

Sierra Signals

Sierra Foothills Amateur Radio Club

Auburn, CA

An ARRL Special Service Club

November 2004

P.O. Box 1005, Newcastle, CA 95658

At the Key of S.F.A.R.C.



PRESIDENT

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George Simmons, KG6LSB

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Larry Hodge, AE6CE

REPORTERS

Satellites: Greg, KO6TH

History: Gary, KQ6RT

Digital: Rob, WW6G

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

All welcome to check in
Thursdays, 7:30PM, K6ARR/R
145.430

CLUB MEETINGS

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

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

Joe Sylvia, KF6OQY

Casey McPartland, W7IB

WEBMASTER

NEWSLETTER EDITOR

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'04-'05 Calendar of Events

(Operating Events in Italics)

Nov 5-7 *ARRL Sweepstakes (CW)*

Nov 12 *Regular Meeting*

Nov 20-21 *ARRL Sweepstakes (SSB)*

Nov 27 *Club Breakfast*

Dec 3-5 *ARRL 160 Contest*

Dec 10 *Christmas Party*

Dec 18 *RAC Winter Contest*

Dec 31 *Club Breakfast*

Jan 1 *Straight Key Night*

Jan 3 *Spartan Sprint (QRP)*

Jan 8-9 *ARRL RTTY Roundup*

Jan 8 *Kids' Day*

Jan 14 *Regular Meeting*

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President's Message

Well, the auction was certainly fun and, I think, there were some good bargains. We raised \$292 which was just great. Dottie and Joe reported on their efforts to put together the "care package" for those nice young soldiers who helped us at Field Day. \$130 was collected and, in accordance with the motion at the last general meeting, the club contributed \$100. We will get a report at the next meeting. (or see item from Joe, KF6OQY, in this issue. Ed.)

Please think about becoming an officer or director. No special skills needed, just your energy and effort. Hope we get a great slate.

Start thinking about the Christmas dinner. We will be at Maidu again this year.

Well, sorry to be so short, but I have to get a plane early tomorrow to go to Florida for a cruise with Acoustic Guitar magazine for a lot of sun, music and playing. Times are hard. When the cruise is over, I shall go visit my son, Justin KG6NYB, for a couple of days in Tampa and then come home.

I will miss everyone at breakfast, but hope to see you at the November meeting.

Rob, WW6G

Meeting Minutes

October 8, 2004

The meeting was brought to order by President Rob, WW6G. Officers present were Rob; Vice-President Casey, W7IB; and Directors Kevin, KG6RIO and George, KG6LSB. The normal meeting business was shortened because of the White Elephant Auction.

A discussion was held about collecting funds to send a "care" package to the troops that helped us in Field Day last year and who have been deployed to the Middle East. Joe, KF6OQY, and Dottie collected just over \$100, and the Club added \$100. They were ready to send the package. Thanks to Joe and Dottie for all their work.

Think about our election of officers at the November meeting, we need nominations.

The annual Christmas Dinner will be at the ARD Maidu Center (where we were last year), starting at 6:00 PM. Bring a dish to share. The prize for the drawing will be a Buddi-Pole portable antenna system.

In addition to elections, the November meeting will be "Bring Your Favorite Ham Gear" to show and work.

The White Elephant Auction, with auctioneer took in about \$290. The meeting adjourned about 9:00 PM.

Bob, WA6ULL
Secretary

40 & 30 Years Ago at the SFARC

Reported by Gary, KQ6RT, SFARC Historian

Minutes of SFARC November 11, 1964

1. Meeting was called to order, and the minutes were approved as read.
2. Our film for the evening was not shown in the interest of the large amount of business to be accomplished tonight.
3. It was announced that the VFW, Vets of WWI and American Legion will sponsor the SFARC and allow us to use their building for future meetings.
4. It was voted upon and passed that the new meetings will be on the third Wednesday of each month from January On.
5. It was suggested that the new President appoint a committee to study and amend our constitution to keep up with the changing membership which is much larger than ever before.
6. Rich Ryan was given by the club an ARRL membership for exchange in his donation of the Mosely Vertical Trap Antenna on 10 through 40 meters. This is a perfect size for our emergency trailer.
7. Membership was abolished for monthly dues and instead will be payable quarterly at \$1.25 per or \$5.00 per year. It is hoped that the members will try to make their dues on January each year and prorate whatever they now have to make book keeping easier.
8. Phil Harless, President of Sierra College ARC and Bill Tracy, President of Placer High School ARC both asked if the club would accept their bid for affiliation which was unanimously done with much feeling on both sides for good fellowship, etc.
9. Rich Ryan spoke on length of the SCARC station facilities.
10. Lee Bowman made the motion and seconded by Jack Shrawder that SFARC affiliate with ARRL. Motion carried.
11. Dean Pratt, drew the winning ticket and the father of club member Mike Dickey, Mr. Wayne Dickey won the AM/FM radio. He was notified by phone immediately.
12. Clayton Goodpastor won the gift certificate by Lombard's. Sig Goepner won the Cal Radio gift certificate. Frank Carman won the Zackit gift certificate.

14. Ballots for new officers will be in the December issue of SFARC news.

15. The new SFARC AWARD was signed by the president and awarded to the following Hams...

- #1 Ken Wege
- #2 Otto Draper
- #3 Rich Ryan
- #4 Clayton Goodpastor
- #5 Jack Shrawder

16. Nominations for club officers were as follows:

President: Sage Otow, Rich Ryan
Vice-pres: Joe Merryman, Leslie Miller
Secretary: Frank Carman, Bob Colling
Treasurer: Jim Carman, Jack Shrawder, Bob Coiling

Activities Mgr: Daly Ford, Rich Ryan

17. A discussion took place on the constitution of having only members with amateur license hold office. It was not resolved, but many felt that this is the incentive needed by some to get their Ham license if they want to be an officer in the club. After all this is an AMATEUR RADIO club as the name implies and was founded by HAMS.

Respectfully submitted

Kenneth J. Weger, WA6EMU
Secretary

Nov. 10, 1974

Great News... K6CBP/WR6ADI is now installed in the communications vault of the Placer County Sheriff's via Captain Ed Presly courtesy. Again WA6EMU installed the Ringo atop the pole. K6ARR did all the installation and assembly of the repeater station. John Barnhill, WB6OHV donated the 450 xmtr/rcvr control link which K6ARR modified with a phone dial control.

73,

Gary, KQ6RT

Thank You All

First a little background for those of you who may not know how we came to know Major Michael Lewis and his group. In June of 2003 a group of US Army Reserve personnel provided our club with generator power for Field Day, thanks to George, KG6LSB, who lives close by to Major Lewis. This group was a

pleasure to meet. We both exchanged information about equipment and engaged in general conversation.

The following December, we invited them with their families to attend our club Christmas party but we were told that they had deployed to Kuwait. At our September club meeting, Dottie, K6DMS, asked if the membership would participate in sending a package to the reservists stationed in Kuwait. After a discussion it was agreed to have a collection for this purpose. Dottie and I agreed to handle the buying and shipping of a package. The club voted to donate up to one hundred dollars for this and a collection took place at the September and October club meetings.

At the October meeting, we received the October collection plus the club donation of one hundred dollars for a total of \$230.00. On Saturday we went shopping and on Wednesday October 13 we went to the post office and shipped 2 boxes weighing a total of 64 pounds. As of this writing, I don't know how much was collected at the September club meeting so I will report to the board at the November club meeting. We had a deadline to meet due to the Christmas mail rush per the post office. More information will be available at the November club meeting. I hope that the packages get there quickly and I want to thank all those who gave us suggestions on what to send. Also many thanks for your generous donations.

Thank you all

Dottie, K6DMS
Joe, KF6OQY

(Nearly a lifetime ago, in another war, 9,000 miles the other way around the planet, I and my comrades were on the receiving end of packages just like this from strangers and near-strangers. I cannot begin to describe how much it meant to us. Really great thing to do for these folks! Fred.)

Sac Valley Section Report

Jettie Hill, W6RFF
Section Manager

The recent rainfall may have stopped the grass and forest fires for the year, but if we have continued above normal rainfall, there may be danger of flooding. So, check out your GO bag and keep it handy, just in case. Those in the Sierras, be prepared in case of heavy snows -- the season started early.

On October 30 a Section-wide ARES meeting was held in Chico. Dave Thorne, K6SOJ, was the Chairman and did an excellent job. There were 38 in attendance, including SM, SEC, DEC, EC and AEC. Each county group spoke of the good and bad happenings in their area. Michael Colvin, W6CUJ, and Harry Miller, W6HFM, spoke of their three weeks experience in Florida, for the Red Cross, in providing communication expertise after the hurricanes. They also showed many pictures of the damage. Those that were involved in the fires in the section described some of the problems as well as things that went right. I am sure everyone in the section appreciates their efforts in providing help during the fires, as I do.

EMCOMM: The date for next year's EMCOMM WEST is May 14-15 2005 and will be held in Reno, so keep this date

open. Dave Thorne's EMCOMM MONTHLY was sent out on email Nov. 2. If you have not received a copy, and wish to, then send an email to k6soj@arrl.net, or visit www.emcomm.org/subscription.htm This month's was 14 pages long. A lot of information. Well done Dave.

TOYS: Amateurs across the nation are sending toys, to Florida, for the children that were victims of the hurricanes. This is a project that individuals or clubs can do. Clubs can gather new toys and then send them to the United Way. They ask you to include a QSL with the gifts, which will then be sent to ARRL. If a club sends a package, then a card from each donor should be enclosed. Toys should be in original package and not wrapped as gifts. Send them to: Ham Radio, The United Way Dove Project, 50 Kindred St. Suite 207, Stuart, FL 34994. In lieu of toys send money to purchase toys.

ELECTION TIME: No, the National election is over -- the important ones are the Officers of the several clubs in the section. The Officers of a club can make or break it. A club with active officers, programs or projects at each meeting will bring in the members and attendance to the meetings and of course affiliation with the ARRL is important. What part can you play, you ask? Well, you can volunteer for one of the Officer positions, Chair a committee or be a member of a committee. The clubs need new blood and active participation to remain viable organizations. In recent years club membership and meeting attendance has dropped by a large percentage. Let's get involved with the local clubs, put something back into the greatest hobby there is. Some of the clubs are doing well with new and younger hams. They may have more energy and stamina than us old fogies that have been around the block several times already.

YUBA SUTTER ARC: Michael Colvin, W6CUJ, reports that the Three Rivers Chapter of the American Red Cross has a club call for their regional communication center, it is KG6WGQ. They hope to have the center completed by February 5, 2005 and hold an open house and a swap meet on the 6th, to raise money for the center. The center will include amateur as well as public safety radios. Nearly all of the equipment has been procured, some antennas are still needed. The club will hold a VE session on Nov. 6, contact W6HBU or KC6JPP for information and registration. Volunteers are needed for the Veterans Parade on Nov. 11. Contact Paul, N6XVL. A Technician Class will be held at the Red Cross in Yuba City, beginning on January 11, 2005, on Tuesday and Thursdays 7-9 PM. The class is free but the text book is just under \$20. Contact Ron, W6KJ, or Herb, W6HBU for information.

RIVER CITY ARCS: Next VE session is November 20, 8:30 AM at the Carmichael Elks Lodge. Call 916-492-6115 for info -- leave message. The club did well financially with the annual White Elephant Sale. Their annual Holiday Dinner will be December 12, at 5 PM, at the Buggy Whip Restaurant, Sacramento.

EL DORADO ARC: Their October meeting had a presentation from a former PG&E employee on his experience as a RF noise investigator. Their bulletin had an excellent article on W6HFM and W6CUJ's activities, for the Red Cross, in Florida. For 17 days they worked 12-14 hours a day. The

clubs Christmas party will be held December 4th at the 50 Grand Club in Pollock Pines.

GOLDEN EMPIRE ARC: Next GEARS VE exams will be held December 5, 2004 at the Butte County Library at 2 pm. For information and Registration call Gene, WA6ZRT, at 345-3515. Their October Newsletter had an excellent article on Net Control Guide -- Hints and Kinks for the Net Control Station, by Ray, KO6TW.

RAMBLINGS: As we approach the Holiday Season, let us reflect on what joys we have received from being an Amateur Radio Operator, the many friends we have made and the many services we have provided for the general public. Our Public Service very rarely is publicized and the public has little knowledge of the time and effort that amateurs put into helping with parade, walks, and during emergencies such as fires and floods and providing, their own equipment.

With our free labor and use of our own equipment that we provide to the government, during emergencies, they still want to take away either our frequencies or in case of BPL develop a system that can interfere with the reception of radio signals, not only for hams but commercial and government communications. To help retain the frequencies and ability to communicate with weak signals, we must support the ARRL, as they are the only one that can represent our cause to the government agencies. Please respond to the ARRL's request for funds to fight for our cause and also file your remarks on BPL with the FCC.

I want to thank all of the people that helped in communications during the fires and other emergencies.

PACIFICON: The ARRL Pacific Division Convention, PACIFICON was held in October, again in San Ramon. There was a good turnout, many excellent presentations and many items to look at and buy at the several exhibitors. The ARRL booth was kept busy with questions and comments as well as membership applications. The Sunday swap meet was greeted with a misty morning that rather spoiled the outing. As usual the Mount Diablo Amateur Radio Club did an excellent job of running the convention. I am sure they have begun planning for next year.

Have a Happy Thanksgiving & 73,

Jettie, W6RFF



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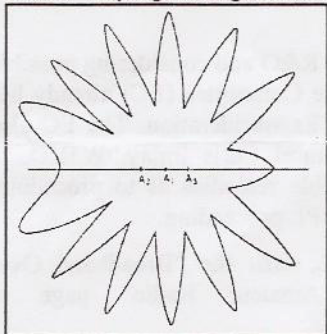
Where In Blazes Am I?

Space Modulation Systems

We've spent a couple of installments examining the class of Hyperbolic Navigation Systems, which allow you to determine your position at the intersection of two "lines of position" by measuring time delays or phase. Except for LORAN-C, most are history. This month, we're going to visit a somewhat different class of systems, two of which are very much in use.

But first (as usual) a little history. In the 30's, Dr. Ernst Kramar developed a system that operated at 300 KHz, and required no special equipment in the aircraft. He was a devotee of the composer Richard Strauss, and he named it "Elektra" after a character in a Strauss opera. It was later renamed Sonne (yet another operatic character), and was used by the Germans during WW2. The British picked up the system and called it "CONSOL." It is said to be the only navigation system used by both sides in the war.

The system comprised three vertical antennas arranged in a straight line and separated by about 3 wavelengths. The transmitter fed all antennas, but the end ones were fed through phase-shifters. The net effect was a pattern that looked like the picture below. Changing the phase shifts caused the pattern to rotate, varying the signal strength at the receiver--or modulated



at the rotation rate. This was actually accomplished twice, by switching, so that there were two patterns, one rotating clockwise and the other counter-clockwise.

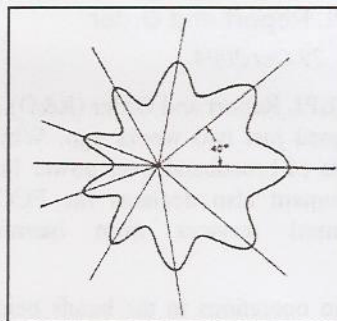
The call sign was transmitted from the center antenna for 6 seconds.

Then, for 30 seconds, a string of dots was transmitted on the clockwise pattern, and dashes on the other one. Because the patterns are counter-rotating, they merge and un-merge with each other and the navigator hears a series of dashes, slowly becoming a steady tone, and then breaking up into dots. All he has to do is count the number of dashes before the steady tone, and then use an overprinted chart (like LORAN), to determine the bearing to the station.

The concept of having an antenna pattern rotate in space and thus produce an amplitude modulated signal at a receiver led to the development of the VHF Omnidirectional Range (VOR) and its military cousin, the TACAN (Tactical Air Navigation). We'll examine the TACAN, primarily because that's the one I'm familiar with from service in the USAF, but the principles apply to both.

TACAN's operate in the aeronautical UHF range in the mid 300 MHz. Early on, the antenna consisted of a vertical radiator (on a tower) surrounded by nine parasitic elements, which rotate around the central radiator at 900 RPM. Like CONSOL, this results in a multi-lobed pattern shown below. Note that there are really two lobes: One, which passes the receiver once for each revolution, and a smaller group of nine. This results in the receiver detecting an amplitude modulated signal with a 15 Hz component and a 135 Hz component. We call this a "space

modulated" signal because the pattern actually rotates in space to produce the modulation.



The TACAN transmits a second signal, modulated at 15 Hz as a reference. If we force the phase of this signal to be at its maximum when the big lobe of the antenna is pointing north, then all the receiver has to do is measure the phase difference between the reference and the space modulated signal to

determine how far the antenna has rotated to point the main lobe at the aircraft, and thus obtain the bearing from the TACAN to it.

The 135 Hz signal goes through exactly nine cycles in the time that it takes the 15 Hz signal to go through one. This allows the receiver to determine which 40° segment it is in, and then measure the phase between the ninth harmonic of the reference and the space modulated 135 Hz signal to refine the result. Getting all this to happen is a bit complex, but the concept is pretty simple. (For some very obscure reason, the TACAN reference is not north as described above ... it is actually magnetic east. But then, the reasons for many things in the military are often obscure)

Knowing the bearing from two TACANs allows the navigator to plot two lines of position, and as usual, she is at the intersection. Alternatively, if the navigator had some way to determine the distance from the TACAN, only one ground station is necessary. Enter DME (Distance Measuring Equipment)

A separate receiver-transmitter pair is built into the TACAN operating at around 1 GHz. The aircraft receiver actually is two receivers and a transmitter. It transmits a pulse (actually a pair of them) which are received by the TACAN and re-transmitted back to the aircraft. The time delay is, of course, a measure of the round-trip distance to the station. Lots of aircraft can be interrogating the TACAN at the same time, so each generates its interrogating pulses randomly, and responds only to the returns that exactly match. This all happens inside the aircraft receiver, and the pilot sees a compass display with a needle pointing toward the TACAN, with the distance in a window on the dial. Today, of course, it's all done with monitor screens.

The civilian VOR operates in a nearly identical manner, except it does so in the VHF aeronautical band. If it has DME as well, it is called a VORTAC. The rotating antenna was a bit of a mechanical problem ... bearings, lubrication, and such ... and today, it is more common to see the antenna pattern rotation generated electrically through phase shifting. Again, making it all happen can be complex, but the concept is still very simple and straightforward.

Being military, TACANs are on bases and are a bit hard to find, but you'll see a VOR at most commercial airports. It's usually a flat roofed building with a cone-shaped structure in the center.

National Ham News

FCC Releases BPL Report and Order

ARLB032 - 29 Oct 2004

The FCC has released the full BPL Report and Order (R&O) in ET Docket 04-37 that it adopted just two weeks ago. While extolling the purported benefits of broadband over power line technology, the 81-page document also declares the FCC's intention to "protect licensed services from harmful interference."

"We recognize that some radio operations in the bands being used for Access BPL, such as those of Amateur Radio licensees, may occur at distances sufficiently close to power lines as to make harmful interference a possibility," the FCC conceded. "We believe that those situations can be addressed through interference avoidance techniques by the Access BPL provider such as frequency band selection, notching, or judicious device placement."

Notches would have to be at least 20 dB below applicable Part 15 limits on HF and at least 10 dB below on VHF. The FCC called the ability to alter a system's operation to notch out transmissions on specific frequencies where interference is occurring "a necessary feature for resolving interference without disrupting service to BPL subscribers."

The FCC declined to reduce the Part 15 radiated emission limit for BPL systems. It maintained that emissions from BPL systems are very localized and at low enough levels to generally preclude harmful interference.

The FCC said while it had no evidence before it that BPL operation would significantly contribute to background noise levels, it seemed to put some of the onus on Amateur Radio licensees to take steps to avoid power-line interference--and, by inference, BPL interference--in advance.

"In addition, because power lines inherently can radiate significant noise emissions as noted by NTIA and ARRL, good engineering practice is to locate sensitive receiver antennas as far as practicable from power lines," the FCC said.

In a footnote, the FCC admonished ARRL that in cases where its members experience RF noise, "such noise can often be avoided by carefully locating their antennas; in many instances an antenna relocation of only a relatively short distance can resolve noise interference."

BPL operators would be required to avoid certain bands, such as those used for life and safety communications by aeronautical mobile or US Coast Guard stations. The FCC R&O makes clear, however, that similar rules will not apply to the Amateur Service.

"We similarly do not find that Amateur Radio frequencies warrant the special protection afforded frequencies reserved for international aeronautical and maritime safety operations," the Commission said. "While we recognize that amateurs may on occasion assist in providing emergency communications," the FCC added. It described typical amateur operations as "routine communications and hobby activities."

The Commission reiterated its belief that BPL's public benefits "are sufficiently important and significant so as to outweigh the limited potential for increased harmful interference that may arise."

Among other specific provisions, the FCC's new rules mandate certification of BPL equipment instead of the less-stringent verification, a public BPL database--something the BPL industry did not want--and mechanisms to deal swiftly with interference complaints. BPL systems will have to incorporate the ability to modify operation and performance "to mitigate or avoid potential harmful interference" and to deactivate problematic units, the R&O says.

Further, the new rules spell out the locations of "small geographic exclusion zones" as well as excluded bands or frequencies--concessions made primarily at the insistence of the NTIA, which administers radio spectrum for federal government users--and "coordination areas" where BPL deployments at any frequency must be "pre-coordinated by BPL operators." They also detail techniques to measure BPL emissions from system equipment and power lines.

The FCC said it expects "good faith" on both sides in the event of interference complaints. Shutting down a BPL system in response to a valid interference complaint "would be a last resort when all other efforts to satisfactorily reduce interference have failed," the FCC said.

ARRL officials are studying the R&O and considering possible responses. The ARRL Executive Committee (EC) already has authorized filing a Petition for Reconsideration. The EC also authorized ARRL General Counsel Chris Imlay, W3KD, to "prepare to pursue other available remedies as to procedural and substantive defects" in the BPL proceeding.

For more information on BPL, visit the "Broadband Over Power Line (BPL) and Amateur Radio" page at www.arrl.org/tis/info/HTML/plc/

UO-22 Comes to the "End Of Old"

From the ARRL Letter

According to AMSAT-UK, the UO-22 satellite is not in good shape, and its useful life may be over.

"The SSTL [Surrey Satellite Technology Limited] Ground Station control centre at the University of Surrey have attempted several times in recent weeks to reactivate the satellite," AMSAT-UK reports. "After one attempt it did come back to life, but only briefly. Other attempts have failed completely."

The SSTL ground control station may make further attempts to reactivate UO-22, "but it seems unlikely that they will be completely successful." The cause of the satellite's failure is not known for certain, but SSTL believes it may be related either to the spacecraft's batteries or to the fact that the satellite is very hot due to orbital precession, which has put it generally in full sunlight. The elevated temperature has been causing problems with the receivers as well as with the batteries.

Launched on July 17, 1991, from Kourou, French Guiana, UO-22 has served for many years as the 9600 baud store-and-forward satellite for the Amateur Radio packet radio worldwide

SatGate service, which linked packet radio networks in many countries. AMSAT-NA reports UO-22 as "non-operational." For further information on UO 22 contact Jim Heck, G3WGM g3wgm@amsat.org

K1USN - USS Salem

The USS Salem Radio Club will activate K1USN on Veterans' Day, Thursday, November 11, with operation from the museum ship berthed in the Fore River in Quincy, Massachusetts. A special event QSL card has been created borrowing the design of the official 2004 Veterans Day poster. K1USN will be active on most Amateur Radio bands on CW and phone, and packet spots would be appreciated. The USS Salem, a heavy cruiser commissioned in 1949, will be open to the public. K1USN will QSL all requests received. US stations should include an SASE with their QSLs to Harold "Pi" Pugh. K1RV, 78 Temple St, Abington MA 02351. DX stations QSL via the W1 QSL Bureau.

QRP Spartan Sprint

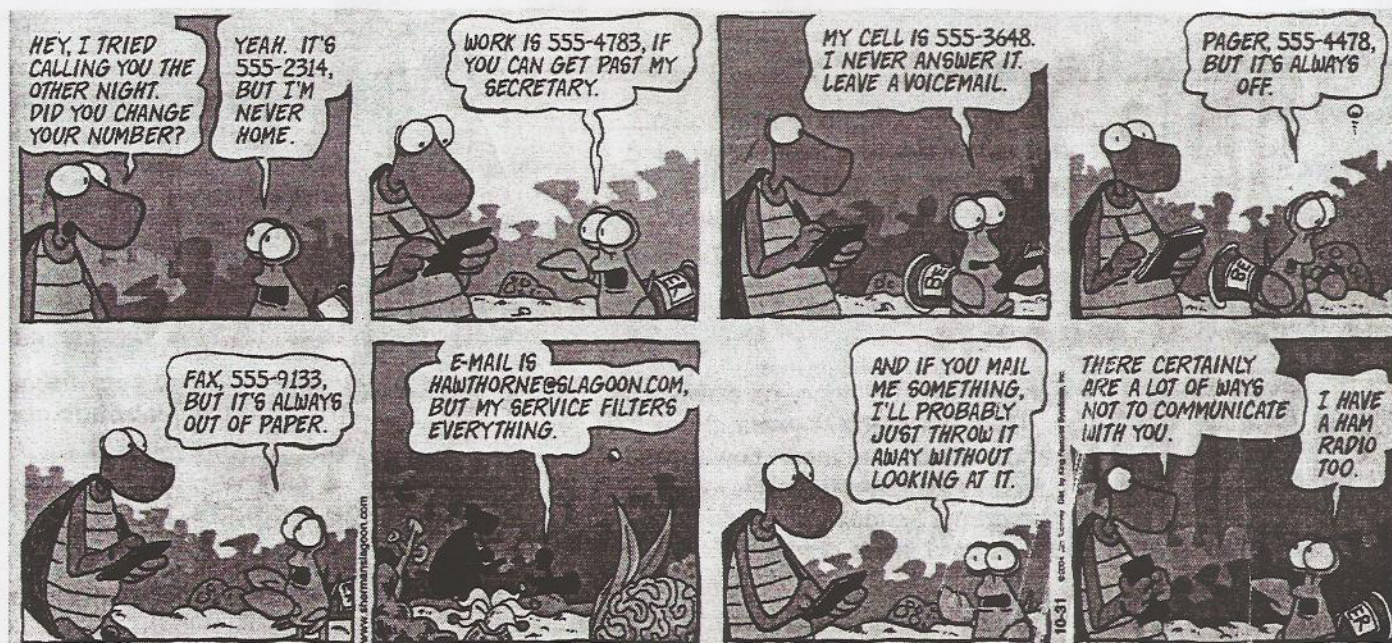
There are a group of 4 hour contests called the North American Sprints. They have a unique, very challenging format, and Tree, N6TR who is one of the founders calls them "The most fun you can have in 4 hours with your clothes on." Well, maybe ... the CW sections typically lope along in the mid to upper 30's on average, which isn't a lot of "fun" for a lot of folks, dressed or undressed.

But, all is not lost if you don't send or copy CW at 35 WPM. The Adventure Radio Society sponsors the Spartan Sprints from 1800 - 2000 local time on the first Monday of every month. Power limit is 5W (but you don't need a QRP rig if you can get your regular rig down that low ... in fact, my first was with my TS-850S at 15W, the lowest it would go. I wasn't eligible for the standings, but had a great time), and the exchange is RST State and power level (e.g. "559 CA 3W"). Frequencies are around 3.560, 7.040, 14.060, 21.060, and 28.060 MHz. Code speeds are all generally slow, and everyone will slow down more as much as needed.

There are two classes: Tubby and Skinny. In the Tubby class you report the total number of QSO's by band (no log required). Total Score = # QSO's. In the Skinny class, you do likewise, however Total Score = # QSO's divided by weight of your rig in lbs. Standings are reported via email in "points per pound." Rig weight includes the rig (must be in its normal enclosure), batteries or power supply, key, and headphones ... everything up to the antenna connector. You get special mention if you set up outside, like on your deck.

Skinny winner for November was K4PQC with 21 QSO's and a weight of 0.213 lbs (!!) for 98.59 points per pound. Your editor placed 6th nationally with 21 QSO's and 1.125 lbs for 18.67 points per pound. Rig was a brand new Elecraft KX1 @ 3W using 6 AA dry cells, the attached paddle, and lightweight headphones. I think I'll see if a 9V dry cell will last 2 hrs for December. That should get me under one pound.

It's a really fun operating event, and very short (2 hrs) at a convenient time of day with simple reporting. More information can be found at www.arsqr.com



"Sherman's Lagoon" by Jim Toomey 10/31/04 © All Rights Reserved (used with permission)

SIERRA FOOTHILLS AMATEUR RADIO CLUB
P.O. Box 1005
Newcastle, CA 95658



SIERRA FOOTHILLS AMATEUR RADIO CLUB
2004 MEMBERSHIP APPLICATION

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Associate Name: _____ Call: _____ Class: _____

Phone Number: _____ Application: (Circle One) New Renewal

Member Dues: Circle Amounts That Apply.

Applications received in the middle of the year will be pro rated. Contact the President or Treasurer for exact rate.

Membership:	\$22.00	Name Badge:	\$6.50
Associate:	\$ 7.00	Repeater Donation:	\$ _____
Auto Patch Donation:	\$ _____	Newsletter Booster:	\$ _____
Miscellaneous Donation:	\$ _____	Christmas Donation:	\$ _____
Worldradio Renewal:	\$ _____	TOTAL:	\$ _____

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