



<http://personal.newworld.net/~wingman/sfarc/>

MARCH 2001

P.O. Box 1005, Newcastle, CA 95658

At the Key of S.F.A.R.C.

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REPORTERS

Satellite Report

Greg Dolkas, KO6TH

40 Years Ago at the SFARC

Gary Cunningham, KQ6RT
VE Program

Bob Metke, W6SUP

REPEATERS

145.430(-0.6 Mhz) PL 162.2
440.575(+5 Mhz) PL 94.8
223.860 (-1.6 Mhz)

CLUB NET

All welcome to check
in Thursdays, 7:30 PM
2M K6ARR & Club
Repeater 145.430

CLUB MEETINGS

Second Fri of the
month 7:30 PM at the
Auburn Library 350
Nevada St. Auburn

CLUB BREAKFAST

Last Saturday of the
month at Susie's Café
Cirby at Riverside Ave.
Roseville - 8:00 AM

NET CONTROL OPS

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Gary Cunningham, KQ6RT
Joe Sylvia, KF6OQY
Wayne Mikel, KE6DJE

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2001 Calendar of Events

(Operating Events in Italics)

Mar 3-4 ARRL Intl DX Contest(SSB)

Mar 9 Regular Meeting

Mar 14 VE Test Session

Mar 31 Club Breakfast

Apr 11 VE Test Session

Apr 13 Regular Meeting

Apr 28 Club Breakfast

May 9 VE Test

May 11 Regular Meeting

May 26 Club Breakfast

Jun 8 Regular Meeting

Jun 9-11 ARRL June VHF QSO Party

Jun 13 VE Test

Jun 23-24 Field Day!! Field Day!!

Jun 30 Club Breakfast

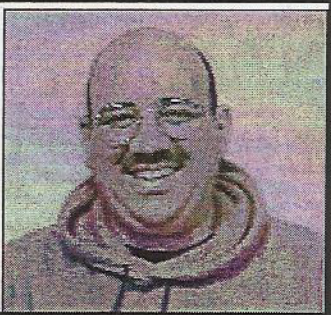
Jul 11 VE Test

Jul 13 Regular Meeting

Jul 14-15 IARU HF World Championships

From the President's Shack

**Matt
KC6RUO**



All members please welcome new members Rick Hann, KG6DUU, Mike Hudson, KG6EFK, Robert McInnis, KC6BQG and Bob Naylor, WE6C.

We had another great turnout at the last SFARC meeting in February. Thanks Bob Balthrope, KD6WTY for a very fascinating presentation on his hand made QRP rigs.

I am looking for a person interested in building a new web page for the club. The one we have is really outdated, and needs some TLC. I have a server on the Internet that I have access to free of charge, if I can only find a member with time to work on it.

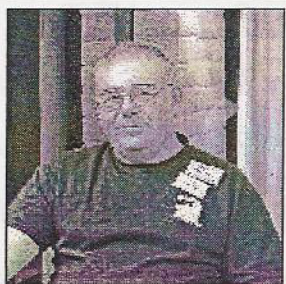
We are also looking for a committee of members to work on field day. If anyone is interested in helping with this most exciting event, please call me at 916-632-4084 or e-mail me at mdiridoni@rsvl.net.

See you all at the next meeting March 9, 2001.

73,
Matt, KC6RUO

Secretary's Report

**Joe
KF6OQY**



SFARC General Meeting February 9, 2001

President Matt opened the meeting at 1935 hours. Officers present: Secretary Joe, KF6OQY, and Debbie KF6LXN. Board members present: Richard WA6RWS. Introduction of officers, members and guests followed. Debbie, KF6LXN, gave her Treasurer's report. Greg KO6TH gave us an update on the AO-40 satellite. He explained the current problem this bird is keeping the sun sensor in the correct position. It is felt that this can be corrected in the spring / summer months when changes in the earth's position occur.

Wayne, KE6DJE, reminded us of the need for ten

operators from 8 to 1 PM to cover the MS walk scheduled for April 1, 2001. We will also need operators to cover the 150 mile bike ride on Sept 8 and 9. For this event we will need twenty operators per day. This two day event will be an all day affair. River City ARC will join us in this event as a joint effort. President Matt also announced that we still need a field day chairperson.

Bob Balthrope KD6WTY did a presentation on QRP. He demonstrated several rigs that he built as kits. Placing these components in the small containers shows skill and patience. The rigs were of different levels of power from milliwatts to 5 watts output. Yes, he also had the famous tuna can transceiver with the tuna label attached. Many of these were passed around so people could see and operate some up close. Great job Bob and thank you for an interesting evening. Thanks to the twenty five people who attended despite the bad weather that day. President Matt, KC6RUO, adjourned the meeting at 2045 hours.

Respectfully submitted,
Joe Sylvia, KF6OQY
Secretary

Vice President

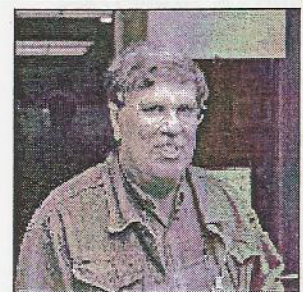
**Steve
KF6OCE**



Meet Steve, KF6OCE, our new Vice President. Steve's column will begin with the April issue. Ed.

40 Years Ago At The SFARC

**Gary
KQ6RT**



March 8, 1961

Home of Lin Hunter

Meeting was called to order by Lin Hunter at 8:25 PM. Minutes and a Treasurer's report was read and approved. Very unfortunate that Lewey Blender, W6LRW passed away and a bill of \$5.20 for flowers were approved to be paid to Footes Florist.

We heard from the 20th district Fair manager and others that the rear room of the old Naval reserve building would quite sure be available for our club use. Pres. Lin Hunter and Sec. Sage Otow were appointed to present in writing the reason for requesting this room, and for what purpose it will be used.

The exhibit for the Fair was discussed and it seemed difficult for us to make it. However some members said if we can do a good job, then we should participate.

Field Day has been considered by some. A station for JACL picnic was discussed and we will try if we can make the necessary preparation. Craig Tindall reported progress and code and theory classes.

Secretary asks, and it was approved by members, to admit George Lambert WA6JIT, and Puffy Rogers W6UMF, as our members from Roseville.

Motion was made and seconded by Frank to adjourn at 9:00 PM. Lin hunter then got on the air to make Aerojet station, W6IJK's first contact. All members present were able to say a few words, and their members likewise.

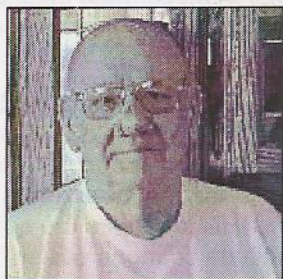
Refreshments were enjoyed before we all departed.

Respectfully Submitted,
Sage Otow, Secretary

73,
Gary

VE Report

Bob
W6SUP



Volunteer Examiner Report

Upcoming Exam Dates for 2001

March 14	April 11
May 9	June 13

Pre-registration is required. Contact Bob Metke, W6SUP for more information.

Special arrangements and dates can be made to accommodate the disabled, including conducting tests at home.

73,
Bob, W6SUP
511 Oak St.
Roseville, CA 95678
916.783.7610
w6sup@rsvl.net

Sunshine Report

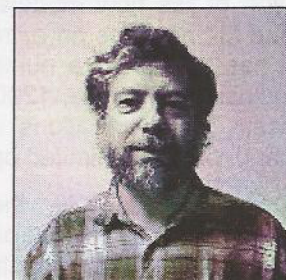
Jerri
K6GKR



Jerri reports that "there is no news this month," which is always good news from her.

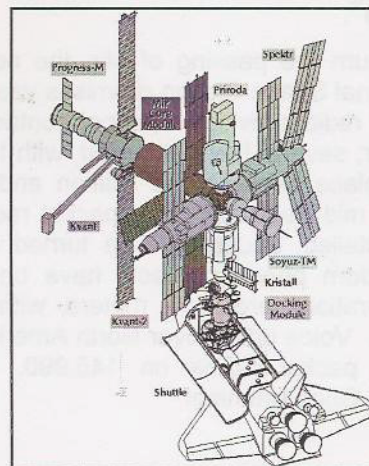
Amateur Satellites

Greg
KO6TH



End of the Road for Mir

After fifteen years and one month in space, the Mir Space Station's mission as the Earth's premier space science laboratory will be coming to an end in March. The Russian government, lacking the funds to keep the station operational, has decided to de-orbit Mir. Unfortunately, weighing in at several hundred tons, and lacking any sort of heat shielding, "de-orbit" means "burn up". At least that's what they are hoping for.



The first module of the station was launched on February 20, 1986. This core module was a modified version of the Salyut station that they had used successfully from 1971 to 1982. On each end of the module was a docking port. One end received the Kvant 1 laboratory and life support

module, which was launched in 1987. Kvant 1 has another docking module on it, which is used for receiving the Progress supply ships and other vehicles. On the other end of the core module is the Transfer Node, which is a large hollow ball with five docking ports on it. There is a door to isolate it from the core module. Permanently attached to the transfer module are four other modules – Kvant 2, another lab launched

in 1989; Kristall, which is the docking adapter for receiving the US Space Shuttle; Spektr, a science laboratory launched in 1995; and Piroda, an earth observatory launched in 1996.

Mir was continuously occupied from 1987 until last year. Crews were usually 2 or 3 members, but up to 6 were hosted for short times, for example, during shuttle docking missions. The crews were mostly Russian, but space travelers from England, France, Germany, Austria, and several Americans.

Many of the occupants of Mir were Hams. In 1988, a handheld amateur radio was added to Mir for crew recreational use, and it's been a popular activity. Many other pieces of amateur radio hardware have followed (sort of like how modules were added to the station), and Mir now has an extremely impressive ham station. It has supported a number of communication modes, including FM voice, 1200 baud packet, and even slow scan TV. Operations were mostly on the 2 meter band, but some limited operations were held on 70 cm.

On July 11, 1979, the US space station Skylab executed an uncontrolled reentry of the Earth's atmosphere. This resulted in the scattering of debris across a wide swath covering the southeastern Indian Ocean and Western Australia. Fortunately, there was little damage on the ground (Skylab, of course, was a total loss). Mir is several times heavier than Skylab; an uncontrolled de-orbit would result in a whole lot more debris hitting the Earth. The Mir controllers have been lowering Mir's orbit, and have launched one last flight of the Progress supply ship. This ship carries extra fuel for its own thrusters, and a flight plan to slow Mir's orbit to a safe spot over the southern Pacific ocean. The exact date has not been announced, but it is believed that the atmospheric conditions will be best shortly after March 15th.

While we will all mourn the passing of Mir, the now operational International Space Station promises years of science, and ham radio activities. School contacts began last December; several have occurred, with the most recent taking place between the Station and a school in Canada in mid February. The packet radio station has been installed, and should be turned on shortly. A few random phone contacts have been made as well. Operations are on 2 meters, with a downlink on 145.800. Voice uplink over North America is on 144.49, and packet uplink on 145.990, all standard FM modes. Good listening!

73,

Greg, KO6TH

Phase 3D/AO-40 Update

(From AMSAT-NA)

The month of February comes to an end with good news about AMSAT OSCAR 40. The AMSAT-DL web

site is currently featuring the following statement from Peter, DB2OS:

Dear All,

Lots of good news about AO-40! The SEU (sensor electronic unit) is triggering the sun again after the end of eclipse on orbit 147. Telemetry channel #100 (analogue spin rate) is now showing a value of 49. This is the same value it was showing on orbit 89 when triggering was lost. Within a few orbits we should see that the second Sun sensor (SS2) also starts triggering, this should allow us to obtain attitude information and then re-start the magnetorquing efforts to spin-down the spacecraft.

One week ago the 3-axis sun sensors were turned on and they seem to be working nominally. It was planned to use the information from the 3-axis omni-directional sun sensors to obtain the necessary reference information for a new algorithm to spin-down the spacecraft without using the SEU information. The new software code, which will be patched into the operational programming, is almost ready to be uploaded, but due to the premature return of SEU data, this may no longer be necessary.

Analysis of the IHU temperature has revealed that the maximum Sun angle (with the lowest temperatures) was much earlier than anticipated. The temperature of the IHU reached its minimum exactly February 1, 2001 with a temperature of about -8.4°C. This is almost one month earlier than originally thought. There is no explanation at the moment as to why this was premature.

The spin rate of around 17.5 RPM did not change in the last few weeks, whatever it caused to increase has apparently stopped. As soon as the SEU delivers good data, the magnetorquers will be used under control of the IHU to reduce the spin and make any possible attitude changes easier. This should also improve telemetry reception on the S-band downlink.

The next milestone is to bring the spacecraft into a good orientation to fire the arcjet using no electrical power only gaseous ammonia only. This test firing will be used to check the arcjet control electronics and valves. Even without the arcjet burning, the thrust from the test firing will be enough to raise the perigee.

Several independent analyses (including the French space agency CNES) have confirmed that the current orbit will be stable for many years, more than the anticipated lifetime of the spacecraft.

The test firing should give us additional safety margin and a better feeling. However, it is later planned to optimize the current orbit with a full running arcjet. This is planned after testing of the 3-axis momentum wheels, which will be used to re-orient the spacecraft during these maneuvers.

While the spacecraft was in hibernation, the command stations were in preparations for the next activities,

watching the spacecraft telemetry and reporting healthy results.

AMSAT-DL expresses our appreciation thanks to Paul, VP9MU, for his outstanding service in gathering and archiving the AO-40 telemetry from different parts of the world. This is vital (additional) information for the command stations in their continuing effort to turn P3D back into normal operation. We suggest everyone who is able to send captured telemetry to the AO-40 telemetry archive at ao40-archive@amsat.org

In summary, the spacecraft seems to be in very good shape, with no additional damage or other problems detected. The power budget is very good and even during the poor Sun illumination it was not necessary to reduce power consumption by turning off the S-band transmitter for any part of AO-40's orbit.

This is indeed a good sign for the next activities. Stay tuned...

73,
Peter, DB2OS

For Sale

1. MFJ Code Tutor (new \$79.95) \$45.00
2. Yaesu FT-90 2M/440 Mobile Transceiver with remote Cable (radio new) \$369.00, (cable new)\$59.95) both for \$300.00 This is a ideal radio if space is a problem. Radio is about 14 months old.
3. Yaesu FT-2600 2M FM Mobile Transceiver (new \$189.00) \$150.00 Note: I have the computer programming kit for the FT-90/FT-2600. The first radio that is sold the kit goes with it for FREE.

Contact Patrick, N6PBM
n6pbm@lanset.com
916.681.5687

This just in from the MS Society...

(Lincoln – Wayne, KE6DJE) Please mark this date in your calendars and help if you can.... Let me know if you can, I will be looking for 10-12 operators..

Thanks,
Wayne Mikel KE6DJE

To: "Wayne Mikel" <Watcher111@mindsync.com>
Sent: Wednesday, February 21, 2001 2:46 AM
Subject: Re: April Walk Date Change

Wayne: We've had to change the date of the walk to April 22nd because Fox40 has adopted us. Our name is now the "Fox40 Helping Hand MS WALK." I hope this date change will be okay.

Take care my friend

Dave

SFARC At The Fair (in the 60's)



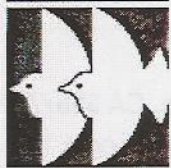
Gary, KQ6RT, the SFARC Historian, Archivist, and Curator, has unearthed some pictures from the "good ole days." Here, right to left, we see K6KDU, a dapper looking K6ARR, and an unidentified sailor, operating what appears to be a Heathkit DX-100 transmitter and one of the Heath station receivers of the time (possibly a Mohican?).



Same station, with W6ANX at the controls, apparently demonstrating ham radio to a pair of fairgoers. For those who have seen the movie "Frequency," note the object at the extreme right of the picture. Although it had not yet been invented in the 60's, it appears to be a computer terminal ;-)

This next photo was titled "Both At The Fair." It is another operating position, possibly in the National Guard Armory at the fairgrounds, and the small TV may be a giveaway that this was an ATV setup.

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Here's the other giveaway for ATV ... The "Technical Director," seated at the TV looks like Jim again. Perhaps Jim can help us identify the cameraman. (I tried expanding the camera image to read the lettering on it, however the picture just gets grainy. Ed.)



It may have been 40 years ago, but they had clearly progressed beyond spark gaps!

Virtual QSL Service

Matt, KC6RUO, forwards the following e-mail:

"I wanted to let you know about a new service called Virtual QSL Net, www.vqsl.net."

"VQSL was designed to help the QSL effort when I experienced and saw some outrageous prices on postage for some far away DX contacts."

"VQSL.NET is an online QSL service that is easy to use and offered to those that would like to both save on postage and have a high quality QSL card that can be printed and added to their collection right away (most times the same day as the QSO)."

On VQSL.NET there is a growing selection of picture categories and different formats that allow the operator to create a quality online QSL card within minutes. Then with one click of a button, the VQSL card is emailed and reaches the DX contact within seconds.

Personal pictures can also be used to give your card a more personal touch."

"For those that do not choose to use this free online service, VQSL.NET offers totally free web page hosting and email to any licensed amateur with a call sign."

"Full instructions are given on how to design and setup your first web page, how to find email addresses of your DX contacts and how to design Virtual QSL cards. Email technical support is also offered."

"If you have any questions please feel free to contact me directly at ka9tnd@vqsl.net. Also feel free to visit <http://vqsl.net>."

73

Michael, KA9TND

(Michael also points out that while possibly a quick and cool way to send QSLs, the e-mailed versions are not valid for contest credit. Ed.)

Lake Powell Island Activation Blitz

(From the Cactus Intertie Reflector)

A rapidly expanding group of amateur radio operators are pursuing contacts with, and activating, islands in the United States. While it is estimated there are 100+ islands in 180 mile long Lake Powell situated on the Colorado River in Arizona and Utah, none of these have been activated. Join the Lake Powell Island Activation Blitz August 25-26, 2000.

Since this corresponds with the 7th Annual W/V Island Contest and all the islands will be new ones, you can expect to be on the receiving end of pile-ups. Yes, your own amateur radio USI-expedition on America's most beautiful lake. You'll even have your call sign listed forever as the first to activate your islands. Get more information at: <http://www.qsl.net/nm5rc/>.

73

Ralph, NM5RC

nm5rc@qwest.net



4755 Pacific St., Rocklin, CA 95677-2407

Manager: Randy Erwin

TEL: 916.624.0641 / FAX: 916.624.5249

<ur29@unitedrentals.com>

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THE SFARC FIELD DAY!**

News and Bulletins

(From the ARRL)

First LF Transatlantic Amateur QSO

Amateur Radio history was made this month when amateurs in Canada and the UK completed what appears to be the first two-way transatlantic Amateur Radio exchange on 136 KHz. Larry Kayser, VA3LK, and Lawrence "Laurie" Mayhead, G3AQC, managed the LF feat using extremely slow CW that featured 90-second-long dits and 180-second-long dahs. The two-way contact took two weeks to complete.

"We are the first to do a two-way QSO on LF across the North Atlantic as far as I am concerned," Kayser said. "We are the ones who put the stakes in the ground; others will build on what we have done."

The VA3LK-G3AQC contact began February 5 and was completed February 19 with the reception and confirmation of VA3LK's report by G3AQC. Both stations used spectrographic software and computers for receiving. The participants agreed in advance to a "firewall" between them for the duration of the contact and that all QSO information was exchanged over the LF radio link.

The UK has an amateur band at 136 KHz. While Canada has not yet authorized general Amateur Radio operation on 136 KHz, Kayser and a few other Canadian amateurs have received special authorization to conduct LF experiments there.

G3AQC and VA3LK were using a combination of commercial and surplus equipment at their respective stations. G3AQC estimated his effective radiated power at 350 mw, while VA3LK said he might have been at the 5 watt ERP level.

In October 1998, the ARRL petitioned the FCC to create two amateur LF allocations at 135.7-137.8 KHz and 160-190 KHz. The FCC has not yet acted on the request.

Spurious Emission Limits Recommended

The ARRL Technical Relations Office in Washington participated in just-completed International Telecommunication Union studies of "unwanted emissions" in the radio spectrum. Unwanted emissions consist of out-of-band and spurious emissions. The ITU-Radiocommunication Sector has conducted two multi-year studies of out-of-band and spurious emissions during the past decade.

ARRL Technical Relations Manager Paul Rinaldo, W4RI, chaired a second-round task group with an international membership, drafting out-of-band emission specifications. ARRL Lab Supervisor Ed Hare, W1RFI, and his staff participated in task group meetings and provided technical support to the League's Washington office. Representatives of the International Amateur Radio Union also took part.

"Had we not invested all those hours and travel, the amateur and amateur-satellite services probably would have some unwanted emission limits that would be more difficult to meet and make amateur equipment more costly," Rinaldo said. The panel's recommendations are being circulated to governments for final approval.

Out-of-band emissions are those falling outside the necessary bandwidth of a signal and are the result of modulation. "Amateurs know them as key clicks and splatter," Rinaldo said. The ITU defines spurious emissions as emissions beyond 250% of the necessary bandwidth, but the definition is still under debate. Spurious levels already are spelled out in the international Radio Regulations. ARRL Lab tests have shown that amateur gear could meet a standard of -50 dB relative to main signal for HF and -70 dB for VHF bands and above.

Out-of-band limits for amateur equipment were agreed upon at the final task group meeting last year, and Rinaldo says these are consistent with the idea of establishing a safety net--not stringent levels of emission. A suite of ITU-R recommendations on unwanted emissions is being circulated and should be approved by mid-year.

More work lies ahead for the ARRL Washington staff. Radio astronomers and earth-exploration passive services are not satisfied with present levels of unwanted emissions from satellites and are concerned about interference to their sensitive receivers. A new ITU task group is studying the issue and preparing information for presentation at WRC-03.

(Somewhat ironic that the ARRL Lab Supervisor's call is W1RFI, no?)

Call For News

Ok, all of you SFARC-ites out there ... Other than pressing the PTT switch, what are you doing? How about dropping your editor a note about your activities?

E-mail, ASCII text, HTML, anything MS Word will read, or just typed or even handwritten is fine. Pictures can be photo prints (I have a scanner), or image files (JPEG, BMP, TIFF, Targa, GIF, etc.) Contact me at 530.885.8251, FAX at 530.745.9622, email at k6dgw@pacbell.net, or packet on 145.030.

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

Associate Name: _____ Call: _____ Class: _____

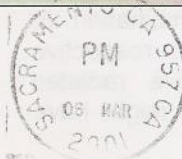
Phone Number: _____ Application: (Circle One) New Renewal

Member Dues: Circle Amounts That Apply. Applications received in the middle of the year will be pro rated. Contact the President or Treasurer for exact rate.

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ARRL (Spouse)	\$ 5.00	Newsletter Booster:	\$ _____
ARRL (Special)	\$28.00	Worldradio Renewal:	\$ _____
		TOTAL:	\$ _____

NOTE* Renewing your ARRL membership through the Club earns the Club money with no additional cost to you. To renew your ARRL membership through SFARC, make check payable to SFARC and mail to P.O. Box 1005, Newcastle, CA 95658.

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