http://w6ek.org info@w6ek.org March 2012 PO BOX 1005, NEWCASTLE, CA

At The Key of SFARC

PRESIDENT
Bob Brodovsky, K6UDA
bob@whpmotorsports.com

VICE PRESIDENT
Al Martin, NI2U
amartin4@wavecable.com

SECRETARY
Dennis Gregory, WU6X
wu6x@hotmail.com

TREASURER
Richard Kuepper, WA6RWS
rkuepper@ymail.com

DIRECTORS
Charles Baker, AE6LR
Gary Martinez, N6UWQ
Jim Griffith, KI6AZH

FIELD DAY CHAIRMAN
Dave Hund, N6SHD

REPORTERS
Satellites: Greg, KO6TH
History: Gary, KQ6RT
Misc Radio: Fred, K6DGW
Sunshine: Richard WA6RWS
rkuepper@ymail.com

REPEATERS
145.430 (-0.6 MHz/PL 162.2)
440.575 (+5.0 MHz/PL 94.8)
223.860 (-1.6 MHz/PL 100.0)

CLUB NET
Thursdays, 7:30PM, W6EK/R
145.430

CLUB MEETINGS
Second Friday of the month,
7:30PM at the Library, 350
Nevada St, Auburn CA

CLUB BREAKFAST
Last Sat of the month at Susie's Café
Cirby at Riverside, Roseville – 8:00 AM

NET CONTROL OPS
Dave Jenkins, WB6RBE
Gary Cunningham, KQ6RT
Norm Medland, W6AFR
Casey McPartland, W7IB

NEWSLETTER EDITOR
Fred Jensen, K6DGW
530.885.8251
k6dgw@foothill.net

WEBMASTER:
Carl A Schultz, WF6J

BREAKING NEWS

New Modes on 60 meters

When we first got 60 meters [5 MHz], we were restricted to five specific "channels" and USB only. Effective on 5 March, the FCC has opened those five channels to CW, PSK31, and PACTOR-III in addition to USB. At the same time, they replaced one channel with a new one to lower QRM between hams and a Federal digital user. See the story in this issue for details.

We Get A New Band!

It isn't often these days that we get a totally new band to play with, but at WRC-2012, a band just below the old 600 meter "Holy Frequency" at 500 KHz was authorized. It's only going to be 7 KHz wide, and don't be loading up your antenna and calling "CQ DX" just yet, it'll take some FCC rule-making and regulation adjustment, probably early 2013 at best, but it's a whole new sandbox in the radio playground for us.

Inside

– President's Report
– Secretary's Report
– Satellites [KO6TH]
– PIO News [WF6J]
– New Stuff News
– Miscellaneous Radio [K6DGW]

Calendar of Events

Fri 9 Mar: Regular Meeting

Sat 28 Apr: Multiple Sclerosis Walk in Folsom

TBA May: CERA Enduro in Georgetown

Sat 20 Oct: Cystic Fibrosis bike ride-Newcastle vicinity

We encourage members to receive Sierra Signals via email to save the Club the cost of reproduction and mailing

PRESIDENT'S REPORT

Bob, K6UDA

I wish I had a nickel for each time a ham tells me " that's not real ham radio". Usually they are referring to D-Star DX, IRLP or Echolink. While I fully realize these modes are somewhat dependent & in one instance totally dependent on the Internet, D-Star enables me to stay in contact with my uncle, Fred WA6LQL who lives in Ashland Oregon, when the HF bands are less than favorable.

I talk to hams both locally and on the air who are “locked in” to their particular brand of the hobby. Its easy to get comfortable operating only HF, only 40 meters or only 10 meters DX for that matter. I have to admit, I love working HF. I’ve made some great contacts all over the country on 10, 17, 20 & 40. It seems almost the polar opposite to work 2 meter local repeaters. I really enjoy that mode too. I’ve made some great friends in my two meter journeys and there’s a sense of community you don’t get working the lower bands.

Within our group, we have a vast amount of experience in about a million variations of operating amateur radio. Guys are working PSK, RTTY, IRLP, Echolink, D-star, Satellite, Moonbounce. Others are building old tube sets, exotic homebrew antennas and talking all over the world with them. The point of all this is that I want to challenge everyone in the club to step out of the comfort box and try something new.

The clubs' Elmer program is entering the next evolution. We're going to ask the membership to share the experience. If you have an expertise in any particular faucet of the hobby, please sign up as an Elmer. This way we'll have ample tec ten as well as presentation material. With all the new Elmers we should have, there's no reason all of us shouldn't be able to get a little "hands on" with different modes.

MEETING MINUTES

Board of Directors -- 10 Feb 2012

The February Board meeting commenced at 1800 hours at Elm Avenue Round Table Pizza in Auburn.

Officers Present: President Bob Brodovsky-K6UDA; Vice President Al Martin-NI2U; Secretary Dennis Gregory-WU6X; Treasurer Richard Kuepper-WA6RWS; Directors Jim Griffith-KI6AZH, Chuck Baker-AE6LR and Gary Martinez-N6UWQ were present. Webmaster/PIO Carl Schultz-WF6J was present as were guests Jim Carman-K6ARR, Eldred Wilkerson-KD6ZSL, Dave Albright-NO6NO and Jim Piper-N6MED.

OLD BUSINESS discussions were held on the following subjects:

By-Laws: Were posted to the Yahoo! Groups site for membership viewing. Approval to be sought at tonight’s general meeting.

Treasurer’s Report: Richard reviewed details of the Treasurer’s report. In summary, beginning balance as of January 1st was $2,319.40. Expenses in January totaled $707.90. Deposits included membership renewals totaling $658.00. Net cash on hand as of January 30th is $2,269.50.

Repeater Reports: Richard reported the new Yaesu 2m repeater is being tested and is due to replace the present machine in March. The box is programmed on “channels” for various purposes. Channels can only be changed “locally” at the repeater.

Member Recruitment: Bob, Dave and Board brainstormed various ideas including: a mini Field Day; donating and distributing old QSTs; various partnering with North Hills ARC; new hams “hands on” operating; meet w/4WD clubs; presentations at schools and larger groups (Kiwanis, Elks, Moose, Rotary, etc.); overview of radio “internals”.

Badge Designs: Richard reported he talked to Auburn Trophy and discovered they cannot make the badges due to computer limitations. Bob to present options/suggestion to Club for a special name badge.

Web/PIO Report: Carl reported the new web design is nearing completion with a few decisions on “content” left to be decided; the PayPal account is now established and should be available on the SFARC website in a few weeks.

Elmer Help: Carl reported there have been no new requests for assistance.

NEW BUSINESS discussions were held on the following subjects:

ARES: Jim-N6MED spoke to the Board about ARES services and made suggestions for Club participation. One suggestion was xmit voice macro messages over the 2m repeater to remind listeners of upcoming ARES and Club events, and emergency issues in progress.

Exam Study Discussion: Dave-NO6NO discussed various ideas including adding General and Extra Class studies.

Other Discussions: The Club information is now updated with ARRL; Richard suggested moving the PO Box (and ZIP code) to Auburn next year to facilitate searches for the Auburn repeater which now come up as Newcastle; new raffle prizes purchased by Donna @ Wal-Mart; Susie's too noisy? Suggest to membership possible move of location; cross-club participation was discussed w/no Board objections.

Meeting adjourned at 1908 hours.

Dennis Gregory, WU6X
SFARC Club Secretary

General Meeting –10 February 2012

The SFARC General meeting for January commenced at 1930 hours at the Placer County Library in Auburn. Present were Officers Bob Brodovsky-K6UDA, President; Al Martin-NI2U, VP; Dennis Gregory-WU6X, Secretary and Richard Kuepper-WA6RWS, Treasurer. Directors present were Chuck Baker-AE6LR, Jim Griffith-KI6AZH, and Gary Martinez-N6UWQ. Also present, Carl Schultz-WF6J, PIO/Webmaster.

Bob led everyone in the Pledge of Allegiance to the flag. Officers, Directors, and approximately 40+ members and guests were introduced.

REPORTS:

Past minutes: – The January General meeting minutes were approved as published in the Newsletter.

Treasurer's report: – Richard presented the Treasurer's Report. Balance as of the end of December was $2,319.40. Expenses in December totaled $2,319.40. Income totaled $658.00, leaving net cash on hand of $2,269.50.

Satellite report: – Greg-KO6TH reported on the status of several satellites and launch plans including the nuances of "releasing" a satellite into orbit from a space vehicle like the Shuttle, and an APRS launch by the South Texas Balloon Launch Team trying to establish a world record for distance by floating a balloon from Katy, TX to Nanjing, China. More info on this event can be found at: www.w5acm.net/b28press.html.

VE report: – Dave-NO6NO reported that we had 9 candidates taking exams; 7 passed as Technicians and 1 general. One Tech passed the exam and then took the General and passed that as well.

Sunshine Report: – Richard reported no one in distress.

Newsletter: – Richard reported the Club is still looking for a volunteer to pick up Newsletter development each month. Again, a big *thank you* goes to Fred Jensen-K6DGW for superb interim support.

Raffle and Refreshments: – Gene and George reviewed raffle and refreshment options.

OLD BUSINESS:

By-Laws Update: – Bob called for a motion to approve the updated By-Laws as published at our Yahoo! Groups site. Richard-WA6RWS made the motion to approve the By-Laws; 2nd by Al-NI2U. The motion passed unanimously.

Recruitment: – Bob reported on further discussion by the Board on attracting new members including a questionnaire distributed during VE exams, follow-up emails and other ideas. During a discussion, members suggested promoting ham radio through "best practices Elmers", and a progressive food/visit to Members' ham shacks. See Board minutes for other ideas being considered.

Website Updates: Carl-WF6J passed out a flyer with instructions on how to join the Yahoo! Groups for W6EK.

NEW BUSINESS:

Badge Designs: – Bob presented a couple logo options to consider for develop of a special name badge. Cost and availability to be pursued and reported back to the Club.

ARRL Reports: – Ron Murdock-W6KJ, Section Manager for ARRL, gave a report on ARRL plans to publish a digital edition of QST magazine, 70cm band operations and Pave Paws/Beal Air Force Base, and noted an upcoming live virtual tour of W1AW. See W6EK website for more information and links.

Announcements: – An announcement for an upcoming American Legion seafood dinner at the Fairgrounds. Bob provided schedules for the Club net on Thursday's at 7:30; Board meeting time of 6pm on general meeting nights at Round Table Pizza; the General meeting schedule, Club breakfasts (last Saturday at Susie's Café), the new "Prepper Net" every other Wednesday on the 2m repeater at 7:30pm, and referred to the Club website for more information.

Tech-Ten: – Al-NI2U gave a presentation on signal-to-noise measurement relative to sensitivity.

Presentation: – Greg-KO6TH gave an excellent presentation on the history and different scales and uses for the now historical slide ruler.

The meeting adjourned at 2121 hours.

Dennis, WU6X
Secretary

[Ed Note: Sure wish I'd been able to attend the meeting for Greg's presentation. Below is my K&E Log Log Duplex Vector slide rule that got me through college 50 years ago. I still use it … I'm such a dinosaur … mainly for antenna calculations. I can't remember the equations, but I can remember the motions. Even if I could remember the equations, I could never remember all the function names on my highly overqualified HP48GX calculator]

SATELLITES

VO-52 Falls Silent

Sometime around the 28th of February, 2012 , the VO-52 satellite went silent. The last signals were reported by Ib Christoffersen, OZ1MY, in Copenhagen at 08:26z. By the next pass at 10:03z, the bird was off. Operators since have observed a lack of downlink signals from the satellite, and have been unable to relay their own signals through it. No beacon has been found. The command team in India have acknowledged the problem, and are working on understanding what has happened.

VO-52 had been in continuous operation since it was launched on May 5, 2005 by the Indian Space Research Organization (ISRO) as a secondary payload. The 42.5kg (a little under 100lb) satellite featured two functionally equivalent VHF/UHF transponders, one designed by Indian Hams working with ISRO, the other by William Leijenaar, PE1RAH, a Dutch graduate engineering student. When operational, the transponders listen on a 50 kHz wide segment of the 70cm band, and repeat what they hear on 2 meters. SSB and CW signals can be anywhere within that segment, allowing for multiple conversations to occur simultaneously. One of the two transponders can be active at any time, with the Indian transponder being on most of the time.

Hams around the world have been asked to listen for any activity from the satellite, and also report when they last heard it, if they were listening or using it on the 27th. The http://oscar.dcarr.org satellite status site is a handy place to log your findings, and also to see what else is going on in orbit. Recovery operations will involve ISRO, as the satellite's main telemetry and command channels are on non-Ham VHF frequencies that only they have access to.

More as we hear back from the command team.

73,

Greg, KO6TH

PIO NEWS

Carl, WF6J

Public Information Officer/Webmaster

Website: Changes have been made on the Membership page. A PayPal button has been added to allow dues, donations or other club bound payments to be made. You can use PayPal, Master Card, Visa, Discover, American Express and others. The Application form PDF now allows you to "type in" your data when you down load the PDF and open it on your computer. While it cannot be "saved' you can make a printout to mail in with your check, or bring to the meeting. Video page now links to the W6EK Channel on YouTube. This will be where club videos will be located. To get there, just click on the YouTube logo. While the website keeps changing, we are still a month or so away from the new Wide version.

PIO - (Public Information Officer): Just the usual information out to Ron, W6KJ for the ARRL report.

Quote of the Month: " They're not 'Amateurs' but they are very much professionals"
Richard Serino, FEMA Deputy Administrator

W6EK Yahoo Group: W6EK Yahoo Group is now 33 members strong, and growing. Come join the fun to receive email notifications of: nets, meetings, breakfasts and more. It is easy to sign-up. Go to the website here:

http://w6ek.org/news.html

You will find a Blue and Purple section that says: Subscribe to W6EK Yahoo Group. Just type in your email then click on the purple icon. That's it. You can post an email message to the group via:

W6EK@yahoogroups.com

There are many files, pdfs, photos and more that you will gain access to. Our goal is to enlist every member of SFARC and others in the Amateur Community. Join today!

NEW STUFF NEWS

60 meter Band Changes

We've had the 60 meter band now for some time. It really isn't a "band" in the sense of all our other bands, it is five discrete "channels," each nominally 3 KHz wide. Up until now, we were confined to USB only. 5 MHz is a real transition area for propagation, particularly during daylight hours over perhaps a couple hundred miles. It seems ideal for EMCOMM applications, and I can tell you that practically all of the in-country networks in SE Asia operated in the 5 MHz range, we even had one to the Philippines on 5 MHz. It truly is different from both 40 and 80.

Well, the ARRL petitioned for a new channel to replace one that had quite a bit of QRM from a Federal digital user [it is their allocation, after all, we're just secondary, non-interfering users]. The FCC and NTIA agreed. In the same action, the FCC expanded the permissible emissions to include CW, PSK31, and PACTOR-III. It all takes effect on 5 Mar which will likely be close-to or already passed when you read this. In typical Federal Fashion, there is the possibility of some confusion in the rules [I really hope no one is surprised ☺].

When the FCC issues a Report and Order, it has two basic parts: A discussion of the petitions, comments received, and staff comments and conclusions about them; and "Ordering Clauses" which actually change, delete, and add rules. The Ordering Clauses are binding, they're the rules. The discussion is not binding, but almost always makes clear the intent of the Commission, even if they didn't get it all into the orders. Since we're hams, we tend to take both as binding, which is good when we're sharing spectrum with the Feds and Military, which we do a lot of, very successfully.

In this case, the Ordering Clauses leave some ambiguity regarding the PSK31 rules. It's all very clear from the Discussion section what they intend however. Here's a summary:

60 Meter Channels [KHz]

Carrier	Center
5330.5	5332.0
5346.5	5348.0
5357.0	5358.5
5371.5	5373.0
5403.5	5405.0

Such "channels" in the Federal and DoD worlds are defined by their center frequency and allocated bandwidth. In our case, the bandwidth is 3 KHz., and, as a basic rule, we're required to adjust our equipment so that all of our emissions remain within the channel. So, here's how it shakes out for 60m after 5 March:

USB: Place your suppressed carrier [this is universally the dial reading on ham rigs in SSB] on the "Carrier" frequency in the table. Your upper sideband will then extend up into the channel approximately 2.8 KHz.

CW: Your actual on-air signal must be centered in the channel. For most moderately recent radios, this is the dial frequency. There are some for which the actual signal is above or below the dial reading by the frequency of your sidetone, so you'll need to check your radio if you're not sure.

PSK31: The underlying principle for 60m right now is, "One QSO per Channel." A single ham QSO will have frequent breaks allowing a primary user to claim the channel quickly. Even though multiple PSK31 QSO's would easily fit into a channel, if that were done, there would be no breaks. So, for PSK31, put your tones in the center of the channel. If you put your dial on the above carrier frequencies, use USB, and set your tones at 1,500 Hz, you'll be fine.

PACTOR-III: Put your signal [essentially same bandwidth as USB] in the center of the channel.

New MF Band

At the WRC 2012, the world came together and gave us a new band in the low frequency range. We've had some experimental stations, US and others, operating under temporary licenses for several years in the 500 KHz range. Now, it will include all of us. Don't tune your transceiver down there and call "CQ DX" just yet however. This was an ITU action and countries have to develop their own rules and regulations to implement it. Look for the first part of 2013 for the US.

The "band" extends from 472 – 479 KHz … all 7 KHz of it! ☺ While it is yet to be determined, it is very likely to be restricted to very narrow-band emissions … CW and PSK31 would be two examples, hopefully some of the really weak signal modes such as JT65 will also be permitted. There are also some power constraints from the WRC depending on location, either 1 watt or 5 watts EIRP. If that doesn't sound like much, remember …

A quarter wave ground mounted vertical at this frequency is 246 feet high, and would require a ground plane of wires about three times that in diameter, which is sort of out of reach of most hams. Any antenna we could reasonably conjure up would be very much smaller, and thus much less efficient. Let's say you can put up an Inverted-L with a 40 foot vertical part and perhaps 50 feet horizontal at the top. EZNEC reports an impedance at the feed point of 1.0 – j190,000 ohms. The RF I-Squared-R losses in the wire and matching network will exceed one ohm and, if you actually manage to cram 50W into that impedance, which will be no mean feat, you'll be lucky if you get an EIRP of a couple hundred milliwatts. You want to achieve an EIRP of 5 watts from an amateur-scale antenna on 472 KHz? Be prepared to feed it several hundred watts of real RF.

So, there are antenna challenges to our soon-to-be new band, but then, when do we not face antenna challenges? Some amazing things have been achieved by the WB2XSH experimental crowd just above 500 KHz, it's a new opportunity for all of us. Many receivers will go down there, not so many transmitters, but transmitters can be homebrewed or converted from Non-directional Beacon equipment. Yet another facet to the almost infinity of ways to enjoy this hobby.

MISCELLANEOUS RADIO

SURVIVALCOMM

Emergency communications [EMCOMM] is a major part of ham radio, and is typically one of the primary activities of many clubs, including the Sierra Foothills ARC. We tend to think of EMCOMM as two-way communications supporting emergency centers, hospitals, law enforcement, search and rescue, fire, and other such needs. There is another form however, which goes back to World War 2, and is far closer to "SURVIVALCOMM." It is one-way and the "message" is pretty simple: "I'm here, come find me before I die."

About the middle of January, a news item appeared in the newspaper and on TV about the cruise ship that hit a reef off the coast of Tuscany, and partially sank. Even though it was very close to shore and did not completely disappear into the sea,

it listed nearly ninety degrees and rested on the bottom. Several passengers died, and more were injured. Coincidentally, I had just unearthed a military-looking bag in the flotsam under my workbench out in our shed, filled with light fiberglass poles that connected to make a mast.

I acquired it while visiting friends in N. Oregon [K6LQT and Marcie] several years ago. We were heading … somewhat intermittently … toward Astoria with stops at an amazing number of antique shops along the way. This was a lot of fun for the two wives, not so much for the two hams. Until, that is, we found one with the usual overpriced old stuff in front, and in back, a surprising collection of radio and radio-ish junk. One was a Hallicrafters S-38C which I still wonder if I should have bought, although it was missing a knob, another was the wrong one, and it didn't work. There also was a WW2 "Gibson Girl" emergency locator. The ship, and the bag of fiberglass poles, reminded me of the Girl.

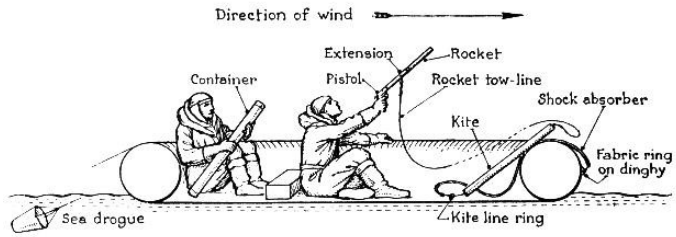
Before, during, and well after WW2 … into the early 70's in fact … Morse code was the communications method of choice for ships at sea, and 500 Kcs ["The Holy Frequency"] was the world-wide party line. All ships afloat monitored it 24/7, all coastal marine stations, and all Navy and Coast Guard stations of any nation did likewise, and twice an hour every station on the planet went silent for three minutes to listen for tiny little distress calls. Consequently, it was the initial choice for a radio to locate someone in a rubber raft bobbing in the Pacific 1,000 miles from anywhere.

The photo at left is a front view. Officially a BC-778, and later AN/CRT-3, it got its nickname from the shape … similar to the thin-waisted, hour-glass shaped drawings of women by Charles Dana Gibson around the beginning of the 20th Century. This shape allowed you, the aspiring survivor, to place it between your knees. This was necessary because to use it, you removed a crank from the back, inserted it into the top and cranked the crap out of it to generate the operating voltages.

It was just a transmitter, initially on 500 Kcs using A2 emission [MCW, the carrier modulated by a 1KHz tone], and later to include the HF emergency frequencies 8280/8364 KHz.
There were various models ranging from 2 to 5 watts, some a bit more. A switch allowed you to select one of two automatic messages or enable a button to send manual Morse code. Auto 1 was "SOS SOS ..." for 20 seconds followed by a constant carrier and tone for 20 seconds to allow ships to use their direction finding equipment. All you had to do was crank. Auto 2 sent "AA AA AA..." for 20 seconds followed by the 20 second carrier/tone.

The inside was pretty simple. The transmitter was an oscillator, grid modulated by the audio tone produced by the second tube. The two automatic messages were created by a cam arrangement with appropriate indentations which keyed a microswitch. The cam was rotated as you cranked. Like virtually all WW2 radio gear, the electronics and wiring were sprayed with MFP [Moisture and Fungus Proofing], a hard lacquer that is virtually impossible to get off without damaging something.

The case was waterproof, including immersion, and included stowage for the balloon antenna, a hydrogen generator, and a signal lamp you strapped on top of your head and connected to a receptacle. It flashed the same selected message. The ones I came in contact with in the mid-60's in SE Asia weighed about 35 lbs and had an associated parachute. We carried two of them on each of our airborne missions, and ours included the HF frequency which was crystal controlled. 500 Kcs propagates well over salt water – over land, not so much. In its storage bag, it would float if tossed overboard.



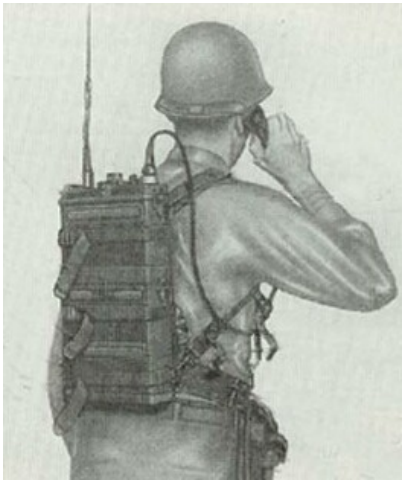
The antenna was somewhat ingenious. The entire concept of the radio was descended from the German "Notsender NS2." The NS2 employed a box-kite to support the antenna with a handheld rocket launcher. You fired the rocket, it launched a line with the kite, when the line became tight, the kite unfurled. The line also carried the antenna conductor. The radio included a length of copper braid with a weight which was to be tossed overboard for the ground. I've never actually seen the kite antenna, I got this diagram off a web site.

The AN/CRT3's we had on missions had a balloon antenna that was contained in a can which fit into the cylindrical compartment visible in the lower part of the front view. It included a hydrogen generator which would inflate the balloon. The photo isn't quite what I remember, but ours were manufactured in the 50's too.

We were on mountain tops so we had no salt water to toss a ground into, consequently our kits included a couple of 29 ft spools of wire [~1/4 wave at 8280 KHz] to use as a counterpoise. Anyone who has ever tried to raise a wire antenna with a balloon knows that, if there's much wind at all, the balloon leans severely downwind, and getting the balloon inflated and up without tangling in trees was a somewhat frustrating task. Fortunately, we only used it once when we had run out of fuel and our TACAN was off the air before the Army CH-3's found us.

The Gibson Girl crank had a gear box that increased the RPM for the generator shaft, and it had some sort of mechanical governor to limit the maximum RPM. Cranking it took some energy on the cranker's part and was good for some substantial upper-body exercise. I've occasionally had a vision of powering a QRP FD station using one of the generators … provided enough young folk were available to crank. The one advantage is that there were no batteries to go dead, just people to poop out.

Today, Emergency Locator Transmitters [ELT's] generally operate on the aeronautical VHF/UHF guard frequencies of 121.5 MHz [civilian] and 243.0 MHz [military] channels, are battery powered, don't weigh anything close to 35 lbs, and operate automatically [no cranking]. A story, maybe true – maybe not, circulates every now and then about a group of airport employees – possibly Darwin Award candidates – who stole an inflatable evacuation slide and attempted to use it as a raft. They apparently did not realize that inflation activated the ELT and were somewhat surprised when the law found them so quickly. I do remember listening to the air-ground chatter on Channel 1 on United flights where the crew occasionally reported an ELT as we were descending over the Sierra towards SMF.



I've been told that 8280 KHz was abandoned as the WW2 surplus began flooding the market because people couldn't resist cranking their toy, not realizing that's all you had to do to transmit. I'm pretty sure I remember 8280 from the mid-60's so I don't know when the switch to 8364 KHz might have happened.

It's easy these days to forget that we haven't had hand-held radios forever. We sometimes hear the term, "shack on the belt." Up until the 70's, that would have been "shack on the back.," the AN/PRC-10, an FM radio, 15 or 16 tubes, about 25 lbs [photo on left]. We used them to talk to the aircrew after jump and before we got our equipment pulled out the back of the airplane. The battery lasted about 5 hours receive, less if you actually talked ☺ The AN/PRC-25, a "lightweight transistorized" radio at 18 lbs replaced it and was half the size of the -10.

There are several Gibson Girl sets on eBay, ranging from $99 to $2,900, and a PRC-10 currently at $129 – *caveat emptor.* The last few years at Pacificon there has been a forum on "green radios" and a few people in the hallways, usually in OD fatigues, with the same radios we used close to 50 years ago on their backs. Some things just refuse to die. ☺

73,

Fred K6DGW

I apologize for the lateness of this issue, we were at the Cactus Intertie annual meeting, this time at Lake Havasu City AZ and just got back.

Sierra Foothills Amateur Radio Club
P. O. Box 1005
Newcastle, CA 95658

Sierra Foothills Amateur radio Club
2012 Membership Application

Please Print

Name: _____ Callsign: _____ Class: ____ email: _____

Address: _____ City: _____ State: ____ Zip: _____

Associate Name: _____ Callsign: _____ Class: ____

Phone number: _____ Application: (circle one) NEW RENEWAL

Member Dues: Circle Amounts That Apply:

Applications (for new members only) received in the middle of the year will be pro-rated. Contact the President or Treasurer for exact rate.

Membership: (P)	$ 22.00	Name badge: (R)	$ 7.00
Associate: (Q)	$ 7.00	Repeater Donation: (S)	$ _____
Auto Patch Donation: (T)	$ _____	Newsletter Booster: (V)	$ _____
Misc. Donation: (X)	$ _____	Christmas Donation: (W)	$ _____
		TOTAL: (Y)	**$** _____

ARRL member? (please circle) Yes No

OFFICE USE ONLY: DO NOT WRITE BELOW THIS LINE

Date: _____ Treasurer: _____ Secretary: _____ Roster: _____

Payment: _____ Check Number: _____ Cash: _____