

FEBRUARY 2009

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



By Art Lee WF6P

CHATTER

flight around dusk. We lost power to all the radio and nav equipment as we started to land. By golly that signal lamp (Aldis) worked after all. That was the only occasion I ever had to use it.

I had not thought of those events in many years, til you triggered the memory. Hi."

Our K6BJ Reflector brings lots of interesting emails for our consumption. The recent mailings sparked by the successful water landing on the Hudson River brought up memories of Captain Richard Ogg. He retired to the Aptos area where his wife had a Real Estate or Travel office near the Windjammer Bar and Grill. I never met either Richard or his XYL but was aware of his open-sea landing in a Boeing Stratocruiser. Donna and I were living in Honolulu at the time as I was a flight engineer on C-118s (Navy R6Ds). There were two Coast Guard ships between San Francisco and Hawaii providing navigation checks. Ocean Station Nan was one. We had fun with their radio ops when we put females on the radio asking for nav info. This was before many females took part in aviation. Tom Guyer provided info stating that Ogg was a ham radio operator with his call W6EPJ. Several area hams had worked him.

From WA6LIE: "I talked to Richard's wife Peggy on the phone a few minutes ago. She mentioned the articles in the Cron and Sentinel. We chatted a bit about old times.... Peggy did remember Richard's call as W6EPJ and did find some stuff. She found his class 2 radiotelephone license and something else with "W6EPJ" on it. Richard died of Cancer in June 1991. He will be missed, but always remembered! http://en.wikipedia.org/wiki/Pan_Am_Flight_673, Scott WA6LIE"

The Captain of the ship Flying Enterprise was also a ham. Eddy Pollock's father worked Kurt Carlsen, W2ZXM, often. For those who do not remember, the captain stuck with his partially capsized ship after storms or shifting ballast caused her to lay on her side in the middle of the ocean. The crew was taken off but he remained on board several days to prevent salvage.

I received a nice email from Rich Hanset, KI6EH. He and XYL Lee are enjoying the good life while touring the western USA in their beautiful motorhome. Gary Baker, N6ARV, is doing likewise, touring the southwest of the USA. "I have now slept in all 50 states," he told me. "The last one being N. Carolina." He uses his H.T. on the road but says there is not much activity on the local repeaters. He spent a month in Perris, in Southern California, the great skydiving capitol. His next stop is with his daughter and grandkids in Alaska.

I have to thank Tom Guyer, KG6AO, for responding to my request for names of famous amateur radio operators. Wow, did he ever! He sent: "Art, you missed Walter Cronkite, KB2GSD,

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Class Projects

By Dan Romanchik, KB6NU

I have been teaching a General Class license class for the past five years. The first year, I had five students, the next year 35! This year, I have only five again.

Not being a pedagogical genius, it never really occurred to me until last year to give my General Class students a project to work on while we slogged through the material. Last year, some of them built little QRP kits. Not only was that fun, it was educational. Some of them had never even soldered before!

Since last year's project worked out so well, I am asking this year's students to do some kind of project, but one that they choose themselves. Here's the short list that I came up with:

- Build a kit like my students did last year.
- Build a 2m beam. At our first meeting, one of the guys noted that while he could hear a repeater about 30 miles away from his QTH, he wasn't able to hit it with the 5/8-wavelength vertical he was using. I suggest that he build a Cheap Yagi (<http://www.fredspinner.com/WOFMS/CheapYagi/vjbcy.html>).
- Download some antenna simulation software and analyze a dipole or vertical antenna. MM-ANA (<http://mmhamsoft.amateur-radio.ca/mmana/index.htm>) is free and looks to be a pretty good program.
- Learn Morse Code. Being the CW geek that I am, how could I not suggest this?

I wanted to give my students a bigger

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February Meeting

Speakers will be Sal DeFranco, N6SPD, and Linda Bittner, K6GRL, Their presentation will be on RadioFest 2009.

CLUB MEETING FRIDAY FEBRUARY 20, 7:30PM

The Apple Mac Hits 25

And a happy birthday to the Apple Macintosh computer which turned 25 back on January 24th. The Mac, as it became known in computing circles, made its public debut in 1984 and kicked off a product line that were Apple's flagship computers for many years. The project to create the Macintosh was started by legendary computer maker Jeff Raskin. The original machine had a 9 inch screen in an upright beige case, 128 kilobytes of RAM, internal floppy drive, and came with a keyboard and single-button mouse.

The operating system featured a Graphical User Interface with the mouse used to navigate the computer. This, by clicking on screen icons rather than having to type command line instructions.

The first Macintosh was unveiled in a television advertising campaign directed by film maker Ridley Scott. Those advertisements were originally aired during that year's Superbowl game in late January.

Apple had previously produced computers using a graphical user interface such as the Apple Lisa. Those machines cost far more than the original Macintosh and never gained much popularity. The Mac, did.

—The Amateur Radio Newline

Class Projects continued

choice, so I asked the readers of my blog for more suggestions:

Kenneth, W6KWF, replied, "Hands down the most useful and most successful projects I've built have been 2m J-poles. I've built both the 1/2" copper tubing and TV line variants, and use both as my primary antennas. The TV line one is nice because I live in an apartment, so when I need a good antenna, I tie a magnet to the top of it and stick it to my upstairs neighbor's balcony. It's a very forgiving antenna."

Zeke also like the idea of building J-pole antennas. "You didn't mention the age group/groups you are working with," he said, "but have you thought about a hands-on project such as a j-pole for 2 or 6 meters. It would give them an opportunity to feel the pride that follows an involved project. Furthermore, the J-pole is a pretty good antenna."

John N8ZYA, said, "I like the idea of learning CW. It's like learning to play the guitar

Jamesburg Earth Station



The Jamesburg Earth Station in Cachagua Valley, California (about 20 miles S.E of Monterey)

This facility went into service in 1969, just in time to carry the Moon landing live to the world. COMSAT owned and operated this high-capacity earth station, and provided all forms of overseas communications via satellite between the U.S. and points all around the Pacific Rim. This antenna, taller than a 10-story building, is located in the Upper Carmel Valley.

This facility was closed in 2002, and sold to a private investor. The new owner is cooperating with a group of Ham Radio operators to find a new use for the antenna, which may include Radio Astronomy, educational or Deep Space applications.

or piano. A skill that can be used your entire lifetime!"

Robert suggested, "How about building a 20 meter delta loop? I am very inexperienced when it comes to antenna building, but a friend suggested this for working DX on 20 meters and it worked out really well. In fact, my first contact on it was Spain!"

I would love to offer my students even more choices. If you have a suggestion, please e-mail it to me at cwgeek@kb6nu.com. Thanks!



Uncertain Behavior

In high school physics you probably learned about the Uncertainty Principle due to the German atomic physicist Werner Heisenberg (1901-1976). Heisenberg developed the math that showed the more precisely the position of a particle is known the less precise its momentum is known. I stuffed his discovery away never expecting it to have much bearing on my life and interests.

Over the last couple of years however it became clear to me that the same principle applies to some topics in communications, moreover it can be appreciated rather intuitively.

Think of a car as a moving particle and a perfect camera taking an instantaneous snapshot. We will have captured information about the position of the car but not its speed. At least 2 snapshots at intervals would be needed to determine distance traveled over time. In so doing we lose the information about the position of the car at that speed. Should police radar catch you moving precisely from a 45 mph zone to a 30 mph zone you might try this argument on the judge HI.

Digital technologies are of course not new but with DSP they have begun to replace many of the traditional analog sections of our rigs. At RF input and at audio output we have to convert from analog to digital and vice versa and that is where an example of uncertainty comes in. To convert an analog sine wave to a digital form we have to sample the waveform and allocate a digital code to represent its amplitude. The difficulty is twofold, the waveform is like a moving object and we can only open a sampling window rather than acquire an instantaneous sample. That means there is an inherent error in the sampling/encoding process that contributes to degrade the overall performance of A-D and D-A converters.

Filters are essential in many areas of communications and their behavior has always fascinated me. For CW it is quite apparent that you can have a very selective filter or a filter that does not distort the signal by ringing but in a single filter you can not have both. In other words ultimate performance in the frequency domain and in the time domain do not coincide. This turns out to be another example of position vs time conflict embodied in the uncertainty principle.

Cycling of Breakers

Often, breakers in both residential and commercial applications remain motionless for years. The result can be just as you describe: the breaker contacts fail to open when a trip is called for. If the failed breaker feeds a 20A circuit and the next upstream breaker is rated 200A, there can be a bit of a problem. The fault current may never reach the level required to trip the 200A breaker, so the best you can hope for, is for the fault to clear without a fire, or with a self extinguishing fire.

What I've also seen happen is the breaker mechanism bind on tripping, due to corrosion / contamination. This can result in the spring pressure being taken off of the main contacts, but the contacts failing to open. The resistance across the contacts then increases dramatically. Since the breaker attempted to trip due to overcurrent, it's reasonable to say that there is a lot of load on the circuit, and that a good deal of heat will be developed by the breaker contacts. The breaker then burns and melts from heat, possibly melting the main before it trips from the fire's heat. This scenario just gets worse.

In an industrial situation where voltages are higher and maximum fault current is much higher, a breaker failure can result in a very prompt, violent explosion and fire with white hot metal sprayed about the room. Any by-standers are usually burned badly or killed.

So, yes, cycling all of the breakers annually is definitely good preventive maintenance... it also helps keep you familiar with the procedure for setting the digital clock on the VCR ;-)

—73, Jeff - K1LE - CT

Today we have incredible software tools that use digital signal processing to create filters with any frequency or impulse response we desire. I plan to give a demo of digital modes and filters at a forthcoming club meeting.

For more on W.H go to <http://www.pbs.org/wgbh/aso/databank/entries/bpheits.html>

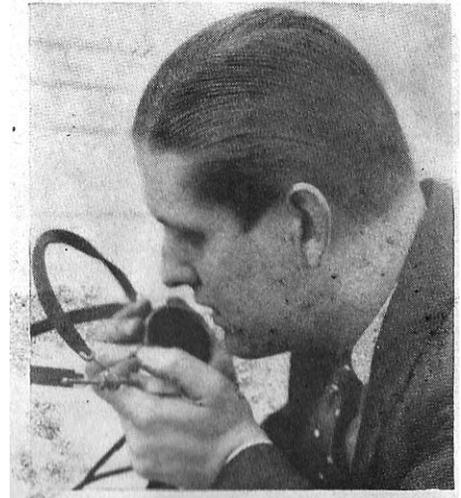
For more on digital filters go to

<<http://www.dspguide.com/filters.htm>>

—Ron W6WO

Emergency Microphones

THE EARPHONE "MIKE"
Ordinary 'phones can be pressed into service as a microphone, especially for transmitting speech



TALKING PICK-UPS
A paper drinking-cup fastened to the needle converts a pick-up into a microphone



Chatter continued

Joe Walsh, WB6ACU, and many others. Here's the list http://users.tellurian.com/gjurrens/famous_hams.html"

I spent an hour or so going over the listing. Lots of interesting folks on there. Also received the following from Dave. K6DLW: "Hi Art, One that I remember was a long time actor named Andy Devine. His call was WB6RER. The reason he sticks in my memory is there was a picture of him in his mobile station in the copy of Understanding Amateur Radio I purchased back in the late 1960s when I was a new ham. Also, I was a net control on the WPSS net one night in the early 1970s and checked in the "Red Eyed Rooster". There was no mistaking that voice even on 75 m SSB!"

SCCARC Board - 2009

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MONTEREY BAY REPEATER ACTIVITY

Santa Cruz County	K6BJ 146.790- PL 94.8 Santa Cruz KI6EH 147.945- PL 94.8 Watsonville K6BJ 440.925+ PL 123.0 Santa Cruz • SCCARC Net Monday 7:30 PM 146.79- /147.180+ /440.925+ linked • SCCARC 10 Meter Net Monday 7:00 PM 28.308 MHz USB
ARES Nets	SC County Wide ARES Tuesday 7:30 PM on 147.180+ PL 94.8 443.600+ PL 110.9 (Linked repeaters)
San Lorenzo Valley	WR6AOK 147.120+ PL 94.8 Ben Lomond • SLV Net Thursday 7:30 PM
Loma Prieta	AB6VS 440.550+ / AE6KE 146.835- PL 94.8 (Linked for net 94.8) • LP Net Tuesday 7:15 PM
Monterey	K6LY 146.97- PL 94.8 / 444.700+ PL 123 (Linked) Monterey • NPSARC Net Wednesday at 8 PM on K6LY/R • Monterey ARES Net Wednesday 7:30 PM K6LY 146.970- (PL 94.9) • Newsline (Ham News) Broadcast Wednesday at end of NPSARC Net
LPRC	WR6ABD 146.640- PL 162.2 / 442.900+ PL 162.2 (winsystem) • LPRC Net Tuesday 8:00 PM 146.640- (PL 162.2) • Newsline (Ham News) Broadcast Wednesday at end of NPSARC Net

• Santa Clara Valley Section Traffic NET Tuesday 9:00PM 146.640- (PL 162.2)

FOR MORE INFO SEE: <http://www.k6bj.org/freq.html>

SCCARC Calendar of Events

SCCARC Meeting	Friday	Feb 20
Board Meeting	Wed	Feb 25
Short Skip articles due	Friday	Mar 9
SCCARC Meeting	Friday	Mar 20

MONTHLY MEETINGS.

The SCCARC Meets at 7:30 PM, on the THIRD FRIDAY of the each month (except December). Meetings are at Harbor High School, Campus Library (off of the upper parking lot. Map at <http://tinyurl.com/sccarc-meeting-location>

Don't Need Short Skip In Your Mailbox?

If you're getting Short Skip by postal mail but would rather just read it on the Club's web site, just let me know at ki6aie@k6bj.org and I'll take care of it. If you're on the K6BJ email reflector, you'll get notification when each month's Short Skip has been posted to the Club web site.

SHORT SKIP

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Santa Cruz County Amateur Radio Club, Inc.

Post Office Box 238
Santa Cruz, CA 95061-0238



SANTA CRUZ COUNTY AMATEUR RADIO CLUB
P.O. BOX 238
SANTA CRUZ, CA 95061-0238

SCCARC Membership Renewals

If the date on your mailing label isn't in 2009, your membership renewal has not been processed for this year. The renewal deadline to be included in this year's member roster is March 31 (this is also the deadline for address/phone/email updates), but please renew early if you can. Annual dues are \$25 for full members, \$6 each for each additional member at the same mailing address, and \$10 for full-time students age 18 or under. Dues may be paid in cash or check (payable to SCCARC) at regular Club meetings, or checks may be mailed to SCCARC, P.O. Box 238, Santa Cruz, CA 95061-0238. Remember, ARRL dues may also be paid through your Club.

—Kathleen KI6AIE, Secretary, SCCARC