

Cathay December 2013

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,

Yes, the last month of the year 2013 is now upon us. Many of our CARC members have been extremely busy this last quarter of the year with community volunteer work.

I would like to take the time to remind our fellow HAMs the importance of radio communication and disaster preparedness. By now as you must have seen on the news the devastation from the deadly category 5 Typhoon, Haiyan that swept through the Philippines. Winds were reported as high as 195 miles per hour accompanied by 20 foot ocean waves. Vietnam was also on the receiving end of this latest Typhoon.

In case you are wondering: Typhoon, Hurricane and Cyclone are the all tropical storms. Typhoons are tropical storms in the northwest Pacific. Hurricanes are in the northwest Pacific regions. In the other regions these tropical storms are referred to as Cyclones.

The take away from this recent natural disaster is that we should all have prepared disaster kits to last 72-96 hours. Information on how to build your own personal disaster kit can be found on website: <http://www.sf72.org/home>.

Having built my own family disaster kit, the secret to getting it done is careful planning and to build it out slowly as it requires: time, diligence, money and space. And don't forget to label the perishable items with a date for expiration purposes.

Christmas Party 2013

As stated in our November 2013 newsletter, within this newsletter we have the details on the Saturday December 14, 2013 Christmas Party hosted by CARC member Edison Fong (WB6IQN).

Chinese New Year 2014 Luncheon

The 2014 Chinese New Year will occur on January 31, 2014. The CARC upcoming January 2014 newsletter will have further details on the planned club luncheon.

Featured Tech Article

This month's article is about the development of high-performance nanoscale microwave oscillators that will pave the way of much smaller and lighter communications devices.

CARC Final Wrap:

I hope to see many of you at Ed Fong's December 14, 2013 Christmas Party and our upcoming Chinese New Year Party.

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

LATEST ON 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 California Historical Radio Society's (CHRS) future at 601 Ashby in Berkeley, CA.

“As you know, we have been fundraising for the last year with the goal of purchasing this building and land for CHRS' permanent home. We were supposed to buy the building and land from the new owner of KVTO as it emerged from bankruptcy. But, KVTO has now been sold to a company who is not inclined to sell CHRS the building and land.

We can safely report that our license to occupy KRE will be honored to its completion until December 31st of this year. We are not being asked to leave anytime soon and there is a possibility that we may be asked to remain beyond that date.

So, as much as we love it here, a museum needs a permanent home. We have already started an active search. We realize that we may be leaving a historical place, but the reality is that we need a permanent place for the CHRS collection, Maxwell and SOWP archives and Radio Hall of Fame.

The fund raising momentum is still with us. All of the major donors to the KRE purchase fund have assured us that their pledges will remain in place to purchase a permanent new home for CHRS.”

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, Jan 21, 2014
Tuesday 7pm, Feb 18, 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 San Francisco Fire Department

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.

December 2013

7th: NERT Staging Area Drill. All NERT grads welcome, 8:30a-1:00p SFFD DOT*

This drill focuses on setting up and managing a neighborhood team staging area. Practice Incident Command System skills. Bring: NERT ID, helmet, vest, gloves, water, pencil and go-bag. Wear long pants, sturdy shoes and sunscreen. Dress for weather. Register: <https://www.eventbrite.com/event/8955434947>

16th: NERT Holiday Party. Sports Basement is hosting. 6:30p-8:45p, 1590 Bryant Street, 5th Floor. The Store is offering NERT volunteers a 20% discount that evening. (certain restrictions apply)

RSVP: <https://www.eventbrite.com/event/9171902407>

January 2014

25th: NERT sponsored Ham Cram. Get your amateur radio license in one day. (\$30)
St. Mary's Event Center, 1111 Gough St @ Geary
Register: BAERS

* 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.

Upcoming ALERT Training

ALERT training class will be held at the San Francisco Police Academy, in the parking lot bungalow, from 8am-5pm (one hour lunch break). A new class is schedule as follows:

- **Saturday, January 18th, 2014**

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 the **January 18th, 2014** training class by contacting the ALERT Program Coordinator, Mark Hernandez, at sfpdalert@sfgov.org, or by telephone at 415-401-4615. To register by email send your request to sfpdalert@sfgov.org with your NAME and PHONE NUMBER.

ALERT Information Meeting:

An informational meeting will be held at the San Francisco Police Academy, located at 350 Amber Drive, Parking lot bungalows, at **7pm on Thursday December 5, 2013**.

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>

Christmas Party Announcement by Ed Fong (WB6IQN)

When: Saturday, December 14 6-10 PM

Format: Potluck – bring your favorite dish.

Door Prize - Beofeng UV5R Dual band handheld transceiver

Where: 1163 Quince Ave. Sunnyvale, CA -

Best directions given on www.googlemaps.com. Please call if you get lost 408-245-8210

We will once again host the Christmas Party this year. Bring your friends, neighbors, cousins, you name it. Last year we had over 80 people with kids, friends, neighbors, all kinds of ham friends. There will be all kinds of dishes from traditional Christmas, to Chinese, Korean, Italian, barbeque, you name it. Deserts are always plentiful. Who knows who would be there? Last year we had the Mayor of Sunnyvale and several famous people from the electronics industry. This is also a great party to update your professional networking if you are looking for a job.

All licensed hams will receive one ticket (no charge) for the door prize- no charge. That will make you eligible for the door prizes. The prize will be the Baofeng UV5R. This is a supper radio with 128 memory channels, 1800 mah battery, drop in charger, built-in LED flashlight and even a built-in FM broadcast radio. I carry mine with me all the time.

Kids are welcome and bring your friends. Below is a picture of the free raffle prize BaoFeng UV-5R



Featured Tech Article

UCLA-led research team develops world's most powerful nanoscale microwave oscillators

<http://www.engineer.ucla.edu/newsroom/featured-news/archive/2012/ucla-led-research-team-develops-worlds-most-powerful-nanoscale-microwave-oscillators>

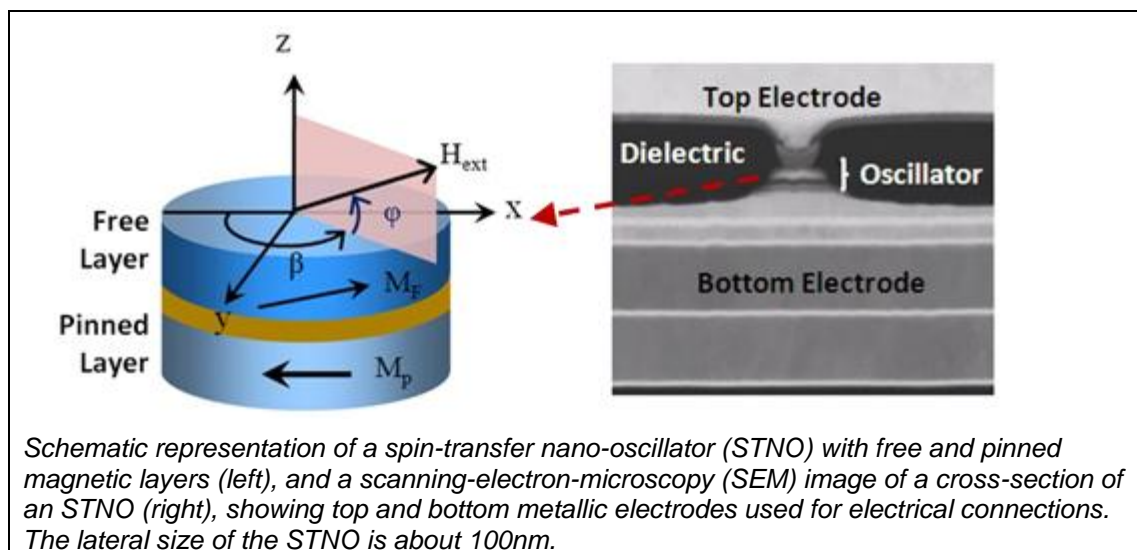
By Matthew Chin and Wileen Wong Kromhout June 25, 2012

A team of UCLA researchers has created the most powerful high-performance nanoscale microwave oscillators in the world, a development that could lead to cheaper, more energy-efficient mobile communication devices that deliver much better signal quality.

Today's cell phones, WiFi-enabled tablets and other electronic gadgets all use microwave oscillators, tiny devices that generate the electrical signals used in communications. In a cell phone, for example, the transmitter and receiver circuits contain oscillators that produce radio-frequency signals, which are then converted by the phone's antenna into incoming and outgoing electromagnetic waves.

Current oscillators are silicon-based and use the charge of an electron to create microwaves. The UCLA-developed oscillators, however, utilize the spin of an electron, as in the case of magnetism, and carry several orders-of-magnitude advantages over the oscillators commonly in use today.

UCLA's electron spin-based oscillators grew out of research at the UCLA Henry Samueli School of Engineering and Applied Science sponsored by the Defense Advanced Research Projects Agency (DARPA). This research [focused on STT-RAM](#), or spin-transfer torque magnetoresistive random access memory, which has great potential over other types of memory in terms of both speed and power efficiency.



"We realized that the layered nanoscale structures that make STT-RAM such a great candidate for memory could also be developed for microwave oscillators for communications," said principal investigator and research co-author Kang L. Wang, UCLA Engineering's Raytheon Professor of Electrical Engineering and director of the [Western Institute of Nanoelectronics \(WIN\)](#).

The structures, called spin-transfer nano-oscillators, or STNOs, are composed of two distinct magnetic layers. One layer has a fixed magnetic polar direction, while the other layer's magnetic direction can be manipulated to gyrate by passing an electric current through it. This allows the structure to produce very precise oscillating microwaves.

"Previously, there had been no demonstration of a spin-transfer oscillator with sufficiently high output power and simultaneously good signal quality, which are the two main metrics of an oscillator — hence preventing practical applications," said co-author Pedram Khalili, project manager for the UCLA–DARPA research programs in STT-RAM and [non-volatile logic](#). "We have realized both these requirements in a single structure."

The STNO was tested to show a record-high output power of close to 1 micro-watt, with a record narrow signal linewidth of 25 megahertz. Output power refers to the strength of the signal, and 1 micro-watt is the desired level for STNOs to be practical for applications. Also, a narrow signal linewidth corresponds to a higher quality signal at a given frequency. This means less noise and interference, for a cleaner voice and video signal. It also means more users can be accommodated onto a given frequency band.

In addition, the new nanoscale system is about 10,000-times smaller than the silicon-based oscillators used today. The nano-oscillators can easily be incorporated into existing integrated circuits (computer chips), as they are compatible with current design and manufacturing standards in the computer and electronic device industries. And the oscillators can be used in both analog (voice) and digital (data) communications, which means smart phones could take full advantage of them.

"For the past decade, we have been working to realize a new paradigm in nanoelectronics and nanoarchitectures," said Wang, who is also a member of the [California NanoSystems Institute at UCLA](#). "This has led to tremendous progress in memory research. And along those same lines, we believe these new STNOs are excellent candidates to succeed today's oscillators."

The paper, "[High-Power Coherent Microwave Emission from Magnetic Tunnel Junction Nano-oscillators with Perpendicular Anisotropy](#)," has been published online in the journal ACSNano.

Other key authors include Hongwen Jiang, UCLA professor of physics and astronomy, and lead author Zhongming Zeng, formerly a postdoctoral scholar in Jiang's laboratory and currently a professor at the Suzhou Institute of Nanotech and Nanobionics, Chinese Academy of Sciences.