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ORANGE COUNTY AMATEUR RADIO CLUB

VOL. XV, NO. 12

P.O. BOX 95, ORANGE, CALIF. 92668

DECEMBER, 1974



— 1974 CLUB OFFICERS —

PRESIDENT	KEN KONECHY	W6RHC	541-6219
V. PRESIDENT	ART SHELDON	WA6LHB	832-9676
TREASURER	HAROLD RICHARDS	WA6BJO	544-0033
ACTIVITIES	MARTIN RAYMOND	WB6PEX	532-4090
SECRETARY	TINA MCCARTHY	WB6WFV	538-6072
MEMBERSHIP	TED GLICK	K6LJA	542-1390
PUBLICITY	FRIED HEYN	WA6WZO	549-8516
TVI	KEI YAMACHIEA	W6NGO	538-8942
M.A.L.	ERNIE FUERTE	WA6GXV	839-7107
	BOB ECKWEILER	WB6QJU	639-5074

EDITOR	NEIL VADNAIS	WA6TZA	839-7378
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OCARC ACTIVITIES

MEETING 3rd Friday of each month, 7:30 PM at:

Mercury Savings and Loan
1095 Irvine Blvd. (4th Avenue)
Tustin, California

GUESTS ARE ALWAYS WELCOME

BREAKFAST 1st Saturday of each month, 8:30 AM at:

BARNABY'S COFFEE SHOP
144 South Tustin Ave. (Just South of Chapman & Tustin Aves.)
Orange, California

15M NET Club station W6ZE meets every Wednesday at 8:00 PM on 21.375 MHz. All amateurs are welcome to check in. Club and ARRL bulletins read.

15M CW NET Club station W6ZE meets every Wednesday evening from 7PM to 8PM on 21.175 MHz. All amateurs are welcome to check in. Lots of CW practice for everyone.

CALLBOOK SERVICE

The club has copies of the latest callbooks which are available at each meeting. Also, you can contact Martin-WB6PEX on Monday and Thursday evenings between 7:00 PM and 9:00 PM if you need addresses. If you have more than one call for Martin to check he'll get them all and call you back the same night. Also, look for Martin after the Wednesday evening net.

THE PREZ SEZ:

Since this is my last opportunity to write from this column, I want to thank you for your support and help throughout 1974. This has been a darn good year for the OCARC. We took first place in the Orange County Field Day contest and did well nationally. We participated in the successful Orange County Fair exhibit. We had interesting club programs and the best club paper in the county. We had great club picnics and fishing trips for those who didn't mind getting seasick. We have managed to keep in the black, financially, and have kept our membership growing.

And, I know that Art/WA6LHB, your president for 1975, will do a great job. But, as every one knows (or at least I have convinced Art), the president does not really do anything! Its really the club officers and members that do the work and make the club great! Because of this, I want to personally thank the following people who have helped me:

- * Art/LHB for those great programs, all his efforts with field day, his efforts with the yearly raffle, and his constant assistance.
- * Harold/BJO for the time consuming job of treasurer and especially the work at the club auction.
- * Martin/PEX for consistantly suppling us with coffee, donuts, raffle prizes and all the work he put into field day and the fishing trips.
- * Ted/LJA for rushing out the club papers and his sage advise.
- * Kei/NGO for the years of being the "backbone" of field day, his donations to the club, and helping me in every possible way.
- * Bob/QNU for his continuous assistance and his efforts at field day.
- * Tina/WFV (and OM Joe) for the great food at field day.
- * Fried/WZO for all his work at field day and setting up Mr. RF.
- * Neil/TZA for all the time he put in turning out the club paper.
- * Roger/ARK for his work at field day and assisting with the net when I needed help.
- * Abe/ UCS for his work at field day.
- * Don/OOH for racking in the contacts at field day and his help at the auction.
- * Dick/TCB for assisting with the net when I needed help.
- * Ron/FIT for all his work at field day.
- * Ozzie/PEW for making the nets so enjoyable.
- * Ernie/FOW for assisting with the raffle tickets.

.....but my memory sometimes forgets, so again, thanks to each one in the club.

I hope to see everyone on Saturday at the Christmas Party. To you and your families, may I wish you a very MERRY CHRISTMAS and a HAPPY NEW YEAR.

K W G H H C

1975 OCARC OFFICERS

At the November meeting, the new officers were elected for the Orange County Amateur Radio Club in 1975. All nominated candidates and the elected officer for each position are listed below.

	<u>NOMINATIONS</u>	<u>ELECTED</u>
PRESIDENT	Art/WA6LHB	Art/WA6LHB
V. PRES	Martin/WB6PEX	Martin/WB6PEX
SECRETARY	Harold/WA6BJO	Harold/WA6BJO
ACTIVITIES	Fried/WA6WZO Bob/WA6AJV Tina/WB6WFV	Bob/WA6AJV
TREASURER	Ted/K6LJA	Ted/K6LJA
MEMBERSHIP	Dick/WA6TCB Tina/WB6WFV	Tina/WB6WFV
PUBLICITY	Roger/WB6ARK	Roger/WB6ARK
TVI	Bob/WB6QNU Paul/WB6GTX	Bob/WB6QNU
MAL	Kei/W6NGO	Kei/W6NGO Ken/W6HHC

Amateurs' New Ham Satellite Put in Orbit

BY MARVIN MILES
Times Staff Writer

A new ham radio satellite developed by amateur operators in the United States, Canada, Australia and Germany is circling the earth 876 miles high for both educational use and emergency communications.

Called OSCAR 7, an acronym for Orbiting Satellite Carrying Amateur Radio, the spacecraft was lofted Nov. 15, at no cost to the hams, as a piggyback passenger aboard a National Aeronautics and Space Administration (NASA) Delta rocket launched from Vandenberg Air Force Base.

Primary payload on the mission was ITOS-G, fourth in a series of advanced meteorological satellites.

The 65-pound communications orbiter, culmination of a four-year project by the worldwide Radio Amateur Satellite Corp. (AMSAT), was developed in the basements and garages of ham operators for a cash investment of about \$60,000.

A commercial satellite performing the same functions would cost nearly \$2 million, according to Jan A. King, project manager at NASA's Goddard Space Flight Center, Greenbelt, Md.

Dr. Norman L. Chalfin, vice president of the Amateur Radio Club at the Jet Propulsion Laboratory, said funding for the project came from donations by individuals and companies.

OSCAR 7, he explained, is the latest and most complex of a series of communications spacecraft built by amateur operators, in-

cluding OSCAR 6 which has been in orbit for almost two years, having outlived the ITOS satellite that was its host at launch.

An important function of the new orbiter is its planned use by schools throughout the country to acquaint youngsters with space science in a cooperative project with NASA's Educational Programs Office.

With inexpensive ground terminals, Dr. Chalfin said students will be able to receive satellite signals firsthand in their classrooms to monitor transmissions as distant as 5,000 miles.

The American Radio Relay League, 225 Main St., Newington, Conn., he added, is offering teachers free curriculum material on OSCAR's use in demonstrating the basic concepts of orbital mechanics, radio wave propagation and the physics of the space environment.

The 105,000-member league also will put teachers in touch with local

volunteers to set-up their personal radio equipment for classroom demonstrations.

In addition to its educational use and the capability it offers for two-way communication between hams, OSCAR 7 is designed for emergency communications to help fulfill the traditional role of amateur radio operators.

LOCATING AND ELIMINATING TV AND RADIO INTERFERENCE

Interference is experienced from one or more of the following:

1. FUNDAMENTAL OVERLOAD OR BLOCKING OF THE RECEIVER. This may appear in a TV as herringbone or slight modulation bars, or complete blanking of the set. Modulation may be heard and one or more of the channels may be affected. THIS IS STRICTLY A RECEIVER PROBLEM AND NOTHING CAN BE DONE AT THE TRANSMITTER TO CURE IT. If the interference is not too severe, an inexpensive cure can be had by connecting a $\frac{1}{4}$ wavelength open-end stub made of 300 ohm TV line across the antenna terminals of the TV set. The formula for the length of this stub in feet is: 246 divided by the frequency (in megacycles) of the unwanted signal. Cut the piece of transmission line a few inches longer than the formula shows and attach it to the receiver antenna terminals. Cut it off at the open end, a small piece at a time, until the unwanted signal is reduced. If the interference is severe and the stub does not completely eliminate the interference, a "Drake 300 hp 52" should be installed directly at the tuner with the ground strap connected to the set chassis.

2. AUDIO RECTIFICATION. This can happen in a TV, broadcast receiver, Hi-Fi, hearing aid, electronic organ or anything using an audio amplifier stage. THIS IS ALSO A RECEIVER OR EQUIPMENT PROBLEM ONLY. IN THE CASE OF AUDIO EQUIPMENT IT IS THE FAULT OF EITHER THE DESIGN OR THE INSTALLATION. (Properly designed and installed audio equipment is an essential part of all TV, radio and communication studios, operating positions, etc., and they operate without interference alongside transmitters radiating thousands of watts of energy.) The characteristics of audio rectification is that the voice is heard on all channels of the TV or across the dial of the radio receiver. It may or may not be affected by the volume control. The trouble is usually caused by a strong r.f. signal getting into the first audio amplifier stage which acts as a grid-leak type of detector. This trouble in TV and EC receivers can usually be cured by installing an 82k $\frac{1}{2}$ watt carbon resistor in series with the control grid lead to the first audio stage. This should be installed so that the lead to the grid pin is as short as possible. This resistor acts as an r.f. filter. If the grid resistor has a value between 3.3 and 10 megohms it should be changed to 1 megohm which will reduce the possibility of the tube acting as a detector should any r.f. get through the 82k resistor. These two simple modifications will cure 90% of the cases of audio rectification. Sometimes it is possible to install these resistors into a plug-in type of vector socket which will go between the first audio tube and the chassis mounted socket and thus avoid making any changes inside the set. Interference to TV and FM receivers using a gated beam discriminator tube such as a 6BN6 cannot be alleviated by the usual methods. A resonant r.f. choke should be installed in series with the signal input grid only by a competent serviceman who understands the problem and can adjust the quadrature coil if necessary after installing the choke. (50 mc use Ohmite Z-50, etc.).

AUDIO RECTIFICATION OCCURRING IN AUDIO EQUIPMENT, AS NOTED, IS EITHER THE FAULT OF THE DESIGN OR THE INSTALLATION. All leads

connecting the equipment should be properly shielded, grounded, and by-passed where necessary. This is to prevent a modulated r.f. signal from getting to the grid or grids of the pre-amps or amplifiers, which can act as grid-leak detectors and create interference. In stubborn cases where interference is still noted, installation of the simple resistor type r.f. filter in the grid circuits of the first audio stages will effect a cure.

3. HARMONICS. This can be caused by either multiples of the transmitter frequency or come from the lower frequency crystal or VFO stages in the case of VHF equipment. They should be located and eliminated through by-passing, installation of low pass filters, harmonikers, etc. A good TV set is an excellent testing instrument to use in observing the effect of installing interference eliminating equipment on a transmitter. Once you get your own local TV set to operate without interference, you can reasonably be assured it will be possible to do the same to all neighboring sets. Poor or rusty connections in either transmitting or receiving antennas can produce harmonics through rectification of the transmitting energy. This is particularly true in the case of most cheap TV antennas which are furnished with iron nuts and bolts to make connection to the lead-in. These connections rust and corrode almost immediately after they are installed and should be checked and made clean and solid and coated with plastic or some substance to prevent further trouble from this source. Remedies such as noted under "1." should also be used.

4. IMAGES, ETC. Interference from these sources is of the rarer type and can be rather complex at times. One such source is the operation of a TV set in the vicinity of a strong FM broadcast station or stations which operate on a band of frequencies between the lower and upper TV station channels. These strong signals can overload the front end of the TV set and create spurious beats or frequencies which may or may not interfere with the TV picture or sound channel. However, another signal, possibly from an amateur station can be picked up by the tuner of the TV set, mixed with one or more of the spurious beats generated by the FM station's signal and this can cause interference to either the picture or sound or both. In this case it requires both extraneous signals to be present at the TV set to create the interference and, in most cases, neither signal by itself causes any trouble. Here again steps must be taken as in "1.". High-pass filters, $\frac{1}{4}$ wave stubs cut to the FM and amateur band frequencies should be used to eliminate both extraneous signals that are creating the interference.

It is not possible in a short space to cover all phases of interference problems or their elimination. Successful elimination of interference requires the cooperation of all parties concerned because each is operating in a particular communications service and is equally responsible to see that their equipment operates without interference. Amateurs should never take the attitude that "their equipment is clean and properly licensed" and wash their hands of the whole affair. This action can leave the general public incensed, angry and willing to take legal action to eliminate the interference when it can easily be accomplished through friendly help and proper technical methods satisfactory to both parties. IT IS EASIER TO HELP - and possibly less costly - THAN TO BUTT HEADS.

QUESTIONNAIRE

Help your activities chairman by filling out the questionnaire shown below. All questions including your name and call are optional. Mail the questionnaire to: Bob Maller WB6AJV, 2292 Coco Palm Drive, Tustin, Calif. 92680, or bring it to the next meeting. You will not be graded and 74% is not passing.

1. Name _____
2. Call _____
3. What items would you like to see raffled at our monthly meetings?
 - a. _____
 - b. _____
4. Will you participate in Field Day? Yes No
5. Do you have any suggestions regarding logging on Field Day? Yes No
6. What would you like to see in the way of monthly programs and topics for meetings? _____

7. Would you participate in a club effort in Sweepstakes? Yes No
8. Would you participate in a club QSO contest? Yes No
9. What types of activities would you like the club to have?
 - a. Beach Party? Yes No
 - b. Fishing Trip? Yes No
 - c. Club-Family Picnic? Yes No
 - d. Christmas Dinner? Yes No
 - e. Other? _____
10. Would you (your wife, husband, girlfriend) volunteer to bake cookies or cupcakes for the monthly meeting, knowing you (he, she, it) would only be called upon 2 or at most 3 times a year (if at all)? Yes No
11. Would you be willing to purchase an official club sweat shirt for use on Field Day to sweat out those QSO's? Yes No
 If "Yes," what should said sweat shirt cost? _____
12. Would you pay 10¢ per QSL card to have the club mail QSL cards to QSL bureau's for you? Yes No (Subject to volume of requests. Suppose one night on the net, a rare DX station checks in; we could all mail QSL's together.)

DECEMBER MEETING — ANNUAL OCARC CHRISTMAS DINNER

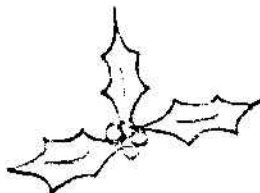
This month's meeting will be the ANNUAL CHRISTMAS DINNER on the third Saturday, DECEMBER 21, at WAYNES STEAK AND LOBSTER HOUSE located at 720 EAST KATELLA in the city of ORANGE. The dinner will begin at 7:00 PM.

DINNER consists of two choices: NEW YORK STEAK . . . \$4.50; PRIME RIB . . . \$5.75
Either choice includes Tossed Salad, Steak or Prime Rib, Baked Potato, Garlic Bread, Sherbert, and Beverage. The price includes dinner, beverage, tax, and tip.

A CHILDREN'S DINNER IS AVAILABLE: The children's dinners will include salad, 1/4 lb. hamburger, french fries, sherbert, and beverage. The dinner is being provided with compliments of the OCARC to all children, 13 and under.

ADULT GIFT EXCHANGE: Presents for the adult gift exchange should be valued between \$1 and \$2. All OM's should bring a gift suitable for an OM, and XYL's suitable for a XYL. Be sure that you attach a label indicating whether the present is for an OM or XYL or EITHER.

PLEASE CONTACT ART SHELDON - WA6LHB (832-9676) FOR RESERVATIONS BY DECEMBER 14TH. INDICATE THE NUMBER OF ADULTS, CHOICE OF DINNERS, AND THE NUMBER, NAMES, AND AGES OF CHILDREN. PLEASE MAKE YOUR RESERVATIONS AS SOON AS POSSIBLE.



ORANGE COUNTY AMATEUR RADIO CLUB, INC.
POST OFFICE BOX 95
ORANGE, CALIFORNIA 92688

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FIRST CLASS MAIL !!!

DATED MATERIAL !!!