ORANGE COUNTY AMATEUR RADIO CLUB

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

VOL. X NO. 6

JUNE 1969

PRES: JERRY, WA6POF
V. PRES: DAVE, WB6RMV
SECY: FRANK, WB6TBU
TREAS: BILL, WB6CQR

MEMBERS AT LARGE:
DAVE, W6COJ
JACK, WB6UDC

TEEN REPRESENTATIVE: DAVE, WB6NRK

ACTIVITIES: JOHN, W6BNX
PUB. REL.: KEN, W6HHC
MEMBERSHIP: BILL, WB6WGO
TVI: DAVE, W6GPR

HEALTHKIT CO.

I DON'T CARE WHAT YOU SAY, IT LOOKS LIKE A LOVE-IN TO ME!
DX FROM ORANGE COUNTY

BY JACK, WB6UDC

Band conditions have been sporadic this past month and limited activity on the bands was observed. Unusually high noise levels were encountered locally which are combinations of powerline problems as well as the condition of the band.

Not much of any long path on 20 meters is heard any more in morning. Most morning operations are towards the orient which can provide some interesting contacts for DX. Incidentally for those who are interested there is an award being offered by the VS6 Bureau in Hong Kong. This award is called the FIRECRACKER AWARD. To obtain this award send a letter with log information on at least four (4) Hong Kong contacts to the VS6 Bureau.

The band conditions this past month restricted activity to 20 Meters. Ron WAG7IT has made some contributions again to this column.

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Notes taken while listening across the band give hints to several DXpeditions coming up soon. Call me at the home QTH for details I have. Would still like to know who has what awards !!!! See u next month.

73 [Signature]
Minutes of Meeting - May 16, 1969

This meeting was held at the Heathkit Company on Ball Road in Anaheim. Due to a mis-understanding, the manager of the store was not there when the meeting was scheduled to start, which was at 1930 hours. Consequently, we held our meeting in the parking lot until 2030 hours, when the manager finally arrived, and the remainder of the meeting was conducted inside the store.

Ray Owens, K5SAN, was the lucky one to shake Mr. "R.F.'s" hand first, and receives a free club badge. The Heathkit Company donated three gift certificates as prizes, and the lucky winners were: W8ELW - $5.00, W6SYC - $15.00, and WA6BYY - $5.00.

Field Day was discussed. John W6BNX, is to firm up the exact location, and draw a map so it can be printed in the next issue of RF. John is also to check with the owner of the emergency generator which has been loaned to the club in the past, and make sure it will be available again. It was decided that everyone would furnish their own hot food, and that the club would furnish coffee, soft drinks, and cold cuts for sandwiches.

Team captains will furnish their own equipment and can contact John, W6BNX, if antennas are needed. We have four commitments from members, on tents. If anyone else has a spare tent, please contact John.

The Ham Fest was discussed. Ken, W6HHC, said we probably would hold it around the middle of September, 1969, in one of the county parks. It was suggested that the Heathkit Company might donate a nice piece of radio equipment as one of the prizes to be raffled. We have a long way to go regarding the Ham Fest, and Ken will need all the help he can get.

The Heathkit Pre-Field Day Jamboree will be held on the Thursday and Friday before Field Day, at the Heathkit Store on Ball Road. There will be two speakers, one being a design engineer who will speak on the latest equipment from Heathkit. The event will be held from 9:00 a.m. to 9:00 p.m. All are requested to attend, and register for the grand prize drawing, which will be a SB200. The grand prize winner need not be present to win, but all who attend will be given something.

New members to the club are: Eddie Lohse, WN5YSS; Richard Martin, WA6CQR; and Raymond Owens, K5SAN. Visitors were: Mel Bittner, no call; and Bill Sword, VE3FPO/6.

The meeting was adjourned at approximately 2200 hours.

Frank O'Leary, WB6TBU
Secretary, ORARC

Respectfully submitted,

Frank O'Leary

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This month's article will be a scan of several types of regulated power supplies using semiconductor devices (transistors or diodes). These power supplies are used primarily in low voltage applications (0-50V) although with proper selection of components can be made for higher voltages (50V - 300V). The use of regulated supplies is essential in obtaining good performance from voltage sensitive circuits, such as oscillators or measurement circuits. The heart of these modern power supplies is the zener diode.

The Zener Diode

The zener diode is a specially built type of diode to be used as a voltage reference. The zener diode is very similar to the old voltage regulator tubes, except that while they normally regulated at around 100 VDC, the zener diode can be produced to regulate from 5 VDC - 100 VDC. Most common zeners are between (6V DC and 15V DC).

In an earlier article, I described how a diode conducts in the "forward bias" direction to produce a 0.6V DC voltage drop and that it would not conduct in the "reverse bias" direction. Well a zener diode conducts like normal in the "forward bias" direction but it also conducts in the reverse direction and there it produces a voltage drop equal to its "zener voltage rating", Vz.

![Diagram](image)

Figure 1 shows the two ways to use a zener diode. The circuits in Figure 1B and 1C allow you to produce a constant 6.2V DC reference voltage whether the power supply is 12 VDC or changes to 10 VDC. Manufacturers always tell you how much power you can dissipate in a zener diode, so make sure you design your circuits carefully so as to not damage it with heat. A simple (although not as good) zener diode can be made by just connecting many regular diodes in series. Remember, each forward biased silicon diode produces a 0.6 VDC voltage drop. So to produce a 6 volt zener substitute, connect ten diodes in series.

Zener Regulator

The circuit in Figure 2 shows how to build a simple and cheap power supply regulator.
Zener Regulator (cont.)

Here are some rules for determining the value of the series resistor, R.

\[ R = \frac{V_{PS} - V_z}{I_z} \]

**RULES FOR CALCULATING R**

1. DETERMINE THE ZENER VOLTAGE \( V_z \) YOU WANT.
2. DETERMINE HOW MUCH CURRENT THE LOAD WILL DRAIN \( I_{load} \).
3. DETERMINE HOW MUCH CURRENT \( I_z \) YOU CAN SAFELY PUT INTO THE ZENER.
   \( P_z = V_z \cdot I_z \)
4. \[ I_R = I_L + I_z \]
   \[ R = \frac{V_{PS} - V_z}{I_R} \]

**IMPORTANT NOTES:**

A) The zener diode will only regulate as long as the power supply voltage is greater than \( V_z \).
B) Remember to calculate the highest voltage you might expect coming from the power supply into the zener regulator. Then calculate the current into the zener, \( I_z \), and make sure this current will not produce too much power.
C) If you disconnect the load from the zener regulator, all of the load current \( I_{load} \) will go into the zener diode, make sure that the zener power rating can take this additional current.

Transistorized Regulator

Either of the transistorized regulators shown in Figure 3 can be used to produce a constant voltage source. Again the heart of the regulators is the zener diode. However, in these circuits the majority of the power will be dissipated in the transistor. Higher power transistors can be bought and they are easier to heat sink than many zeners.

Choose \( R_p \) to give a safe zener current \( I_z \) from the unregulated power supply voltage. Then determine the power dissipations in the transistor for the given load current.

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Next "RF" deadline: July 21!! EDITORIAL COMMENT: (IXN) I know that HHC's terrific series on transistor circuits and uses must be making some of our readers jealous because they didn't think of it first!!! But it isn't too late! HHC will gladly accept any and all technical articles for "RF"!!
Seems we have set another record. We are the first club to hold its business meeting in the Heathkit parking lot, as we experienced at last month's meeting. Jack Shaw took a picture of the historic event, which should prove worthy of including in a future edition of "RF"—hi. The reason Heathkit was not open to us as planned is that somehow there was a mixup on the date. They didn't expect us until the following Friday. Tnx to ole faithful YWN for getting Bob Carrothers down ther to let us in. After visiting Heathkit, some of us wound up at the Hoffbrau where Bob treated us to as much beer as we could reasonably consume. Is there a "Q" signal for "I'm bloated?" (Burp!) Still don't know who was the last one to leave. Anyhow, it turned out to be a lot of fun, tnx to Bob Carrothers, W6KFF. (But how does Bob contact the VHF repeater when he can't stop burping?)

Field Day is just around the corner and final arrangements will be made at our June meeting. The Field Day site will be reflected on a map elsewhere in this edition of "RF." The groundrules for FD competition with the other Orange County clubs has been approved by the Board, and involves entering the points of our three top bands (as defined by ARRL FD contest rules) as the basis for scoring competition. The winner will receive and retain til the following year, the local Field Day plaque with the club's accomplishments progressively inscribed on it. Let's all get out to Field Day and do what we can to see that our club achieves this award, not to mention the fun we will have. Everyone can help—operating, logging, monitoring, facilities, etc. FD setup at the Irvine site will no doubt commence bright and early Saturday morning, June 28th, and we should be ready to start operating by noon. CU there.

Our Hamfest Chairman, W6HHC, sez things are shaping up and, as I recall, he has WA6YN in charge of publicity and WB6UDC in charge of prizes and manufacturers displays. Ken still needs volunteers to head up such things as concessions, XYL-XYL activities, children's activities, and of course special ham activities like mobile judging, raffles, homebrew contests, code copying contest, etc. Come on gang, give Ken your support. Remember—the Hamfest is to raise money for your club. We can't do it without your help.

Bill Robinson's XYL-Pat, has volunteered to make up some new publicity posters for the club at various ham stores. Bill will coordinate this effort and may have a new publicity poster to show us before long. Go easy on Pat though Bill, we may need her artistic talents for the Hamfest, hi.

In response to the many requests for some club social events, I have exercised my constitutional privilege and appointed Ron Cade, WA6FIT, to take charge of organizing a social committee and arranging for some interesting event this year in which we can get the XYLs and kids of club members together to get better acquainted and just plain have some fun. Unlike the Hamfest, this event will not be to raise money but to enhance the club's enjoyment of its members and their families. Any suggestions as to the type of event should be directed to Ron Cade. Ideas thus far have included a picnic, a breakfast, a tour to Goldstone Tracking Station, El Toro Tower, or the Elsinore Parachute jumps. Put your thinking caps on gang. Ron will have more about this at the June meeting, and don't forget the code practice session at 6:30pm (or thereabouts).

Vy 73, Jerry, WA6ROF

Add the following new members to your rosters: Raymond Owens, K5SAN, 1234 W. McFadden, SA, 92707, ph 540-3171; Eddie Lohse, WN5JJ, 5238 E. Namar, M.C.A.S., El Toro, Santa Ana, 92709, ph 544-4914; Richard Martin, WA6DQR, 11543 206th St., Lakewood, 90715, ph 860-1698. WELCOME TO THE CLUB, FELLOWS!!!
Our next meeting will be held on Friday, June 20, at 7:30 pm., at Lincoln Savings & Loan Building at 17th & Bristol, Santa Ana. COME ONE!!! and COME ALL!!! Our program will be FIELD DAY PREPARATION!!! This is one meeting your interim editor IXN never misses! It is fun to plan for FUN day, or I mean, FIELD DAY!!! According to instructions from John, BNX, I have prepared the rough map to the left to guide you to the FD site.

Remember, as you go south on Mac Arthur, turn left onto San Joaquin Hills Road to Pacific View Drive and turn left again. This will lead you to Pacific View Memorial Park Cemetery. As you enter the cemetery, bear to the left and go to the top of the hill to a barbed wire gate which will be open. This gate is on the dirt road on the north hill of the cemetery. AMEN!! YOU ARE THERE!!!

Ham Antenna 'Ceiling' Lifted

Some time between 5/15 & 20, a new voyage will begin by the Norwegian ethnologist Thor Heyerdahl. In hopes of proving that ancient Egyptians made a similar voyage from the old world to the new world, Heyerdahl will attempt crossing the Atlantic in a reed boat. Using call L12B, he is expected on 20 mtr phone during the 100 to 120 day voyage.

John Drott, 1763 Fireside St., Orange, told the commission that in January, 1968, his neighbor's radio antenna came in contact with utility lines which caused a blackout and power lines fell into his children's play area. Nobody was hurt.

Feb. 6 this year another failure of the same antenna occurred, said Drott. A part of the antenna fell into his back yard. Drott protested the existence of such a danger, "especially where my kids are playing."

Dr. Seymour Lesonsky, owner of the antenna in question, said, in order "to set the record straight," that the first case involving the powerlines was still in litigation. The second failure occurred when "tornado-type winds" hit the city, reaching 120 miles per hour, he said. The tower, which has cost him $4,300, did not fail, but buckled and was repaired at a cost of $40, said Dr. Lesonsky. A piece of the antenna, weighing approximately six ounces, fell into his neighbor's yard, causing no damage, he added.

James Curry, 300 W. Lincoln Ave., spoke at length about the history of amateur radio communication and suggested that the ham operators police their own installations and said that such an agreement had indeed been reached among the operators.

Commissioner Pete Fox moved to deny the amendment. The commission's decision to deny the amendment was unanimous.

"The Register" May 13, 1969

Frm the shack of ROF.
Tnx, Jerry!
FOR SALE.... A 1KW transmitter with the following features; 4-400A final with Pi-tank output, AM-CW-SSR (SSB exciter not included), final input power and class of operation completely adjustable (class C through linear), extra tubes including 4-400A, ...professionally designed and built.....only $200. Also a HI--GAIN Gamma match for tri-band beam, new, only $10. GLENN CHAFFIN, K6CE--735-4791 1939 S. Main St., Corona

COMPLETE STATION... Collins 75-S1 RX, HEATHKIT DX-60 TX, CDR rotor and control, 40 foot TV pole, 10 and 15 METER QUAD, SWR bridge, transistorized keyer, and a code practice oscillator. WAYNE STIMSCN, WN6YA-- 536-6783

FOR SALE.... A HEATHKIT SB-300 receiver with AM,SSB, and CW crystal filters included. In excellent condition.....only $195. JIM TRIPP, W6DIJ--774-2072

BRAND NEW...A DX-60 and an HR-10...will sell or trade for 2 or 6 meter gear...also an FM 2 meter mobile rig and odds and ends...will throw in a vertical antenna free if you buy the DX-60 and the HR-10! Phone Bill Zellers, WB6WYU, 635-4769.

FOR SALE.... Vibroplex Keyer paddle - Make offer JERRY VERDUT, WA6ROF--524-5827