minutes to get everything warmed up. Amazingly, the boot time on a computer is also about a few minutes. That was a major drawback of the SDR radios. No instant turn on.

That era of booting up your computer to get on the air is coming to a close. Radios like the Elecraft KX3 are software defined radios with a full traditional analog interface and no need for a computer. But you really don't have to spend \$1000 to enjoy this new technology. Thanks to a company called SiLabs (Silicon Labs) in Texas. They make a

complete AM/shortwave radio on a chip using an SDR architecture. The chip that SiLabs offers is so disruptive to the traditional radio architecture that even Radio Shack has adopted the SiLab's technology. They don't tell you this, but the Radio Shack 1200586 (shown below) is an SDR radio using the SiLab's chip. It's a lot cheaper, requiring much less external components, lower power consumption, and potentially better performance.

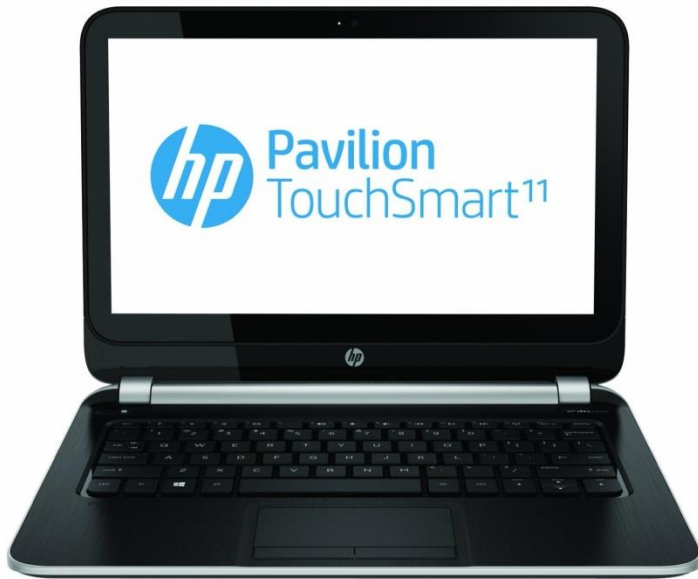


Another early adoption to this technology is the handheld shortwave radio offered by County Comm of Santa Clara. Their radio is the model GP5.

This a complete AM/FM/Shortwave radio with 450 memories. This radio runs for 225 hours on three AA batteries. It's our 2nd prize for the raffle. See below for the picture. Ron will show you the interiors of these radios and amaze you on how little components are in these radios.

So come on by meet old friends, new friends and maybe even win the computer or radio.

1st Prize - Touch Screen HP Laptop running Window 8.1, 4GB of memory and 500 GB of harddrive. Is your old laptop ready for an upgrade? Well, this could be it.



- HP Pavillion 4 GB Laptop 500GB of hard drive
- Is your old laptop ready for an upgrade? Well this could be it.
- Full TouchScreen Running Windows 8
- Dual core with a LED back lit screen
- High resolution camera for Skype ,
- Wireless 802.11n.

2nd prize will be the new County Comm GP5 software defined radio. Accessories include, headphone, antenna booster, external SW antenna and case.



FM: 87 – 108 or 76 – 108 MHz
MW/ AM: 520 – 1710 kHz (10K tuning step)
SW: 2.3 MHz – 21.950 MHz
LW frequency: 150 – 522 kHz