

OCTOBER 2000

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP

CANDIDATES NEEDED!

At tonight's SCCARC club meeting Skeeter KF6UKO allowed as how he'd head the operations of the nominating committee this year. He'll be assisted by Roy KF6KVD (and others, we hope). Technically, the president appoints the nominating committee. What do you think, Tom KQ6DV?

Thanks so much for allowing yourself to get stuck with this one, Skeeter (and Roy)!

What's needed (by November 6, the Shortskip deadline) is a slate of candidates for:

- **President**
- **Vice President**
- **Secretary**
- **Treasurer**
- **5 board members**

Our president, Tom KQ6DV, says he won't mind being nominated to run for a second year as president. I don't know the wishes of our vice president, Don KF6KGO. I wouldn't mind being nominated to run for a second consecutive year as secretary. Allan WB6RWU cannot run for another term as treasurer because this (2000) is already his second consecutive year as treasurer. Referring to the club officers (not the board members-at-large), the club bylaws state, "no Member shall be eligible to serve more than two consecutive terms in the same office." Otherwise, any club member is eligible to run.

It is hoped that there will be at least one (and ideally more than one) candidate found to run for each of the 9 positions that will be filled by the election held at the November 17 club meeting.

The candidates should be reported to Ron K6EXT <k6ext@k6bj.org) not later than November 6 so he can print a "ballot" in Shortskip before the November meeting. Of course, additional candidates CAN be nominated AT that November club meeting, but they'd be at an electoral disadvantage compared to those whose names had already appeared on the Shortskip ballot before the meeting.

Good luck! And thanks again. 73, Cap

SHOW and TELL October Meeting

The October meeting will be upstairs in the Education Building on Friday the 20th Bring your projects for Show and Tell. Is there anyone out there with the new Elecraft K1 that would be willing to let us see it?

CLUB POTLUCK BARBECUE

Saturday, November 4, 2000 1:00 PM
QTH: Jim Welty's, KF6YRD

Directions:

Highway 1 to Freedom Blvd. Exit Head North towards hills on Freedom Blvd. Pass through light at Aptos High School Proceed one mile to McDonald Road Turn left on McDonald and go to end (approx. 1/2 mile) Look for Ham Radio sign Turn Right on Day Valley Road, proceed 500 ft. First Left is Cox Road, proceed 500 ft. 2200 Cox Road is on the left (Apple flag at entrance) Welty residence is the Brick House back in Woods.

Talk in on KI6EH, 147.945

Home Phone 688-3111,

Office 685-9225 weltyjn@aol.com

RSVP to KQ6DV

Phone: 464-3120

kq6dv@arrl.net or kq6dv@k6bj.org

Please include in your RSVP number of persons in your party and the type of side dish you will bring.

SB-1714 Vetoed by Governor Gray Davis

We have just learned that Governor Gray Davis vetoed California SB-1714 over the weekend. SB-1714 is the proposed California antenna legislation, similar to the federal PRB-1 preemption order. In vetoing, Governor Davis wrote

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CLUB MEETING FRIDAY OCTOBER 20, 7:30P.M.

SHORT SKIP

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SB-1714 Vetoed Cont.

"To Members of the California State Senate:
I am returning Senate Bill 1714 without my signature.

This bill would require the Office of Planning and Research to: (1) prepare and publish a technical assistance bulletin for use by local planners in the preparation of local ordinances regulating amateur radio antennas; (2) prepare a model ordinance suitable for local regulation of those antennas; (3) and report by July 1, 2001, regarding any recommendations for changes to the state statutes regarding regulation of amateur radio antennas.

This bill may encourage local officials to accommodate the needs of amateur radio operators when adopting ordinances. The cost of this bill however, is not included in the Budget Act of 2000. Additionally, this is a local rather than a state issue.

Sincerely,

GRAY DAVIS"

We are disappointed, to say the least, of this decision by the Governor. We are also puzzled, for SB-1714 was passed unanimously by both the Senate and Assembly, and to the best of our knowledge had no organized opposition.

Our "1714" Steering Committee will be reviewing the decision and deciding on a course of action over the next few weeks.

73.

Fried Heyn, WA6WZO, ARRL Southwestern Division Director
Jim Maxwell, W6CF, ARRL Pacific Division Director



Prez Sez

Coming up in November Jim Welty, KF6YRD, will be hosting a Pot Luck Barbecue for our club. I anticipate this event will be a lot of fun and I encourage everyone to attend. This is open to all club members, family and friends. This will be a casual social mixer designed to facilitate relationships amongst club members and to introduce prospective hams to us and our hobby. We are going to try and organize a Fox Hunt (weather permitting) and also have on display a number of working stations of various types to highlight the diversity of our hobby.

Jim, KF6YRD, will be cooking up tri tips and chicken, and side dishes will be provided by the attendees.

Also any questions you might have as to the particulars of what to bring food or utensil wise may be addressed to Jim's wife, Norma. Contact information is included in the accompanying announcement in this month's Short Skip.

Also in November we will hold our annual elections of new club officers for SCCARC 2001. Please consider serving your club, and contact Skeeter, KF6UKO, or Roy, KF6KVD, as to what positions you might be willing to fill.

73, KQ6DV

Pacifcon 2000

Oct. 20-23, Concord Airport Hilton

It's nearly upon us - the first Pacifcon of the new millennium, to be held at the Concord Airport Sheraton Hotel, Concord, Oct. 20-22. An outstanding list of speakers has been assembled. Dave Sumner, K1ZZ, ARRL Executive Vice President, will give the Keynote address on the future of amateur radio. Riley Hollingsworth, K4ZDH, "Mr. Enforcement," from the FCC will be the banquet speaker. Chris Imlay, W3KD, the ARRL General Counsel, will give a four hour legal seminar on Friday and an additional one hour lecture on Saturday. One entire track will be devoted to QRP, and the NorCal QRPers will have their usual exciting program.

Admission to Pacifcon 2000 is only \$5.00 if paid in advance. The annual Antenna Forum on Friday will require an additional fee, as will the Friday legal seminar. For additional details go to the Pacifcon web site, <<http://www.pacifcon.org>><http://www.pacifcon.org>, write to Pacifcon 2000, P.O. Box 272613, Concord, CA 94527, email to paccon00@pacbell.net, or call 925-932-6125. Talk-in will be on 147.600+, PL 100 Hz.

FOR SALE

I have the following items for sale:

- 40 foot TRI-EX crank up tower freshly painted and ready for installation delivery included within SC county \$200
 - 440 power amplifier HT booster (Motorola) 1 to 3 watts in 30 watts outchecked out \$35
 - Hustler 5BTV vertical antenna - 80 thru 10 meters Looks like new - not junk - (HRO sells them new for \$150) \$80
 - (1) Mosely Tri Band Beam 10/15/20 \$200
 - (1) Icom IC 211 All Mode 2 meter rig working w/ spare parts radio. FM/CW/USB/LSB \$200
- You can E mail me back @ k6tam@aol.com or call me 722-2060

"Have a good one " " It's only a hobby" :0)



ARES REPEATERS

The Santa Cruz County Office of Emergency Services furnishes three repeaters to ARES. The repeaters are operated by ARES. All repeaters require a PL of 94.8. The frequencies and locations are as follows:

K6RMW	147.015+	Watsonville
N6IYA	146.745-	Bonny Doon
N6ZOC	146.835-	Summit

Watsonville ARES Net meets each Thursday night 8:30PM on the K6BJ and K16EH (linked) Repeaters at 146.79- / 147.945- Mhz.

The Santa Cruz ARES meets the second Tuesday each month at the Santa Cruz Red Cross on Soquel Avenue at 7:30PM. Net meets each Monday at 8:30PM on 146.836 - PI 94.8



By Art Lee WF6P

CHATTER

Well here it is, almost winter and time to think about "extra" air time when shut in by rain and darkness. There is plenty of fun to be had pounding brass or chatting with our favorite or newest friends all over the globe. Sure, we have cell phones and computers, but is communicating with these devices half as much fun as energizing that ham antenna? So, get those antenna connections cleaned up and check your ground straps and ground rod. Look for corrosion and loose clamps. With lightning storms looming over the horizon, checking grounds and antenna ground switches should be put on our "To Do" lists.

My XYL Donna, AB6XJ, and I had a very pleasant morning last week having breakfast with Dale Thomas, KC6ICM, and his XYL Esther, KC6ICN (how about those call signs!) at Molly's Café in Scotts Valley. We chatted about grand kids, motor homes and travel with ham radio. Dale asked if the gang was still having morning coffees at McDees on 41st Ave at 1000. Anyone know?

It was very nice of our ARRL Section Manager, Glenn Thomas, WB6W, saying kind words about our Short Skip Newsletter in the October issue of QST (pp. 134). Thanks, Glenn. Our publisher/editor, Ron Baldwin, K6EXT, deserves a big hand from all of us.

While sitting in the Long's parking lot this morning awaiting the arrival of Donna, I gave Hank, KG6EE a short call. No joy, but Richard, KG6AXD, answered from his apartment overlooking the San Lorenzo river. We had a lengthy QSO discussing noise on the 40 and 10-meter bands. Richard said he has only been a ham for a short time but is enjoying the heck out of the hobby. He was sitting and drinking tea with his partner Sue Ann. Her call sign? KG6BXD. Ain't that great! Richard said that those call signs

just fell out of the computer in that order.

The Baja Maritime Mobile Net has temporarily moved from 7.238 to 7.260. The time is still 0800 to 0900. Terry Parks, N6NUN, is often net control. On occasion, I act as northern relay. We serve boaters off the coast of California and Mexico.

I was recently the luncheon speaker for the Shriners. They asked me to speak on, what else? Ham radio. In my talk, I compared communications in use today with the role of ham radio as a fascinating hobby with emergency services connections. Several of the Shriners had been military operators in WWII. All used CW in various activities such as artillery spotting, ships and aircraft. I didn't recruit any new hams but they said they enjoyed hearing my ham radio anecdotes.

Bill Walters, W6PAD, underwent angioplasty at Dominican hospital on 2 October. Said Bill of his ordeal, "I recovered quickly after the docs went over to Orchards Supply and picked up a few springs to hold my arteries open." (We're glad all turned out FB, Bill.)

I saw a particularly clean mobile antenna installation made up by Don Moore, WA6BJJ. He solved a knotty problem of where to place that vertical HF antenna on today's cars with plastic bumpers. I took a few photos and wrote some text, mailing them off to the editor of Monitoring Times. An email from the editor said she was looking it over for possible future publication.

Nice job K6BJ net controllers! It isn't all that easy to identify call signs and names of those who check in. On 2 October, I came up on our net after a long absence. Jeff, KF6BKG, was net control. He did a great job and I salute those who serve the club as net control operators.

VTVM

People are so used to 'today' with the digital meters that have a fairly constant and high input impedance they forget that in the 70's and 80's, MOST meters were a specific impedance per sensitivity. And it wasn't high, compared to most of the tube circuits.

VTVM stood for Vacuum Tube Volt Meter.

Some of the real popular meters back then were the Radio Shack Range Doublers, which I think was two versions. A cheap one at 10K/v and a good one at 50K/v. That meant if you were on the inexpensive unit on say a 10v Scale, the meter impedance was 100K. A 100v scale meant 1Meg. The 'Range Doubler' meant the 10v scale would be a 5v scale if you flipped the switch, but the impedance was halved. Neat meters. But if you went to look at a voltage on a tube circuit, you may be dealing with a load impedance of many meg, and a couple of hundred K of source impedance. Put a meter in the circuit to measure it, and the meter suddenly loaded the circuit with 50K to ground, well, not good, not good at all.

To do most hobby work, you needed at LEAST a 100K/v meter. And to do any serious tube service work or alignment, you needed a VTVM or what was called a "FET VOM", which was just a FET version of the VTVM. These would have MANY meg of input impedance. I seem to recall 10Meg as pretty common. Loading of a tube circuit was pretty minimal with one of these guys.

When you were talking about RF VTVM meters, I believe that usually meant a 'probe' that had a diode rectifier in it. A lot of the VTVMs from that era had the standard 'banana jack' attachments on the front, but some also had an Amphenol Coaxial connector that was used to screw on a coax to an RF probe.

Mike Yetsko From "Low Power Amateur Radio Discussion Group QRP-L"

TRADE or SELL TABLE at OCTOBER MEETING

Bring your surplus radio gear to sell or trade. The table will be set up before the club meeting. Put a price on your goodie and have fun trading or selling: mics, connectors, handhelds and related equipment, receivers, transmitters, etc. Let's have fun!

—Dan AA6GD

TROUBLED WATERS AHEAD

There are many info-security alerts not directly related to Ham Radio so they do not warrant mentioning here but this instance I feel it does justify bringing to the attention of club members who's businesses may be affected. It has to do with what are known as coordinated distributed denial of service attacks on networked computers. Industry analysts and insiders have said for years that this was only a matter of time. Stop reading now if this is of no concern to you or better still pass it on to your Sys Admin and ISP !!

Government-funded computer security watchdog CERT released a statement last Friday warning that hundreds of compromised computers are poised for a massive Internet attack.

<http://www.cert.org/incident_notes/IN-2000-10.html>

CERT Incident Response Team Leader Kevin Poule is urging System Admins to take steps and protect themselves from what is believed to be the formation of a large-scale Denial of Service (DoS) attack. Several groups are possibly working separately to develop and execute a large-scale attack.

According to the CERT press release:

"In several cases, hundreds of compromised hosts have been involved in single incidents. Intruders appear to be using automated tools to probe for and exploit vulnerable hosts on a widespread scale.

"A large majority of the compromised hosts involved in this activity have been running various versions of Red Hat Linux. Insecure default configurations in some versions [...] have contributed to the widespread success of these attacks.

"Intruders searching for vulnerable machines are performing widespread scanning for vulnerable systems across large blocks of address space.

"[...] In one incident, we recorded over 560 hosts at 220 Internet sites around the world as being a part of a Tribe Flood Network 2000 (TFN2K) distributed denial of service (DDoS) network.

"The combination of widespread, automated exploitation of two common vulnerabilities and an associated increase in distributed denial of service tool installation poses a significant threat to Internet sites and the Internet infrastructure."

The "BIG" DoS of last year implicated far fewer servers.

Administrators should update all server software with the latest patches, and increase security measures, for example by performing system audits and trojan scans.

ACTION TO TAKE: Send this to your ISP, or your local Network Manager. The CERT bulleting contains details on methodology and tools being used.

SurfnetUSA Technical Support

SHORT SKIP IN QST

As Dave W6TUV pointed out during our Monday night club net, our ARRL SCV Section Manager, Glenn WB6W, gave us a nice mention in the October 2000 issue of QST magazine.

Glenn came to our August club meeting and we were happy to have him there. In the "Section News" on page 134, Glenn writes: Santa Clara Valley: SM: Glenn Thomas, WB6W — SEC: KM6GE. BM: WB6MRQ. TC: WA6PWW. OOC: KB6FPW. I'm now receiving quite a few club newsletters every month, thank you to all concerned! Most months I try to report on the activities of as many clubs as possible. This month, I'm spotlighting an excellent club newsletter. Having spent several years editing a club newsletter, I have a special appreciation for publications that are particularly good. The Santa Cruz County Amateur Radio Club, "Short Skip" is one such newsletter. Editor/publisher Ron Baldwin, K6EXT, produces a newsletter that is excellent in both format and content. Along with listings and articles about club meetings, nets, license classes and other events, he also has many excellent articles gathered from both the internet and members. Art Lee, WF6P, always has a column well worth reading - in the most recent issue he sounds a bit like T.O.M. in a mild-mannered rant that might be titled "Rotten Bugs." Another excellent article describes AC6KW and KQ6DV's operation in the "Bumble Bee 2000" contest. Hey, what's a contest without a few bugs? The Santa Cruz County ARC meets at 7:30 PM on the third Friday at (temporarily) the Dominican Hospital Main building, 155 Soquel DR, Santa Cruz. Their club URL is <http://www.k6bj.org>. ...

(BTW, our September 15 club meeting, just held, found us back in the OLD meeting location, UPSTAIRS in the Education Center BEHIND Dominican Hospital.)

—Cap KE6AFE



Some KPH and Maritime Radio history/photos

Here are some photos and a little history of KPH, including their 1st

anniversary of the end of commercial CW broadcast:

<http://www.qsl.net/wb0jnr/maritime.html>



SCCARC Field Day 2000 - Santa Cruz Mtns

SOLAR UPDATE/ TUTORIAL

Nothing really exciting is happening except for the largest active region of sunspots on the sun this solar cycle. This should be producing some MAJOR flares, but thusfar, very quiet.

SOLAR FLUX is in the 220 region, sufficiently high for good DX propagation on the higher bands, including 10M daylight hours.

The GEOMAGNETIC FIELD is quiet, meaning good evening conditions on 40 and 80M. The arrival of a CME wednesday is expected to unsettle things for a few hours, but no major storming is expected.

In short, conditions on HF remain quite nice. Yesterday's solar report contains some "buzz words" not often seen, for which I thought I would explain for those interested below.

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY SDF NUMBER 269 ISSUED AT 2200Z ON 25 SEP 2000

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 24/2100Z TO 25/2100Z: SOLAR ACTIVITY WAS MODERATE. REGION 9166 (S12W70) PRODUCED AN M3/1N FLARE AT 25/0053Z AND SEVERAL MINOR C-CLASS FLARES

REGION 9169 (N11W22) PRODUCED AN M1 FLARE AT 25/0215Z WITH MODERATE CENTIMETRIC BURSTS INCLUDING A 450SFU TENFLARE.

Region 9169 is the HUGE active region on the sun ... the largest this solar cycle. It is now located east of the meridian, but still in position that any major flaring will still effect the earth over the next two days.

CENTRIMETRIC BURSTS means that as the shockwave from the M1 flare traveled outward from the sun, it produced RF bursts in the hundreds of MHz region. Since it did not produce bursts at lower frequencies, it means the shockwave was weak, probably not strong enough to escape the sun's magnetic field.

450SFU TENFLARE means the radiation from this flare was measured at 450 solar flux units. Solar flux, those numbers we see everyday, like solar flux = 230, is measured at 10cm wavelength, or 2880 MHz. This frequency is used as it is not attenuated by our atmosphere, it is seldom effected by flare activity, and thus represents the "steady state" output power of the sun. However, once in awhile, a flare does seem to produce momentary power at 2880MHz. When a flare

contaminates the 2880MHz/10cm solar flux reading, it is known as a TENFLARE. It basically means that the solar flux reading for that day is a bit higher than the steady state solar power for that day, contaminated by the flare.

A CME WAS ALSO OBSERVED. SOME DECAY WAS NOTED IN THIS LARGE AND MODERATELY COMPLEX REGION WHICH NOW MEASURES 1400 MILLIONTHS OF WHITE LIGHT AREA.

The CME from this M1 flare is heading towards the earth. It is not expected to trigger any major geomagnetic storming, but when the shockwave arrives, it will likely make conditions a bit rocky for a few hours, but nothing serious.

Most active regions on the sun are a few hundred millions of the solar surface. 1400 millions is thus pretty darn big! It will rotate out of a view in a few days, but it COULD re-emerge on the western limb of the sun in two more weeks. Such large areas have been known to survive several solar rotations (about 28 days).

Legally, this huge area should be producing some major flares. So far it has been very quiet with only a few small M class flares.

IIA. GEOPHYSICAL ACTIVITY SUMMARY 24/2100Z TO 25/2100Z: THE GEOMAGNETIC FIELD WAS QUIET TO ACTIVE. PROLONGED PERIODS OF SOUTHWARD BZ AND ENHANCED SOLAR WIND SPEED PRODUCED OCCASIONAL ACTIVE PERIODS. THE GREATER THAN 2 MEV ELECTRONS AT GEOSYNCHRONOUS ORBIT WERE AT MOSTLY MODERATE TO HIGH LEVELS.

SOUTHWARD BZ means the direction of the interplanetary field (IMF) is pointing southward, or opposite of its normal orientation. This usually causes minor geomagnetic activity. In this case, nothing severe.

This huge active region, while not producing any major flares yet, is producing copious amounts of energetic electrons traveling outward about the speed of light. The more energetic they are, the higher the electron energy. In the current case, they have exceeded 2MeV (million electron volts) as measured by satellites. This does not effect us on earth much (they get absorbed by our atmosphere), but such high electron flux is a concern to those who operate satellites, as such high flux levels can cause damage to onboard electronics, charge the surface areas with high voltage, etc.

IIIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD IS EXPECTED TO BE PREDOMINANTLY QUIET TO UNSETTLED WITH OCCASIONAL ACTIVE

PERIODS ON DAY ONE. ACTIVE TO MINOR STORM CONDITIONS ARE POSSIBLE ON DAY TWO FROM AN EXPECTED CME PASSAGE FROM TODAY'S M1 FLARE IN REGION 9169 AT 02/0215Z. A RETURN TO QUIET TO UNSETTLED CONDITIONS IS EXPECTED BY DAY THREE.

PCAF YELLOW

There is a **YELLOW** warning for a possible polar cap absorption event. It is not clear (to me anyway!) whether this is due to the high electron flux (and higher than normal proton counts), or in anticipation of wednesday's arrival of the CME shockwave.

In either case, hams in northern latitudes, Canada, Alaska, etc. will experience some signal attenuation wednesday for several hours after the shockwave hits. No biggie though.

IV. PENTICTON 10.7 CM FLUX OBSERVED 25 SEP 226 <----- still quite high! PREDICTED 26 SEP-28 SEP 220/210/200 72, Paul NA5N

Software, Software all is (or soon will be) Software

The ARRL has made a significant commitment to experimentation with software-defined radios (SDRs). An SDR is a radio that "knows" many different frequencies and modulation formats, and whose software may be readily updated to "learn" others yet unforeseen. Note that it's an excellent opportunity for analog and digital designers to cooperate on both hardware and software. Each may be standardized to some extent-a valuable benefit to those working on applications for the future.

Among key ingredients in SDRs will be adaptive DSP algorithms that not only find signals and analyze their modulation, but also detect and correct distortion effects, such as multipath. "Adaptive beam-forming" arrays may be employed that automatically alter their patterns according to preset criteria, such as direction of arrival. An adaptive array may be programmed to automatically build a sharp null in the direction of interference the moment it appears. This leads directly to an extremely effective form of direction finder that exhibits very fine angular resolution. It will be interesting to see what impact SDR technology has on radio design in the coming years.

Extract from QEX Magazine
