



<http://w6ek.org> info@w6ek.org

April 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

Mission Statement

The Sierra Foothills Amateur Radio club of Auburn, California was founded to support and promote the Amateur Radio Service. We are a voluntary, non-profit association of licensed amateur radio operators and others who share interests in developing and promoting the knowledge and advancement of operating techniques and the technical skills related to radio communications. We accomplish these goals through training and practical experience in the Amateur Radio Service, participation in public safety exercises, and through emergency preparedness and international goodwill.

We accept annual donations from members to offset the Club's operating expenses and from others who simply want to support our goals and objectives in public service. Donations may be made in person to the Club Treasurer, by mail, or via PayPal from a link at the Club's website at www.w6ek.com.

Inside

President's Report

Meeting Minutes

14 April 1962

PIO/Webmaster

New SV Section EC

Space Weather

Calendar

Sat 7 Apr: Am River 50 [145.430 in use for event]

Fri 13 Apr: Regular Meeting

Sat 28 Apr: Club Breakfast

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

Sierra Signals is published monthly by the Sierra Foothills Amateur Radio Club for the information of it's members and friends, and is distributed via E-mail and USPS mail. Opinions expressed are those of the authors. Newsletter exchanges with other clubs via E-mail are welcomed. Contact the editor to be placed on the E-mailing list. The contents of Sierra Signals are copyrighted by the Sierra Foothills Amateur Radio Club, and all rights are reserved. That said, we will gladly permit republications for non-profit uses of all text material. Photos require the consent of all persons pictured in them, and some of our material is copyrighted by others and published by permission. You'll need to contact them for permission.

President's Report

Ham radio; the new iPhone



It seems everywhere you look these days the media is talking about ham radio. A few to come to mind, our new show on ABC called the last man standing, which features Tim Allen as a ham operator and professional outdoorsman. The ARRL got the FCC to issue a non-issued experimental license call sign and Icom has placed numerous radios and ham related equipment throughout the set. As a side note, all the equipment is real and hooked up as 12 of cast and crew members on that show are ham radio operators. On a lesser note, two new shows about preppers on Discovery frequently discuss ham radio as a means of communication. The Internet is full of Internet-based television shows like Glenn Beck, ham nation, and others that are extolling ham radio has a newfound hobby & in some cases, a survival tool.

In my experience though I see uncertain times and a feeling in a growing population that something is going to break and communications will be a key component of survival. Five years ago, Apple introduced the iPhone and it revolutionized the way we communicate. While new incarnations of the iPhone still garner media attention there's a growing interest in what once was termed at dead hobby.

While I'm sure many in the 'prepper world' are looking at ham radio as a communication of last resort, many more are becoming fascinated with the idea of talking wirelessly down the street, across town, and around the world without any infrastructure. In our own local ham community we seen an explosion of growth both in both licensees and new members of our club. These new hams need our guidance and technical expertise to ferry them along their journey as ham radio operators. We have some great Tech Ten and feature presentations scheduled for the upcoming months. For us newbies, we'll learn about several different operating modes, propagation for dummies, and some practical exercises in antenna building. The informal 1630 hr drive time net is growing all the time. Although it's not a "real" net, it's a lot of fun and helps pass the long commute home. Our very own emergency preparedness net is starting to attract attention from out of the area. We've had contacts from as far as the Bay Area and "Breakfast at Suzie's" is at an all time high for monthly attendance. The point of all this? Get involved and stay involved. We just may be the coolest new hobby on the block.

Talk hard

Bob, K6UDA
President

Meeting Minutes *Board of Directors – 9 March 2012*

The March 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, Kurt Hess-N6RS, and Dave Albright-NO6NO.

REPORTS and DISCUSSION:

Treasurer's Report: Richard reviewed Treasurer's report; balance as of February 1st was \$2,269.50. Expenses in February totaled \$35.87. Deposits included membership renewals totaling \$469.76. Net cash on hand as of February 30th is \$2,703.39. Still working on how much of income should go to repeater funding.

Repeater Reports: Richard reported on testing of Yaesu 2m repeater at Alta Vista site; issues found w/PL and deviation that required removal for adjustments; plan is still to install Yaesu repeater at Alta Vista site, then move existing repeater to KI6AZH's *after* test period; voice messaging also being worked. DSL was removed; Carl advised of ATT discount to radio clubs (phone line at \$5 flat rate; free DSL), Richard to investigate and report; 440 repeater off-air – interference w/Beal AFB discussed; Repeater gate locks are changed, Dennis to contact Auburn School District to sort out access. Discussion on 2m repeater coverage to various areas, receiver voting, and other subjects.

Property Officer: Al suggested listing equipment online along with name/phone number of borrower to keep track. Antenna analyzer has intermittent connector, needs replaced.

Web/PIO Report: Online membership renewal and payment w/PayPal working; Other web updates are 40% completed and scheduled for April 1st roll-out; New business cards will be available next Club breakfast. Field Day promo information being prepared; Hosting options/costs discussed; Discussion of email addresses (w/hosting packages) that offer “W6EK” extension to present to Club; Discussed free lectern signs w/logo available, also for Field Day. Board voted unanimously to pursue free signs.

Yahoo! Groups: Dennis moved files into folders to “group” the growing content.

Presentation Calendar: Al reported on presentations and Tech-Ten’s planned through June. Need August and September, possible PSK demo for Club meeting; Discussions on J-pole antenna project as a presentation or for mini-field day/picnic. Other simple antenna projects were discussed for possible presentations, as well as re-visit of moon bounce communication.

Club Picnic: Discussion of a mini-field day in combination with Club picnic this year. Venues were discussed as well as possible recruitment programs. Al is Chairman and will check fees for Auburn Rec Park. Bob offered his QTH for consideration. No decision on venue or programs to present to Club yet.

Alternate SFARC Website: Dennis reported confusing “alternate” historical SFARC site on Internet can be found with Google search; Carl to look into asking owner to remove it.

Other Discussions: Carl suggested Internet broadcasting of repeater output, requires DSL at site or link to someone’s QTH with Internet access – no decisions; Repeater cross-banding and linking possibilities – no decisions.

Meeting adjourned at 1850 hours.

General Meeting – 9 March 2012

The SFARC General meeting for March 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-K6UDA led the Pledge of Allegiance. Officers, Directors, and approximately 38+ members and guests were introduced.

REPORTS:

Past minutes The February General meeting minutes were unanimously approved as published in the Newsletter.

Treasurer’s Report Richard-WA6RWS presented the Treasurer’s Report; balance as of February 1st was \$2,269.50. Expenses in February totaled \$35.87. Deposits included membership renewals totaling \$469.76. Net cash on hand as of February 30th is \$2,703.39.

Repeater Report Richard-WA6RWS reported on efforts to get the new Yaesu repeater working at the Alta Vista site.

Satellite Report Greg-KO6TH reported there are many to choose from ... VUSat-Oscar-52 (VF-52) to be back online next week after being silent for a couple weeks, uplink:435.2250 - 435.2750 MHz SSB/CW, downlink: 145.9250 - 145.8750 MHz SSB/CW; Saudi-Oscar-50 (SO-50), uplink: 145.8500 MHz, PL 67.0 Hz FM, downlink: 436.7950 MHz FM under-utilized, weak but useable w/small yagi; Fuji-Oscar-29 (FO-29), uplink: 145.9000 - 146.0000 MHz SSB/CW, downlink: 435.8000 - 435.9000 MHz SSB/CW, note reversed uplink/downlink; AMRAD-OSCAR 27 (AO-27), uplink: 145.8500 MHz FM, downlink: 436.7950 MHz FM, weak but popular; AMSAT-OSCAR 7 (AO-7), Mode-A operation uplink: 145.8500 - 145.9500 MHz SSB/CW, downlink: 29.4000 - 29.5000 MHz SSB/CW, Mode-B operation uplink: 432.1250 - 432.1750 MHz SSB/CW, downlink: 145.9750 - 145.9250 MHz SSB/CW ... more info at: <http://www.amsat.org/amsat-new/satellites/status.php>

VE Report Dave-NO6NO reported that we had 10 candidates taking exams; 6 passed Technician, 1 General and 3 Extras.

Sunshine Report Richard-WA6RWS reported Dave Hund-N6SHD battling a bad cold.

Newsletter No report. Need a volunteer to pick up publishing the Newsletter. All tools furnished, not much of a time commitment, FYI for anyone interested. (*Secretary’s note: this is an important part of our club and I encourage someone to step forward and “try it” for a few months, to give Fred a break*)

Website Updates Carl-WF6J reported that online membership renewal and payment w/PayPal is now working; other web updates are now 40% completed and scheduled for April 1st go-live.

Raffle and Refreshments Gene-KG6NYH and George-KG6LSB reviewed raffle and refreshment options.

OLD BUSINESS:

T-Shirts Dave-NO6NO presented options to print/purchase T-shirts, and proposed possibly printing something up for Field Day. Cost is \$10.99 plus shipping. Bob proposed a T-shirt design contest for the Field Day T-shirt.

NEW BUSINESS:

900Mhz Repeater Jim-KI6AZH reported on a 900Mhz repeater located at his QTH, available for test and/or play.

Group eMail Bob presented an opportunity to the Club to determine interest in personalized email addresses, with "W6EK" suffix. Email addresses would be available with a new hosting plan being considered. There was no interest in the proposal.

Club Events George-KG6LSB reported on an upcoming MS Walk on the 28th of April, 7:30 to Noon, additional volunteers needed. There is a "radio preparedness" event being held at the LDS Church this weekend (now past)

Announcements Club net on Thursday's at 7:30; Board meeting at 6pm on general meeting nights at Round Table Pizza; the General meeting schedule; Club breakfasts (last Saturday at Susie's Café); the "Prepper Net" every other Wednesday on the 2m repeater at 7:30pm; see the Club website (W6EK.org) for more information or changing dates.

Tech-Ten Dennis-WU6X gave a presentation on propagation prediction tools, real-time monitoring of active DX stations, and antenna pointing aids, all free downloads or available on the Internet (see Yahoo! Groups "files" for a copy of the presentation).

Presentation AI-NI2U gave an excellent presentation and primer on the elements of propagation and how and why radio waves travel around the earth, and the effects of the sun the various layers that either support or inhibit propagation (see Yahoo! Groups "files" for a copy of the presentation).

The meeting adjourned at 2050 hours.

Dennis WU6X, Secretary

Fifty Years Ago at SFARC ***Reported by Gary, KQ6RT***

Auburn, Calif.
April 14, 1962
8:25 P.M.

Meeting was called to order by Pres. Dick Lund, in the C. D. room at the Fairgrounds. Minutes of the previous meeting were read and approved. Treasurer, Jim Carmen reported a balance on hand of \$159.64.

The club agreed to put up a 2 M station with George Lambert's Gonset LV and a 75 M station with Sage's gear, at the JACL picnic on April 15th.

A letter from the ARRL was read by Pres. Dick Lund regarding affiliation and about Field Day. Unfortunately, the club is unable to qualify with the required minimum 10 subscriptions needed, as of this date.

Jim Carmen volunteered to get the station license started before the \$5.00 fee charge date. Because of this the club constitution needed some amendments added and so Frank Carmen made a motion that officers meet the following Wed., April 18th to

modify the by-laws. This motion was passed and it was also decided that the club buy the latest license manual.

After some Discussion on the need of a coffee pot it was decided that Frank Carmen and Lin Hunter get together and purchase one.

The club definitely desires to hold a Field Day and arrangements are to be made immediately as to location, gear, etc.

A motion made by Jim Carmen that the club have a minimum of business and more work-out at the next meeting was approved.

Meeting adjourned at 9:40 P.M.

Respectfully submitted,
Sage Otow

PIO/Webmaster **Carl, WF6J**

Website: April will be the "release" date for the new, wider, w6ek.org website. Same stuff plus a lot more. The menu is across the top, right under the Mountain "logo". Videos have been moved off onto the W6EK Channel (our YouTube account). Plus there are some new items that will appear. Dave, NO6NO has been very busy coding a complete license learning center, with sample tests and other great ideas. Also we have seen a lot of new activity on renewing members using the PayPal option online. Still need to pay your 2012 dues? Do it online at www.w6ek.org/member.html (this is the Membership button on the left of the homepage)

W6EK Yahoo Group: If you are still holding out on joining the group might want to jump in there asap. We now have 37 members and growing. Lots of files, antenna build projects, helpful hints, user polls and more. Plus you will be the first to get email reminders about our nets and events. Can't wait for the Newsletter? subscribe to our Yahoo Group. Go onto the website, click on Newsletter, then just enter your email address, then click "join now". It's just that easy.

Hamswaps: It's spring and the season for Hamswaps. Did you miss the great swap/BBQ/event at M Squared Antennas in Fresno held on March 17th? As usual they had great bargains, other vendors, free BBQ and more. Always worth the drive to Fresno, especially if you need new antennas! The first "Sacramento Electronic Swapmeet "was held on Saturday 3/24. Several SFARCs were there, a good turn out for the first event. This will be held monthly and everyone is encouraged to come out to support it. Held the first Saturday each month at 5901 Watt Avenue on the west side near Freedom Park Drive. More info: 916 243-0721. Come out for a coffee and donut even if you just want to ragchew in person.

Hamswap events: Sacramento Electronic Swapmeet first Saturday, monthly. The Gold Country Hamswap and Roast will be held Saturday, May 12th 5476 W Hiway 12, Burson, CA. Starts at 7am. North Hills Radio Club's 37th Annual Swap, Sunday, May 30th at Natomas High School's East parking lot. Exit I-80 at Truxel, go south, turn left at first signal. The new wide website will carry a Hamswap Event Calendar.

Treasurer's Report and Sunshine **Richard-WA6RWS**

Thanks to all that have joined the club and thanks to all that have renewed for 2012. Just a reminder that March 31 is the deadline to renew and be included in the roster.

Dave, N6SHD is back on the mend from a very bad cold. Dennis, WU6X's XYL recently had surgery. Our prayers are with her for a speedy recovery.

New Sacramento Valley Section EC

Kelley Shelley, KS6Z, is our new Section Emergency Coordinator. He is ready to go and wants your help. Here is a message from him:

“I have just been asked by Ron Murdock, W6KJ, the ARRL Sacramento Valley Section Manager, to be the Section Emergency Coordinator. I welcome this opportunity to promote emergency communications in our section. We have twenty counties in our section and I don’t know how many of you have felt the pains of waiting for some government or non-government organization to get off their hands and do something that needs to be done, but I have. And one thing I feel needs to be done is to organize ourselves to communicate with our families during a disaster. When communications fail, and they will fail when something big happens, who do we most want to communicate with, our families. To let them know we are OK and to check on their welfare.”

“I believe we have all been drawn to Amateur Radio so we can communicate with those we love, on our own radios, to be more self-sufficient. We have the resources to do that with Amateur Radio! And when we have assured ourselves that our families are OK, we can then help our neighbors. I invite you to join with me in making our area more prepared to weather the storms ahead by organizing ourselves with a plan and to keep that plan updated, so the information is correct, because we will not be able to call directory assistance. Thank you for your interest in being prepared.”

For Sale

FOR SALE: From the estate of W6SUN [SK]:

U.S. Tower Model HDX-572 crank-up tower with TB-2US thrust bearing and base, TRX-80HD Lifting Structure, and CX-4 Coax Arms - \$1,800. The tower can be transported to your QTH for an extra fee. Also - Orion Model OR-2300 heavy duty rotor – totally refurbished by M2 and still in its box - \$500.

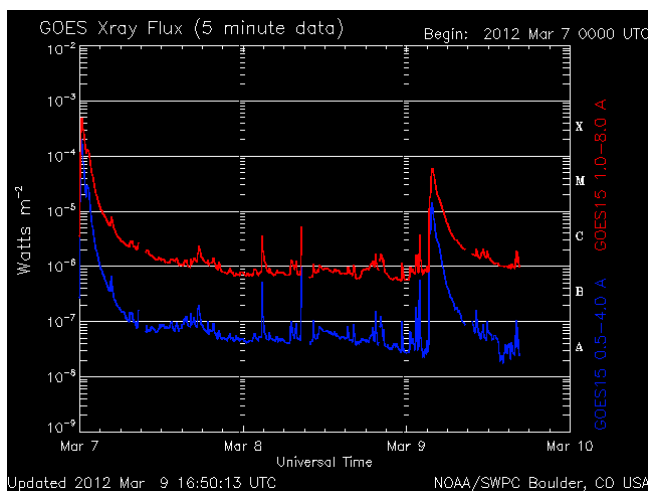
[Ed. Note: This tower is in excellent shape, I've seen it. It is located in Christian Valley, just north of Auburn, and is on the ground.]

MISCELLANEOUS RADIO

Space Weather

“Weather” in space? Weather here on Earth is ultimately driven by the sun, stirred up by the rotation of the earth. It involves movement of air and water in various phases, as well as oceans, evaporation and condensation, continents, and mountains, none of which exist in outer space. Interplanetary space, even around the earth, is pretty much empty. There are trillions of tons of “stuff” in between the planets, but the distances and volumes are so great that the separation between individual atoms can be measured in centimeters or even meters. Nevertheless, there is an analog of terrestrial weather in space and it is of prime interest for us hams, especially now as we head into sunspot Cycle 24.

As with terrestrial weather, space weather in our vicinity of the solar system is driven by the sun and stirred by the rotation of the earth. Instead of air and water however, the “stuff” of space weather is a zoo of sub-atomic particles from the sun, almost always charged and moving very rapidly. As the sun becomes more active, weather in space will follow and will have increasing effects on propagation. Many of those effects will be good – higher frequencies will open long distances and more often – some will be bad. While there's nothing we can do to change any of it, in today's world we have a great number of resources to allow us to monitor what's happening out there, and possibly plan our activities around it.



Point your web browser at www.n3kl.org/sun/noaa.html for one of the best and concise “weather reports” from space that I've found. The story is told in five graphs [click on a graph to get an expanded version you can actually read. There are actually six on the page, one is a combination of the other five]. The data come in real-time from the GOES satellites in geosynchronous orbit [~24,000 miles up]. Here's a primer on how to read and understand them.

It all starts with the x-ray flux in the upper left of the panel on the opening page. I saved the one on the left from earlier in the month a little less than 3 days after a major x-ray flare. All of the graphs have time [UTC] on the horizontal axis. For x-ray flux, the vertical axis is in watts per square meter. And, there are two sets of data from GOES 15 plotted: wavelengths from 0.5 – 4.0 angstroms¹ in blue, and 1.0 – 8.0 angstroms in red.

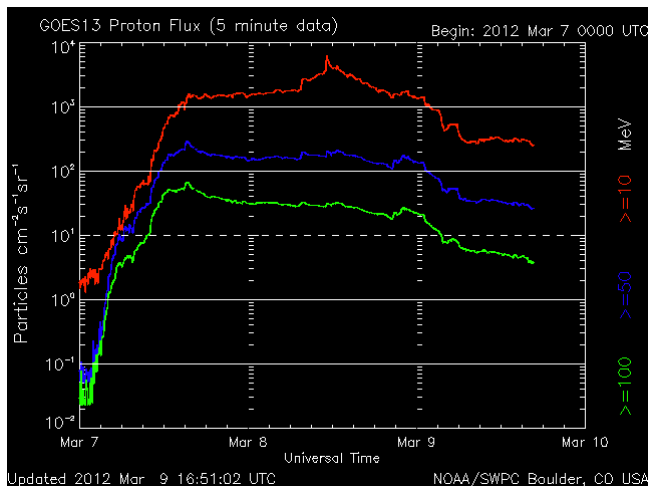
1 1 Angstrom = 10⁻¹⁰ meter [one ten billionth of a meter]

The red trace is higher than the blue because the red detector has a larger bandwidth than the blue, and because x-rays from the sun are stronger in the longer wavelengths. The scale on the right shows arbitrary classifications of the x-ray strength.

When the sun is quiet, the wide-bandwidth flux [red] stays in the B-class, and the blue in the A-class. Note that just after 0000Z on 7 Mar, there was a very large x-ray burst [flare] at about X.7 or so. This was getting close to a milliwatt/sq meter. The flare actually occurred about 8 minutes earlier, that's the time it takes to get from the sun to the earth at the velocity of light. Two days later, another one occurred, from the same sunspot group at about M.8 on the right hand scale.

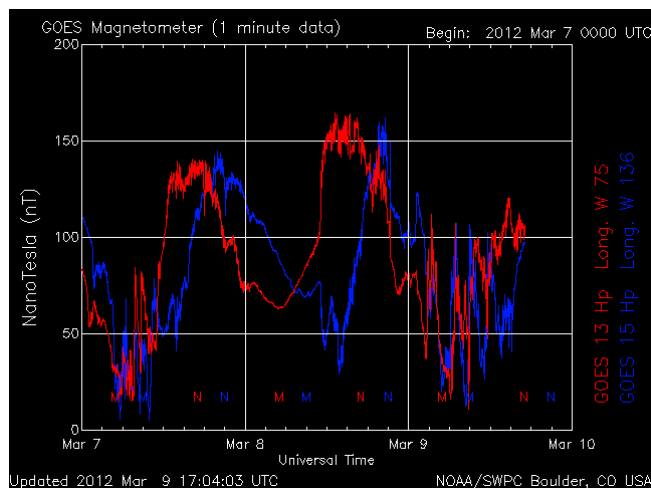
The energy from an X.7 flare can momentarily affect the ionosphere, and this one did. I happened to be on 20 meter CW around 1600 PST and the entire band took a dive over the space of maybe 10 - 15 minutes. A few years ago, the second largest flare ever recorded at the top of X-class occurred on the Sunday morning of ARRL CW Sweepstakes. I was operating at Jim's, WX6V's station, and the band just disappeared to a hiss. It took about 30 minutes for signals to return, during which time I went out to make sure the antennas were still up. ☺

The graph at the right is the flux of protons, positive particles from the nuclei of the hydrogen in the sun. Here, the vertical scale is just a count of the number of particles detected. The units are a little strange though – particles per square centimeter per second per steradian. [in their never-ending effort to make the subject hard for kids in school,



mathematicians like to measure angles in radians instead of degrees. 1 radian = 180 degrees divided by π , or about 57.295 degrees. For a steradian, imagine looking at the world from the pointy part of a cone]. The three plots are for three different energy ranges, >100 Mev [green], >50 Mev [blue], and >10 Mev [red]. The rapid increase in proton flux is from a previous flare on 5 Mar whose effects were just getting to us on the 7th.

The earth's magnetic field reaches out into space. The particles streaming from the sun past the earth have brought some of the sun's much stronger field with them, and this “magnetic wind” blowing past the earth tends to compress the earth's field on the sun side, and make it stretch off in a tail opposite the sun. Just like magnets which can either attract or repel depending on how they're polarized, the magnetosphere around the earth can either repel or attract the particles depending on the polarization of their fields. In particular it's the N-S polarization, termed “**b_z**”, that matters. If it is pointed north, the particles get repelled. If it is pointed southward, they fall into the ionosphere, the Swedes, Finns, Norwegians, and Eskimos get an auroral display, and our HF radio propagation does weird things.



Very commonly, large x-ray flares will be accompanied by a coronal mass ejection or CME. It takes a humongous amount of energy in a sunspot group to create the x-ray flare, and this energy and huge magnetic fields blows massive amounts of solar material [mainly protons, electrons, and magnetic fields] into space. All this solar poop ... billions of tons and moving at several hundred kilometers per second ... streams outward and, if in our direction, will slam into our magnetosphere in 2-3 days.

And, “slam” it is. The strong magnetic fields interact with ours and compress it. Under quiet conditions, our magnetosphere protects us and the geosynchronous satellites, deflecting the solar wind around us. The strongest, fastest CME's can compress our magnetosphere to inside the geosynchronous orbit, exposing the satellites to the interplanetary space environment.

The plot above is from the magnetometers on the GOES 13 [red] and GOES 15 [blue] satellites. The vertical scale is in nanoTeslas.² Under quiet conditions, the two lines will oscillate peacefully between about 50 and 100 nT as the earth rotates. When the CME hits and distorts the magnetosphere, things go a bit berserk. This graph begins on 7 Mar like the others. All the wild excursions on 7 and 8 Mar are actually from the previous flare and CME on the 5th, and the CME from

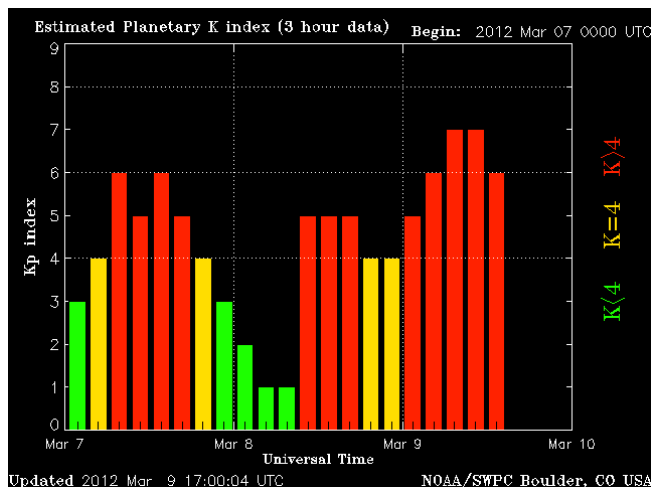
² Tesla is one of the units for magnetic field strength. It is a fairly large unit like a farad. The large magnets in MRI machines generate fields in the 3-5 Tesla range.

the flare on the 7th shows up in the early hours of 9 Mar. The two curves are offset in time because GOES 13 is at 75W longitude [eastern US], and GOES 15 is at 136W over the Pacific. Consequently, GOES 13 moves into view of the sun, and the CME poop, earlier than GOES 15.

The state of the earth's magnetic field has profound effects on the ionosphere and thus on propagation. The measurements are complex and are made at several places on the planet, Boulder CO being one of them. From the measurements, they calculate a "Planetary K-index." It ranges from zero, which is a totally quiet state to nine, and for us hams, low is generally much better than high.

The bar chart at the right shows what was happening to K as a result of the 5 Mar and 7 Mar flares and CME's. The high values on 7 Mar are the result of the earlier CME reaching us. K then declined briefly early on 8 Mar, only to rise again as the second CME arrived.

The fifth chart on the N3KL web site is the electron flux. It's hard to interpret, sometimes it follows the proton flux, sometimes it doesn't. I ignore it.



All these solar-induced effects to the earth's magnetic field have consequences beyond screwing up hams' contesting or DXCC efforts. Michael Faraday showed in the 1830's that if a wire moves through a magnetic field, a current will flow in the wire. It's how we generate electricity. It doesn't really matter who does the moving, the same thing happens if the magnetic field moves past the wire. In fact, all that is required is that the magnetic field change while it surrounds the wire. When a CME hits us, the magnetic field makes wild excursions as shown in the above chart. Now, the earth's field is small at the surface, and if you attempted to measure the current generated by those excursions with a wire the length of our antennas, it would be miniscule. However, if you used a wire many hundreds of miles long, some fairly large currents will result. High voltage transmission lines meet that criteria, and serious magnetic storms have generated large currents that interrupt them in the past and likely will in the future.

If you use the Mozilla Firefox web browser, there is a cool, free add-on called PropFire. It will put current values for the Solar Flux, A-index, K-index, and smoothed sunspot number in the status line at the bottom. Right now as I write this [26 Mar 1900 UTC], SF=101, A=4, K=1, SSN=84.

73,

Fred K6DGW

“Shack On The Back”



The March issue of *Sierra Signals* included an item about some older military radios and equipment, well before “handhelds” had been invented or were even possible. Here's one even older than the AN/PRC-10 that was mentioned, it's the SCR300. A friend, Don, sent me the photo during a discussion of those radios.

He's the one on the right, and he was a radioman and carried it with the Infantry during the Korean war. The whip antenna was fairly long ... up to about 10 ft ... and he said it was a magnet for fire from the “other guys.”

The batteries were dry cells, not rechargeable, and came in a package that looked like a brick. They produced both 1.5V for the tube filaments, and 90 – 120V for B+. As with the PRC-10, they didn't last very long.

Don was ultimately commissioned in the USAF, and became an Air Force One pilot for President Johnson during Vietnam. When he retired, he worked for a number of years as John Travolta's back-up pilot. I may get him interested in ham radio yet. ☺

Content-Content-Content

An Editor's Plea

The title really says it all. A significant fraction of *Sierra Signals* is given to club business ... meeting minutes and officer reports. These are important of course, but to make each issue interesting, I need inputs from authors. After all, the term "Editor" presumes there is something to edit and assemble. And, to be honest in case you haven't begun to notice, I'm running out of topics for Misc Radio and I suspect some "new blood" would be welcome.

We have feature presentations and Tech-Ten's at the meetings. Since there are those who can't make all the meetings [such as me], I can put them or summaries of them into the next month's issue for all to enjoy. There are upcoming events for which the Club provides communications services. Organizing them is non-trivial, and would make a good article series. Has anyone tried out 60 meters yet? How'd it go? What did you do for an antenna? What mode(s) did you use?

Is anyone experimenting with any of the really weak signal digital modes like JT65? Years ago, Rob provided a series on the then-emerging digital modes. Since then, a whole zoo of new specialized modes have appeared, and would make a really good article series. HF mobile seems to be making a comeback after sort of fading from the scene. Anyone active in that? You probably get the idea.

Don't worry about format. By far the best and easiest for me is plain old ASCII text out of Notepad or other simple text editor. Photos, diagrams, and the like are fine as JPEG's, GIF's, or PNG files. Everything will be formatted by the Open Office template I use anyway, so you don't need to waste your time making it look good, it's your content – your story, insights, lessons learned – that count.

73,

Fred K6DGW

k6dgw@foothill.net



Batteries Plus. 

910 Pleasant Grove Blvd. Suite 100
Roseville, CA 95678
(916) 786-2222

8025 Greenback Lane, Suite A,
Citrus Heights, CA 95610
(916) 722-3300



METRO ELECTRONICS
ELECTRONIC DISTRIBUTORS
MEMBER OF GENIE GROUP

7:30 AM to 5:00 PM Monday - Friday
9:00 AM to 3:00 PM Saturday

1831 J Street
Sacramento, CA 95811
info@metro-electronics.com

(916) 442-1512
Fax: (916) 442-1586
www.metro-electronics.com

Name: _____ Call: _____ Class: _____ e-mail: _____

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

Associate Name: _____ Call: _____ Class: _____ email: _____

Phone: _____ Cellphone: _____ Application is: (Circle) New Renewal

Dues / Donations:

Membership: yearly*	\$22.00	Name Badge:	\$7.00	Yes (special name)_____
Associate: yearly*	\$ 7.00	Repeater Donation:	\$ _____	
Auto Patch Donation:	\$ _____	Newsletter Booster:	\$ _____	
Misc. Donation:	\$ _____	Christmas Donation:	\$ _____	ARRL member? (circle) Yes No
TOTAL:			\$ _____	

*Prorated dues for NEW Members/Associates Only

July	\$ 20 /7	October	\$ 14/4 + following year
August	\$ 18/6	November	\$ 12/3 + following year
September	\$ 16/5	December	\$ 10/2 + following year

OFFICE USE ONLY:

DO NOT WRITE BELOW THIS LINE

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

Payment: _____ Check Number: _____ Cash: _____