

LORAL

S.P.A.R.K.

South Peninsula Amateur Radio Klub Newsletter

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The September 1998 Meeting...

**Where: SPACE SYSTEMS/LORAL Auditorium
3825 Fabian Way, Palo Alto**

**When: Thursday, 3 September 1998
High Noon**

Subject: A Movie -- "THE LAST VOICE FROM KUWAIT" The story of Abdul-jabbar Ma'rafie, 9K2DZ, who stayed on the air during the Iraqi invasion of Kuwait at great personal risk to relay vital information about the conditions in the country and vital information for the war effort.

The Prez Sez...

Many thanks to Fred Dietrich for his presentation on Globalstar at our last meeting. I was particularly impressed with its sophisticated ground computer system to maintain contact with subscribers while the satellites are in continuous motion, ever-changing their coverage, while the callers may be in motion as well. Also, the automatic identification of authorized subscribers through a massive data base. And all of this transparent to the users.

The telephone call has come a very long way since I was a wee lad. Subscribers were connected manually. The instrument we used had the transmitter on a stand that also was equipped with a switch hook to accommodate the receiver when it was not in use. The receiver was a trumpet-shaped assembly and was heavy because it contained a substantial permanent magnet. The ringer was on the wall. Now we have diminishingly small free-roaming handsets.

The rural instrument was even more awkward because the whole thing was attached to the wall. It also incorporated a magneto that was hand cranked to provide the ringing voltage. Access to the party line was by coded ringing that could be heard by everyone on the loop. Eavesdropping was a favorite sport. I remember one old gag used on the technically challenged (most of us) in that era. The voice (supposedly from the central office) would ask you to secure a paper bag over the mouthpiece of your instrument to capture any debris because they were going to blow out the lines. If you had the audacity to ring someone else who had been similarly notified, they would respond with something like, "For God's sake, hang up. Don't you know that they're blowing out the lines today?"

Thanks to Dr. Strowger, DDS, dialing came on the scene. If it hadn't, most everyone today would be a telephone operator. My old mentor, Charlie Price, never did take to the dial beyond the 'O' for Operator. He continued for the rest of his life to make all his

calls with operator assistance; and he always addressed that anonymous, but live, person as 'Central'. Now you seem to be greeted by an interminable recorded menu.

Long distance dialing was unknown. You dialed the operator who, in turn, connected you with the long-distance operator. The latter would manually prepared a call ticket for billing purposes and would call you back when the call was completed (or not). The call-back confirmed that you were who you purported to be. No clumsy data base. When the call was concluded, the operator would place the ticket into the entry slot of a pneumatic transport system for immediate delivery to the billing department. (I never knew what the big hurry was.) If the call could not be completed, the operator would 'chuck the ticket', that is, dispose of it. In the telephone industry, the phrase became synonymous with 'to heck with it'. Occasionally, a ticket would become lodged in the plumbing. Because of the high velocity of the air, enough friction would be created to set the ticket to smoldering and for smoke to belch forth at the receiving end, much to the consternation of those within range and another messy job for the maintenance folks.

But back to the call. The long-distance operator accessed another operator at a 'tandem' switchboard to be connected through a trunk line to the distant city and yet another local operator. In all, four people were involved. And the trunk was held open until the called party answered or the operator gave up. Little wonder that a call was expensive. (And the quality wasn't too hot, either. An observation was made that the speaker's voice level went up by 3 dB for every 100 miles of calling distance.)

(An aside: It was a real thrill to be at the long-lines wire chief's board during heavy sunspot activity. Those long copper single-ended circuits developed amazingly high voltages.)

You younger folk know the rest of the story; you were part of it. Area codes. Direct long-distance dialing to destinations all over the globe. Communication satellites. Fiber optics. Who'd of thunk it? What's next? What will our part be in it?

73 de Jack

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.

For Sale

54 foot triangular crank-up tower. Top section need slight straightening but have local shop info that can do it. \$75. Located in Los Altos. 4 el. beam (Thunderbird) also available if needed. Good price.

Bjorn Forsberg SM5UR
(650) 948-5979
SS/L 852-6926

REPEATER
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ARRL Pacific Division Update

September 1998

by Brad Wyatt, K6WR, Director, Pacific Division, ARRL
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Battery Reconditioning / Repeater Goes Down

To keep our back-up liquid Nickel-Cadmium batteries fresh and ready to take over when winter storms knock out the AC power to the repeater, we recondition the cells once a year. Since power is rarely lost during the summer months, it is considered safe to disconnect the batteries from the repeater long enough to recondition the batteries. Reconditioning consists of: discharging the cells, disassembling the connecting metal bars between the cells, removing corrosion, reconnecting the cells, and finally recharging the battery pack. When we flew Ni-Cad cells on our spacecraft, a similar reconditioning process was automated by the built-in software.

Even though he had to be out of town Bob, W6JHJ, owner of the humongous 250 Watt, one-Ohm discharge resistors and large battery cables, provided them for our use. The batteries were discharged and ready for clean up on Sunday afternoon August 23 when Val, KD6ZXT, and Rich, W6APZ, went up the hill to do the clean-up job. When all was clean, we topped off the liquid level of the cells with distilled water. The job was completed in less than two-and-a-half hours. Before leaving the repeater, we started the charge cycle pumping 30 Amps into the battery pack using a voltage-regulated, current-limited power supply. As the battery pack charged, its voltage increased, decreasing the charge current. It was necessary, therefore, to go back up the hill at 4-to 6-hour intervals to increase the power supply voltage to keep the 30 Amp current flowing.

This adjustment was performed about 7:30 PM on Monday, August 24. When the SPECS net tried to use the 523 repeater for check-ins at approximately 8:10 PM, the repeater did not respond. It was down! Had the AC power failed during the summer? This almost never happens, yet the repeater was off the air!

W6APZ went back up the hill to find AC power to the building working just fine, but no AC at the repeater outlet. Upon checking the circuit breakers in the building, it appeared that all were on, though some felt a bit mushy. Turning the breakers off, waiting a few minutes, and then turning them back on again had no effect. Measuring the battery voltage, he determined that there was sufficient charge to keep the repeater operational for a day or two, so the battery pack was reconnected to the repeater and by about 9:30 P.M., the repeater was back on the air.

The next day, our knight in shining armor, John - N6WBP, rode up the hill on his white stallion. Investigating the power problem, he determined that in fact the circuit breaker that normally feeds the repeater was not conducting power. After switching the breaker back and forth about 20 times, power was re-established to the repeater. Apparently old circuit breakers are not as reliable as new ones.

So what had caused the breaker to pop? Circuit breakers are thermal devices. With a heavy overload, they switch off almost immediately. But with a slight overload, the breaker may take many minutes to switch off. The power supply charging the battery pack had been plugged into the same outlet as the repeater. As of the 7:30 PM adjustment of the power supply voltage, it was drawing almost a kilowatt of AC power in addition to the periodic repeater load. This combination caused the old circuit breaker to open some time after the last increase in charge voltage/current.

Charging of the battery pack was subsequently successfully completed by operating the charging power supply from a different circuit than the repeater. The battery pack has been reconnected to the repeater and SPARK is again ready for the winter storms.

73 de Rich, W6APZ <w6apz@svpal.org

The ARRL License Restructuring Plan and Anticipated FCC Action:-

Last week the ARRL released a restructuring plan for licensing of hams in the United States, based upon decisions reached by the ARRL Board of Directors at their meeting between July 16 and July 19. This restructuring plan has been published on the ARRL web site, has been discussed in ARRL Bulletins, and will also be discussed in September QST. It has also been forwarded directly to the FCC in the form of a letter.

The proposal, as delivered to the FCC, was approved by the Board of Directors by a vote of 9 to 6 (see Minute 53 of the Board meeting). I was one of the nine who voted FOR the plan. In my opinion, it was the best plan from a great many plans that were discussed. A majority vote of the Board could not be obtained for any other plan proposed.

The proposal has generated a great deal of discussion on the air, on the Internet, and elsewhere. Over 2000 e-mail and regular mail letters have been received by ARRL Directors, many in favor of the proposals, and many opposed. One question that is asked frequently is "why?" Why did the ARRL Board of Directors determine that it was necessary to propose such a plan? The purpose of this Pacific Division Update special edition is to address that specific question, to provide background information and to provide sources of additional information that concerned amateurs may wish to tap.

Although the following is public information, it is not widely known or understood, yet it is key to understanding the ARRL Board's action.

In a recent amendment to the Communications Act of 1996, Congress required the FCC to perform a Biennial Review of its regulations. This review has been in progress for many months, and a Notice of Proposed Rulemaking (NPRM) for the Amateur Radio Service is expected to be released soon by the FCC. Although the release date for the NPRM has not been announced, those who follow the work of the FCC believe it will possibly be only a few weeks from now. Representatives of the FCC have made it very clear, in both private and public discussions, that the NPRM will propose significant changes in the current licensing structure, including the number of license classes as well as Morse code requirements.

It is almost inevitable that changes in the licensing structure would be included in the Biennial Review. The current U. S. Amateur Radio licensing structure is very complex, the most complex in the world. This structure developed over many years as a result of various requests and suggestions by individuals, the ARRL, other organizations and the FCC. However, the new FCC Biennial Review process for all services is supposed to be a "review aimed at simplifying, eliminating or modifying regulations that are overly burdensome or no longer serve the public interest."

With an NPRM in the making, the ARRL Board of Directors felt it was appropriate to provide constructive suggestions to the FCC and to start a nation-wide debate on the future of the Amateur licensing structure in the U. S. The proposals that were released last week, following the ARRL Board meeting, was the result of that decision. A letter to the FCC, containing the proposals and their rationale, was delivered to the FCC on July 23. Note that the letter delivered to the FCC is NOT a petition or request for rulemaking. By

delivering the letter to FCC the ARRL hopes to assist FCC with their Biennial Review.

Please understand also that the ARRL Board proposal is not a result of last-minute brainstorming. The Board has been studying license restructuring for over 30 months. This study has made use of the invaluable help of all of you who answered surveys, discussed the issues in mail and on the Internet, and who provided personal comments to me and to my Vice Director (W6CF) at club meetings, conventions, on-the-air, and by telephone. I hope you will all continue to be involved until this matter is finally resolved.

One of the objectives of the proposal, that of stirring up a national debate, has been highly successful. As mentioned previously, over 2000 individual written comments (both by e-mail and regular mail) have been received by Board members thus far, and new messages continue to arrive every day.

With the above as background, what do we do now?

Now that the ARRL Plan has been delivered to FCC, we must wait for FCC to issue the NPRM which may occur within the next few weeks. While we wait, please prepare by considering what YOU would like to have happen. If you have comments that you believe would help the FCC in their Biennial Review, they may be sent by e-mail to hamcomm@fcc.gov. Your comments should be labeled "Amateur Service Review."

Once the NPRM has been released, a time period will be defined during which formal comments to the FCC will be accepted. The length of the time period is not yet known, but based on the comments for Biennial Reviews in other services, the comment period may be as short as 30 days. It is also not known whether or not formal comments will be accepted by e-mail once the NPRM has been released.

When the NPRM is released, rest assured that its release will be widely publicized and will also be made widely available, including on the Pacific Division web site, www.pdarrl.org.

For those of you with access to the WWW, the following key documents are now available on the ARRL WWW site at the URL <http://www.arrl.org/news/restructuring/>.

1. The announcement and outline of the plan itself.
2. Board meeting minutes (see Minute 53 for the details of the motion adopting the plan).
3. ARRL letter of transmittal of the plan to FCC on July 23.
4. Frequently Asked Questions about the plan.

I hope that the information contained above will be useful!

Hoo's Hoo...

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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

For Address Changes, or If Undeliverable, Return to:

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