



RF



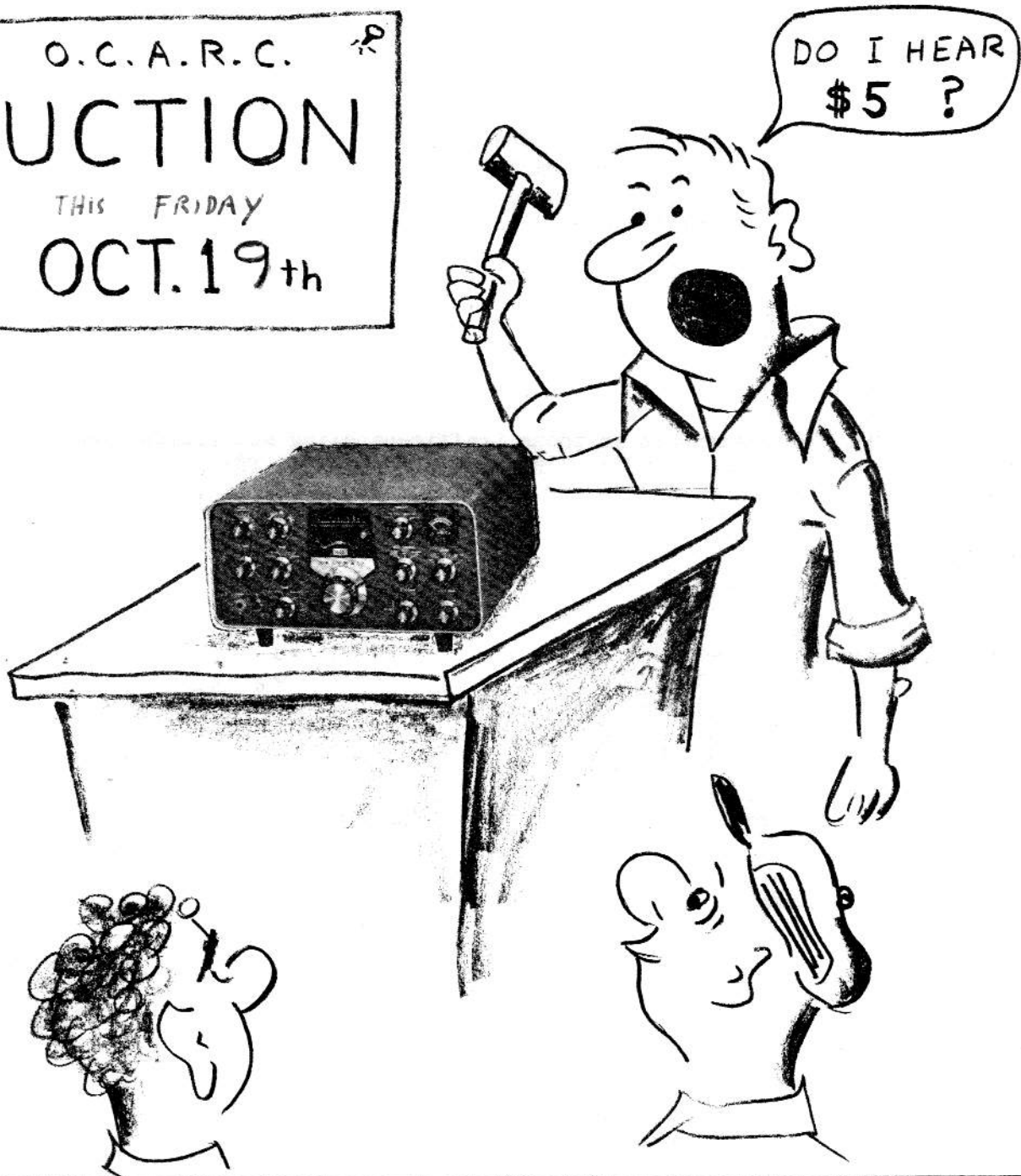
ORANGE COUNTY AMATEUR RADIO CLUB

VOLUME XII NO. 6

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

SEP 1969

O.C.A.R.C.
AUCTION
THIS FRIDAY
OCT. 19th



THIS MONTH'S MEETING : SEPT. 19TH / 7:30 PM "SPACE PHOTOGRAPHY"

PRES: JERRY, WA6ROF
V. PRES: JACK, WB6UDC
SECY: FRANK, WB6TBU
TREAS: BILL, WB6CQR

MEMBERS AT LARGE
DAVE, W6CCJ
KAY, W6NGC

TEENAGE REPRESENTATIVE: DAVE WB6NRK

ACTIVITIES: JOHN, W6PNX
PUB. REL.: KEN, W6HHC
MEMBERSHIP: BILL, WB6WCC
TVI: DAVE, W6GPR

*** **

THE PREZ SEZ

Congratulations to Seth, W8ELW/6, who recently passed his Extra class, and to Bill, WB6WOO, who mastered the Advanced class. Yours truly also just passed the Advanced class and hopes to get down to LA for the Extra in a month or two. Any other club members who recently got a higher class license? If so, let me know so we can boast about it here. Remember, the second phase of incentive licensing will go into effect this November 22nd unless extended by the commission.

Often, in the past, I have encouraged ARRL membership and, that if you join through the club, we get a 50¢ kickback into the club treasury. Many have subsequently joined or renewed their league membership, and I dare say the number of club members who are also ARRL members is climbing beyond 70% and I hope the trend continues upward. If we achieve 100% ARRL membership standing, we will receive a handsome certificate from the league and be listed in the ARRL affiliated club honor roll which is periodically published in QST.

More than "just belonging" to ARRL is the many interesting activities sponsored by the league. For instance: the Communications Department field organization consists of many appointments made by the elected Section Communications Manager (SCM) to those active stations in various operating activities. Some of the leadership appointments are: Emergency Coordinator (EC), for leadership in a city or county AREC organization; Route Manager (RM), for leadership in CW or RTTY traffic-handling activities; Phone Activities Manager (PAM), for leadership in phone traffic-handling activities. Some individual station appointments are: Official Relay Station (ORS), for CW or RTTY traffic-handling capabilities; Official Phone Station (OPS), for phone traffic-handling capability; Official VHF Station (OVS), for amateurs active in experimentation or net operation on 50 Mhz or above. Official Bulletin Station (OBS), for those stations willing to broadcast official ARRL bulletins at designated times and frequencies; Official Observer (OO), for those stations capable of monitoring signals and accurate frequency checks - this appointment is very important and OOs have saved many a ham from an FCC citation. All holders of ARRL appointments are required to submit a brief station activity report (Form 1) each month to the SCM who uses the information in the section's activity column which appears each month in QST. Full details of each of these appointments are on pages 8, 9 and 10 of "Operating an Amateur Radio Station," or is also detailed in the ARRL Operating Manual. If you are interested in an appointment, contact our SCM: Roy Maxson, W6DEY, 1434 So. Olive St., Santa Ana, 92707. He will send you the necessary application forms.

By the way, those of you who like operating contests, all ARRL appointees are eligible to participate in the "CD QSO Party" which is held four times (quarterly) each year. This is something like "Field Day" or "Sweepstakes" except all that is exchanged is your appointment and ARRL section. See what you are missing! Are you a league member?

Vy 73, *Jerry*
Jerry, WA6ROF

*** **



*** **

THIS MONTH'S MEETING

Monthly meetings of the CCARC are held on the THIRD Friday of each month at the LINCCIN SAVINGS AND LOAN BLDG., at SEVENTEENTH ST. and BRISTOL in Santa Ana. The next month ly meeting will be held at that location on SEPT 19th at 7:30 PM.

Jack, WB6UDC, has a fine program lined up for the coming meeting: DR. Dan Tompkins of Aeronutronics will present a talk on "SPACE PHOTOGRAPHY". This will be a really fascinating program and you should see some interesting pictures. So, I hope all the members can come . AND BRING A FRIEND!!!

NEXT MONTH'S MEETING -- CCARC AUCTION

Since the ARRI Convention next month in San Diego falls on our normal meeting night; next month's meeting will be held on the second Friday , OCT. 10th at 7:30 PM at our regular location. The Anual CCARC Auction is the program and everybody is invited. Here's your chance to clean out that garage and make a few dollars at the same time; or to find some goodies for your latest project. Please put tags on all items indicating your call and the minimum bid you will accept. I hope everyone will bring or buy something to the auction since your club's treasury receives 10% of the gross sales.

Since next month's meeting will be held a week early, there will be no paper printed next month. So mark the auction date on your calender so you won't forget it.

**** **

MINUTES OF THE IAST MEETING -- AUG 16,1969

The meeting was called to order at 1950 hours by the President, Jerry WA6ROF. The officers were introduced at this time by Frank, WB6TBU.

Our speaker of the evening was Mr. George Zelbal whose subject was "Green Cheese Or Rock". This lecture on the moon, complete with slides, was very interesting; and many questions were thrown at him at the conclusion of his talk.

New members to the club are M. McMasters and Larry Hart. Visitors to the club were introduced at this time and were as follows: Warren Ross, Fred Gregory, Chuck Wohl WB6SIE, and Roger Werner WB6EEG.

Senator Whetmore's reply to Jerry regarding Bill #60 was read. We were happy to hear that the Amateur would not be affected by this bill.

A letter from the Monterey Park Amateur Radio Club regarding their picnic to be held September 21, 1969, was read. We are all invited and the charge is \$1.00.

The Treasurer's report was read and our balance as of this date is \$903.95.

The Bond for the officers of our club has been re-instated.

John W6BNX was the winner of Mr. "R.F."

ANTENNAS AND WIND

by
W6HHC

Probably one of the least understood technical aspects of HAM RADIO (at least to the author) has been trying to determine if the antenna farm is really safe from falling down. Hams usually don't worry if they use wire antennas or have commercial installations with all the manufacturers charts. But what about the ham who builds his own antenna or tower? Since I am putting together a homebrew antenna farm and since the Santana breezes are due shortly, I thought I'd better understand the problem. Well, the information is not too easily found. So now that I did gather some information, I thought you might like to have it passed along.

WIND RESISTANCE

The key to determining the forces on your antenna due to wind is calculating the forces due to wind on a circular cylinder (such as wire or a piece of tubing). Using the "HANDBOOK OF FLUID DYNAMICS", edited by V. I. Streetler, I was able to put the following information together.

The drag force on a circular cylinder is:

$$D = C_d A \left(\frac{\rho}{2}\right) V^2$$

where: D = the drag force on a Circular cylinder

C_d = the drag constant of the object. For circular cylinders, C_d equals 1.2 .

A = the silhouette area of the tubing measured in ft^2 .

ρ = the density of air. A good number is $\rho = 0.0024 \frac{lb-sec^2}{ft^4}$

V = the velocity of the wind measured in feet / second.
(to convert: 1 MPH equals 1.46 feet/sec)

I have used the above equation to formulate a table showing what size force winds having different speeds will create on a one-square-foot area.

wind velocity V	drag force $\frac{1}{2}$ per ft ² of area
50 MPH	6.5 lbs.
75 MPH	17.5 lbs
100 MPH	31.0 lbs

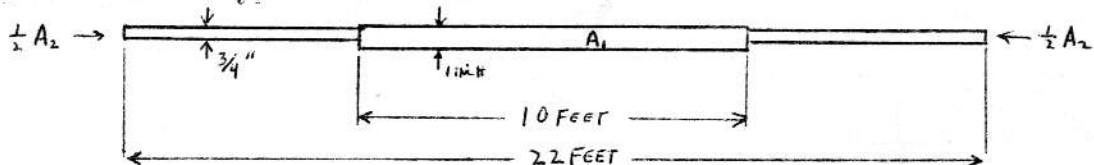
ANTENNAS AND WIND -- cont'd

EXAMPLE PROBLEM

Now that we have a formula and a table to determine the forces on tubing, let's use a typical antenna installation to find out the size of the forces. The example installation will have a five element 15MTR beam on a 15 foot mast on a 60 foot tower. To "worst-case" the design, I picked a 100 MPH breeze.

A) BEAM

Assume that a typical element on the 15 MTR beam is shown below.



$$\text{then: } A_1 = (10 \text{ ft}) \times (0.0837 \text{ ft}) = 0.85 \text{ ft}^2$$

$$A_2 = (12 \text{ ft}) \times (0.0625 \text{ ft}) = 0.75 \text{ ft}^2$$

$$A_{\text{element}} = A_1 + A_2 = 1.6 \text{ ft}^2$$

$$A_{\text{beam}} = 5A_{\text{element}} = (5)(1.6 \text{ ft}^2) = 8 \text{ ft}^2$$

Now, using the force table for 100 MPH winds, the total force on the beam is:

$$D_{\text{beam}} = (31 \text{ lbs/ft}^2)(8 \text{ ft}^2) = 248 \text{ lbs}$$

B) MAST

Assume the mast is 2 inches in diameter and 15 ft long.

$$\text{then: } A_{\text{mast}} = (15 \text{ ft})(0.167 \text{ ft}) = 2.5 \text{ ft}^2$$

$$D_{\text{mast}} = (31 \text{ lbs/ft}^2)(2.5 \text{ ft}^2) = 77.5 \text{ lbs}$$

C) TOWER

Assume the tower is a triangular crank-up type with three 20 ft sections constructed of 1 inch pipe. The total length of 1 inch pipe is 180 ft. Since I'm not about to figure out how many feet of bracing is used on a tower, I will neglect them and just add 50% to the force on the pipe in the tower.

$$A_{\text{pipe}} = (180 \text{ ft})(0.0837 \text{ ft}) = 15 \text{ ft}^2$$

$$A_{\text{tower}} = 150\% (15 \text{ ft}^2) = 22.5 \text{ ft}^2$$

$$D_{\text{tower}} = (31 \text{ lbs})(22.5 \text{ ft}^2) = 697.5 \text{ lbs}$$

Now the force on the entire antenna installation can be estimated.

$$D_{\text{total}} = D_{\text{beam}} + D_{\text{mast}} + D_{\text{tower}} = 1023 \text{ lbs} \text{ !!!!}$$



Never mind the engine-- can you tune up this rig on 40 meters ???



"Should I put out the carbon or crystal mike M'lord?"

BY: LIGA MEXICANA DE RADIO EXPERIMENTADORES ASSOCIATION CIVIL

Award is given for confirmed contacts with at least 15 different States and the Federal District (Mexico City).

Confirmed contacts with 50 XE Stations, including those in point 1.

All contacts to be made after January 1st, 1957.

The Award is issued in A-1 or A-3. Combination of both is not allowed.

Applications and a list should be sent to Custodian.

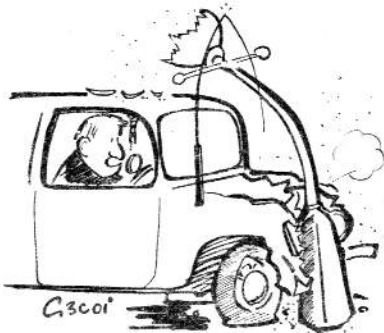
All contacted stations must be "Land Stations". Contact with ships, aircraft or any mobile stations are not valid for the Award.

List of States and Territories: Distrito Federal, Aguascalientes, Baja California, Campeche, Coahuila, Colima, Chiapas, Chihuahua, Durango, Guanajuato, Cuerrero, Hidalgo, Jalisco, Mexico, Michocan, Morelos, Nayarit, Nuevo Leon, Oaxaca, Puebla, Queretaro, San Luis Potosi, Sinaloa, Sonora, Tabasco, Tamaulipas, Tlaxcala, Veracruz, Yucatan, Zacatecas.

Federal Territories: COUNT IN LIEU OF STATES: Baja California del Sur, Quintana Roo.

COST: \$1.00 or equivalent to cover Return Postage.

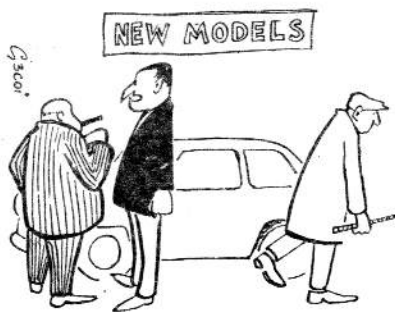
CUSTODIAN: CARLOS GONZALEZ NAJERA, SR., XE1CE, AWARDS MANAGER AND FOREIGN AFFAIRS SECRETARY, L. M. R. E., P. O. BOX 66581, MEXICO, D. F., MEXICO.



"... Just modifying the front-end here ..."



"... keep a pretty extensive log record here ..."



"... No sale, gov'nor--says his rig won't fit, or something ..."



"... Yes, everything here is home constructed ..."

A logo for "WAVE" with the text "La Liga Mexicana de Radio Experimentadores A.C." and some smaller text below it.

SIGNAL REPORT

DX FROM ORANGE COUNTY

BY JACK, WB6UDC

The month of August saw band conditions start to swing up towards the good fall and winter conditions. However many good DX contacts have been made this past month. Some rare one were also heard but not worked due to the immense pileup. The all Asia contest took place this Labor Day wek end. Non Asian stations could make contacts only on CW.

The 10 meter band has started to open up very nicely as can be seen from the log below.15 meters has been very good early in the morning with fine openings to Europe.

Its getting towards the time of the year when the DX contests will start. The CQ World Wide DX Contest gets going in October. So get your antennas in shape and get your equipment in good shape so that you can participate and get your country score up!

The following is from the authors log and also from WA6FIT.

GM3KEZ	Scotland	Jack	21290	1855 GMT
ET3REL	Ethiopia	Dick	21295	1824
YU1NWH	Yugoslavia	IVAN	21295	1710
CT2AA	Azores	Bill	14240	0356
ZD8D	Ascension Isle	Dale	21280	2223
LX1BW	Luxenburg	Willy	21340	1732
OZ7I	Denmark	Folmir	21350	1651
PAØHVM	Netherlands	Hubert	21350	1638
ZE1CX	Rhodesia	Mike	21290	1604
VP2KC	St Kitts	Kit	14240	0405
4S7YL	Ceylon	Soma	14202	1735
C31CL	Andorra	Rick	14230	0605
KC4USP	Antarctic	Bob	21290	1543
HS3AM	Thailand	Al	14210	1636
6W8DY	Senegal Republic	Jack	21280	1739
JW9DL	Svalbard		14228	0630
OX5BA	Greenland	Bert	14240	0632
C31CL	Andorra	Rick	14235	0538
OY9LV	Faro Isle	Ole	14203	1312
CR8AI	Portugese Timor	Louiz	14244	1419
EA8FF	Canary Isle	Ambrose	14244	0739
C31CE	Andorra	Bruno	21242	1747
LZ1KAA	Bulgaria		14027	0225
4JØFR	Asiatic USSR		14032	0359
EA9ER	Rio De Oro	Angelo	21340	1708
5A1TL	Libya	Bill	14295	0513
VR1Q	Tarawa	Neil	14212	0539
HKØBKX	San Andres Isle		14235	0623
VU2KV	India	Vencat	14205	1450

CW
CW

See you next month

73

HAMADS ** ** ** ** HAMADS ** ** ** ** HAMADS ** ** ** ** HAMADS

FOR SALE: HEATHKIT HW100 TRANSCEIVER with the HP10 MOBILE POWER SUPPLY and homebrew AC power supply. All for \$250!!!!

contact: It. JAMES F. WZOREIT -- K1MEA
340 East 2^d St. APT 6
TUSTIN, CAL. 92680
544-4402

WANTED: HAM TOWER. Anything from 40 to 60 feet; either crank-up or stacking.

contact: PCB ECKWEILER -- WB6QNU
667 Coate Rd.
Orange, CAL.
639-5074

HAMADS ** ** ** ** HAMADS ** ** ** ** HAMADS ** ** ** ** HAMADS

ORANGE COUNTY AMATEUR RADIO CLUB, INC.
P.O. BOX 95
ORANGE CALIFORNIA 92668
VOL. X NO. 9 -- DATED SEPTEMBER 1969

FIRST CLASS !!!

DATED MATERIAL !!!