

Central Oklahoma Radio Amateurs

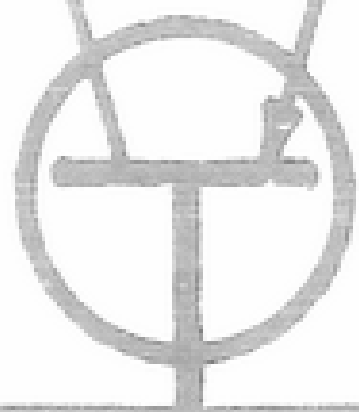
COLLECTOR

AND

EMITTER

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AN INFORMATIVE MAGAZINE  
PUBLISHED MONTHLY BY AND  
FOR OKLAHOMA RADIO  
AMATEURS

AND ANYONE INTERESTED IN  
LEARNING ABOUT IT

Volume 6

AUGUST 1980

Number 67



SECOND CLASS MATTER: Postmaster, see page 3.

# YOUR COMPLETE AMATEUR RADIO STORE

# KRYDER ELECTRONICS

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## THE NEW YAESU FT-707 "WAYFARER"

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in a package this small. The "WAYFARER" comes equipped with 16 poles of IF filtering, variable bandwidth, and optional crystal filters for 600 Hz or 350 Hz.

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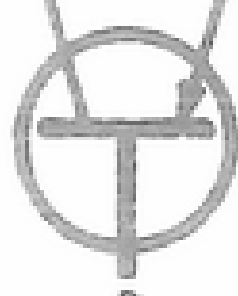


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# Central Oklahoma Radio Amateurs

## COLLECTOR AND EMITTER



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Managing Editor Joe Harding, WA5ZNF 737-1044

Central Oklahoma Radio Amateurs, Inc. (CORA) is a not-for-profit association of radio amateurs, founded for the promotion of interest in amateur radio communication and experimentation, for the advancement of the radio art and of the public welfare and operates to enhance the cooperation of member clubs in sponsoring activities of mutual interest to the clubs and all radio amateurs.

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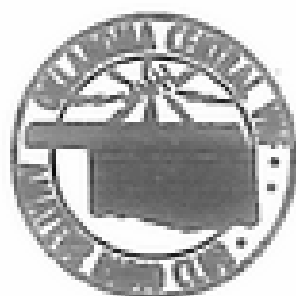
K5NK 721-4926  
WB5NSV 677-8685  
WD5DYJ 842-1086  
KE5M 751-5378

### CLUBS PARTICIPATING IN CORA

<b>1 AERONAUTICAL CENTER ARC</b> MEETS: 8:00 PM First Friday each month Flight Standards Bldg. FAA Aero Center Pr WA5CJG Bob Pace 376-3569 VP K5KDR Bill Oliver 329-6333 Se WB5NSV Bob Graham 677-8685 Tr WB5AAY Larry Bugg 789-4180 Ed WB5NSV Bob Graham 677-8685	<b>2 OKLAHOMA CENTRAL VHF CLUB</b> MEETS: 8:00 PM Third Friday each month American Red Cross, 10th & Hudson OKC Pr K5VRL Jim Williams 789-0769 VP K5YAG Clarence Sittel 947-4015 Se K5JB Joe Buswell 732-0676 Tr W5KE Ellard Foster 789-6702 Ed K5JB Joe Buswell 732-0676	<b>3 MID-OKLAHOMA REPEATER, Inc.</b> MEETS: 8:00 PM First Tuesday of month Okla City EOC, 4600 N Eastern Pr KASCXN Fred Taylor 528-1537 VP WB6PMZ Bob White 681-9222 Se W5BEQ Jim Buswell 256-0368 Tr K5PER Jim Jones 634-5235 Ed W5HMK George Lee 946-754 Dues: Sid Gerber, R29 House MHC 73110
<b>4 OKLA CITY AUTOPATCH ASSOCIATION</b> MEETS: 7:30 PM 3rd Tuesday of month Okla Military Academy, 36th & Grand Pr WA5CZM Doc Goodhead 721-8592 VP W5NK Chuck Wilhite 721-4926 Se W5HXB Karen Recer 751-5378 Tr " " " " Ed K5NK Chuck Wilhite 721-4926	<b>5 OKLAHOMA UNIVERSITY ARC</b> MEETS: 8:00 PM (Sep-May) 2nd Tuesday Room 499, Carson Engineering Center Pr KASDH James Gardner 321-8779 VP WB5QLF Alan Hornsby 325-2194 Se KASCOI Peter Richeson 325-3015 DUES: K5B8F Nathan Kirby 364-7979 Ed K5B8F Nathan Kirby 364-7979	<b>6 ALTUS AREA AMATEUR RADIO ASSOC.</b> MEETS: 7:30 PM 2nd Thursday each month North Main Fire Station (CO) Altus Pr WA5CBF Loren Simms 477-0921 VP " " " " S/T W5VXU Mike Schenkler 482-1797 Ed W5VXU Mike Schenkler 482-1797
<b>7 BICENTENIAL ARC (THE 76'ERS)</b> MEETS: 7:00 PM 2nd Tuesday each month Air National Guard, Will Rogers Apt. Pr W5BMP Joe Couch (Guthrie) 282-4353 VP W5DYJ Kay Northcutt 842-1086 Se W5BEQ Jim Buswell 256-0368 Tr K5FE Tom Cassidy 751-1194 Ed KASFE Susie Atkinson	<b>9 WHEATSTRAW AMATEUR RADIO CLUB</b> MEETS: 2:30 PM First Sunday of month Location Varies. See club section Pr W5JNT Ted Vanlangham 262-1675 VP W5Z Ray Barnes S/T W5PFX Ralph Wilder 623-5421 Ed W5NTH Virginia Beneda 825-3302	<b>10 CHOCTAW AMATEUR RADIO CLUB</b> MEETS: 7:00 PM 2nd Monday, Choctaw City Hall. Pr W5SH Frank Carter 391-3394 VP W5EVP Bob Allen Se W5ARV June Allen Tr KASALO R. G. Edwards 390-8297 Ed W5ARV June Allen
<b>11 EDMOND AMATEUR RADIO SOCIETY</b> MEETS: 2:00 PM 3rd Sunday, Room 205 Science Bldg. Central State Univ. Pr W5SHK Ken Stepp VP W5RR Clarence Dollmeyer S/T W5RY Allen Watson Ad W5FHR Dee Hize Ed W5IDB Howard Wise 341-2510	<b>12 SHANNEE AMATEUR RADIO CLUB</b> MEETS: 8:00 PM 2nd & 4th Tuesday Shawnee City Hall - EOC Pr W5OHL John Owens 273-0848 VP W5FUG Les Stewart 567-3895 S/T W5TQZ Bill Warren 275-0119 Ed W5BUQ Jay Tingler 273-3033	<b>13 KAY COUNTY AMATEUR RADIO CLUB</b> MEETS: 7:30 PM 3rd Thursday of month Security Bank Basement, Ponca City Pr W5DOT Chuck Willis 765-5366 Pr W5ZNM C. L. Hallmark 762-8520 S/T W5TXF Jay Williams 765-9440 Ed W5DOT Chuck Willis 765-5366
<b>14 AMATEUR TV EXPERIMENTAL SOCIETY</b> MEETS: 7:30 PM 2nd Thursday each month Central State Univ. Edmond Pr W5JGC James Buchanan 495-2777 VP W5HTL Paul Asplin (Bus) 521-2861 S/T W5ANG Mike Woods 528-3699 Ed W5JGC James Buchanan 495-2777	<b>15 SOUTH CANADIAN AMATEUR RADIO SOCIETY</b> MEETS: 9:30 AM 3rd Saturday each month Red Cross Bldg. North Campus Norman Pr K5DK Laverne Hoag 329-7625 VP W5ABC John Stehr 364-8761 Se KASPM Linda Brandt 121-7081 Ed W5TZX Jack Rickham 129-1311	<b>16 EDMOND AMATEUR RADIO CLUB</b> MEETS: 7:45 PM First Monday of month General Electric, 3228 N Santa Fe OKC Pr K5GBF Harold Plunk VP W5BQX Bob Shaw S/T W5UIY Stan Van Nort Ed W5UIY Stan Van Nort
<b>17 TRI-CITY AMATEUR RADIO CLUB</b> MEETS: 7:30 PM First Monday of month. Location varies, see club section. Pr W5TFX Ben Gard 379-3112 VP W5VPM Carl Cash 257-2243 S/T KASFD Nancy Haydon 379-6448 Ed W5TFY Pat Gard 379-3112	<b>18 GREAT PLAINS AMATEUR RADIO CLUB</b> MEETS: 7:30 PM 1st Tuesday each month Woodward Court House basement. Pr W5OVT Rod Ford VP W5DFH Bill Reid Se W5DFG Donna Reid Tr KASFKV Gerald Bowman	<b>19 NOTE:</b> CORA meets the fourth Tuesday each month at American Red Cross 10th & Hudson (Back door) 7:30 PM ALL CLUBS should send 3 representatives to every meeting.



Red Cross. The Good Neighbor.



Club  
NEWS

V5107  
The Dayton Amateur Radio Club

EDITOR: Joe Buswell, K5JB 732-0676

### MINUTES OF JULY MEETING

MEETING WAS CALLED TO ORDER AT 8:05 PM BY PRESIDENT JIM, K5VRL, WITH 12 MEMBERS AND GUESTS PRESENT. ELLARD, W5KE, GAVE TREASURER'S REPORT AND CORA REPORT. DETAILS OF HAM HOLIDAY PREPARATIONS WERE COVERED AND THE GROUP WAS REMINDED OF THE REQUIREMENT TO ELECT NEW REPRESENTATIVES TO CORA IN TIME FOR THE SEPTEMBER MEETING.

PAUL, W4SHTL, GAVE REPORT OF FIELD DAY ACTIVITY. THE JUNE CLUB MEETING WAS HELD INFORMALLY AT THE FIELD DAY SITE.

THE AUGUST MEETING WILL BE A COMBINED MEETING OF THE AERONAUTICAL CENTER CLUB AND THE VHF CLUB AND WILL FEATURE LOTS OF WATERMELON. THE MEETING WILL BEGIN ABOUT 6:30 PM, AUGUST 15, NEAR THE NORTH SHELTER AT WILL ROGERS PARK.

PAUL, W5TQG, WILL PRESENT A SUPRISE SLIDE SHOW AT THE SEPTEMBER MEETING. ALL BUSINESS BEING COMPLETED, THE FORMAL PART OF THE MEETING WAS AJOURNED AT 8:42. JOE, K5JB, SECRETARY

### THANKS FROM NORMA HOGAN

NORMA, YL OF SILENT KEY WAYNE, W5A0B, CALLED ME TO ASK THAT I THANK ALL THOSE WHO STOPPED BY THE ESTATE SALE OF RADIO PARTS HELD AT HER PLACE RECENTLY. SHE PARTICULARLY WANTED TO THANK MIKE, N5MS, AND I, WHO PUT THE THING ON. I REMINDED HER THAT THOSE BUYERS WHO DROVE THE HARDEST BARGAINS WERE DRAFTED INTO SALESMEN ROLES AFTER THEY RAN OUT OF MONEY.

THOSE WHO MISSED IT MISSED SOME REAL BARGAINS. GIL, W5NUT, GOT MORE THAN HE WANTED. HE ASKED WHAT THE PRICE WOULD BE ON A BOX FULL OF GOODIES WHICH HE HAD COLLECTED. HE WAS TOLD FORTY BUCKS. HE, IN HIS BEST DAYTON FLEAMARKET STYLE, FROWNED DEEPLY, STROKED HIS CHIN, AND SAID, "I'LL GIVE YA THIRTY." HE WAS TOLD, "NOPE, FORTY BUCKS... UNLESS YOU TAKE THIS STUFF OVER HERE ALSO." HE WAS SHOWN A COLLECTION OF LATE MODEL 1960 MOTOROLA RADIO CABINETS AND MISCELLANEOUS RACK PANEL PARTS. "TAKE THIS STUFF AND YER BOX FULL OF GOODIES, AND WE'LL TAKE THIRTY BUCKS." SHAKING HIS HEAD IN HIS BEST DAYTON FLEAMARKET STYLE, HE SLOWLY REACHED FOR HIS WALLET AND CLOSED HIS DEAL.

SOME, WHO HAD THE FORESIGHT TO BRING PICK-UP TRUCKS, AND HAPPENED TO BE LOOKING THE OTHER WAY, WERE SUPRISED AT WHAT THE GOOD FAIRY DID TO FLATTEN THEIR TIRES.

NEEDLESS TO SAY, ALONG WITH SOME OF THE MORE VALUABLE TEST EQUIPMENT AND PARTS, THERE WAS A LOT OF RAW MATERIAL THAT WOULD HAVE BEEN DIFFICULT TO DISPOSE OF HAD IT NOT BEEN FOR THE GOOD NATURE OF THOSE WHO CAME. I JOIN NORMA IN THANKING THOSE WHO CAME OUT IN THE HEAT AND PARTICIPATED IN THE PROJECT. JOE, K5JB

### NOTHIN TO WRITE ABOUT

SOMEHOW I GOT MY SIGNALS CROSSED AND THOUGHT THAT THE C&E PASTE-UP WAS GOING TO BE ON JULY 17. THAT DIDN'T GIVE ME MUCH TIME TO THINK OF ANYTHING TO WRITE ABOUT. I HURRIED OFF TO WASHINGTON D.C. TO SEE IF THERE WAS SOMETHING TO WRITE ABOUT, WENT TO THE SMITHSONIAN TO WORK THE AMATEUR RADIO STATION THERE. IT WAS CLOSED. WENT TO THE ELECTRONICS AND COMMUNICATION EXHIBIT, SAW HOW MISTER EDISON MADE HIS VACUUM TUBE MONODE...AN ELECTRONIC DEVICE CONTAINING A SINGLE ELEMENT WHICH DID NOTHING BUT GIVE OFF INCIDENTAL LIGHT, HO-HUM. ONLY TRANSCEIVER ON DISPLAY WAS A JOHNSON CB RIG, HARRUMP! OH WELL, ALL WAS NOT LOST. THE BAR IN THE HOTEL WAS ONE OF THOSE ROTATING THINGS WHICH GIVES REAL MEANING TO THE PHRASE "BUYING THE FIRST ROUND". THE VIEW WAS FINE, PARTICULARLY THE VIEW OF NATIONAL



AIRPORT AND ANTICS OF BRANIFF INTERMITTANT, TEENY WEENY AIRLINES, AND THE LIKE.

SINCE THERE WASN'T ANYTHING THERE TO WRITE HOME ABOUT, I WENT OFF TO CHICAGO. HERE I SET MYSELF UP WITH SOMETHING TO WRITE ABOUT. I TOOK ALONG THE UHF RIG, PORTABLE ANTENNA AND PROGRAMMABLE CTCSS ENCODER. I CHECKED INTO A 27 STORY HOTEL AND GOT A ROOM ON THE FIFTH FLOOR, JUST TO MAKE IT A BIT OF A CHALLENGE. NEVERTHELESS THERE WERE A FEW REPEATERS I WAS ABLE TO WORK AND I GOT THE LOW DOWN ON WHY ALL THE TWO METER REPEATERS HAVE TONE CODED SQUELCH. I WAS TOLD THAT IT WAS TO PREVENT USERS IN NEARBY CITIES FROM INADVERTENTLY BUCKSHOTTING INTO THE CHICAGO REPEATERS...AND ALL THIS TIME I WAS TAKING IT PERSONALLY WHEN I COULD HEAR 400 REPEATERS AND COULD ONLY HIT ONE OF THEM FROM THE TOP OF THE JOHN HANCOCK CENTER?

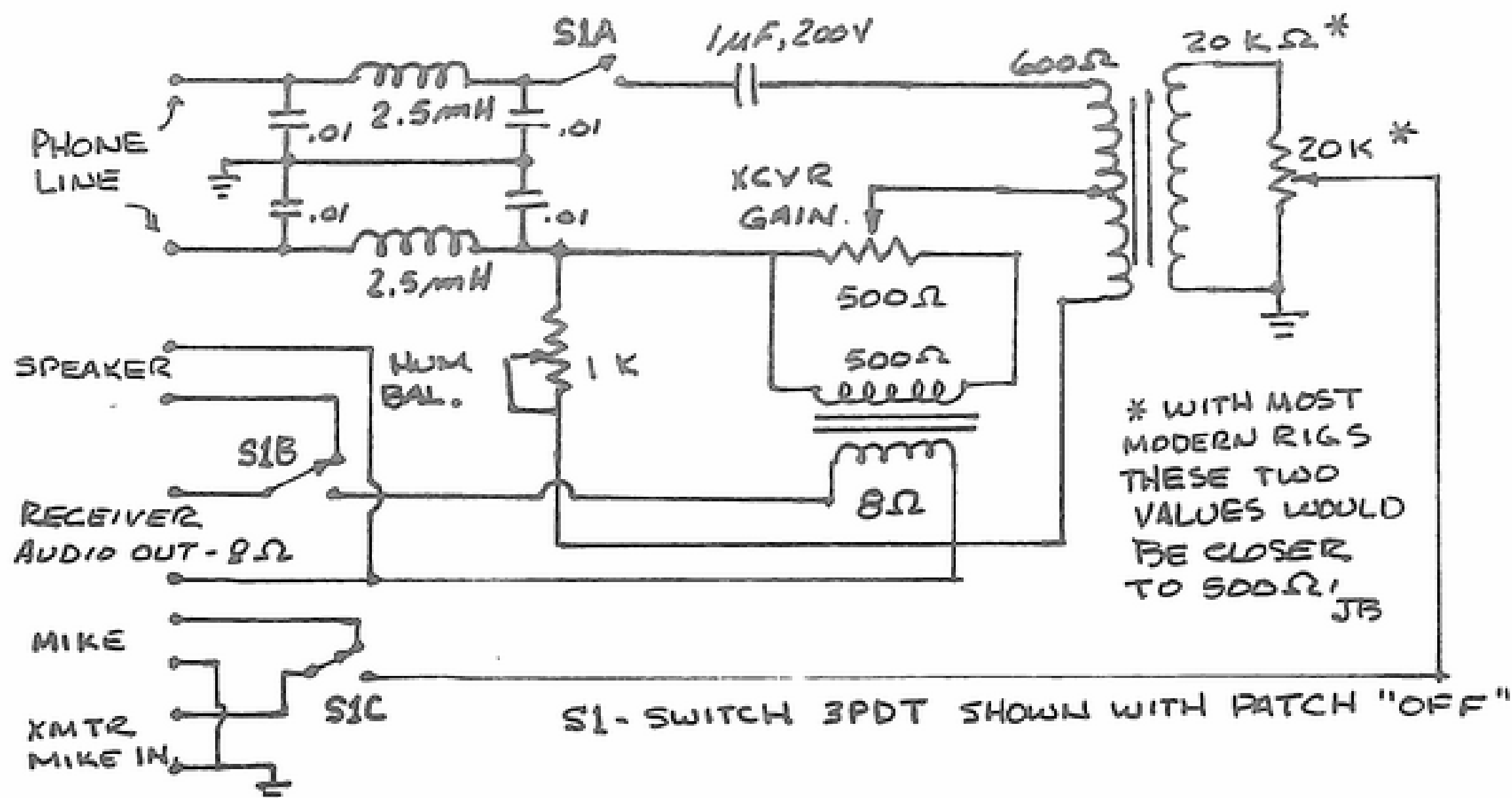
I SHOULD HAVE TAKEN THE HF RIG. THE WINDOW TO MY ROOM OPENED ONTO A ROOF. IT WAS RESTRAINED FROM OPENING FULLY BUT A SMALL SCREW-DRIVER WOULD HAVE TAKEN CARE OF THAT. HMM, WHERE DID I PUT THAT FIBERGLASS CARRYING CASE I PICKED UP AT HAMCOM?

WHEN I GOT HOME I WAS STILL IN A STEW ABOUT HAVING NOTHING TO WRITE ABOUT. WHEN I TOLD N5MS IT WAS TIME FOR THE COLLECTOR AND EMITTER AGAIN, HE SAID SOMETHING LIKE, "YOU GOTTA BE KIDDING! WHY DON'T YOU CALL JOE AND SEE WHEN OUR MATERIAL IS DUE?" I CALLED JOE AND HE SAID SOMETHING LIKE "YOU GOTTA BE KIDDING! WHY DON'T YOU LOOK AT THE CALENDAR?" WHAT A RELIEF! STILL HAVE A WEEK TO GO.

YOU KNOW, A WEEK HAS GONE BY AND I STILL DON'T HAVE ANYTHING TO WRITE ABOUT? JOE, K5JB

#### PHONE-PATCH - A REPRINT

FROM THE MAY 1963 OKLAHOMA CENTRAL VHF CLUB NEWS, THE FOLLOWING PHONE PATCH CIRCUIT IS REPRODUCED. IT WAS SUBMITTED BY JIM SPECK, W5PPE WHO ADVISED IT SHOULD BE CONSTRUCTED IN A METAL BOX AND WELL GROUNDED.



BY THE WAY, THE OFFICERS OF THE CLUB IN 1963 WERE JIM SPECK, W5PPE, PRESIDENT, CHARLES COUFFER K5RRQ, VICE PRESIDENT, JIM WILLIAMS, K5VRL, SECRETARY, AND BEN ALLEN, K5IRO, TREASURER. IT MET AT THE NAVAL RESERVE ARMORY, 10 NW 23 AND DUES WERE \$3.00 PER YEAR...WHAT? NO INFLATION?!

STEVE, W5VCJ, WAS 6 METER PAM AND HE ADVISED BEST METHODS FOR WORKING DX ON 6. THE EDITORS TOOK EXCEPTION TO SOME OF HIS METHODS. THERE WAS, BY THE WAY, AN EDITOR AND TWO ASSISTANT EDITORS, BOY WHAT A LUXURY! THERE WAS A ROSTER OF 32 NAMES VOLUNTEERING AT SPECIFIC TIMES TO MAN TWO METERS AT THE WX BUREAU. INTERESTING. JOE, K5JB

# Mid-Oklahoma Repeater Inc.

A NON-PROFIT ORGANIZATION  
OF RADIO AMATEURS DEDICATED TO PUBLIC SERVICE

EDITOR: We Need One

## NOTES:

While listening on the repeaters, sure notice lots of interesting goings-on from my vantage point.....

WA5JGU Charlie and Marie are whupping up a new room for a Ham Shack, while its cool inside. Certainly a fine signal from his house.

W5HXL, Bob is still painting...brush in one hand..mike in the other. W5KE, Ellards travels are sure to broaden him...and his stock.He sure gets around.....

WB5TKG..Cy..charges his batteries....precisely.

HEARD ABOUT W5FMX Woody's plan to shift operations to shift operations to a place near Jim Thorpes birthplace. We'll miss him.. (he hasn't left yet!)note: forgive the typo.

W5MCJ, is operating electronic gadgets on his chest..Best wishes for a fast recovery! Jerry.....

KA5FED, Susie is roughing it at her palatial cabin at Cedar Lake, when she arrived this week,she found a inoperable water pump(no water) and the refrig not working.

WD5IRB, Ralph is the new Net Manager for the state wide Five Oclock Net at 3900 KHz. Get up your long wire (75 mtr) and check in! You are needed.....

FISH STORIES from W5PDH, Frank; WB5SVN, Jack; and Pres. Carter AB5H are getting plumb believeable.

Kudu's to the new net controls heard on the Nite Owl Net: KJ5B. WA5PDH, and KA5ESA. Still need a net control on a permanent basis for Thursday night.... Contact WB5TFX on 07/67 or at net time beginning at 10:30 PM every night.....

MISSING the early morning groupies from the boondocks on 07/67? K5CPZ, Carol deserves her compliments recieved so far for her CW skills and message handling. She sure stays busy.....


PET PEEVE---folk who don't use the time honored system of identifying their presence on the frequency by using their Call Sign, and THEN waiting for recognition, prior to beginning any remarks. Sometimes this kind of QRM is equalled only by the 11 meter bunch. Courtesy is always appreciated.

LOOKING forward to the MORI picnic the 5th which may occur before publication of this column. We always have a ball, hope y'all come.

BEEN ENJOYING the good technical articles in the C&E by N5MS Mike's super columns, Joe- K5JB's folksy bits, the short shots by W5JJ Carl and a up-and-comer in the SCARS section WB5TZZ Jack Bickham.....keep them coming!

HEAR YOU ON 07/67 or..34/94?  
Join MORI...why not? Contact W5K0Z  
and/or write him.

FRED KA5CXW


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WHEATSTRAW ARC ®

01-62

EDITOR: Virginia Beneda, 825-3302

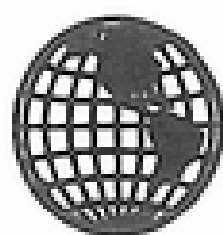
When current events fade into memories surely 1980 will be remembered by Wheatstraw Club as "In The Good Old Summer Time". During the last month they have been "Over The Hill" and "Over The Dam" both, so that surely constitutes some kind of record. The hill came first - Howe Hill that is - this was my first outing on a Field Day and also my first contact with the portable equipment. Neat, Fellows! and quite different from the first field day when a stock rack on a pick-up truck was almost covered with a tarp, but didn't keep out too much blowing rain, huh? As usual there was "Good News" and "Bad News". The good news was good food and good contacts. Would you have ever guessed 2 meter simplex as far away as northeastern Oklahoma? and 6 meters was also open northeast into the Virginia's, New Jersey, etc: I understand this is rather unusual as contacts are usually located in a northwesterly direction. 115 contacts were made on 2 meters and 62 on 6 meters recorded for a total of 354 points plus publicity bonus etc: The only bad news was mosquito's. Those little fellows were equipped to penetrate buffalo hide and showed no mercy on tender white hide. The most popular piece of equipment present was a big  of OFF.

The next activity was the regular July meeting held on the air-conditioned shores of Canton Lake. 38 people enjoyed a delicious covered dish picnic dinner hosted by members from Longdale and Canton area who also furnished the group with plenty of iced tea. Nap time was interrupted to call the meeting to order. After the minutes and secretary report WD5JNT reported that the new Helliax cable had been installed on the repeater, and Joe WA5GHK reported copying the repeater around Ft. Cobb lake. There was a lot of discussion on Ham Holiday, including a call for help. Wheatstraw is responsible to be M.C. plus having props etc: for the following programs. Marvin WA5JHB and Ted WB5JNT will be the able bodied 'front men' to keep things moving smoothly and I am sure they are capable to meet the challenge.

WA5PFK will be net control for the month, and it was reported that Leo KA5DUO had upgraded his license to General Class. Congratulations, Leo. And thanks for keeping your same call sign - dummies like me appreciate it.

Next meeting will be at Calumet with home made ice cream the order of the day, so this meeting should be finger-lickin' good. You all come. Until then we'll see you at Ham Holiday.

WB5WTN



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# EDMOND AMATEUR

## RADIO SOCIETY

147.72/147.12

We have two guest columnists this month. First our Prez feels he wants to get some things off his chest... and then former Prez Dee, WD5FHR has the report on Field Day; so away we goooo!

Dear Edmond Amateur Radio Society,

I've needed for sometime now to express my appreciation to you, and decided perhaps this would be the best method and the best time.

Since my election to the presidency of EARS, I've been amazed at the time and effort being continually volunteered by the members of this club. At our first Executive Committee Meeting in January, I was afraid we were outlining too many activities for the year. I was afraid that perhaps a club as small (small at that time) as EARS could not support a 2-meter repeater, Field Day, membership in CORA, working with the new Edmond Civil Defense Director, offer a summer novice class, and the many other activities we discussed. Boy, was I ever wrong! In fact, I'm convinced that you guys thrive on turning this into a tremendous amateur radio club. We've not only successfully participated in these various activities, but have added many others along the way. For example, we had 5 different activities scheduled for the month of July, and we had no trouble in getting enough volunteers. As a matter of fact, I had to turn down several people who wanted to help on the Fourth of July and for the Lake Arcadia dedication.

Also, it was our goal to double the size of our membership in 1980. Perhaps our sights were set too low, because at this writing, we lack only a few more people to reach that goal, and we're just a little over half-way through the year.

There are many of you who have responded above and beyond the call of duty, and I would like everyone to know of your efforts. Clarence Dollmeyer is one of our gifted "work-a-holics". He is our club Vice President, C. & E. Editor, and head of our Educational Committee. Clarence takes time each month to find out what our members have done, and what they're planning, and then writes it up for the C. & E. He also is the primary instructor for our summer novice class; which, by the way has been an extremely successful venture. As if that weren't enough, Clarence is one of the first volunteers whenever I have a special project that pops up. Clarence, your efforts are very much appreciated.

Martin Vinson is another very active member that has contributed tremendously to EARS growth. Most of the people who have joined EARS in the past 4-5 months have done so because they either read about us in the C. & E, or because they met us on our repeater (147.72-147.12). Since Martin built and also maintains our very fine repeater, a great deal of thanks is owed him. When we first began discussing the possibility of supporting a 2-meter repeater, one major drawback appeared to be the lack of finances in our small club. However, we decided to take the chance; and with Martin's special abilities, we've survived in fine style. Martin, along with the assistance of Bob McCoy, added an autopatch earlier this year. The patch is operated through a link and is located at Bob's house. To make it even better, it doesn't cost the club a dime. Can you beat a deal like that??! Martin has spent many hours working on the repeater and related equipment so the rest of us can enjoy using it. Thank you very much Martin.

EARS has accepted the responsibility for testing Edmond's Civil Defense sirens the first Saturday of each month. Those involved in the monthly project have included: Ben Allen K5IRO, Clarence Dollmeyer KB5RR, Roger Harmon KB5QC, Bob Janda KA5AFN, J. D. Kelling WA5ZGN, Martin McCormick WB5AGZ, Bob McCoy N5BUJ, Dee Mize WD5FHR, Bob Shaw WA5BQX, Martin Vinson WD5FEI, Howard Wise WD5IDB, and Bill Wright WA5ZLW

Others in the club who have been very active include: Bill DeMand K5SKA who provides the novice class with a place to meet, helps instruct when called upon, and provides a home for our repeater; Bill McMullin WD5EXY who is one of our CORA

E A  
R S

\*\*\*\*\*CORRECTION\*\*\*\*\*

When using the patch, complete your call as follows:  
1) bring the patch down (# key); 2) unkey your Xmtr and  
allow the voice I.D. to operate; 3) key up your Xmtr and  
sign clear of the repeater.

representatives, and frequent volunteer for other projects; Dee Mize WD5FHR who has skillfully organized our last two Field Day events; Allen Watson W5ERY who is one of our original founders and currently serving as Secretary/Treasurer.

This is not an all inclusive list, but I'm not allowed to take the entire August issue of the C. & E. for EARS. Therefore, I'll just say thanks so much for the tremendous effort and dedication of all EARS members. This club has made great strides during the past 3 years, and I expect it to continue in that direction for some time. Many of you, who are relatively new in the club have jumped-in and offered your services to the club. That kind of support is super. Club attendance is also very good. How many amateur radio clubs (or any club for that matter) have more attending their meetings than their total membership? We've done it rather consistently. However, those just visiting usually show-up as members at the next meeting.

Well, thanks again for your work. You make being president of this club a great pleasure and I'm very proud to say that I am a member of the Edmond Amateur Radio Society.

73, WD5HXX

\*\*\*\*\* FIELD DAY REPORT \*\*\*\*\*

Another year has come and gone thus has been the same with field day. EARS members gathered this year at a new site which is one of the newest Edmond park facilities that being the E.C. Hafer Park. The site is probably one of the best we've used in that we had a pavilion to work under plus latrines and water fountains were available. Here's hoping that we can obtain this same site next year. Many hams turned out to see what was going on but none wanted to chip in and operate. We need your support for field day. But we scored much better this year even if the turnout was low. The bright side to this is we are doing better and better. Signs of growing don't you think. I cannot leave this article unfinished unless I mention the family weiner roast that was held in conjunction to field day. Some 30 plus members and families were in attendance and had a good time. As activity director for EARS I want to thank the many hams and their families who made this one enjoyable and remembered by all.

73's

Dee, WD5FHR

Repeater News: Xmit antenna has been raised to +150' -- ERP now 185 watts. Martin is thinking in terms of future 400' receive & 220' xmit. That should cover our current membership area which now reaches from Guthrie to Midwest City. The membership authorized purchase of a plastic battery box for our emergency power system. Note: SEE CORRECTION AT THE HEAD OF THE PAGE.

Commendation: The club has received a letter from Mayor Carl Rehreman and CD Director David Van Nostrand expressing appreciation for our weather watch activities.

Knife & Fork Club Speech: On Thursday morning July 17, Ken Stepp & Clarence Dollmeyer joined the Exchange Club of Edmond for breakfast and delivered a brief explanation and demonstration of ham radio. Looks like we might have one or two recruits for our effort.

Out in the Sun: EARS to the rescue again! This time by providing communications for the traffic control personnel at the Arcadia Lake dedication ceremony. Your scribe was much impressed with the way our CD Director had that function covered -- like an blanket. We capped it all off with a cold 807 (Rocky Mountain Kool-aid to you).

EARS

Paul Loafman, K5BPY has recently gone 10 rounds with surgery and intensive care. We hear that he is at home now and coming along well but slowly. Bet he would enjoy hearing from his friends. 341-7501



Treasurer's Report: Cash balance as of 20 July \$312 ± ??

It is time to catch up on new additions to our membership roster so here goes:

☞ Don Brown, WD5DGC  
111 W. Michael Dr.  
Midwest City, OK 73110  
Ph 737-6141

☞ David Dierker, WB5RLR  
10204 Haverhill  
Okla. City, OK 73120  
Ph 848-4610

☞ David Dowdy, KA5AFA  
11 Pin Oak  
Guthrie, OK 73044  
Ph 282-0556

☞ Frank McCollom, N5FM  
2421 N.W. 118th Street  
Okla. City, OK 73120  
Ph 751-3577

☞ Meridith Phelps, WA5GVH  
RR 5, Box 97  
Guthrie, OK 73044  
Ph 282-4644

☞ Oscar Staudt, Jr., WB5GCX  
1414 N. Oak  
Guthrie, OK 73044  
Ph 282-6508

Permanent Siren Test Assignments: WD5HXX - Control

WA5BQX - Old Farm  
WB5AGZ - Reisner School  
WD5FHR - Kelly Park  
WA5ZGN - Public Library

WD5IDB - 2nd & Coltrane  
KA5AFN - Mid-High (9th St.)  
KB5RR - Kickbird Est.  
WA5ZLW - Sorgum Mill Est.

Old Times: Member Charles Frodsham brought a QSL card from EARS charter member Harvey Burks which had been mailed to Charles at McPherson, KS in 1956. How about that!!

NEW TOYS ON THE BLOCK: President Ken, WD5HXX, has a new toy -- a Kenwood TR 7800 which he lovingly totes from the car to the shack and back again. Sounds great! If any of our readers have aspirations of owning a synthesized talkie, they might talk to Ken. I believe there is one unit surplus at the Stepp household now.

OLD TOYS IN NEW HANDS: Charles Frodsham, KØAYS, got together with Ben Allen and is now the proud owner of a Swan 350C which used to grace Ben's shack. He has been looking around for some local action on 1Ø in the evenings. Do the OKC area types still frequent 28.8 occasionally??????

BIG DX COMING UP: Howard Wise, WD5IDB, has just completed a short course in concrete finishing -- now has a tower base and three guy wire poles firmly anchored in the back yard. He has a two inch PVC conduit run from the shack to the base of the tower plus a big cabinet at the tower for connections, relays, etc. Nice set-up -- we hear the program is to go to 50 feet ±.

LATEST CONSTRUCTION PROJECT: Bill Wright, WA5ZLW, has built the talkie charger which recently appeared in QST with both constant voltage and constant current switchable circuits -- with certain modifications of course. What self respecting Ham would build such a thing without a few improvements. The cabinet is solid walnut. The charger may not bring much on the market but I know where you can hock the walnut Bill.

NOVICE CLASS NEWS: At this writing we are one lesson away from the end of the code teaching tape and within two weeks we will be jacking the class code practice speed up to 6 and 7 wpm. The next lecture is on antennas and propagation so it wont be long now. Looks like the shake out will leave us with 10 or 12 applicants to be certified to the FCC for the written exam. Not bad for a first effort. Is there any interest in a repeat this fall or should we wait for spring? Please scout around and see if there are any candidates out there.

73 SK EARS DE KB5RR CL



EDITOR: Bob Graham, WB5NSV 677-8685

Random Words From The President:

Be sure to mark the 3<sup>rd</sup> fri. of Aug. on your calander as this will be a joint meeting of the Central VHF club and ACARC. WE will eat watermelon untill we POP (almost).

In Sept. we will be back at the Aeronautical Center for our meeting and Program. The program looks like a good one so come on out and join us.

The Oct. meeting will be a very short business meeting, followed by a 10% auction so if you want to buy something or if you have something to sell come on out and have a good time.

I hope everyone had a good time at Ham Holiday 1980..

73, Bob Pace, WA5CJG.

MINUTES OF THE JULY MEETING OF THE ACARC

The meeting was called to order at 8:05 PM. by President Bob Pace, WA5CJG. There were 42 members and guests present. Following the usual round of self-introductions, President Pace made several announcements, and asked for committee reports: a summary follows:

Bob announced that the 3rd Friday in August will be our annual joint watermelon feed held with the Oklahoma Central VHF Club. Although not yet confirmed, it will probably be held at Will Rogers Park. Listen on the ".25-.85" repeater for confirmation of time and place.

Bob then announced that the club now has a new Kenwood 7800 two meter radio in our club station. This is an excellent radio. Look it over at your next opportunity.

It was reported that Field Day went well, Thanks to Paul Asplin, WA5KTL, Bryan Dehart, N5BEV, and many others for their help in this effort. Although there was a lack of sufficient operators, we did prove that our portable station can and does work.

Computer and repeater reports followed, both seem to be doing well. Their use is welcomed by all.

Clara Storm, WD5KFT, reported that Jerry Broudy, W5RCJ, is in the hospital for open-heart surgery. We all wish Jerry all of the best in the world. Get well soon Jerry.

Bob Pace then announced that the September meeting will feature a doctor from the Civil Aero Medical Institute, who will talk on the effects of low level radiation on the Human body. This should be of great interest to anyone connected with radio in any way.

Bob also announced that our October meeting will include a 10% auction. Everyone will be encouraged to bring something to be auctioned off. More on this next month.

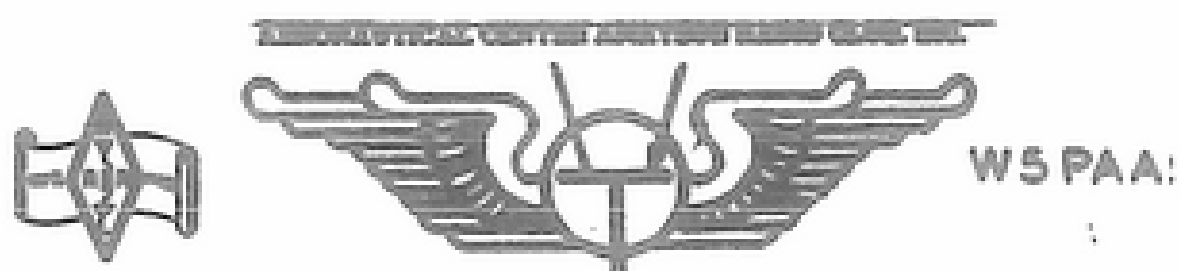
By the time you read this Ham Holiday '80 will be a thing of the past. I hope we all enjoyed it. I'm certain that we did.

The program of the evening was presented by Mrs. Marquita Nelson, from the O.G.&E. company. She showed a film titled, "Energy Realities", which was quite informative and was enjoyed by all. Thanks Marquita.

The meeting was adjourned at 9:31 PM for coffee and donuts.

73, Bob Graham, WB5NSV





### THE VSWR FILM IN RETROSPECT

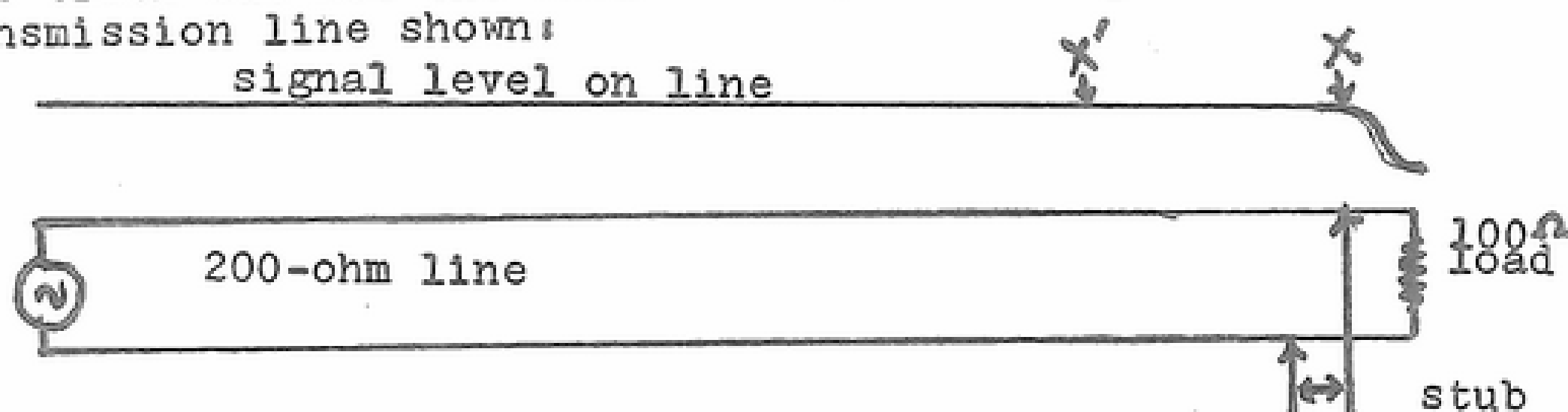
Really, that term "retrospect" should have been "in reclama," but as it appears only in Latin or legal dictionaries, the less accurate term will have to serve! (The film was shown at the June ACARC meeting.)

That film had only one glaring inaccuracy, but many sins of omission. The inaccuracy was in depicting the foldback of the reflected wave upon the incident wave. An erroneous phase relationship was shown. If you want a fully-accurate and detailed description of how this "foldback" comes about, read W2DU's series of articles in QST a few years ago.

Now for a few of the "sins of omission." Most of these were of a nature of making a general statement, pretending that the statement was wholly true in all circumstances. Actually, the statement would be true only under certain conditions, conditions that should have been specified in detail in order not to create erroneous impressions.

Let's take one. "If there's a high VSWR on a transmission line power will not be delivered to the load." Oh? How about a tuned open-wire feeder to a center fed Zepp? The VSWR will be about 25:1 and yet this is one of the very best feed systems that has been devised! In many cases the loss of energy on that transmission line will be less than that for a co-axial transmission line with a VSWR of 1:1.

And let's delve a wee bit deeper into the example the film used on stub matching. What it showed was correct, of course.....but it stopped too damn' soon, thereby creating false impressions.....a classical example of "the truth but not the whole truth." Take a gander at the transmission line shown:



The stub is attached at point X. Now the true load is not just the 100-ohm resistor. It is the composite of the whole mess to the right of point X: The resistor, the remainder of the transmission line, and the stub. These three, obeying well-defined laws, transform the 100-ohm power-accepting load to a 200-ohm power-accepting load. (You saw the light-bulb load light up to full brilliancy.)

Now, what the film did NOT show you was the fact that the stub could have been moved back (from the load) one half-wave to point X' and the bulb still would light to full brilliancy. Everything to the right of point X' now would be the 200-ohm power-accepting load. In fact, you could keep on moving the stub to the left in half-wave increments until you reached the generator and the results would have been the same. The same, that is, except for the very tiny heat or radiation losses in the transmission line to the right of the attachment point. You see, God has never seen fit to repeal his "Conservation of Energy Law;" therefore all power fed into the transmission line must be consumed" (that is, transformed into either heat or radiated RF power) by the power-accepting load.

Another "sin of omission," one practiced by 99.99% of all material concerning transmission line matching is the



presumption that the load always will be purely resistive. It will be.....in about 0.09% of the time! In real life, antennas almost invariably present a complex load. The sole exception would be one designed to work at a single frequency, say, 14,251 kHz. If you hit your VFO and transmitted on 14,252 kHz, a slight bit of reactance will have been introduced.....not much, but some.

There were other "sins of omission" too.....but, heck, it was meant to be a sub-kindergarten training film....and that was exactly what it was!

W5JJ

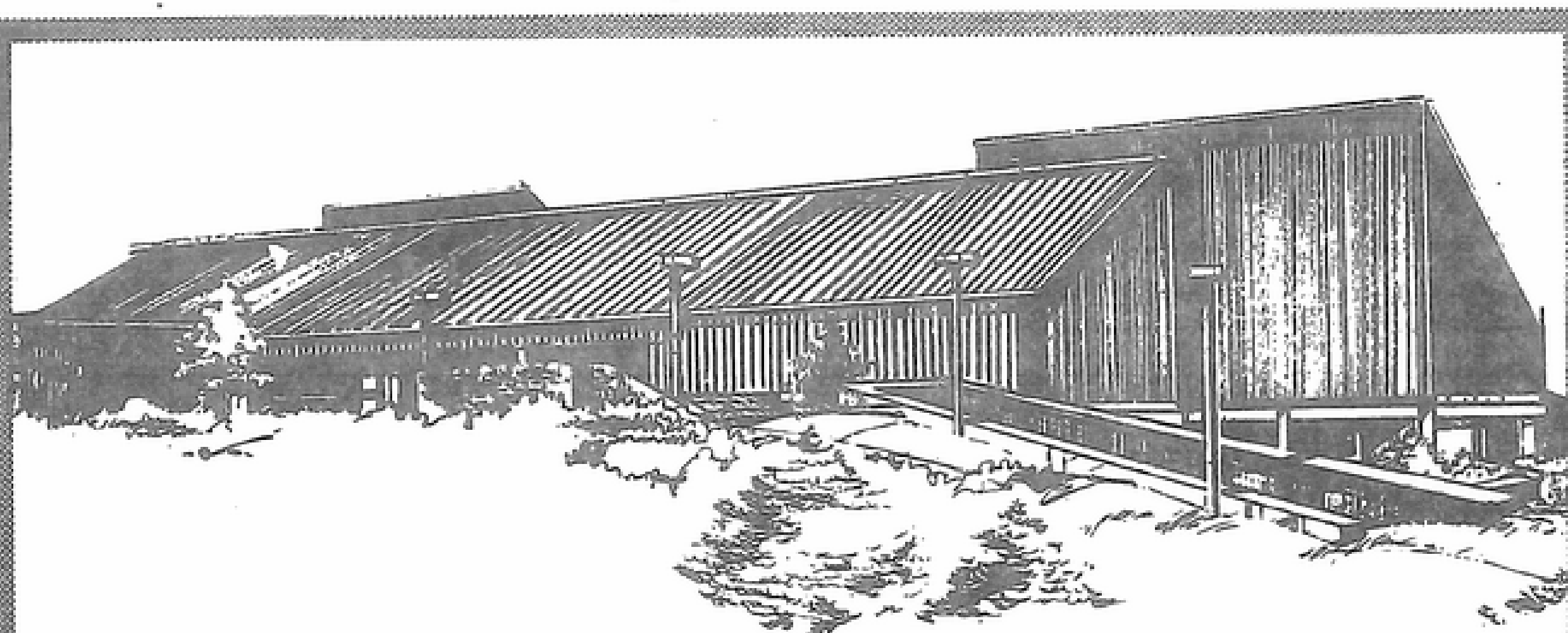
#### MONITORING SSB TRANSMISSIONS

Unlike the formerly-popular double-sideband-with-carrier transmissions ("AM"), single-sideband-without-carrier (SSB) transmissions are very difficult to monitor for quality. The May issue of Amateur Radio contains an article by JA6BC on one method of accomplishing that desired end. It's not simple, and it's not easy to build, but it's not an impossible task.

Look up the article in the magazine at the ACARC clubroom. You'll find it good reading, even though you may never plan to build such a monitor.

Of course, if you want to do it right, buy a real-time spectrum analyzer. You might be able to pick up a bargain for not over \$10,000 or \$20,000.

W5JJ



***Beat The Rush!***

**New Classes Start**

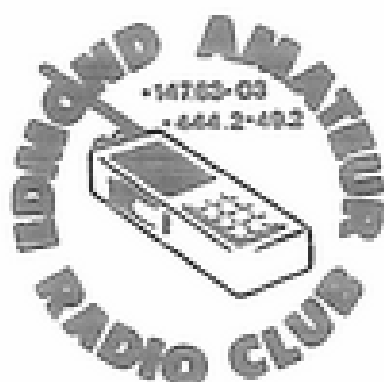
**Aug. 25**

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682-1611



Edmond Amateur Radio Club  
P.O. Box 76252 / Okla. City, Ok. 73147

Stan Van Nort - WB5UIY

#### Late HEADLINES

President- Harold Plunk K5GBF  
just upgraded to ADVANCED  
Sec/Treas.- Stan Van Nort WB5UIY  
just got married on July 4th  
Trustee- Dennis Orcutt WB5ISN  
unfortunately made it back from Col.

#### MINUTES JULY 7, 1980

The meeting was called to order by President Harold Plunk. This being a regular business meeting held at the T.G. & Y. Main Office, we immediately got down to business.

Minutes were read from the April meeting and approved.

Treasurer report given and approved.

Discussion of the new UHF link for the 63-03 repeater was started by Stan WB5UIY. It is currently used to relay the Rx audio from a remote site to the Tx site on Channel 5 (ALIVE)'s TV tower. It is owned by Dennis WB5ISN the trustee. The phone line it replaced is saving the club \$8.94 a month. Discussion on the purchase of the link continued until the President decided it should be referred to the Executive Committee.

The UHF (444.2) repeater was discussed next as the 100 watt power amplifier is broken down. It is currently putting out approx. 2 watts from the exciter. Howard W5UVI noted several other things were either down or not in full operation. Stan WB5UIY advised the group that a Micor Rx was available and could be purchased cheap for the 63-03 machine. Motion by Bob WA5BQX to purchase the new Rx and any other needed parts & supplies to get both repeaters back in full operation. Passed unanimously.

The 220 MHZ repeater issue was brought up again by Stan WB5UIY. It was noted in Dennis' absence that he thought it should be scrapped. Motion by Bob WA5BQX to scrap the 220 repeater. Passed- 9 For & 2 Against.

Patches, hats & decals was brought up next by Larry Dillard WB5CWB. Larry noted he has 50 caps on order with the new club logo on the front. They will be \$5.00 each.

New members with applications pending was brought up by Stan WB5UIY. He advised that the membership roles was currently set at 40 and was last increased on 5/9/77. Ron Cron WA5EAI made a motion to increase the maximum limit by 10, moving it from 40 to 50. Vote was unanimous. However, Larry Dillard had a cute remark. (You will have to make the next meeting to find out what it was.)

Meeting adjourned and forwarded to McDonald's for B.S. & etc.

#### EXECUTIVE MEETING JULY 7, 1980

Exec. meeting was called directly after the regular business meeting. It was called to order by Harold K5GBF. Stan WB5UIY, sec/trs noted two applications for membership had just come in recently, and both were recommended highly by him. Motion to accept was 3 for & 0 against. Meeting quickly adjourned. (Record time-2.5 minutes)

#### THANKS

Stan WB5UIY the Parade Marshall for the Fourth of July Parade, would like to recognize several hard working souls in the club for helping with the parade. Wendell WB5ISO, Joe WA5FLT, Joe K5JB, Martin WD5FEI, and Martin's friend Bob K5BUC. (Sorry if that call sign is wrong) THANKS AGAIN!

#### CAPS ARE IN

The baseball type caps that Larry Dillard ordered are in and available. They cost \$5.00 and are well worth it. Be sure and call Larry if you haven't got one. Home 685-4065 Office 751-900 (a pretty girl answers this number) I have been informed there are only 25 caps so hurry while supply lasts. (Howard finally got a cap)

#### NEXT MEETING

Will be another social event but plans are not final. It is possible we will have a pool party at Deed's Ranchito, but must be scheduled during the week. Listen to 63-03 for any announcements!!!

# Central Oklahoma Radio Amateurs

July 15, 1980

Mr. Chuck Wilhite, President  
Central Oklahoma Radio Amateurs, Inc.

Dear Chuck,

In the past several months my views and those of most members of the CORA Board of Directors have become more and more divergent. At times the Board, in my opinion, has not acted in a responsible manner where financial matters are concerned.

The Board continues to encourage and accept as new members clubs in outlying areas. The majority of these clubs contribute nothing toward Ham Holiday or C & E. Some Board members may disagree with this statement, but I don't consider minutes of club meetings to be a contribution to C & E. Also they don't assist in paste-up or mailing. Members of outlying clubs pay 25¢ per issue and receive their copy each month. Many members of local clubs pay \$1.00 or more per issue, assist in paste-up and mailout in addition to writing articles. Postage costs to outlying areas are also greater than in the metro area.

At other times common sense prevails by the slimmest of margins. For instance, the group on 40 meters who wanted a meeting room for both days of Ham Holiday plus admission for all their members, at no cost to them of course. This proposal is absurd, but many Board members were in favor of it. Another item concerned enforcement of registration rules for Ham Holiday. Many Board members were against having uniformed police officers available to enforce these rules. To them this was demeaning to ham radio. Their proposal was to collect the registration fee from those willing to pay and let the rest in free. This would avoid any hassle and make all hams appear to be good little boys and girls.

The above examples are bad enough, but in my opinion some Board members are even worse. These individuals use CORA to further their position in other organizations. To them it is not a question of what is best for CORA, Ham Holiday, C & E or amateur radio, but what is best for them and the other organization. I can understand a Board member putting the club he represents above CORA, but some place the best interests of other organizations above those of CORA or their club.

Perhaps CORA and its member clubs should reevaluate their position in regard to C & E and Ham Holiday. The CORA representatives of two of our largest clubs recently asked their members for assistance at Ham Holiday. The responses were not overwhelming. One club produced a volunteer after bringing the matter up for a third time and the other club is still waiting. If this is an indication of club members' support for CORA activities, perhaps Ham Holiday should be cancelled and publication of C & E stopped.

In any organization, apathy is always a problem. In the Oklahoma City area amateur radio clubs, it is epidemic. There are over 600 members of CORA affiliated clubs in the metro area and 85% of these amateurs don't devote one hour per year to assisting with CORA activities. That makes the 10 or 15% who care, carry the load.

## Central Oklahoma Radio Amateurs

I am tired of fiscal mismanagement, I am tired of self-serving Board members, I am tired of carrying my small part of the load. In fact, I am just plain tired of the whole situation. For these reasons, I resign my position as treasurer and as OCAPA CORA representative effective August 19, 1980.

*John*

Ron, KE5M

It is with deep regret that I publish the above letter from Ron, KE5M, resigning his position as Treasurer of C.O.R.A. Ron has been a great asset to C.O.R.A. and his services will be greatly missed.

This issue of the Collector and Emitter will go to the printer prior to Ham Holiday and be mailed after Ham Holiday, so we will have to wait until the September issue to report on Ham Holiday. From all indications at this time, we should have a very successful convention.

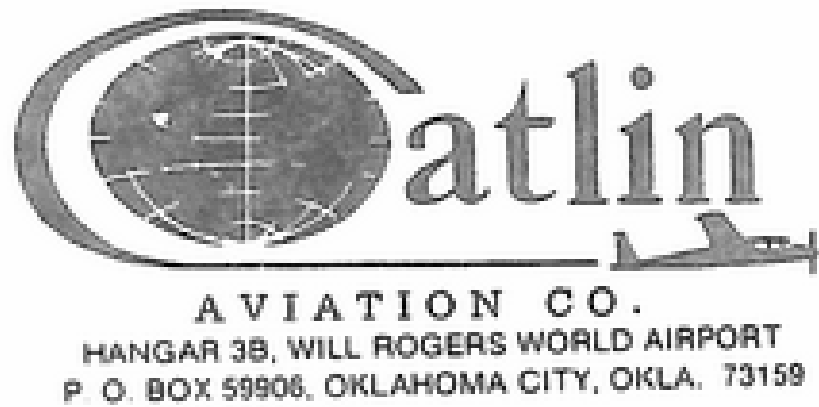
I would like to take this opportunity to thank everyone who has worked so hard on Ham Holiday. Rather than make the mistake of leaving someone out, I will just say that all committees have done a very good job. I have heard comments that things appear to be running very smooth. Let's hope Ham Holiday was the best one ever.

It was originally thought that perhaps we could skip the August meeting and take a rest from Ham Holiday planning, etc. However, we will be voting on an important by-law at the August meeting, so all representatives should plan to attend.

There has been some question as to when the election of new officers would be since we have changed our fiscal year from January 1 through December 31. Even though we operate our fiscal year on these dates, the election of new officers remains the same. They will be elected at the September meeting.

All clubs affiliated with C.O.R.A. should remember the election of officers at the September meeting and plan to have all their 3 representatives at this meeting. If you are having new representatives appointed to C.O.R.A., please remind them of the meeting. See that your club is fully represented.

Chuck Wilhite, K5NK  
President, C.O.R.A.



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GENE NAILON - K5DLE  
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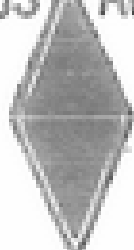
OFFICE 405-681-2331  
HOME 405-341-8289

5-10

+ + + + +  
CORA Collector & Emitter

August 1980

ALTUS AREA



AMATEUR RADIO  
ASSOCIATION

EDITOR: Mike Schenkke, W5VXU 482-1797

The Altus Area Amateur Radio Association held its regular meeting July 10 at 7.30PM at the North Main Fire Station with the following members and guests in attendance: WB5MJS, WB5KRH, WB5LTW, W5KI, W3DTV, wife and daughter, WD5ISO, W5VXU, WA5CBF and WA5ZAR.

After self-introductions the President, Loren, WA5CBF, turned the floor over to Mike, W5VXU, who told his audience that the Club's treasury contained \$274.31 as of the present time. Several ideas were bounced around all aimed at trying to increase the treasury. Presently the Club's dues are \$5.00 per year with \$3.00 of that going for the subscription to this magazine. After much discussion it was decided that the Secretary was to poll the members of the Club in an effort to obtain the OK to raise the dues to \$8.00 per year including C&E membership.

The Secretary pointed out that several members are overdue on their annual membership renewal and everyone was urged to check the address label on the next issue of this magazine. The six-digit number at the top of the label shows your status, i.e. 068012 means you are a member of club number 06 (AAARA) and your subscription (membership dues) run out during 1980 in month 12.

Considering the many members who live considerable distances from Altus and since traveling is becoming quite expensive these days, a suggestion was made that arrangements could be made whereby one of the AAARA officers could meet informally with amateurs and others interested in amateur radio in such area towns as Tipton, Eldorado, Mangum, etc on a periodic basis. These meetings could be held informally and those who cannot make it to the regular meetings would have an opportunity to be kept up to date and in touch with the Club. Also, with the proper publicity, others in those communities would have an opportunity to hear about amateur radio. The idea was taken under advisement.

The next item of business brought to the attention of the membership was the increase in service charges indicated by our bank. The rates used to be in the area of 60-70 cents per month and now this has been increased to around \$1.20. The Secretary was tasked with investigating the charges levied by other bank in Altus but thru the efforts of Chuck, WB5MJS, our present bank has agreed to drop all service charges thus this item has been cleared.

Loren, WA5CBF, asked for volunteers to form a small committee to make preliminary plans for the annual AAARA cookout. It was decided that this year's cookout would be held in September. A committee consisting of Chuck, WB5MJS, Dwight, WB5KRH and Mike, W5VXU, was formed and will have more specifics to report the next meeting.

After a short break for soft drinks and donuts the meeting was concluded with the showing of a film entitled "Satelites of Hughes".

The next regular meeting will be held at the City Park, Northwest corner, August 14 at the regular time, 7.30PM. This event, the August meeting, has become known as the AAARA annual icecream social, so for those of you planning to attend, bring some items such as cake, icecream cones, icecream, etc.

All members of the Altus Area Amateur Radio Association are invited to make their wishes known to the Secretary, Mike, W5VXU in reference to a change in the annual dues presently charged by the Club.

Please contact Mike, any evening between 5.45 and 6.00 PM via ANX (19-70) to voice your vote either for or against raising the dues from the present \$5.00 per year to \$8.00 per year including the price of your subscription to CORA C&E.

FOR SALE: Swan 350 including AC power supply and VOX unit, 300 Watts SSB/CW, 10-80 meters. Asking \$150.00. For information contact Lew Garrison, Cache, OK, 429-8529.

FOR SALE: 15 meter, 12 db gain TET (Swiss) quad, \$45. 48 ft tilt-over tower with jack, rated 100 MPH, free standing, \$350. Bob See, N5PC, Ponca City (405) 762-4426 or call Art, W5PTM, 732-8401.

## CHOCTAW ARC



EDITOR: June Allen, N5ARV

The July Meeting of the Choctaw Amateur Radio Club was called to order by AB5H at 7:15 P.M., 14 July 1980 at the Choctaw City Hall. We were more than pleased with such a full house and especially happy to gain 5 new members.

The minutes of the June Meeting were accepted as read. KA5ALO gave the Treasurer's Report and AB5H gave the Cora Report.

WB50HK and WD5EVP gave a report on the meeting they attended with the Director of Civil Defense and Choctaw Chief of Police on coordinating joint efforts during any emergency or disaster.

Field Day was discussed. Everyone was pleased with the number of contacts made by all stations. It was hard work but was enjoyed by all.

After a short break for cookies and coffee, we were more than pleased to have with us Ben Allen, K5IRO who gave a very informative talk on antennas and answered several questions asked by Club Members. The meeting was adjourned at 8:40 P.M. and several members and guests met at Braums for ice cream.

If you have any news or articles for the C & E, feel free to let me hear from you; until next time, 73, N5ARV



## THE AMERICAN RADIO RELAY LEAGUE, INC.

OFFICE OF THE  
SECTION COMMUNICATIONS MANAGER

LEONARD HOLLAR WA5FSN

DEF—  
OFFICIAL ORGAN

I want to use this space to Thank each and every one of you for your participation and help with 'Ham Holiday 80'. I hope you enjoyed it as much as I did. I regret that I did not get to spend more time visiting with each of you. Maybe better luck next time.

Summer Doldrums, Vacations, Unusual Band conditions and Who knows What? Have made operations difficult on the Traffic Nets this past month.

Pat Garvin, WB5NKD, has been appointed Manager of 5th Region Net (Daytime) of the ARRL NTS. Our congratulations.

On a more local level, We have had some changes in Net Leadership. With Ralph, WD5IRB taking over O.F.O.N.; Ron, WB5TTU now in charge of O.P.E.N. and Russ, W5UYH new 'Boss' of O.L.Z.. Our Thanks to WB5KKT, WA5MLT and W5RB for their fine Leadership.

We know that these new leaders will appreciate an expression of 'Confidence' which may be done by helping any way you can with the various Nets.

# GREAT PLAINS A.R.C.

W5HGH Repeater 146.13/73

EDITOR: Wes Duer, W4ZSL

The Great Plains Amateur Radio Club borrowed club member Ouidos' K50J call for Field Day which was one of the smoothest parts of the operation. A trailer, with 1977 Tags was pulled in by WD5DFH and a current inspection sticker obtained. New (updated) N5CCV did the updating and it was our Field Day headquarters. A site was obtained by KA5BCO (Bill) at Boiling Springs State Park. In fact, it was across from the "springs" that are the Boiling Springs. A nice spot with trees for shade and good parking. With the help of some of the eighteen hams that participated during the day long trial a generator was obtained, a portable tower and beam for 20 M and a couple of rigs. One from KB5XI (Gordon) and the other from WB5MZZ (Ross) from up Shattuck way. As usual a conflict developed between our farming hams and their wheat, and as usual most of the time the radio won--at least temporarily. There was plenty to eat and drink. Chickens were fried by Harry's wife (WB5DGT) and she also fixed beans, so we didn't go hungry. For those eating on the run there were plenty of fixin's for sandwiches and several large ice chests to keep the beverages cool. In fact, it was one of our more pleasant days, recently, with a nice breeze and even a few clouds.

Somehow, even with Field Day activities temporarily suspended to search for a child that had been missing for three hours and just pausing to watch the firetrucks pass (a trailer burned somewhere in the park) somehow at 1:00 K5Orange Juice was on the air. What an experience!! It wasn't until later that Harry, one of our experienced operators for Field Day manned the mike that the 'amateur' Amateurs' really learned what it was all about. He zapped in about forty contacts in the first few minutes teaching us. WE learned you have to really go after those other stations-pass the info-and go get another. It was something to see all of us lined up around Harry while he did his thing. WE had some rather interesting visitors during our activities, learning about Ham Radio and chatting with some of the club members while enjoying a cool drink.

One of the nice things that happened I thought was the fact that those who wanted to operate and a few who didn't got to operate until they were operated out and it wasn't all business. Gerald (N5CCV) got on CW and had them lined up, but paused long enough to have a short QSO with a Ham from Germany. This guy stayed right with Gerald, even though the generator quit (the only time I think during the 24 hours) right in the middle of the QSO.

Everyone stayed pretty cool during the entire 24 hours and a lot of us got to see what our ex-yl's see every morning. Boy we're a rough looking bunch.(hi). WN5LUI (now updated to interim D1.) probably spent the most time at the mike and made a whale of a lot of contacts. David just didn't seem to wear out. Ahh youth...

Those attending and helping out during the 24 hour Field Day were: W4ZSL (Wes), KB5XI (Gordon), WD5DFH (Bill) KA5BCO (Bill) WN5LUI/DL (David), N5CCV (Gerald), WA5PLW (Wendall), WB5EGZ (Doug) WB5ECP (Doc), WB5DGT (Harry), W0DSM (Frank), WB0PGD (Ron), WB6LOR (Phil), WD5DFG (Donna), WB0OGW (Carla), WB5MMZ (Ross), N5ANV (Vernon) K5YZK (Jim) and Franks' (W0DSM) ex-YL-Lorraine who I didn't get her call written down and missed it. SRRI.....

A really good bunch that stayed until the end and helped to un-rig and get the equipment home and I don't think a one of us had any trouble sleeping that night. We had over 400 relaxed contacts not a record or a prize winner, but a prize winning group that had a lot of fun. Our thanks also to our computer man Brad who helped compile our contacts and get them into presentable order.

There have been some minor problems with our repeaters during the hot spell, but some of our experts have been snipping and soldering and keeping them on the air. A lot of us are looking forward to Ham Holiday in the City and we should be well represented for the festivities there. -K-



## MICROSTRIP LINE MADE EASY (Or a Microstripline in Time Saves Nine)

When I was experimenting with the Motorola Gain Blocks mentioned in the last issue of C & E, I noticed that Motorola specified the use of 50 ohm input and output circuits for these little goodies. While the spec sheets indicated that they could work into most any load without so much as a belch, I had heard of one instance where a builder, in an experimental mood, had connected up one of the gain blocks without benefit of load and full power and had it go zap after a couple of minutes of full key down power.

Now I know that point to point wiring without regard to impedance matching wasn't going to hurt the gain block. When I decided to produce a printed circuit card for use with the gain blocks the question of impedance matching became a matter of principle. Besides, the data sheet indicated that certain low frequency oscillations could occur at various power levels and SWR conditions. In addition, I wanted to avoid any impedance "bumps" in the circuit path, so I decided to drag out the books and see what gives.

### Microstrip line-A Transmission Line in Time

The solution was to be careful to use microstrip line techniques when laying out the printed circuit card so that a constant impedance path could be maintained throughout the amplifier circuit. Although considered by many to be a "new" technique, actually, by modern standards, microstrip line has been with us since 1952 when it was first described by Grieg and Engelmann in the Proceedings of the IRE. Most of us are accustomed to thinking in terms of coaxial cable, twin-lead, or waveguide when considering a RF transmission technique. A microstrip line consists of a wire above a ground plane and is analogous to a 2-wire line in which one of the wires is represented by the image in the ground plane of the wire that is physically present. Figure 1 illustrates a short length of microstrip line, showing the metallic-strip conductor bonded to a dielectric sheet, to the other side of which is bonded a metallic ground plane:

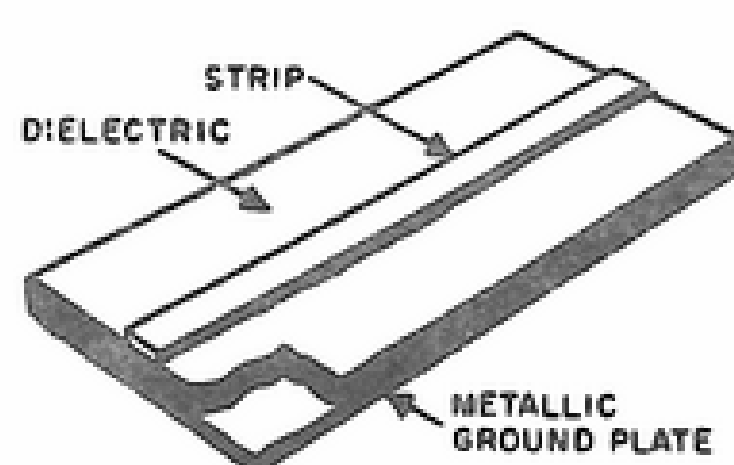


Figure 1. MICROSTRIP LINE. The circuit consists of a strip of metal bonded to a dielectric material, to the other side of which is bonded a metallic ground plate.

Whew! That wasn't so difficult! And you thought that microstrip was complicated. Why it's nothing more than a printed circuit card with all the copper on one side and a strip of copper on the other. Nothing impossible to visualize there. You might say that it is a coaxial cable that has been split open and laid flat. And just like coaxial cable, microstrip demonstrates a constant impedance characteristic that is independent of frequency. We won't endeavor to apply Maxwell's equations, but will rather show that for a Microstrip of  $h$  dielectric thickness,  $w$  width of the conductor,  $t$  thickness of the metal conductor (this will not be used in our first set of equations),  $\epsilon$  dielectric constant in farads/meter, and  $\mu$  permeability in henries/meter, the



characteristics impedance is given by the formula:

$$Z_0 = \left( \frac{h}{w} \right) \left( \frac{\mu}{\epsilon} \right)^{1/2} \tag{Eq. 1}$$

which is equivalent to :

$$Z_0 = 377 \left( \frac{h}{w} \right) \left( \frac{1}{\epsilon_r} \right)^{1/2} \tag{Eq. 2}$$

where all the dimensions used in the equation (except t, the thickness of the metallic conductor) are defined and shown in the following diagram:



Figure 2. Microstrip dimensions where w is the conductor width, t is the conductor thickness, h is the dielectric thickness and  $\epsilon_r$  is the relative dielectric constant.

To tidy the numbers up a bit, I should say that the relative dielectric constant is the dielectric constant of the insulating material relative to the dielectric constant of the air and the change in equation 1 to equation 2 brings the number 377 out of the equation and leaves the inverse square root of the relative dielectric constant. This is actually a very complicated number which varies for different substrates and parameters.

Well, what are some practical numbers? Well, for teflon board, the dielectric constant (according to Motorola) is 2.5 and for Fiberglass Epoxy it is 5.0. Actually, these numbers may have to be determined experimentally for almost every batch of board produced, but you will probably find that they don't vary much. Remember that PC board is not the same, always. There are also various types of Teflon-Fiberglass board, each manufactured to a different specification and the types of fiberglass board that I have seen vary from the G10 epoxy fiberglass which you can almost see through to other types which allow no light through at all. Remember that the dielectric constant varies with the type of material between the stripline and the groundplane. Change it a little and you move the terms of the equations a lot. I have followed these numbers I found in a Motorola Applications note:

Material Type	Dielectric Constant	Dielectric Thickness*	Line Width*
Teflon-Fiberglass	2.5	0.03125	0.090
		0.0625	0.180
Fiberglass-Epoxy	5.0	0.0625	0.100

\*These distances in inches

Some comments on these numbers. They do not actually fit the equation that I have previously described, but they are the gospel according to Motorola. Second, I have seen different values for dielectric constants for the Fiberglass Epoxy Board. One number for G10 board is 4.8. So 5.0 may not be far off.

I have not had opportunity to check the numbers that Motorola gives against the high power equations that I am going to discuss next, but I plan to give it a whirl sometime. I am sure these equations will yield Motorola's numbers.

### Microstrip Made Complicated

The equations that I previously presented are very simple representations, yet they can give a fairly accurate result for the one time practical project, ballpark-wise. Below is a chart that shows the characteristic impedance of a stripline in comparison to a varying width of the metallic conductor. These numbers were obtained empirically for Fiberglass G-6 board. The dimensions are in millimeters:

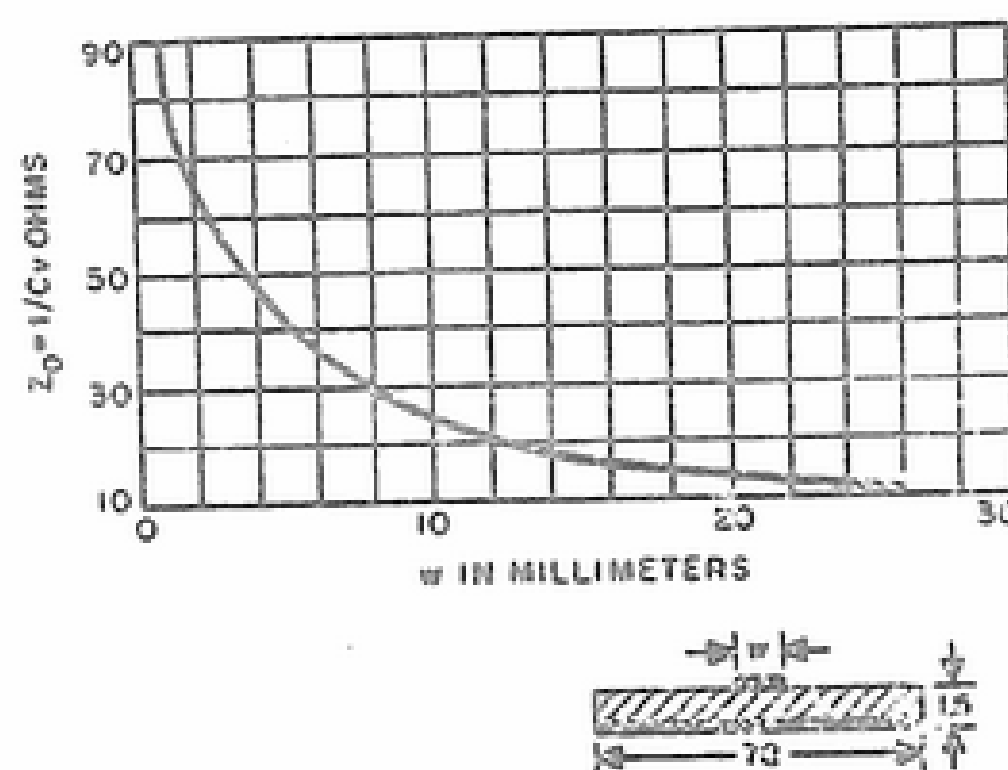


Figure 3. Microstrip depiction for  $Z_0$ , characteristic impedance, versus conductor width for G6 Fiberglass board 1.5 mils thick. As width decreases, the characteristic impedance decreases.

From the previous equation, it can be seen that as  $h$ , the thickness of the dielectric, increases, the characteristic impedance also increases. Similarly, as  $\epsilon_r$  increases, the characteristic impedance decreases and vice versa. The equation shown in Eq. 1 and 2 neglect fringing and leakage and reflect the theoretical characteristic impedance of the microstrip.

Actually, if we were to be more complete, the width of the electrical conductor should take into account the thickness ( $t$ ) of the metal conductor. Actually, the conductor has an "effective" width different from our previous assumption of infinitely thin metal conductor. If you would allow me to begin complicating up the two previous equations, I will begin by calculating the "effective" width of the metallic conductor by using a formula that takes into account the fact that the metallic conductor has a finite thickness ( $t$ ) and the following formula that considers fringing:

$$W_{\text{eff}} = W + \frac{t}{\pi} \left[ \left( \ln \frac{2h}{t} \right) + 1 \right] \quad \text{Eq. 3}$$

If you carefully analyze the equation, it can be seen that the effective width is actually larger when you take into account a finite thickness of strip. If  $t$  is zero then the second term goes to zero and the effective width is  $W$ , our previous theoretical result. Thus it can be seen that you should use as small a thickness as you can if you want to achieve theoretical results.

If you are ready, the formula for the calculation of the Microstrip characteristic impedance is (take a deep breath, uh, breath):

$$Z_0 = \frac{377 \, h}{\sqrt{\epsilon_r} \, W_{\text{eff}} \left[ 1 + 1.735 (\epsilon_r^{-0.0724}) (W_{\text{eff}})^{-0.0836} \right]} \quad \text{Eq. 4}$$

For those of you who just happened onto the page, this is the formula for the characteristic impedance of a microstrip line. Don't be scared, just turn back three pages and read from the beginning. For those brave souls who have been with us all along, look at this formula. There really is nothing complicated about it. There is no number that could not be found with a good scientific calculator, about \$15.00 at today's prices. The real trick may be to determine a particular characteristic impedance, then work back to the  $W_{\text{eff}}$ , effective width, and finally to the actual width you need for a circuit. Still, this is the reason that a lot of engineers get paid lots of money in Phoenix and California, among other places. You could do the very same thing in your own home for free.

Whatdoyoudowidit?

Past this point, for now, you are own your own, but don't plan on going too far without your favorite Smith Admittance-Impedance Chart. But, isn't it at least interesting to know that such a simple device as a metal conductor on a printed circuit card above a ground plane can be turned into a transmission line?

Also, you must consider that you can construct various types of microstripline with different impedances to match, say, the output circuit of a transistor amplifier to a 50 ohm load. Or say you have two transistors with 10 ohms of output impedance each which you want to parallel and match to 50 ohms. Or a driver stage has an impedance that is considerably lower or higher than your final amplifier. If so, a microstripline might be just the dodad you need.

Just remember this. A microstrip line is nothing more or less than a transmission line, just like coaxial cable, whose electrical characteristics, just like coax, are dependant upon its physical dimensions. A particular microstrip has a characteristic impedance ( $Z_0$ ) just like coax and by putting together various types of microstrip (just like building coaxial baluns), you can build matching networks or transformers to transform impedances.

Next time you open up that VHF amplifier, take a look at the microstrip inside. See if you can figure out the impedance transformers or phase shifters. Remember, these devices are just like coax in that they have distributed resistance, inductance, and capacitance. Stripline can be etched right onto the PC card in the form of baluns and transformers. If this was not possible, think how much more that VHF broadband amplifier would cost. This is nifty stuff and there is no reason not to be aware of it.

By the way, how did I arrive at the conductor width for the various microstrip line circuits I showed last month? The answer was easy. I took Motorola's word for it and purloined the information that I showed earlier. I did modify it a little since I was using 1/32 inch board instead of 1/16, but there doesn't seem to be any complications. If you should need a different characteristic impedance, don't be afraid to take a big number cruncher to the formulas listed above. If anybody is interested, I might get K5JB to run through a sample design for an RF transistor amplifier. But, we'll probably have to feed him to get him to do it.

Micheal Salem N5MS

## FLYING HIGH LIKE A BIRD IN THE SKY DEPARTMENT

The higher your antenna is, the better you get out. Right? The real answer is not alway. If you could take your radio to 30,000 feet inside a metal RF tight box, you might as well be on the ground. And a lot of small (and large) airplanes are a pretty good approximation of a classic Faraday Shield. I discovered this when I snuck a radio onto a commercial jetliner on an extended charter flight one day. Visions of DX danced in my head. Although the plane was pressurized at 8,000 feet, I was at 30,000. I turned on the receiver. Nary a peep! What?! I asked a friend to switch with me so I could get his window seat. Presto, Chango. All kinds of stuff started rolling in. The airplane is pretty air tight and RF tight as well.

Since then, I have flown in a multitude of small and large aircraft and except for the fabric models, I have found them all somewhat difficult, at times, to propagate out of, RF wise. The possibility of an outside antenna on the skin of the plane was a thought, but most people (and the FAA) don't cotton to you messing with goodies. I have tried a variety of solutions, including taping a piece of wire to the window and, everybody's favorite, holding the stubby helical antenna close to the window, but all were either a lot of trouble or ineffective.

The problem persisted even after I managed (after hocking the ranch to pay insurance) to obtain a part interest in an airplane. K5JB found himself in a similiar quandary. Aviation radios work pretty well even though they have sensitivities along the order of 2 - 5 microvolts. Imagine what an order of magnitude increase in sensitivity would do! There had to be a way.

I priced the cost of an antenna. Not really that bad, but in order to place it on the skin of the plane, you had to file some confounded form with the FAA so that even though you didn't add 8 ounces to the airplane and went through the skin at the most insignificant point, you still wasn't excused from telling them that this was not or was a major structural change in the plane. Actually, the rule is not a bad one because people would begin hanging goodness knows what off their airplanes if somebody didn't stop them. And the additions had to be installed in a safe manner and the skin and structure changed to accomodate the change. This includes putting a double thickness of metal around the interface (backing up) and inspection by a properly certified inspector. I know of one fellow who priced this addition plus the paperwork for a mere \$250 to a pressurized turboprop. Still a little above my limit.

This rocked along until JB put his plane through its last annual. At that time, he suggested that one could mount a connector on an inspection plate on the bottom of the airplane, then route the cable upstairs to the cockpit for a "Voila" instant outside antenna. Hum; not a bad idea. When our plane came up for an annual, I casually made inquiry of one of my partners regarding an inspection plate on the bottom of the plane. He pointed out two of them right beneath the wheels. One disappeared for a day or so and came back with a BNC connector off center mounted and an RTV waterproof backup. I had experimented with some various minature teflon cable for leadin, but found that the losses at UHF were about .1 db/foot, too much for me for even a six foot length. I stuck with the RG58 and a crimp on connector. The cable was routed up to the cabin by bending another inspection plate just enough to accomodate. I had mounted the BNC connector off center to make sure that the cable didn't rub against any control cables and a couple of strategically placed tie wraps helped the cause.

I needed to decide on what type of antenna to put down there. I have experimented with a slim piece of wire in the end of a BNC connector. Actually, I am not sure that this is such a good idea. The wire is on a L connector and would normally

be parallel to the plane's body in flight. I bent the wire down and at a 45° angle so that it might radiate a little better without interference. I have considered using a two meter rubber ducky, but haven't gotten one with a BNC connector yet. Maybe at ham holiday.

JB and I made a spin up to Stillwater and I had him check the SWR. Using a two meter whip on UHF it was atrocious. I haven't checked it yet on 2 meters. I did manage to talk to WB5YWO from 4500 feet from the middle of Oklahoma City using the antenna even with the atrocious SWR. More experiments will follow. I am trying to get JB to come up with a short yet effective antenna that will resonate in both the two and 3/4 meter band, but no results yet.

The airplane is right at 17 inches off the ground and a good two meter whip is 19 inches long. Hence, the reason for the right angle connector and bent whip. I think that the rubber ducky will be successful, just need to get some time to experiment.

Dan K5FVL suggested that the BNC was not the most structurally sound connector to use in this service since he is breaking out the center conductor of one that is on his walkie talkie on a regular basis. True, Dan, maybe we should go to a SO-239 or TNC screwon type. I believe that these might take the stress a little more. More on this later.

Can we get away with this? I dunno. I don't think that I will have to file a FAA Form 337 or whatever because as JB has suggested, an inspection plate is not considered a structural member of the airplane. I suppose that you could fly without them if you desired. You do need to take the added weight into account when doing weight and balances, but that is no problem. Since I could take the antenna off at any time, I don't believe that it is a permanent addition. I have an extra inspection plate for eventual replacement should we ever decide to remove the antenna.

I made up a short piece of teflon cable to reach from the radio to the antenna input lead. I am really looking forward to trying this baby out on VHF. Stay tuned for further details.

Micheal Salem N5MS

#### WA5AOB-PROJECT BUILDER

K5JB and I were comparing notes the other day after the estate sale for silent Key WA5AOB wife, Norma Hogan, and I came to the conclusion after viewing all the things that Wayne had in his attic and workshop that he was quite a builder. I remember that he always seemed to be fiddling with something and occasionally produced a new printed circuit card for show and tell. His collection of projects included a variety of power supplies to preamps and power amplifiers. Of course, his repeater circuits still constitute the heart of a couple of repeaters around town. I noted all his printed circuit materials and spare parts. Wayne had an interesting collection. As JB reports elsewhere, several people got a good deal on a variety of items, including a few that I had only seen in picture books. I bought the PC materials, a magnetic stirrer, and a marker calibrator. Wayne also had much of the literature and schematics for many of his projects. He seemed to be a compulsive documenter with a variety of files and books. Norma has already donated his rather extensive collection of QST's, 73's, CQ's, and other journals and books to the OU Radio Club where they are now in the radio room. Something I think he would have liked. I miss him.

Micheal Salem N5MS

# The South Canadian Amateur Radio Society

EDITOR: Jack Bickham, WB5TZZ

329-1311

## SCARS AND OU WORK FIELD DAY TOGETHER ON NORTH CAMPUS IN NORMAN

The South Canadian Amateur Radio Society and OU Amateur Radio Club worked Field Day together this year at a site south of the Red Cross building on the OU North Campus. Murphy had his day early when the portable tower fell, but no one was hurt and a good time was had by all.

The tower, a 30-footer lent by TET USA, was walked upright on firm, level ground and allowed to stand free while the search for guy ropes began. Came a light puff of wind from the south, and over the thing went, beam and all. Luckily, no one was under it. The beam was undamaged.

The SCARS/OU team, using the OU club call of W5TC, operated three rigs: one on phone, one on CW, and one a novice station. The trusty WB5QNK tent, which he always insists is a screened porch, again provided the primary operating location. John, N5ABC, brought his Motorola van, and that too was pressed into service. A variety of verticals and dipoles were tried along with the 5-element beam, but an unusual amount of intermod and primary interference from one rig to another plagued most operations Saturday. Sunday, things were better -- as were the bands -- and AF5X enjoyed a nice run on CW while the undersigned manned a phone position to work a few hundred. Tear-down came a little early as we ran out of operators.

Rigs used were the OU club's TS-820S and the SCARS 120-S, plus either WA5RPP's National or a Century 21. Power was supplied by K3TGY's alternator, which was in fine running form after a recent power blackout use at Bill's home QTH. K5LDE provided a small backup unit. An attempt was made to prepare the W5OU alternator for use also, but it was found to be suffering from possibly terminal neglect and puckering of the gallbladder. At last report it was still in intensive care in the back yard of W5MCN.

Amateur radio received some nice publicity out of the effort as the Norman Transcript on Monday ran a three-column photo of Chuck, KA5GFL, operating in the QNK tent -- I mean porch, Carl! Seemed appropriate for Chuck to be pictured, as he did more operating than anyone else, and did a fine job of it, too.

As of this writing, logs had not been checked for totals. As usual, the Norman bunch could be sure of one thing: we didn't win anything.

## OPEN HOUSE AT NORMAN TELLS PUBLIC ABOUT AMATEUR RADIO

Thanks mainly to Bonnie, WD5HAM, and Jess, W5SQJ, an informative open house and display on amateur radio coincided with Field Day at the Norman Red Cross site.

Bonnie, handling publicity both for Field Day and the open house, was interviewed on Norman Radio KNOR, and had items in the daily press. Mayor William S. Morgan declared the Field Day week as "Amateur Radio Week" in Norman.

The open house display, in the main room of the Red Cross building, featured posters, magazines, QSL cards, maps, and two impressive tables of equipment old and new. SQJ prepared a fine display of old-time and home-brew equipment. SCARS offered refreshments for visitors.

The heat wave held attendance to a disappointingly low figure, which was a shame because Norman folk missed a thoroughly professional and highly informative display. Those who did attend were complimentary. W5AIP helped explain the exhibits.

## W5MCJ HAS OPEN HEART SURGERY

Jerry, W5MCJ, had open heart surgery late in June. Due to the necessary lag time in preparing these pages, any report on his condition would be out of date by the time it reached your hands. Friends may wish to QRZ the Norman 147.66/06 machine for a late report....

## W5OU, N5ALG IN NEW QTHs

Both Gordon, W5OU, and Bob, N5ALG, have moved into their new homes near Lake

(Continued)

Thunderbird. The W50U house is immediately east of the former QTH, while N5ALG moved from Norman proper to sample country living. That puts them within a mile of each other as the crow -- or RF -- flies. Bob says it's just wonderful out there, no line noise. The second or third day he was in the house, there was no water, either, as he experienced his first rural power failure. Must be wonderful.

#### MALICIOUS INTERFERENCE? DON'T COUNT ON THE FCC

Overheard on 20 meters recently was a conversation between two operators who regularly conduct DX nets, K2DSV (east coast control for W7PHO) and WB6LED, whose early-morning net is attracting some rare stuff and heavy checkins. The complaint from WB6LED was about a California amateur who, he said, had come up on the net frequency every night for 25 straight nights, waiting until things got rolling to start calling CQ endlessly, ignoring pleas to QSY. WB6LED was telling Don about calls and letters to the FCC...and the lack of action by same.

At this point a 3 broke in, saying he had great interest in much stuff.

"I'll give you the numbers to call the FCC to complain," WB6LED said.

"I don't need them," said the 3. "I work for the FCC."

At this point the conversation got lively. Some of the points made by the gentleman who works for the FCC can be paraphrased as follows:

ONE --FCC attorneys are "very conservative" about filing cases involving alleged malicious interference. "There are no chartered frequencies," the 3 went on, and so the FCC would have to be able to prove beyond doubt that there had not only been interference, but that it was willful and malicious. Judges are very reluctant to impose penalties in such cases, he said, and FCC lawyers don't like to lose any more than any one else, so few such cases are ever considered strong enough to file.

TWO --FCC Field offices are understaffed "and have a lot of other fish to fry." Your routine complaint call probably will go on tape to be played back some other time. Only a great groundswell of complaints -- loud and often and repeated -- is likely to get anyone's attention. Even then, the FCC knows that it would need tapes, monitors, interviews, and God knows what else to get the attorneys to file. Our chance for action is slim at best, even on a horrendous case.

Other stations on the frequency pointed out bitterly that the FCC ought to have time and personnel for interference. As one put it, they have time to fool around with the call sign allocation system and patrol the band edges for honest mistakes. The 3 hemmed and hawed. One got the impression that the FCC is making a show now and then, but cannot or will not do anything in a systematic way.

It was sobering to reflect on this. If the FCC is not likely to take action against a known amateur whose misconduct is on tape -- repeatedly -- then how much chance is there that anything will ever be done about the anonymous operators who QRM nets and DXpeditions?

Is there a solution? One thing seems sure. The answer is NOT more on-air commentary by self-appointed guardians and geniuses. I have never heard as much malicious name-calling as has been present on the low end of 20 phone in recent weeks. These appear to be the voices of old-timers who know -- or think they know -- it all. Some of the name-calling and sarcasm is entirely unwarranted. A number of these characters have become so bitter and messianic that there is no shred of good will left in them. I recently heard this unbelievable exchange in a DX pileup:

DX STATION: QRZ?

VOICE OF A 2: What's your call?

DX STATION: WAXZZZ, five and nine.

SAME ANONYMOUS VOICE: What's your call?

NEW VOICE: KAXYYY.

SAME ANONYMOUS VOICE: Not you, lid! Him!

Nope, we can't count on the FCC. Unfortunately, I don't think we can count on us, either. Too many of us are geniuses.

--WB5TZZ

INTERESTED IN AMATEUR ASTRONOMY AND AMATEUR RADIO? The Asteroid Intercept Radio network (AIR) needs amateurs to join the 3935 kHz net at 10:30 CDT Sunday nights. Check in and find out what it's all about or contact Joe, WA5ZNF, he has 8 pages of info, maps, charts, etc. that are too much to publish.



The proposed Constitution and By-laws published in the July issue of the Collector and Emitter, were approved at the regular July meeting. As an oversight on my part, I failed to include all of Section IX as the committee had written it. A proposed amendment, changing Section IX is submitted below, and to comply with Section X of the newly adopted By-laws, will be voted on at the September 16, 1980 meeting.

An amendment to Section I of the By-laws was proposed and this is printed below and will also be voted on at the September 16, 1980 meeting. K5NK

#### PROPOSED BY-LAW AMENDMENTS

(Underlining indicates new text, dashes indicates deleted text.)

##### Section I

###### AUTHORITY

The administration of the affairs of OCAPA shall be vested in an Executive Committee. The Executive Committee shall consist of: The elected officers of OCAPA, the most recent past President, the Trustee, ~~and~~ the Technical Committee Coordinator, and the repeater committee chairmen.

##### Section IX

###### ~~DUES~~

~~Dues are \$25.00 per year.~~

###### FISCAL POLICIES

All expenditures must be approved in advance by a majority of the members present at a duly constituted meeting except as follows:

1. The Technical Committee Coordinator may incur expenses amounting to \$50.00 per month for normal repeater repairs and maintenance. These expenditures shall be periodically presented to the Executive Committee for review and determination as to their appropriateness.
2. The Executive Committee may incur expenses amounting to \$150.00 per month for maintaining operation of OCAPA's repeaters. The President shall report these expenditures at the next duly constituted meeting.
3. A. The fiscal year of OCAPA shall begin on September 1 and end on August 31.  
B. Membership dues shall be \$25.00 and payable on an annual basis.  
C. No financial indebtedness or obligations except normal administrative operating expenditures and normal expenditures for maintenance and repairs of the repeater systems shall be incurred by OCAPA, its officers, the Executive Committee, or any member, except by action of OCAPA and in that event a majority of the members present shall concur at a regular duly constituted meeting.

THESE PROPOSED AMENDMENTS TO THE BY-LAWS WILL BE VOTED ON AT THE SEPTEMBER 16, 1980, MEETING.





A SPECIAL THANKS: My term of office as President of the Oklahoma City Autopatch Association is drawing to an end, and I would like to take this opportunity to say "Thanks" to everyone who has helped me during the year. I couldn't have done it without your help. It has been a fun and enjoyable year. We have accomplished some of our goals which we set out to do in the beginning. Some we haven't but I still think the Oklahoma City Autopatch Association is the best organization in town.

Doc, WA5CZN

ELECTION OF OFFICERS: The nominating committee, composed of W5GDL, KA5AQY, N5BEQ, and WB5YLZ, presented the following list of candidates to the club for their consideration as officers of the Oklahoma City Autopatch Association for 1980-81.

President:	K5NK - Chuck Wilhite K5URJ - Perry McWhorter
Vice-President:	KA5AQY - Buddy Kidd N5BEQ - Jim Buswell
Secretary:	WD5KFT - Clara Storm WA5BQX - Bob Shaw
Treasurer:	WB5QPI - H.B. (Zack) Zachry WA5HTL - Paul Asplin

The election of the new officers will take place by secret ballot at the regular August meeting. Even though the above names have been submitted by the nominating committee, nominations will be taken from the floor for other candidates.

HELP WANTED: The Oklahoma City Police Department has asked for volunteers to help them with surveillance type work during the Oklahoma State Fair and Christmas time, primarily to help cut down on auto thefts in parking lots. If you would be interested in doing this type of work, call Don Saunders, WD5ISS, at his home, 751-0404, or his office at 843-9653.

K5NK

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MONKEY CLUB NEWS: The first annual meeting of the Monkey Club is now history. It was a great success. The meeting started promptly at 3:00 a.m. on Sunday morning at the 8 foot level of the swimming pool at Lincoln Plaza during Ham Holiday, and immediately it was the 9 foot level, with all the beef the members make up. All members were initiated into Monkey Hong. We had 2 check-ins on the Monkey Net and AD1S won the flea picking contest, finding 23 fleas on KF5E. AA00 won the banana eating contest, devouring a whole stalk in one minute's time. It was a toss-up on the Prehensile Appendage contest, with AI5Y and KE5M sharing honors. K5NK probably made the biggest goof by bringing a right-handed Monkey Wrench instead of a left-handed one as all others did. A repeater input frequency of 21,999.9 MHz was decided on for our proposed repeater. We will decide on the output frequency at the 1981 Ham Holiday. The only casualty occurred when AD1S swallowed half the water in the pool when he decided to work a little moon bounce, thinking he was on a water bed. 73 applications for membership were refused.

K5NK

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I HEARD: FSN was running around with JNT's wife.....KFT asking PTQ to put out her fire.....AUP milks a horse with two fingers.....CZN trying to swallow a turkey.....HRG on his way to the bedroom with a bottle of champagne.....FXP accusing CZN of never working hard enough to need a pair of brogans.....BEQ has to put himself together to go out for coffee.....FXP says there is no such thing as Midland Bermuda, PERIOD.....CZN hasn't had any sugar in ages.....YAG falling asleep on the night owl net.....DDE gets irritated very easily.....TKG imitating the sound of his car as it slowly died.....SJX considers all Ham magazines to be "X" rated.....KFT has learned to talk.....CTS has a new bride, anti-ham.....and a whole lot more.

K5NK



## NOISE BUGS

Have you ever been enjoying a conversation with one of your friends on your favorite two meter repeater and had someone who is very noisy break into the conversation, (notice I didn't say QSO? that's cw language and that's where the "Q" codes belong) and persist in trying to talk to you even though half the time you can't understand what they are saying? Of course you have! We all have, and what usually happens is that you and your friend usually sign off before finishing because you get tired of listening to a choppy and noisy signal.

Enter the "Noise Bug". Now on the whole, "Noise Bugs" are pretty nice folks, except when they persist in annoying us with excessively noisy signals. "Noise Bugs" come in all shapes and sizes and generally are friendly little fellers as shown by their diligence in trying to communicate when they can barely be heard.

Let me describe a few "Noise Bugs" for you:

Joe has a two meter fixed/mobile transceiver with ten watts output and he uses it a lot in his car. Now Joe does a lot of traveling in his work and enjoys working the guys on the repeaters in the towns he travels through, and he usually starts breaking into their conversations when he is 50 miles out, even though the fellows he is calling only get about one third of what he is saying. They put up with Joe until he gets out of range 50 miles on the other side of the repeater.

Now Jim is a different type of Noise Bug. He has a two meter fixed/mobile transceiver too, but in addition to that, he has a one-half watt walkie talkie. At his home, he has a Ringo up 40 feet. When Jim gets home in the evening, he enjoys sitting in his easy chair (which is about ten miles from the repeater antenna), watching TV and talking with his friends with his walkie talkie. Please be assured that Jim's easy chair is a recliner! Now Jim's signals are about 50% noise when he is sitting up straight in that chair, but when he reclines in it, he starts chopping. It was annoying to listen when he sat up straight and it really is a pain in the ear to have to listen to him when he reclines, but his friends put up with it till they can think of a good excuse to sign with him.

Last but not least, there is Bob. Now Bob has a ten watt two meter rig in his home and a Ringo Ranger at 60 feet on his tower. Sounds good so far, doesn't it? Well, I forgot to tell you that Bob lives in Chickasha or Duncan or maybe even Watonga. After Bob installed all this nice equipment, he found that he could Ker-chunk (See my article about "Ker-chunk Worms") the machines in Oklahoma City. Now Bob is a friendly fellow, so he figures if he can Ker-chunk them, he can work them too. By now, you've guessed the rest. Bob works his new friends in the city while they wish he would work some of his friends in his home town.

Let's investigate the reasons we use two meter fm repeaters as a communications mode:

- I. By using a repeater, we can extend our range.
- II. By using fm, we can eliminate noise from lightening, etc.

We all know why we use two meters. Can you imagine trying to conduct a storm spotter's net on ssb? I can't! The purpose of using fm is to minimise noise. Next time you fire up your trusty two meter rig and break in on some one in conversation, listen to the repeater first. If it's noisy, you will be noisy. Remember - the repeater's antenna is probably more than 300 feet high. You can't possibly match the repeater's signal.

If you like to use a talkie, be sure to keep the antenna vertical and if you are noisy using it, consider running a piece of RG 58 to your easy chair.

Please! Don't go to the swap meet in Shawnee and try to use your talkie to tell the guys in the city about all the bargains.

Let's keep two meter fm quiet like it's supposed to be.

Tom, N5GE

## Shawnee Amateur Radio Club



# W5SXA

EDITOR: Jay Tingler, WD5BUQ 273-3033

FIELD DAY DATA: The Pottawatomie County area amateurs held Field Day operations at Shawnee Lake this year. Four transmitters and six operators participated. The Shawnee Amateur Radio Club call sign, W5SXA, was used for all area activities. The event was high-lighted with a steak cook-out for hams and their families. Our thanks to Mr. and Mrs. Bill Warren, WB5TZQ for the arrangements for the food. Earl, WB5ZBA, burned the steaks for the group. Bill, WB5TZQ, came up with the unique idea of cooking corn-on-the-cob in a #2 wash tub. Thirty one steaks were cooked. Jim, KA5FBC, set up his Heathkit QRP rig. Les, WD5FUG, was our DX operator of the day. Earl, WB5ZBA, and Bob, KB5TW, set up in the Tecumseh Civil Defense Communications van. Bob, K5LZF, set up on 75 meters and furnished a rig for the O.P.E.N. on Sunday morning. Sigurd, DL2HI/W5, worked our first DX contact using Les' WD5FUG station. He also made the first contact on Jim's QRP rig, getting him off to a good start. We also enjoyed having Gloria, WA5PQX, out for the event. Several of us have Gloria to thank for a helping hand with our code speed.

WB5ZBA

OLD SANTA FE DAYS CELEBRATION: Our pyramid calling system was activated on Sunday, July 6, 1980 to set up communications for the Old Santa Fe Days Celebration. (This is an annual event sponsored by the Shawnee Central City Association which took place this year 8 thru 13 July) We furnished communications for four hot-air balloon flights and one marathon run. We sent amateurs up in both chase planes and balloons and all the rides were enjoyed. Those serving as net control for the mass balloon launch events were Ray, W5LXH on Friday evening; Bob, K5LZF, on Saturday morning; Herb, W5TQZ on Saturday evening; and Earl, WB5ZBA, for the dawn finale on Sunday. Jay, WD5BUQ, was net control for the 10,000 meter run on Saturday morning. (33 min. 24 sec.; - - - whew!!!- - -) Virtually every amateur in the area worked these events. Thanks a million fellows!

WB5ZBA

FIELD DAY FOOTNOTE: A transmitter hunt was held Saturday afternoon. Herb, W5TQZ, was the rabbit. Bill, WB5TZQ, found the rabbit. His time was 30 minutes. The prize was a mobile antenna. (Ed. note: There is something confusing about this item. Maybe I will get it figured out some day. Now where did I put that @#\$\$\*& callbook???)

WEATHER REPORT: Have you noticed how hot it's been lately?

RADIO ACTIVITY REPORT: About the only radio I've operated during this hot spell has four-letter call signs - or sometimes three.

INACTIVITY REPORT: Did you know that I let the pre-registration deadline for Ham Holiday slip by without pre-registering? Sorry about that!! At this time the jury is still out on whether I will make it this year - but I'm trying!!

FRONTIER DAYS: Tecumseh will not be out-done!! Their Frontier Days celebration will be next month. We have volunteered to provide communications anywhere the officials feel they need us. On August 9 we will monitor the marathon run - don't know what else yet.

REMINISCING: About thirty-three years ago the Army stuck a J-38 key in my hand, plugged me into a BC-610 and said, "You're on-the-air!" Under training conditions at places like Ft. Bragg; the Port of Houston (San Jacinto Ordinance Depot); and the landing beaches of Vieques Island the frequencies were discrete and the traffic was mostly "canned." It was all pretty dull stuff and one got to where one really didn't care if it was a dit or a dah sometimes. Then on 21 September 1950, I got baptized somewhere in Korea with a peculiar kind of jamming that only the Chinese could produce. (Remember their fire-drills and typewriters? Something like that.) And the traffic took on new meaning. This stuff had human lives strung all around and through it. The U.N. forces had jumped-off from the Pusan Perimeter just a few days earlier and suddenly the traffic to be cleared really mattered!!




What's this all leading up to? Well, maybe this - I don't know..... Some four years ago when I finally got around to working for an amateur radio licence, I was more than a little surprised to find out that 15 WPM was still solid copy for me. And later I managed to pass the 20WPM test - twice. (someday I'll get back to the books and try it again). Anyway, I soon encountered people who were really struggling with 5 - 7 - 10 WPM tapes. Of course the Ham shorthand was completely new to me so I really wasn't that much better off than they. Well, I wish there was a way that I could ① tell these friends of mine who are working so hard to pass 13 (or better) what the "secret" is and ② maybe just "forget" the code speed for a while - or, better - if I could learn the patience to go back to five-words-per-hour and learn to be a better op. So then, putting these thoughts together; hmmmmm, let's see -. If I work hard, on-the-air, at five-words-per-hour and learn all the pro-cedures so well that they become good habits - then someday I will break into a trot and do ten - then - without really knowing it - I'll be running 13 WPM and better all the time! THAT'S IT!! By golly - I think I've got it!!!! Now where did I put that \*%&\$# J-38?

PHYSICAL CONDITIONING REPORT: Yes Virginia, a BC-610 is much too heavy to carry on your back - especially during an assault landing. We had them conveniently mounted in SCR-399 vans on trucks.

POTT. COUNTY SEENS AND HERDS: TQZ chasing balloons..... NMN using high-speed math ..... NMN doing it over again in slow motion..... ZBA without a radio.....GMK with a wobbly whip.....AUP calling OLO.....OLO not answering.....BUQ chasing something else.....OLO calling AUP..... AUP not answering.....ZBA on the ground.....the top of the TZQ workbench.....LZF in and out of the hospital - quickly.....a bunch of new calls in the area - ITV, FOD, ETD to name three.....and, finally, something to look forward to; as a man grows older, I am told, there are more and more young ladies to admire. (Did you really put that in the minutes, Bill?)

REPORT REPORT: Seen on a local wall; "The more time you spend in reporting on what you are doing, the less time you have to do anything. Stability is achieved when you spend all your time doing nothing but reporting on the nothing you are doing." I think I've achieved stability (ref. above reports).

FROM THE OLD PHILOSOPHER: "Life can only be understood backward, but must be lived foreward." -- Soren Kierkegaard..... Jay's Corollary: If you spend a preponderance of time trying to understand life, you must be ever prepared to sidestep frequently as you encounter those who are living it.

73.   
JAY

FOR SALE: DRAKE TWINS: COMPLETE STATION: R4C, T4XC, AC4, MS4, W4, NB4. Call Mike, WB5GMK, Shawnee 275-8098. Asking \$900.

FOR SALE: Ten-Tec Argonaut, QRP., Ten-Tec power supply, Astatic D-104 mike, Heathkit mobile mike. \$325 takes all. Gene, WD5IOE, 721-2889.

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SILENT KEY -- Neil Daws, WB5AMV

Another of our amateur friends has joined the ranks of Silent Keys. Neil Daws, WB5AMV, passed away on the 19th of July.

We will miss his voice and laughter on 2 meters where he and a group gathered nearley every night to talk over the days events, or history of Oklahoma City, in which Neil excelled, for he was born in Capitol Hill and lived there all of his life. 73 old pal. Bob, W5VZU.

---

# kay

C O U N T Y   A M A T E U R   R A D I O   C L U B  
C O U N T Y   A M A T E U R   R A D I O   C L U B  
C O U N T Y   A M A T E U R   R A D I O   C L U B

Ooh, boy!!!

The time has come for me to try my hand at some sort of prose that would be presentable for a monthly news magazine. This is one of the joys of the job I was "selected" to do. So here we go!!!

## SOMETHING OLD

I believe that a round of applause is in order for our outgoing staff.

Chuck Willis, WB5DOT, as our former president, did a fantastic job of keeping things in order and supplying interesting and informative programs at our meetings. He attended most all club activities and was usually first out on a storm net. Job well done, Chuck!

C. L. Hallmark, W5ZWM, who was president year before last got just what he deserved this last year as Vice Pres. — an easy ride. C. L. is always there when needed and I can even remember his name — most people can't remember who is the V.P. of anything!!

Our outgoing secretary, Jay Williams, W5TXF, was really kept busy — besides his regular secretarial duties he maintained our 37/97 machine and even kept it in working order. Thankx, Jay!!

## SOMETHING NEW

Our new secretary is Cosby Clarke, WB5JYC, who was elected while away on vacation! Of course, we've always threatened to elect those who do not attend club meetings. Even though the vote was a unanimous choice by those present, we still thought we heard a weak, broken signal in the repeater with a resounding "nay". But he has already dived into the job head first and has completed the new club roster and was chasing me down to sign bill-paying checks just hours after my election!!

Our new V. P. is Grady Skillern, WB5SAG. This is one man with a lot of drive and determination, and a whole lot of valuable knowledge. He has gotten up a 22/82 repeater (which, by the way, is always available for anyone's use, folks) and is always there for emergency backup to our other machine. He can always be relied upon in a jam and his public mindedness is outstanding.

Now to me, Steve Scott, WB6NBK. As your elected president, I sometimes wonder if this is a joke. I am almost the youngest member of the club and my ham knowledge is still growing — but I guess that is the ham way! With the great staff I have backing me up, this should be a good year. Anyway, we'll see how my first term in office goes — heh, heh, heh—

## SOMETHING BORROWED?????(FIELD DAY)

Our reports about field day have been announced over the net numerous times but for general reading and record here she goes again: 344 contacts, only 38 of them CW. With our multipliers for emergency power and QRP operation and PR, we only made 974 points, 4 less than last year's score of 229 contacts and 978 points. Whole lot more CW last year!! We really need those Brass Pounders next year!!!

A good time was had by all with 8 brave souls there the whole 24 hr. duration on 3 stations and 48 states plus Canada. But the part that really brought them out was the cookout that evening. (We may have to have those at regular meetings to get people there!) A big hand goes to Delbert Foiles, WB5YRN, for the organizing and cooking of the food and to the many wives of our members for the casseroles. A few of the brave souls who deserve mentioning for their stamina, besides me, are Chuck, WB5DOT, Marsh, WA5UBO, Tony, WD5EAA, Cosby, WB5JYC, Grady, WB5SAG, Gene, WA5MUB, C.L., W5ZWM and Delbert, WB5YRN.



Just wait till next year - - - - I'm already Planning!!!

#### SOMETHING BLUE

As many of you know, we had a silent key this month, Elliot Todd, K5QEF. We will miss him among our ranks, and our condolences go to his family.

#### MEETINGS PAST

Due to human error, our column has missed the C&E for a couple of months. So here is a brief summary:

MAY Attempted to have club elections but were not able to due to lack of any size of membership to accomplish the mission. Chuck, WB5DOT, gave an informative program of how to make 2 meter beams for less than 10 dollars. Boy, that's my price range!! He was even into a bit of antenna theory to explain why they worked. A program you shouldn't have missed!!

JUNE We had a pretty good crowd for a change and had a very different meeting. We elected officers, and you know the score from elsewhere in this column. We also discussed our repeater problem that we had and, glad to say, it has been eliminated thanks to the efforts of Jay, W5TXF, in collaboration with several local hams and a few in Kansas.

JULY Boy, what a hot meeting!! A committee was authorized to attempt to locate and purchase some new equipment for our 37/97 repeater and an antenna party was scheduled for 7:00 am, Sunday, July 27th to put up our new antenna at the transmitter site. We have also made arrangements to have the power AMP for the machine fixed and discussed future programs for our meetings. Volunteers were secured to work the raft race to be held on August 3rd.

A lot of good meetings missed here - - don't just wish you were there - - be there when it happens every month!!

#### MORE ON MEETINGS

And speaking of planning, I've already started planning and contacting programs for our future meetings that I hope are as interesting to you as they seem to me. If you have any ideas for any programs, please let me know. I'll do most anything to get you there that one Thursday a month. You elected me to be sure I'd have to be there, so get involved - - - - COME JOIN THE FUN!!!

73's

STEVE

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## MINUTES

The July meeting of the 76ers was called to order at 7:02 pm by Prez Joe WD5BMP at the Air National Guard Center with 43 members and guests present to conduct the business for the balance of the club.

Minutes of the June meeting were approved as published in the July Collector And Emitter (C&E).

In the absence of the Treasurer there was no Treasury report.

The Repeater committee reported it's working fine.

Thae Balance of the meeting was taken up with the Field Day Report from Dick WB5TMW, Chairman. As he figures, it totalled at least 6,695 points with all the bonuses, allowables and multipliers. He concluded with the caution "we'll see."

The meeting broke for refreshments at 7:40 pm to reconvene at 8:01 pm for the program.

Bill Demand K5SKA, Chief Engineer for KCSC, Edmond, and Chief Technician, Media Center, Central State University, presented a very informative and intriguing program on "sub-carrier remote transmitter control" and its possible application to Amateur Radio repeaters. Commercial FM broadcast has employed SCA (sub-carrier authorization) for the likes of background music for offices and stores and for talking books for years. Bill showed how this method could be simply used for remote control as well as plain transmission through amateur FM repeaters. AM too?

The Clun dispersed for the aftermeeting at 9 pm.

Next meeting: same time, same place, 12 August, CU.

Jim N5BEQ  
Secretary

PS: The Bicentennial Amateur Radio Club is in need of a replacement CORA representative for Joe WD5BMP who must regretfully step aside. Any volunteer is asked to contact Joe or Kay WD5DYJ.

Jim N5BEQ  
Secretary



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SEE individual club sections for times, places & details.

'80 AUGUST HAM HAPPENINGS						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	VHF MAILED 2 C&E
WHEAT- STRAW 3	EDMOND CLUB * * * 4 TRI-CITY	MORI * * * GREAT 5 PLAINS	6	7	8	9
	CHOCTAW * * * A.F.MARS 11	76ers * * * SHAWNEE 12	13	ALTUS * * * 14 ATV	PAA/VHF watermelon- seed- spitting 15 CONTEST	SCARS 16
EARS 17	ARES 18	OCAPA 19	20	KAY COUNTY 21	22	EDIT C&E 23
24		CORA * * * SHAWNEE 26	27	28	29	MORI MAILS C&E 30
31	25	26	27	28	29	30

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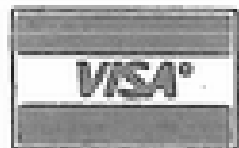
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