

# S.P.A.R.K.

## South Peninsula Amateur Radio Klub Newsletter

Vol. MCMXCVII No 11 Rptr:W6APZ/R 145.230(-.600)MHz - Club Stn: WA6NKK Wednesday, November 26, 1997

### The December 1997 Meeting...

**Where: Space Systems/Loral  
Bld 3 Auditorium  
3825 Fabian Way, Palo Alto**

**When: Thursday, 4 December 1997  
High Noon**

**Subject: To be announced....**

### November Meeting Minutes

The November 1997 SPARK meeting was held on Thursday, November, 6 at SS/L in the Building 3 auditorium. The following members (11) attended the meeting: Ian Kushner/AF6K, Rich Stiebel/W6APZ, Jack Rowe/KD6SU, Rolf Klibo/N6NFI, Collin Lim/KD6YCV, Dominick Garofano/W6SKU, Dan Connell/W6ASD, Milo Larsen/KG6AC, Edward Lam/KC6VAF, John Gibson/N6OM, and Mike Spate/KD6DC. All four SPARK officers attended the meeting: Ian Kushner (President), Mike Spate (Vice President), Rolf Klibo (Treasurer), and Collin Lim (Secretary). Martin Koebler was the guest speaker. Ian called the meeting to order at 12:07 PM.

President's Report: None.

Vice President's Report: Mike mentioned that SS/L's official is asking the flame proof cabinet and the repeater rack outside of the ham shack to be bolted to the walls. During the discussion, a question of whether to retain the emergency generator was asked. Ian asked for a motion to retain the generator. A motion was made, seconded, and voted for retaining the generator. Mike Spate will take charge of maintaining the generator. Mike asked members to help when heavy lifting is required. Rich Stiebel suggested wheels to be installed.

Treasurer's Report: The Club has a balance of \$1020 in the bank.

Secretary's Report: None

Old Business: None.

New Business: None.

Ian reminded that it is approaching election time. A nominating committee is needed. Ian said that Bill Jimenez had agreed to chair the nominating committee. Mike Spate and Rolf Klibo are interested to continue at their current office.

Ian announced that SPARK's honorary member W. E. Bachman, W6BIP (aka "BIP") will be attending the December meeting. Members are encouraged to come meet "BIP", one of the founders of our club.

Rolf announced that he will reserve the Building 3 auditorium for all next year.

At 12:25 PM, after the meeting was officially over, Martin Koebler, SS/L Reliability Engineer, gave a presentation on communications necessary for a solar car race. Martin brought in some communications equipment used in a previous race.

Collin Lim/KD6YCV

### SPARK Web Site

SPARK now has a very impressive World Wide Web site located at <http://www.macscouter.com/SPARK>, or <http://www.geocities.com/Yosemite/Trails/4024/>. If you have photo's, anecdotes, or anything that would show the world what SPARK is all about, please send it to the SPARK Webmaster Collin Lim, [lim.collin@ssd.loral.com](mailto:lim.collin@ssd.loral.com).

### The Prez Sez...

December has finally arrived and the last meeting of the year is almost upon us. If you have not attended any SPARK meeting this year this is your last chance. The SPARK bylaws state that we must have a list of nominees for office presented at the December meeting. As of this date, we have the last year's vice-president, Mike Spate and treasurer, Rolf Klibo willing to continue for one more year. December is the last meeting where I will serve as president.

Our program was to have been a visit by Wilber E. Bachman, W6BIP who is also known as BIP. He telephoned last week to cancel due to poor health. He was the second president of SPARK and was one of the original members of SPARK who set up our hamshack. He was trustee of the hamshack for many years. Over the years BIP has addressed a meeting or two with his presentation about RF interference (RFI) with audio equipment, neighborhood TV, etc. I was sorry to hear of his poor health and wish him rapid recovery.

The December meeting will include nominations of officers. The January meeting will be to elect new officers. I will hand over the January meeting to the new president of SPARK. However, there is one slight glitch. The nominating committee has not found anyone who wants to serve as the 1998 SPARK president or the secretary. If you feel that you want either of the positions, call Bill Jimenez at 26815 and let him know. He is the nominating committee. Otherwise, come to the December meeting and I will open the floor for nominations. I have been president for three terms, two of them several years ago and the last time for the 1997 term. You should be fed up with me by now and want a younger, more dynamic type.

My ham plans for next year are to start a project and have something to present at each of the meetings. I have the bug for ATV with internet access and will pursue this field of ham radio. I would like to do it in conjunction with SPARK. If any of you have experience in ATV let me know how to get the project started.

The December meeting is planned for December 4, 1997 in the SSL building three auditorium, at 12:00 noon. At this time, we do not have a scheduled speaker or program. So, please call me and let me know if you can be a presenter, or know someone who can, or as usual, when the chips are down, bring something for show and tell. See you at the December meeting.

73, Ian, AF6K



# REPEATER REPEATER REPEATER REPEATER

## THE S-METERS BROKEN.....

We all have heard stations testing on the 523 repeater. Sometimes two successive readings are equal, sometimes there is a noticeable difference in the S-meter read-back. Recently, I heard a station that received the same S9 read-back on two successive tests. After the second S9, he commented: The S-meters broken, I just switched from 5 to 50 Watts output and I still only get an S9!

Well, doesn't that prove the S-meter isn't working? Not necessarily. The S-meter circuit has been very carefully designed and calibrated so that S9 is produced by 50 microvolts of signal at the receivers antenna terminals. Each S unit below S9 is a reduction of 6 dB. Above S9, it takes a 10 dB change to get the next read-back of S9 plus 10. This standard is mentioned in The 1994 ARRL Handbook, page 12-30. To enhance sales, and make their equipment seem to be more sensitive, some manufacturers equipment will show S9 on their receivers meter with less than 50 microvolt input. This does not enhance the readability of signals heard on their equipment, however.

OK, so if the S meter is correctly calibrated, why did the ham who switched from 5 to 50 Watts still only get an S9? There are several possibilities. Decibels for power ratios is defined by the equation:

$$dB = 10 \text{ Log } P1/P2$$

The ratio of the powers 50 to 5 is 10, so the number of dB change should be 10 dB. Since the testing station was using an amplifier, one would assume that the station was either fixed or mobile, not hand-held. If the station were mobile, the test might not be valid as the position of the car may have changed and due to the hills, buildings, etc. and therefore the signal reaching the repeater was something other than a 10 dB change. What if the station were either mobile in one place or a home station? Unless the testing station was actually measuring the output power into the antenna, chances are that the actual difference between the two power levels was something other than 10 dB. The amplifier used may be designed to give 50 Watts out with 5 Watts input, but the VSWR seen by the driver might change between operating straight through to the antenna, vs feeding the amplifier. A change in the VSWR can cause the drivers (possibly an HT) output to change. For example, maybe the HT was putting out 5 Watts feeding the antenna directly, but the amplifier presents a different load to the HT, so the HT drives the amplifier with 4.8 Watts. The amplifier puts out 48 Watts, which is no longer 10 dB above 5 Watts! Another consideration: though the S-meter is carefully calibrated, the read-out is done by the controller. The ACC controller is calibrated to read out discrete S units from S0 to S9, then in 10 dB steps above S9. Considering the example of the station putting out 5 Watts with an HT alone, and then 48 watts with the amplifier, the dB difference is:

$$dB = 10 \text{ Log } 48/5 = 9.82 \text{ dB}$$

S9 plus 9.82 dB still reads out as S9.

Another possibility; maybe the HT was in fact putting out 5.1 Watts and the maximum output from the amplifier is 50 Watts. This is still only a 9.91 dB change, which is significant, but not sufficient to have the controller read back S9 plus 10.

Similar problems have been heard when HT users switch their HTs from the low power setting of 0.5 Watts to the high power setting of 5 Watts. With an HT, the read-back will usually be below S9, so a change of even 9 dB will normally produce a change in the

S-meter read-back. Yet, there are conditions where this may NOT happen. Why? The signal radiated from an HT is very dependent on where the HT is relative to its surroundings. If the HT has been moved slightly by the ham making the test, the resultant signal reaching the repeater antenna will vary invalidating the test. Another potential problem with an HT is the condition of the batteries. The even worn down batteries may support 0.5 Watts output, but the battery output voltage may sag under the full power load, and therefore not be able to put out the full 5 Watts.

73 de Rich, W6APZ <w6apz@svpal.org

## Nominating Committee Report

According to the SPARK Consitution, the nominating committee is required to publish a slate of candidates in the December Newsletter. This slate is as follows:

<b>President:</b>	<b>No Nomination</b>
<b>Vice Pres:</b>	<b>Mike Spate</b>
<b>Treasurer:</b>	<b>Rolf Kliibo</b>
<b>Secretary:</b>	<b>Collin Lim</b>

Nominations are still open, and will be accepted at both the December and January SPARK meetings.

## ARRL Pacific Division Update

December 1997

by Brad Wyatt, K6WR, Director, Pacific Division, ARRL  
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### WRC-97 Heads Into its Final Week:-

The third week of the four-week 1997 World Radiocommunication Conference in Geneva drew to a close with no unpleasant surprises for Amateur Radio. The Allocations Committee, Committee 5, has not yet completed its work on matters relating to "Little LEOs" as advocates of the service continue to look for support, but the focus of discussion is NOT on the amateur bands.

Next week, the committees must finish their work early so that their recommendations can be taken up in plenary meetings. Conference decisions are firm only after a second reading in plenary. The final gavel comes down on Nov. 21.

4U1WRC has been more active this past week. Amateurs interested in WRC-97 may wish to visit the Web site maintained by the International Amateur Radio Club at <http://www.itu.int/radioclub/>. From there, links will take you to more information on 4U1WRC, 4U1ITU, and WRC-97. Thanks - ARRL Letter, Nov. 14, 1997

### WRC 97 Wraps Up in Geneva:-

The 1997 World Radiocommunication Conference concluded its talks in the early morning hours of November 21 in Geneva, Switzerland. Amateur Radio survived WRC-97 largely unscathed, but the stage has been set for renewed spectrum battles at WRC-99.

The Little LEOs (non-voice, non-geostationary mobile satellite interests)--which put a huge scare into the ham radio community in 1996 with their proposals to share ham radio VHF and UHF bands--were unable to muster much support for new allocations at WRC-97. However, they came away with up to 3 MHz of additional spectrum on a regional basis, in the bands between 454 and 460 MHz. The Little LEOs also got a resolution calling for urgent studies in preparation for WRC-99--what some at the conference called "a hunting license" for additional VHF/UHF spectrum. A second issue that will recur at WRC-99 is finding a place in the 420-470 MHz frequency range for the Earth Exploration Satellite Service (EESS). Synthetic aperture radars (SARs) using frequencies in this range are said to be capable of penetrating the rain forest for mapping purposes.

Two significant ham radio-related issues failed to make the cut for consideration at WRC-99. For budgetary reasons, the WRC-97 delegates had to limit the WRC-99 agenda only to the most urgent issues. Pushed back to the tentative agenda for WRC-2001 were the possible realignment of the 40 meter band to resolve a conflict between hams and broadcasters in part of the band (along with possible expansion of broadcasting bands between 4 and 10 MHz), and Article S25 of the international radio regulations. Article S25 contains the international regulations specific to the Amateur and Amateur-Satellite Services, including the Morse code requirement for operation below 30 MHz.

WRC-97 delegates approved a resolution (called the Convention on Disaster Communications) encouraging administrations to facilitate the use of ham radio and other "decentralized means of communications" (including satellites) for disaster mitigation and relief operations. This resolution eliminated the need for Resolution 640, which defined how certain ham bands could be used for international disaster communications by non-amateur stations, so Resolution 640 was suppressed. (The term "suppressed" in this context means that the Resolution was deleted and will no longer be in force. It has gone away!)

WRC-97 delegates did agree to upgrade the Earth Exploration Satellite Service from secondary to primary at 1215 to 1300 MHz, which should have only minimal impact on amateur use of 1240-1300 MHz. The presence of EESS there also reduces the possibility that other, less-compatible services might later be introduced into this band.

In other allocations decisions, amateur satellite segments were not included among allocations for wind profiler radars. Except for a worldwide primary allocation at 1270 to 1295 MHz, the only specific allocations for wind profiler radars are in Region 1 (Europe and Africa), and those are on a secondary basis. Region 2 (North and South America) administrations were urged to implement wind profilers in radiolocation bands at 440 to 450 MHz, 904 to 928 MHz (protecting the lower, weak-signal segment), 1270 to 1295 MHz (protecting amateur satellite and weak-signal), and 1300 to 1375 MHz.

The delegates agreed that the bands 420 to 435 MHz or 438 to 440 MHz could be considered for use in situations where there was incompatibility between wind profiler radars and other radio applications at 440 to 450 MHz or 470 to 494 MHz (only in some Region 1 countries). In this case, too, the amateur-satellite segment is protected.

Several Region 1 (primarily European) countries deleted footnoted exceptions to the international table of allocations in the 1810 to 1830 kHz range, expanding the usability of 160 meters for ham radio. North Korea was persuaded to drop its bid for footnoted exceptions to the allocations table that could have affected some ham radio bands in that part of the world.

Amateur Radio was represented at WRC-97 by a multinational team of International Amateur Radio Union officials, including Secretary Larry Price, W4RA, Vice President Michael Owen, VK3KI, and Region 1 Vice Chairman Wojciech Netyksza, SP5FM. They were assisted for a time by Tafa Diop, 6W1KI, and Eduardo Estrada, HC2EE, who are members of their respective regional

executive committees. Numerous radio amateurs attended the conference in official capacities on behalf of their national administrations, including ARRL Technical Relations Manager Paul Rinaldo, W4RI, who served on the US delegation.

In all, 1801 delegates from 142 countries registered at the conference. Another 141 observers from regional and international organizations also attended.

Thanks: ARRL Letter, W1AW Bulletin, and Larry Price, W4RA, ARRL International Vice President

### Ham RF Exposure Guidelines Effective Jan. 1, 1998:-

Compliance with the new guidelines should be relatively easy for the vast majority of hams and should require few changes in current operating practices. These Amateur Radio rules will deal with the general public in a new substantial manner; therefore, compliance is very important.

There are numerous information resources, as follows:

An excellent summary of the guidelines is contained in October QST, pages 51 and 52. An even more comprehensive article will be in the January 1998 QST, and an ARRL book on this subject should be available soon.

A "RF-Exposure Information Package" is available from ARRL Technical Information Service for \$2 for members, \$4 for non-members, postpaid.

The Pacific Division Updates for October and November contained further "How To" details. These documents are available on the Pacific Division site at <http://www.pdarrrl.org/>.

FCC has published OET Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," Edition 97-01, August 1997. Supplement B, "Additional Information for Amateur Radio Stations," should be available in November.

For the latest news and linkage to related Web sites, visit the ARRL RF-Safety Web page at <http://www.arrl.org/news/rfsafety>. To obtain the FCC documents refer to the FCC site at <http://www.fcc.gov/oet/dockets/et93-62/> and go from there.

As part of the implementation of these new guidelines, there is a new Form 610 series, dated Sept. 1997. There are three new forms in this series: Form 610 is for basic transactions, Form 610-A is for operating privileges for foreign nationals, and Form 610-B is for club stations. These new forms MUST be used for all licensing transactions after Jan. 1, 1998. The new forms all contain a statement to the effect that the applicant understands and complies with the new RF Safety regulations. The new 610 form series can be obtained on the FCC WWW site at <http://www.fcc.gov>, the ARRL Web page at <http://www.arrl.org>, by contacting the FCC Central Phone Service at 1-888-CALLFCC (225- 7245), by writing FCC at 1270 Fairfield Road, Gettysburg PA, 17325- 7245, or by contacting the ARRL at (860) 594-0200 or at 225 Main St., Newington CT, 06111-1494.

There are several key dates to remember. 1. New licensees after Jan. 1 1998 must be in compliance with the new regulations at the time of first licensing. That is, the applicant will certify compliance by the very act of signing off on the new 610.

2. All those licensed prior to Jan. 1, 1998, will have to be in compliance with the new RF exposure regulations whenever a new Form 610 is filed for license renewal, upgrade, or other modification.

3. All stations, new or old, must be in compliance with the new regulations no later than Sept. 1, 2000. This date must be met whether a Form 610 has been filed previously or not.

### FCC Announces Electronic Renewal Form 900:-

The FCC's Wireless Telecommunications Bureau (WTB) has consolidated eight renewal forms into one. Form 900, "Application for Electronic Renewal of Wireless Radio Services Authorizations," is an interim measure to permit all licensees of the WTB, including hams, to renew their licenses electronically.

Form 900 is only for renewals, not for license modifications. You can only enter changes (e.g., name, address) using Form 900 as a part of the process of renewing your license. You can only use Form 900 if the expiration date on your license falls within the renewal window, which is within 120 days of expiration. You cannot use Form 900 to renew an expired license. Form 900 may only be submitted electronically.

Access Form 900 on the WTB Electronic Commerce page, <http://www.fcc.gov/wtb/electcom.html>. Select "Production Page for Electronic Commerce Applications" to access the Form 900. Thanks - FCC and ARRL Letter Oct. 3.

#### **New FCC Commissioners Take Office:-**

The new FCC Commissioners took office in early November. They are William Kennard, Chairman, previously General Counsel of FCC, Michael Powell, previously chief of staff at the Justice Department's antitrust division, Harold Furchtgott-Roth, an economist formerly with the House Commerce Committee, and Gloria Tristani, formerly a New Mexico state utilities regulator. They join Susan Ness, the sole commissioner who continues.

#### **Latest Congressional News:-**

Congress has recessed until at least Jan. 26, 1998.

HR 2369, the Wireless Privacy Enhancement Act, has been rewritten to reflect the concerns of Amateur Radio operators, volunteer fire fighters, scanner enthusiasts, and others. The ARRL worked with a coalition of other organizations to make sure your voice was heard on The Hill.

One of the bill's original cosponsors, Rep. Anna Eshoo (D-CA-14th) praised Mr. Tauzin for listening to Amateur Radio concerns.

S. 1350, just introduced by Sen. Leahy (D-VT) would give states and municipalities more leeway to regulate the construction and location of commercial telecommunications, radio or television towers that "destroy the view from such homes, and reduce substantially the desire to live in such homes." ARRL staff plans to meet with Sen. Leahy's staff.

See DC Currents in Dec. QST, for more details.

#### **Vanity Call Sign Gate 4 to Open Dec. 2, 1997:-**

General, Technician Plus, Technician and Novice Class amateur operators may request a vanity call sign on or after December 2, 1997. The details for requesting a vanity call sign follow the pattern used on the previous gates. QST, Pacific Division Updates and other publications detail the use of Forms 610-V and 159 for filing electronically and in paper document format. The fee is \$50 for the 10 year license.

#### **Handi-Ham Camp in California Announced:-**

The next session of HANDI-HAM Radio Workshop (Camp) will be held at Camp Joan Mier, Malibu, from February 24 to March 1, 1998.

This camp will provide ham radio instruction at all levels for persons with severe physical (not learning) disabilities and/or sensory impairments.

The camp in 1998 will be FREE for California residents who are going for a first ticket or upgrade. All normal care, food, lodging, and Amateur Radio instruction for the session will be provided AT NO COST to the campers.

If you or anyone you know is interested, contact Jane Rova, Secretary, Courage HANDI-HAM System, 3915 Golden Valley Road, Golden Valley, MN 55422; (612) 520-0512; e-mail [handiham@mtn.org](mailto:handiham@mtn.org)

#### **ARRL Radio Coaches Program to Enhance Elmering:-**

Over the years in the pages of QST, countless letters and articles have been written about Elmers, those patient, inspired souls who thoroughly enjoy bringing newcomers into the world of Amateur Radio. Now, the ARRL's new Radio Coaches program

takes Elmering to new levels. Through the Radio Coaches program, you and your fellow club members can become part of a national effort to better the lives of youth using Amateur Radio. And ARRL will provide the game plan and materials!

Radio Coaches stems from the kickoff of America's Promise, the Alliance for Youth, a national campaign to improve the lives of the nation's young people and put them on paths for brighter, more productive futures.

The mission will be to give young people an ongoing relationship with a caring adult and a marketable skill through effective education. Amateur Radio will be our chief tool.

Through Radio Coaches, we want to reinforce the idea that Amateur Radio is a "sport for the brain." Ham radio provides not only a lifetime of enjoyment, but also, potentially, a lifetime career.

To get involved contact Radio Coaches, c/o Field Services Department, ARRL, 225 Main St., Newington CT, 06111; or e-mail [coaches@arrl.org](mailto:coaches@arrl.org). Thanks, ARRL Letter, Nov. 14, 1997.

#### **Call for New Ham Classes:-**

If you will let me know when and where classes are to be taught within the Pacific Division, I plan to post the class information on the Pacific Division WWW site. I will also make certain that they are registered with Education Activities Dept. (EAD) at ARRL HQ. Training materials of all kinds are available from EAD in ARRL HQ. Let's start out 1998 with a large group of new ham classes!

#### **Bruce MacKay, KF6JLP, New Volunteer Counsel:-**

Bruce MacKay, KF6JLP, joins the ranks of the Volunteer Counsels in the Pacific Division. Bruce works in Redwood City, CA. Welcome, Bruce.

#### **Fred Fowler, KE6EPM, Wins Seat on Sunnyvale City Council:-**

The Nov. 4 election resulted in Fred Fowler, KE6EPM, becoming a new Sunnyvale, CA, City Councilman. He joins Joel Gambord, KT6J, who won a seat on the Monte Sereno City Council in 1996.

#### **Coming Events:-**

- Livermore Swap Meet - 1st Sunday of each month at Las Positas College in Livermore, CA, 7:00 AM to noon, all year. Talk in 147.045 from west, 145.35 from the east. Contact Noel Anklam, KC6QZK, (510) 447-3857 eves.

- The Naval Postgraduate School ARC is having its 7th Winterfest on Feb. 21, 1998, in Monterey. Visit <http://www.mcktech.com/wf98.htm> web site for details. It's a free public service event with the flea market paying for the event. Contact Doug McKinney at [KC3RL@mcktech.com](mailto:KC3RL@mcktech.com), or phone at (H) (408) 663-6117 in Prunedale, CA.

## Hoo's Hoo...

### Officers:

**President:** Ian Kushner  
**Vice Pres:** Mike Spate  
**Treasurer:** Rolf Klibo  
**Secretary:** Collin Lim

**SS/L Shack Trustee:** Ian Kushner, AF6K

**Newsletter Editor:** Gary Hendra, W6NOE -- SS/L  
 3825 Fabian Way, MS-G86, Palo Alto 94303  
 E-mail to 'Hendra, Gary' on the Loral Network, or via Internet to  
 'hendra.gary@.ssd.loral.com' [<http://www.macscouter.com>]

### **Repeater Trustee/Control Operators(Primary):**

Repeater Trustee: Rich Stiebel, W6APZ  
 Control Operators: John Buonocore, KD6ZL, Dan Connell,  
 W6ASD, Robert Reiling, W6JHJ, Rolf Klibo, N6NFI, Tom Holden,  
 KN6KL; Gregg Schlaman, WA6ECQ

### **Repeater Technical Committee:**

Committee Chairman: Rich Stiebel, W6APZ  
 N6NFI - Rolf Klibo and KN6KL - Tom Holden

**SS/L Training:** Vacant

### **Picnic Committee:**

Picnic Co-chairman: To be announced

### **Field Day Committee:**

Chairman: To be announced.  
 Members: To be announced

### **Other positions to be filled:**

Club historian: To be announced.  
 Retiree Representative: John Gibson, N6OM  
 Club emergency comm coordinator: Randy Bassett, N6RUR  
 Club ARRL Coordinator: To be announced  
 Club swap meet coordinator: To be announced.  
 Club Project coordinators: To be announced

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