

# JPL W6VIO

## CALLING



JULY 1988 Volume 17 No. 7

### MAIL STOP

Jet Propulsion Laboratory  
W6VIO CALLING M/S 264-419  
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PRESIDENT: WALT MUSHAGIAN K6DNS  
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TREASURER: JOEL MOSHER KB6RXE  
TRUSTEE: STAN SANDER N6MP  
EDITOR: EILEEN MCKINNEY KA6DGV

Club Meetings: Second Wednesday of the month  
at 12 Noon in 180-101. Everyone is welcome -  
Bring your lunch.

Board Meetings: Fourth Wednesday of the month  
at 12 Noon in 238-544. Everyone is welcome -  
Bring your lunch.

Newsletter Article Deadline: The 5th. day of  
each month. If the 5th. falls on a weekend,  
the following Monday will be the deadline.

Your articles, ads, photos, diagrams, Letters  
to the Editor, or technical instructions  
should be submitted to Editor at address above.

EXCHANGE CLUBS PLEASE NOTE ADDRESS ABOVE IS  
CORRECT ADDRESS FOR EXCHANGING NEWSLETTERS.

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## PRESIDENT'S MESSAGE by WALT MUSHAGIAN K6DNS

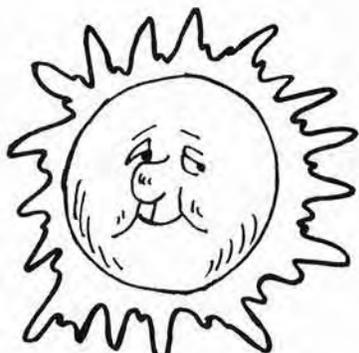
Field Day 1988 is now history. Mark Schaefer WB6CIA, our Field Day Chairman, led us to the highest number of contacts in JPL ARC Field Day history. There were approximately 35 individuals who enjoyed Field Day. A special thanks to Patti Heller KB6VPO and Larry Ruple N6QZI for the fantastic job they did on preparing and serving the food for Field Day. Thanks to Rick McKinney KA6DAN for assisting with the food menu and preparation. Stan Sander N6MP advises us that the 6 element wire beam for 40 meters was very effective in racking up a good number of points.

I would also like to thank those who helped transport, set up and tear down. This was hard work but rewarding when you see the number of contacts that we made. I think that I could say, and properly so, that this has to be one of our finest Field Day efforts to date.

73 Walt K6DNS

# THANKS!





SUN

**DX NEWS**  
by  
**BOB POLANSKY N6ET**

Conditions, again, were pretty good this month as we come up on the "plus side" of the sunspot cycle. Frequent openings into Europe and the middle-East in the evening hours on both 20 and 15 meters are in evidence. In a few months, maybe 10 meters will be added into the list of bands open to those areas in the evenings. Look from 0300Z to 0600Z on both ssb and cw. I've been working new countries for my Big Bear-DXCC award like crazy! The following activities should surface this month:

**ALAND ISLAND** - OH2BH/OH0 plans activity for one month starting 1 July. He'll be on all bands, and all modes. Also, he's a great operator.

**ALBANIA** - Z88RA, probably a pirate, has been active daily from 2200Z between 14030 and 14050 kHz listening up 10 to 20 kHz. Work him now, pray later!

**CONGO** - Look for TN4NW from 30 June through 4 July 25 kHz from the low band edge on cw and on the following ssb frequencies: 3750, 7043, 14145, 21250, and 28490 kHz. This is a pretty rare country and should generate much interest.

**GHANA** - 9G1PP frequently checks into the W7PHO net (14227 kHz) from 2000Z.

**JAN MAYAN ISLAND** - JX8KY is often on the INDEXA net (14236 kHz) from 2200Z.

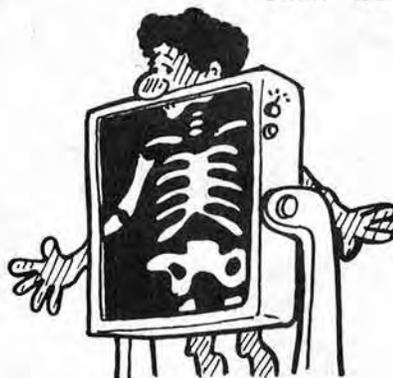
**KENYA** - 5Z4DU is often on 21320 kHz from 1830Z. Other 5Z4 stations frequently check into the W7PHO Family Hour (14227 kHz) the Friendly ET Net (14160 kHz) and the 222 Net (14222 kHz). You might be surprised at what "good stuff" is available on these nets!

**SVALBARD** - JW/WA4ZEL should be active for the next couple of weeks (from 17 June). Look on 14025 kHz for this activity when the band is open to that area of the world.

**YEMEN** - Look for 4W0EA from 27 June to 2 July. Emphasis will be on 15 and 20 meters both phone and cw. Again, this is a very rare country. Good luck!

That's all for now, folks. See you in the pileups!

73's, Bob, N6ET



A GET WELL WISH FOR A SPEEDY RECOVERY GOES OUT TO STAN SANDER N6MP AFTER AN INJURY ON LAB.

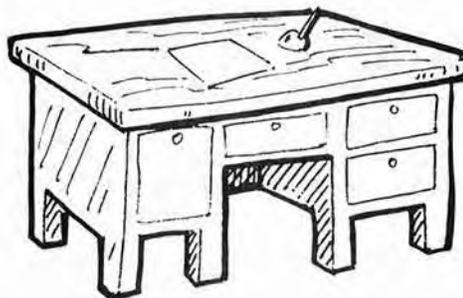


CONGRATULATIONS GO TO THE FOLLOWING MEMBERS' SONS WHO GRADUATED FROM HIGH SCHOOL THIS PAST MONTH.

Randy Johnstone - son of Randy WB6QWR and Ligia;

Rob Polansky - son of Bob N6ET and Dory;

Michael McKinney - son of John N6AVW and Eileen KA6DGV. Michael is to be congratulated also for just receiving his Amateur Radio License. His new call is KB6YVG. Michael is studying on his own now to upgrade hopefully next month.



CONGRATULATIONS TO ART ZYGIELBAUM WA6SAL for his 20 year service at JPL award.

## COMMUNICATING by COURTNEY DUNCAN N5BF

### AMATEUR SATELLITES

Courtney Duncan, N5BF

This is an exciting summer for the amateur satellite community! AMSAT's Phase III C was successfully orbited 15 June and became AMSAT - OSCAR 13.

The launch was from Kourou, French Guiana, located in north equatorial South America. This was the first flight for the Ariane 4, a new heavy lift launcher produced by the European Space Agency. Everything was nominal from launch at about 11:18 UTC to geosynchronous transfer orbit insertion about 20 minutes later. About two hours later, eager amateur stations in Australia, Japan, east Africa, and south Asia were hearing a strong beacon. First telemetry indications were good, everything to date appears to be practically perfect in every way.

W6VIO participated in the AMSAT Launch Information Network Service for the entire week. Every day from Monday to Friday, I received bulletins around 11:00 a.m., made hardcopies, and went to the shack to read them over the air on 20 and 15 meters between 2000 and 2100 UTC (1 and 2 p.m. local). On Wednesday, launch day, I also gave a broadcast on W6VIO repeater, 224.04 and W6FXN 145.46, talking into two microphones at once.

On the launch morning, four hardy souls, Sid Johnson, WB6VWH, Stan Sander, N6MP, John Tallon, N6OMB, and me, N5BF, all showed up on lab shortly after 3:00 a.m. local. John brought the donuts. After individual discussions with the security guards and various sorts of stumbling around in the dark, we were on the air with launch audio live from AMSAT around 4:00 a.m. The launch was less than 20 minutes later.

Sid manned the audio booth in Von Karman, taking the teleconference call from AMSAT and piping it both to the shack and up to 224.04 on the hill. After a couple of phone calls and trips down in the 'hole' (a distribution network under Von Karman), all audio was up and sounding good. From 224.04, audio was also relayed on W6FXN, 145.46 and W6SS, 146.265 near San Diego. There may have been others as well that we do not know about.

Down in the shack, Stan and I put three HF transmitters on the air from three phone patches. On 75 meters, we ran a KW to a dipole on the mesa, on 40, we ran a KW to the new Sommer beam (aiming west), and on 20 meters, we ran barefoot to the TH-6 beam. Due to the early hour, we decided to drop 15 meter coverage.

John helped us set up his TS-440 which we used to monitor the HF transmissions to insure good audio quality.

After it was all over, we all went to work early. I also went home early (about 3:30 p. m.) to hear the first signal acquisition in our part of the world. Orbit Number One! The beacon was so strong that I thought at first that I was hearing something else!

W6VIO received a lot of good press in connection with ALINS participation. Bulletin and simulcast times and frequencies were widely distributed in the amateur radio print media, in W:AW bulletins, and on packet radio bulletins. We also received a few compliments from local AMSAT members on our efforts. No two way contacts were made in connection with the ALINS broadcasts, but we may receive some SWL cards.

Many thanks to Sid, Stan, and John for helping out. It wouldn't have happened without you. Thanks are also due to Larry Ruple, N6QZI, who helped get equipment ready and sat home on the other end of an HF rig during a trial run Monday evening to tell us what our patched transmissions sounded like.

In preparing the station for this service, we found some equipment problems that need attention. Notably, some of the coax and control lines on the mesa are damaged. Most of the coaxial relays that switch hardlines between antennas are broken in one or two switch positions. Both beams rotate, but neither direction indicator works. The IC-211 two meter all mode rig has been repaired by ICOM but is insensitive on SSB and is judged to be useful for FM work only. We won't be using it in the Field Day satellite station.

Most transmissions from the new satellite will be on the Mode B (435 MHz uplink and 145 MHz downlink) General Beacon on 145.812 MHz. The transponders will not be available for public use until around the beginning of August, or slightly before. If you don't hear anything on 145.812, try the other beacon frequencies: 145.985, 435.677, and 435.651 MHz. The current beacon schedule contains mostly engineering data sent PSK (Phase Shift Keying) at 400 baud. Special modems are required to receive this data. On the hour and half hour, a couple of minutes are devoted to 10 WPM CW beacons. On 15 and 45 past the hour, RTTY 45 baud is sent for 5 minutes. In its initial orbit, the satellite is visible here from late afternoon to late evening. Give me a call and I will see if I can help figure out when and where is the current best time to listen.

Before AO-13 is released for use, its orbit will be changed to a more useful one. The initial geosynchronous transfer orbit is very near the equator and ranges in altitude from about 200 to 34,000 kilometers. The other two satellites on this launch fired kick motors the next day to roughly circularize their orbits above 34,000 kilometers. AO-13 will, instead, perform two burns, the first to raise the inclination to around 30 degrees and the perigee to over 1000 kilometers, the second to raise the inclination to a target of 57 degrees. The maneuver could be done in a single burn, but analysis by Dr. Bob McGwier, N4HY, show that if the motor did not perform as expected or failed in the middle of a single burn of that type, the resulting orbit would most probably intersect the earth. This would, of course, result in loss of the satellite near the next perigee.

The two burn sequence requires a little more fuel, but it is planned so that no failure can cause the satellite to be lost to a bad orbit. This is considered to be good 'insurance.' These rocket burns are the most hazardous events in the life of AO-13, save the launch itself. Keep your fingers crossed.

More information about AO-13 is contained in an article in the June QST, page 22. Also, the May issue of 73 Magazine was devoted to satellites and contains several informative articles. For more information on satellites and on AMSAT membership, call AMSAT at (301)-589-6062, or write AMSAT, P. O. Box 27, Washington, D. C. 20044.

While we await the go ahead for AO-13 operation, there are several other satellites now usable by amateurs.

AO-10 has been released for QRP use most of the time for the next month or so. Listen for a carrier beacon on 145.810 and for QSOs around 145.900. In low earth orbit, RS-11 is available daily very early in the morning and in the afternoon. Listen between 29.400 and 29.450 MHz for downlink signals. FO-12 has passes daily from morning until early evening. Listen at 435.797 +/- 7 KHz for the CW beacon, 435.912 +/- 7 KHz for the digital (PSK) transmission, and 435.850 +/- 20 KHz for QSOs and other transponder activity. FO-12 will be available for sideband QSOs during Field Day this year. Both UO-11 and UO-9 are still transmitting 1200 baud telemetry data. Listen for signals in the morning or evening on 145.825 FM.

W6VIO will have some sort of satellite operation at Field Day. We need only make one contact to make the 100 bonus points, but could make a couple of hundred if the station works well.



EDUCATION REPORT  
by Mark Schaefer WB6CIA

#### Packet Notes

We've had a few complaints lately that W6VIO is hard to contact, real time or otherwise. The reason for this is that the terminal in the shack does not have print or disk capture capabilities, nor is it likely to in the near future. Any messages left will scroll off when other traffic comes in or when someone goes down and operates the packet station. I usually make a note of any connects that I find on the screen when I go to the shack, but other packet position operators don't do this and we don't expect or require them to.

To make sure a message gets to W6VIO send it via the Packet Bulletin Board System to W6VIO @ WB6YMH. WB6YMH-2 on 145.36 is checked at least once a week for such messages. If you have something really important and time critical for the club, the best thing to do is call Sid on the telephone!

Soon, the call W6VIO will be in use on a hilltop relay station. This station will use Nord-Link software which functions, to the user, just like Net/Rom. (Net/Rom is a copyrighted trademark of Software 2000.) The Alias will be JPLPAS. The TNC at the shack will be changed to W6VIO-1/JPLARC. The new relay will be on 145.01 as is the club station. To get in from 220, connect to KA6SOX-12 on 223.58, then connect to JPLPAS and you are on.

Courtney Duncan, N5BF  
238-600  
354-8336

Summertime is here and so are the summer noise levels on the HF bands (that's DC bands to the hand held crowd). It also brings out the younger hams who don't have school. Not only will they be working DX on 10, 15, during the day, but working numerous Asians and Oceanians late at night on 40. The All Asian DX Contest in August attracts quite a crowd here and abroad. If you got a chance to operate at Field Day, then you know what it's like to operate at top speed. If you want more, here's your chance to work some DX who can hardly wait to contact you!

The club has recently purchased some code tapes at the 10 to 20 wpm speeds to help those who wish to upgrade. An upgrade course is in the works for this summer as soon as key personnel return for vacation. The course will be open to all levels and will be tailored to meet the needs of whoever shows up that week. More info will appear in future VIO Callings or a billboard near you. Till then may the sunspots shine on your antenna and not too much on your face. 73

LETTERS TO THE EDITOR?

IN ALMOST 7 YEARS AS EDITOR  
I'VE RECEIVED TWO.

THE DEADLINE FOR THE  
AUGUST ISSUE IS 5 AUGUST.

ROBERT K. DORNAN  
38TH DISTRICT, CALIFORNIA

SELECT COMMITTEE ON  
NARCOTICS ABUSE AND CONTROL

VETERANS AFFAIRS

FOREIGN AFFAIRS

SUBCOMMITTEES:  
WESTERN HEMISPHERE

AFRICA

INTERNATIONAL ECONOMIC POLICY  
AND TRADE

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**Congress of the United States**  
**House of Representatives**

June 20, 1988

PERMANENT OBSERVER TO  
GENEVA ARMS TALKS

TASK FORCES:

AMERICANS MISSING IN ACTION

BUDGET REFORM

REGULATORY REFORM

INTERNATIONAL NARCOTICS CONTROL

HISPANIC CAUCUS

GRACE COMMISSION CAUCUS

The McKinney Family  
17419 South Jeffrey Avenue  
Cerritos, California 90701

Dear Friends:

Knowing of your interest in amateur radio operations, I am writing to update you on my efforts on your behalf here in Washington.

As you know, the Federal Communications Commission (FCC) is considering reallocating the 220-222 MHz band from amateur radio to land-mobile service. In view of the essential public service provided by the radio operators during times of emergency, I wrote Dennis Patrick, Chairman of the FCC, back in February requesting that he reevaluate that proposal.

Furthermore, I have recently drafted a resolution, H. Con. Res. 317, expressing the sense of the Congress that "government agencies shall avoid actions which would reduce amateur radio frequency allocations" used for emergency communications. Passage of this resolution will send a strong signal to Chairman Patrick that Congress does not want existing amateur radio bands reallocated.

The resolution already has the support of many of my colleagues here in the House. You can be sure that I will work hard to see that this legislation is passed as quickly as possible.

Amateur radio operators serve a crucial communications role during emergencies. We should not be restricting their activity, but rather enhancing it.

Sincerely,

A handwritten signature in cursive script that reads "Bob".

Robert K. Dornan  
U.S. Congressman

EDITOR'S NOTE: THOUGHT I'D PASS ALONG THE FACT THAT SOME OF THE GENTLEMEN UP ON THE HILL SEEM TO SPEND SOME TIME AIDING THE CAUSE OF AMATEUR RADIO. OUR THANKS TO CONGRESSMAN DORNAN ON BEHALF OF HAM RADIO.