



Sierra Foothills Amateur Radio Club

SIERRA SIGNALS

<http://www.sf-arc.org/>

April 2011

PO BOX 1005, NEWCASTLE, CA

At the Key of SFARC

OFFICERS

PRESIDENT

Al Martin, NI2U
amartin4@wavecable.com

VICE PRESIDENT

Charles Baker, AE6LR
ae6lr@yahoo.com

SECRETARY

Vacant

TREASURER

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kd6wty@yahoo.com

DIRECTORS

Mary Ann Balthorpe, KE6EST
Gary Cunningham, KQ6RT
Jim Griffith, KI6AZH

Field Day Chairman

Dave Hund, N6SHD

REPORTERS

Satellites: Greg, KO6TH
History: Gary, KQ6RT
Misc Radio: Fred, K6D6W
Sunshine: Richard WA6RWS
rkuopper@gmail.com

RESOURCES

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

Matthew Diridoni, KC6RUO
916-749-3032
matteod@comcast.net

WEBMASTER:

Carl A Schultz, WF6J

Calendar of Events

April 17	Rookie Roundup - SSB
April 30	MS Walk in Folsom, Volunteers Needed! See page 2
May 22	North Hills ARC Swap Sacramento
June 11-13	June VHF QSO Party
June 25-26	FIELD DAY!

SFARC CLUB MEETING PRESENTATION

April 8, 2011

The April meeting will be presented by Marty Machado and is entitled "Placer County ARES role in the County's 2010 MCI Exercise".

Everyone is welcome, bring a friend!

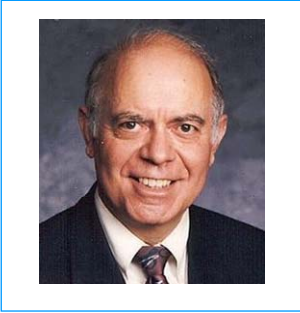
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From The Presidents Shack, Al Martin NI2U



The registration is doing great.

Richard WA6RWS submitted the information to continue the Special Service Club for the Sierra Foothills Amateur Radio Club.

Summer is coming. We will start making plans for the Club Picnic. Last years location received a number of favorable comments. We will be looking to use the same facility this year. We will have to secure reservations soon, however.

The Board sure could use a secretary. Being able to use Word or an equivalent is a plus but is not necessary.

“Wosshhhh peep, Wosssshhhhh peep.”

By Matt Diridoni, KC6RUO

During a recent emergency net that is held on a coordinated simplex frequency in South Placer County we suddenly were getting buried by an unknown digital signal covering everyone on the frequency.

“Wosshhhh peep.....Wosssssssssshhhhh peep”.

I was thinking to myself, “Is that packet? I mean this was full scale needle buried ruthless signal covering all of us and it came out of nowhere! . “Wosshhhh peep.....Wosssssssssshhhhh peep”. Then in-between transmissions, somebody blurted, “Boys that’s D-STAR getting shoved down our throats. Wosssssssssshhhhh peep” Wosssssssssshhhhh peep”. Well, so much for the emergency net on that simplex frequency. I recently asked some Hams, Is there a need for DSTAR and is digital modulation the future of amateur radio? Here is what they said.

DSTAR isn’t bad... It’s downside is that it is an amateur-only protocol. It’s upside is that it is an amateur-only protocol that can be optimized for features that are desired by hams.

The vocoder used by DSTAR is very similar to the vocoder used by Kenwood and Icom’s NXDN and Motorola’s MotoTrbo products. See

*<http://www.konr.com/Files/CQ%20VHF%20Article%20on%20D-STAR%20modulation.pdf> for more info. DSTAR uses the AMBE-2020 vocoder from DVSI, Inc. It is proprietary, just like the IMBE vocoder that is used with P25 systems. **Daryl Jones, K6TEA.***

HAMs have historically lead the way for technological changes before the technology was made popular by commercial

Just because it is new does not mean it is better! It is not backwards compatible with existing equipment. If DSTAR is going to be used it should be open source so that anyone can create compatible hardware and software. It should be limited to small band segments and not allowed to interfere with existing band plans. If it is allowed to be implemented anywhere there will be a lot of current Hams that will find other hobbies to pursue

*. **Mike Fedler, N6TWW***

*interests. Here, in the digital age, there were a number of competing digital technologies and schema for which to apply to commercial broadcasts just as there are in the HAM world. Money talks - and so in the broadcast world it was up to our government intellectuals at the F.C.C. to decide what was best for us, the American consumer, and we were thrust into the age of digital television and HD digital radio. *Digital modulation is here to stay.* The amateur radio community needs a non-financially vested consensus as to what is the best of the digital formats that suits our needs, DSTAR or otherwise, and keep all forms of non-interfering digital modulation open for experimental purposes within the amateur sub-bands.*

Scott Vogelsang, WA6YNE

DSTAR – Continued from page 2

My own opinion? Ham Radio has always been an expanding, not moving, field of communication methods. That is to say, we will certainly be expanding into new ways of communicating, and digital modulation methods are already an essential part of that expansion. But to say it's the future of amateur radio cannot imply that the existing modes will be replaced. Not since they outlawed Spark has that happened.

Greg KO6TH

Digital communications is the wave of the near future. It will allow for smaller bandwidth, thus more channels. DSTAR is proprietary though and a better option for cross-platform interoperability is APCO P25. Any radio manufacture can use P25, unlike the various flavors of proprietary digital platforms.

Tim Tribble, KD6MDV

I do not think amateur radio needs digital. We are not a commercial entity trying to get more paying customers in the same space at the cost of the audio quality.

If we do favor digital it should be non-proprietary and probably P25 unencrypted to allow as many amateurs and professionals to participate as possible. The manufacturers only promote their proprietary systems to try and lock-in customers but amateur radio should be as interoperable as possible.

The digital modes should provide more range and audio quality than existing analog systems, not less.

I could go on and on but you mentioned only a few words. Look forward to seeing you again sometime.

73's de WA6YLV, Bruce Jordan

Let's narrowband the band plan and gain a few more frequencies out of the deal. This way there will be a place for analog repeaters analog simplex and a place for "digital communications." Let's not call it DSTAR since it seems to be proprietary. Lets call is digital communications and have some fun experimenting with all kids of digital communications.

Matthew Diridoni, KC6RUO

50 Years Ago at SFARC

April 12, 1961 - Home of Walt Dowdy, Auburn.

Meeting was called to order by President Lin Hunter, at 8:10 pm. Minutes of the previous meeting and the treasurer's report was read and approved.

The availability of the old Navel reserve building was discussed. Jim Carmen stated that they had started building at the new location and that BC 610 transmitter would probably be left for our club use.

The possibility of meeting with the Aerojet club in the near future via Lin Hunter was discussed.

The annual picnic barbeque was set for Sunday, June 11th at the fairgrounds. Frank Carmen made the motion and passed. The club will provide the steaks, soda pop, ice cream and paper plates, cups and spoons. There will be a charge of \$1.00 per person, with paid up members free. The picnic committee composed of Frank Carmen, Lin Hunter, Walt Dowdy, and Sage Otow will meet on April 20th at Frank Carmen's.

The Discussion on change of meeting date was mentioned by Lin Hunter to shelve the date until we have our permanent location. Motion seconded by Craig Tindall and passed.

We are not sure of participation on Field Day at this time. Of the code class dick Lund and Howard Davis received their conditional examinations. Meeting was motioned to adjourn by Jim Carmen at 9:35. Refreshments were served by Mrs. Dowdy

Respectfully submitted,
Sage Otow

Miscellaneous Radio

A Better Way to Send CW?

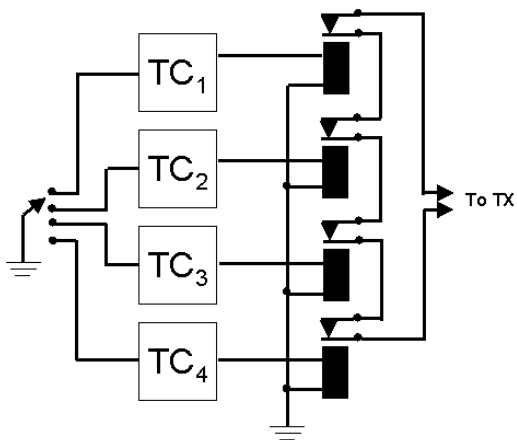
Morse code has been sent via radio in a number of different ways over the years. Most of us probably have sent it using a “straight key” such as a J-38 ... up and down, with down closing the contacts and turning on the transmitter. Tap it and you send a dot. Hold it down for 3 times as long and you send a dash. Leave it up for a “tap time” and you space one dot or dash from the next. Leave it up for 3 of those times and you space one letter from the next. And, leave it up for 7 of those times and you space one word from the next. Mechanically, it is very simple, but it puts the entire problem of timing on the operator. You could turn your J-38 on it's side so now it was back and forth rather than up and down [called a “sideswiper”], but the timing problem is still there.

It didn't take very long for the electromechanical bug to arrive. It was back and forth like a sideswiper, one direction just closing the contacts for dashes which you made just like a straight key. The other direction started an armature vibrating on a flat spring which made dots automatically with approximately the right spacing until the armature quit vibrating. Bugs were a lot easier to use once you mastered it, and now the dot timing was fixed at however you set the weights on the armature. Some bugs were machinists' works of art, shiny, and with velvet lined wood boxes to carry them around. Some, like my WW2 J-36, built by Lionel of model train fame were decidedly proletarian in appearance. In fact, mine looked like it had gone ashore with the Marines at Iwo Jima, but it worked fine and only cost \$5 at Surplus Sam's in Los Angeles. This was a decided advantage since all of my earnings were going into my college fund right then.

Then came electronic keyers ... 10 or so dual triode vacuum tubes which made both dots and dashes with the correct timing, and keyed your transmitter with a relay. We often modified our bugs to bring out separate dot and dash connections and prevented the armature from vibrating to operate our keyers. Soon paddles came along, separate contacts on each side to operate the keyer. And progress brought us iambic keyers with dual paddles that could go right, left, or be squeezed together to create alternating dots and dashes. The electronics migrated from vacuum tubes to solid state transistors and finally to microcircuits.

In all cases however, and despite all of this progress, the timing issue remained ... we “send” the dots and dashes ... the spacing between them is an open issue. Theoretically, an electronic iambic keyer could produce perfect code, but the operator still had to operate it correctly to get the right spacing. Is there a better way? Well, the answer is “maybe,” and to find it, we need to think out of the box so to speak, and the key [no pun intended] may be “spacing.”

Since the electronic keyer makes perfect dots and dashes, the real problem we're confronting for perfect Morse sending is the spaces which, except for the one-dot-time spaces between consecutive dots or dashes, are still under our control. It turns out there are three different length spaces in Morse, measured in dot-times: one [between dots and dashes], three [between letters], and seven [between words]. More careful study reveals that the one-dot time space really comes in two flavors ... one-dot spaces separated by a single dot time key-down [which would be the dots], and one-dot spaces separated by 3 dot times key-down... the dashes. And, this is the “Ahh Ha!” moment. It's the spaces that matter, the dots and dashes fall out automatically! It would appear that all this time, we've been “sending” dots and dashes when we should have been “sending” the spaces between them!



As is often the case, this is not a new revelation. A. F. Scotten, W6ZMZ, realized this simple fact and wrote about it in the October 1949 issue of QST. He even came up with a keyer circuit to accomplish it which he somewhat humorously named “The Humbug.” I've drawn it up for you.

His scheme was pretty simple – four normally closed relay contacts put the transmitter into key-down. I'm presuming that he would have some sort of normally open foot switch or the like to keep the transmitter off until ready to send.

Those boxes marked “TCn” are timing circuits, in his day likely free-running multivibrator circuits each using a couple of triodes. Each one produces one of the four spaces we need. One sends by selecting them with some form of a 4 position switch. When none of the four are selected the transmitter is in key down state. Each one “sends” a space of one of the four flavors followed by key-down.

He even offered a test sentence to demonstrate the difficulty of perfect spacing:
“Then after Richard had arrived he and Clarence each kissed beautiful

Annabelle and she ceased all resistance because in actual fact she liked it better than ever”

Ignoring for the moment that this sentence was surprisingly racy for QST in 1949, its dominant feature is that it does not contain two or more consecutive dashes. He maintains that it is very very difficult to send this in Morse with any of the various keyers of the day [iambic keyers hadn't been invented in 1949].¹

1 I don't have any problem sending this on my Winkey or K3, but he seemed to think I would.

Today? Well, we'd use solid state devices instead of relays, and we'd likely build the timing circuits onto a programmable microcontroller. If I was building this, I'd replace his 4-position switch with four individual SPST switches mechanically linked to 4 paddles that you depressed, similar to the keys on those stenographs that court reporters use. Several configurations come to mind: four keys right next to each other that you just put the fingers of one hand over, or possibly two sets of two using two fingers of each hand. In fact, the court reporters actually press more than one key at a time to make some of their shorthand marks. It's called a "chordal keyboard" since it's like playing chords on a piano. Programming our microcontroller to recognize single, double, and triple depressions, we would need only 3 switches. The code might be:

KEYS			ACTION
1	2	3	
X	X	X	TX on
X		X	TX off
X			Dot Space
	X		Dash Space
		X	Letter Space
	X	X	Word Space

Since the controller will make perfectly timed spaces, you'll automatically get perfectly timed dots and dashes as well. It would have been very difficult in 1949 to have the controllers remember the key combinations in a buffer and send them perfectly even if our keying was a little erratic, but today, adding that sort of memory is trivial.

Back in 1956, while the professional marine CW circuits were rampant with very poor fists, badly sent code, and terrible signals, the ham bands were filled clean, stable signals and it was rare to encounter poorly sent CW. None, except those sent from punched tape, were perfect however, despite the fact that the solution for perfect CW was at hand and published publicly since there is no indication that W6ZMZ had attempted to patent his brilliant and novel creation. Why it did not revolutionize CW

sending on the ham bands is a mystery. It is a deeper mystery however why his article appeared in the October 1949 issue of QST and not in April.

We have sunspots ... lots of them ... and the 10 cm solar flux has been above 150 multiple times in March. Ten meters has been wide open and it looks like the "Good Days of Radio" are upon us.

73,

Fred K6DGW



SFARC has testing sessions on the first Saturday of each month at Raley's on the corner of Auburn Folsom Road & Douglas Bl. in Granite Bay. Sessions are in the multi-purpose room in the back left hand corner of the store. The session starts at 8:00 AM



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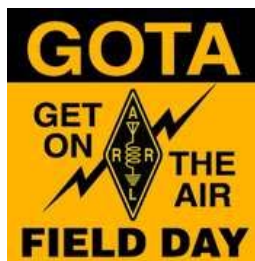
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Mark Your Calendar



June 25, 26, 2011

SFARC Meeting Minutes

BOARD OF DIRECTORS MEETING MINUTES

11 March, 2011

Board meeting commenced at 1800 hours at the Round Table Pizza in the Auburn Town Center.

Present were officers Al Martin, NI2U, President; Chuck Baker, AE6LR, VP, Directors Gary Cunningham, KQ6RT and Jim Griffith, KI6AZH. Also present were Richard Kuepper, WA6RWS, acting secretary and Carl Schultz, WF6J, webmaster and PIO. Bob Balthrope, KD6WTY, Treasurer and Director Mary Anne Balthrope, KE6EST were excused due to illness.

Al read from the Treasurer's report and stated we had \$1484.83 in the bank. He also indicated the application for SFARC to be a Special Service Club with the ARRL had been submitted.

A discussion about a second key to the PO Box was discussed and was a good idea to purchase another key.

Chuck discussed having Cal Star do another presentation. All agreed.

Carl said we would be able to make an owner name change for the club website. All agreed. Meeting adjourned at 1840 hours.

Richard WA6RWS, acting secretary

GENERAL MEETING MINUTES

11 March 2011

General meeting commenced at 1930 hours at the Placer County Library in Auburn. Present were officers Al Martin, NI2U, President; Chuck Baker, AE6LR, VP and Directors Gary Cunningham, KQ6RT and Jim Griffith, KI6AZH and Richard Kuepper, WA6RWS, acting secretary. Bob Balthrope, KD6WTY, Treasurer and Director Mary Anne Balthrope, KE6EST were excused due to illness.

Special guests present were Ron Murdock, W6KJ, ARRL Sacramento Valley Section Manager and his wife, Jo Anne, N6YLO, ARRL Sacramento Valley Assistant Section Manager and Jettie Hill, W6RFF, ARRL Sacramento Valley Assistant Section Manager and Affiliated Club Coordinator (ACC).

Al led everyone with the Pledge of Allegiance. Officers, Directors, members and guests were introduced. President Al, read from the treasurer's report and said we have \$1484.83 in the bank.

VE report – There were 9 examiners at the March exam. Three candidates took exam and passed. Next VE exam will be 2 April at Raley's store in Granite Bay. Al is looking for a volunteer to take over the coordinator's position as Larry wants to retire. Anyone interested, please contact Al.

Satellite report – Greg, KO6TH discussed said that Kentucky built a satellite, but ended up in the Indian Ocean due to flight failure. Greg also indicated sending up balloons is becoming quite popular. Check with Greg for details.

Repeater - Richard indicated repeater is working well and that the repeater would be used on Saturday for the "Way Too Cool" run.

Raffle – Gene, KG6NYH talked about all the goodies including of course an atomic clock.

Sunshine report – Richard, WA6RWS reported that Dave Hund had injured his shoulder while recuperating at home after shoulder surgery. Mary Anne had been in the hospital but don't know the details.

Tech-Ten was presented by George, KG6LSB explaining some of the special events we volunteer for. He displayed several shirts that are given to volunteers like the MS walk and bicycle rides through the foothills.

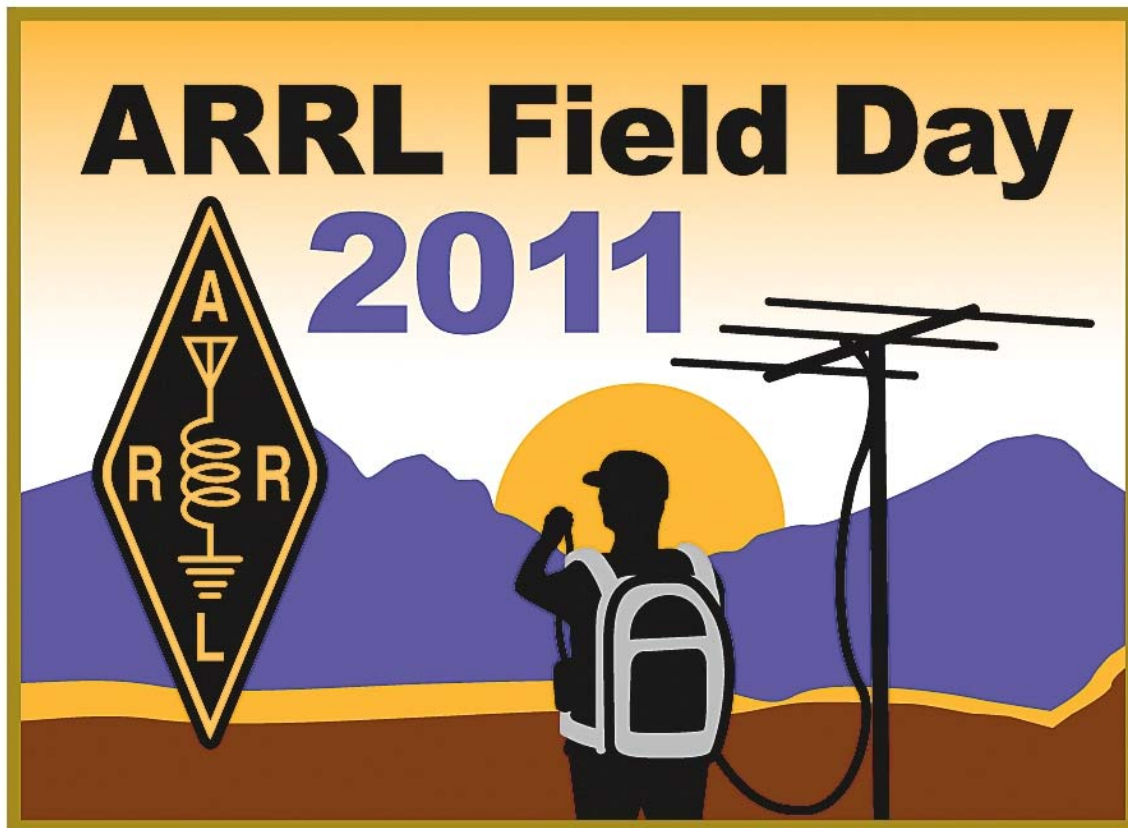
Ralph, WA6RWL talked about the need for 125 operators for Tevis Cup and the Western States Endurance run. Anyone interested, please contact Ralph at w6rwl@arrl.net, cell 408.640.0963. Info at www.wstrail.org.

Old Business - Still in need of a secretary.

New Business – Become a member of the ARRL or renew your membership through the club. The club will receive \$15 for each new member and \$2 for each renewal of membership.

Pat Barthelow, AA6EG talked about moonbounce and how you can listen in. Contact Pat for details.
Our Section Manager, Ron gave a gift of a number of ARRL publications including one on antennas. Maybe some of those books might make the next raffle. You never know! Thanks Ron for the great gifts.
Chuck, AE6LR was the speaker for the evening and gave a presentation on “Preparing for Emergencies”
Raffle was held and meeting adjourned at 2120 hrs.

Richard WA6RWS, acting secretary



www.arrl.org

Field Day 2011 - June 25-26!