

Central Oklahoma Radio Amateurs

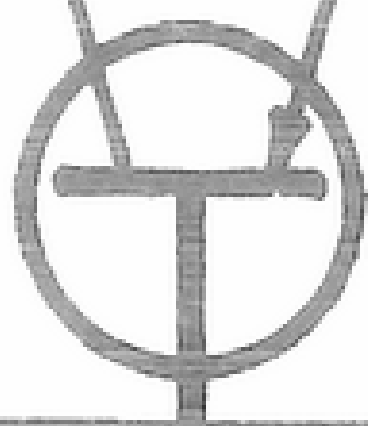
COLLECTOR

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

FEBRUARY 1980

Number 61

Happy Birthday



CORA C & E

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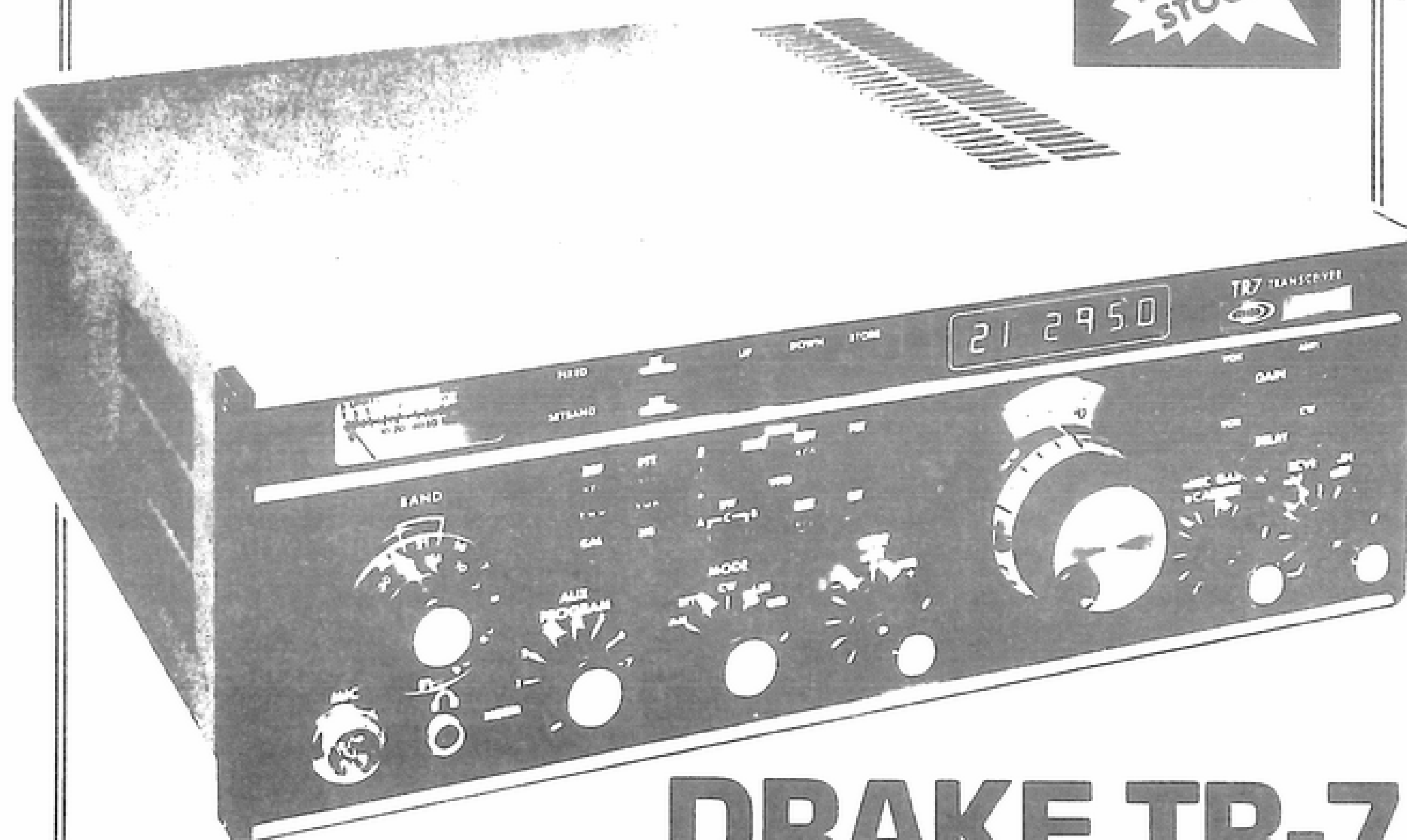
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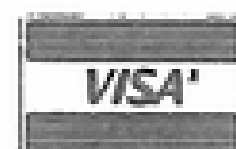
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Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER



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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.

President	Chuck Wilhite	K5NK 721-4926
Vice President	Bob Graham	WB5NSV 677-8685
Secretary	Kay Northcutt	WD5DYJ 842-1086
Treasurer	Ron Recer	KE5M 751-5378

AN OPEN LETTER TO H.O. WA5MLT

Dear H.O.:

From the January C and E "Brief Notes" section it was reported you scored a "ZILLION" in the ARRL 10 meter contest, working multi-op with WB5TZZ and WB5QNK. You will find my call in your contest log.

I didn't bother to say "Good Luck in the Contest H.O." after our exchange, as I knew you were dead serious about what you were doing. So no Trivia to slow down the action!

However, since the C&E mention of your score, Im wondering was I QSO number Four - Point - Two, Six - Point - Three Five, or what? (We contesters know in such high scores, that we must refer to high figures like One Million as simply "ONE" and a figure of One Million, Two Hundred Thousand would be referred to as One - Point - Two.) Now in the Billion range, we refer to these high scores as " A BIG One ! " So a score of One Billion, Three Hundred Million, Eight Hundred Thousand would be noted simply as " A Big ONE - Point - Three Hundred - Point - Eight "

After pondering that " ZILLION " I reached for my old college Merriam-Webster Dictionary 1964 edition and under the " Z's " the word Zillion is not listed, So I scrounged around and found a 1971 edition of the same Dictionary and under the " Z " again no listing for Zillion.

However this newer edition had a section titled "NEW WORDS FOR A NEW DECADE", and lo there under the Z I found Zillion listed with other new words such as Zip and Zonked.

Under Zillion the definition states " a large indeterminate number" With that, I thought I could have been - ANYWHERE - in your log. I was simply a indeterminate log entry! So, I'm no longer wondering what my QSO number was, in fact, I don't want to know.

The contest was enuff as it was. I worked one DX station that was so far away it warped the reflector element on my beam. And just before the band folded Saturday I worked a UFO. If you worked any UFO's they are triple multipliers.

When the QST contest results are published look for me under the single operator listings, I was in the Billion range.

Sincerely,

Don, K5CKQ
Lawton

Vol. 6 FEBRUARY 1980 No. 61



CLUB EDITOR

George Lee, WB5NMK, 946-2754

MEETS: 8:00 PM First Tuesday of month
Okla City EOC, 4600 N Eastern
Pres Fred Taylor KA5CXW 528-1537
V-P Bob White WB5PWZ 681-9222
Sec Jim Buswell N5BEQ 947-1180
Tres Jim Jones K5PER 634-5235
Dues: Sid Gerber, 829 Bouse, WMC 73110

RANDOM NOTES FROM THE PRESIDENT

The January "Chuck Roast" was super! We saw several friends we had not seen in several years. We hope they return for many more meetings, the FIRST Tuesday of each month. Chuck Wilhite's friends helped him bounce off this coming year as CORA president which we are all sure will prove to be the greatest year ever. We wish to thank Clara, WD5KFT, Tiny, W5KBH, Doc, WA5CZN, Jim, N5BEQ, Don, K5SJV, and Chuck, N5SW for taking part in the "Chuck Roast" and making it a success. Special thanks to George, W5DDI for his fine work on arrangements, and to Jim, N5BEQ for his publicity and coordination.

A special thanks to a good sport - Chuck, otherwise known as K5NK (Inky).

We honored our trustees, Mervin Adler, K5ELL(146.07/67) Jim Williams, K5VRL (146.34/94) Joe Buswell, K5JB (444.1 repeater). We recognized the fine work and guidance of our Technical Committee consisting of WB5SLA, Mark Newton, K5VVZ, Ken Eason, WA5EAI Ron Cron and Joe Buswell K5JB, all assisted by WD5INZ, Greg, K5ERJ, Ron and WD5FEI, Mark. We heartily thank the trustees and technical committee for the continued excellence of our repeaters. Sid Gerber, W5KOZ deserves a real pat on the back for handling dues (billing and enrollment of new members the past year) Jim Jones, our treasurer was also honored for his loyalty and excellent handling of the "treasury" last year.

Mark the 5th of February on your calendar for one of our better programs, Joe Buswell, K5JB will demonstrate Narrow Band Voice Modulation. Don't miss this one. As usual we will have door prizes and the usual delicious doughnuts and coffee during the break, when we all meet old friends, and relax. No need to leave for coffee!

Executive Board meeting will be held at 7:00 PM prior to the meeting to discuss important business on our agenda.

For those needing talk in, use the 34-94 repeater. We can help you find our meeting place at the Oklahoma City EOC at 7:30 PM, January 5, 1980.

Just a reminder from our trustee (K5ELL) of the 146.07/67 repeater. Please clear your autopatch calls as follows -- K5ELL Repeater, (your call) to the patch. After the call say: (your call) clearing the K5ELL Repeater. Please emphasize "repeater" in the preamble and when signing clear to assure you are legal.

Thanks for your support and bring a new member in February. Our friendly group is growing!! The ladies really enjoyed our January meeting -- don't you think? Ladies are invited to all meetings, and we hope you invite them.

Fred Taylor, KA5CXW

The Mori Club didn't have its usual monthly business meeting in January, since it fell on New Year's Day, it's the first Tuesday of every month. Instead, it was decided to have a "Chuck Roast" on the following Thursday, January 4th. It was held at Furr's Cafeteria, N. W. 63rd and McArthur. There seemed to me to be about 100 people present, a nice attendance! We were there to honor our out-going president, Chuck Wilhite. The crowd was jovial, with a lot of people renewing personal contacts, and chattering at "60 per".

Meeting called at 8:10 PM by President Fred, and Sid collected dues. We have missed him at the regular club meetings. His friendly smile and greeting have almost seemed like a fixture. He told me that his schedule has been changed, so that he is likely to be at future meetings. We bid him "Welcome back!!"

There were self-introductions as usual. Then we had a man from Kingfisher telling about a "Skywarn" project getting off the ground. More details were promised to be in the C. & E. about this new storm warning system.

CONTINUED

Bill Skipper announced about "Ares" meetings on the third Monday of every month at the Red Cross. There followed an introduction of repeater personnel, with an explanation of our indebtedness to them for maintaining these machines, often at great inconvenience. So, Thanks, fellows, very much!

Clara Storm started the "roast", followed by a number of others, who did Chuck up "brown". One good thing you can say about Chuck, along with many other things: He's good natured. He didn't seem to get "red-headed" at anyone, regardless of what they said. Chuck had his turn last, and I think he made it count. There were times, though, I don't think he would have needed a match to light a cigarette. Everything, including these remarks, were made in a spirit of fun, and nothing abrasive to Chuck's or anyone's feelings, was intended. Chuck, you made a good president, and are well liked.

Chuck called off the names of the people that drew door prizes-- We ought to give him a permanent job of that--he's good at it.

After drawings, Fred dismissed us; and, all we had to do, was go home and digest that good meal.

Regards,

George, WB5NMK

34/94 IS ALIVE & WELL

MORI has been very fortunate to afford two complete new G.E. repeaters, thanks to some contacts Merwin K5ELL had through his work.

The new repeater for 34/94 was installed several months ago. However, for several months prior to the installation of the new machine, the old machine suffered many breakdowns and limped along on 10 watts or less. These problems severely affected the excellent coverage we all once enjoyed. Another unfortunate occurrence which was totally unavoidable at the time was the amateur normally operating on the repeater moved to other machines, most of which moved to 67.

Now this brings us to the main topic of our discussion - 34/94 is alive and well with super coverage, excellent audio and dependability. However, one thing is still missing! All the great operators!

Just think - the last time you were monitoring your usual machine and wished that old wind bag would get off so you could make a call.

Well, switch to 94 and listen! It's basically dead. There's all the air time you could ever want over there and coverage is up there with the best of them and better in a lot of areas. There's not even an auto-patch to worry about making available.

So come on - let's use our new machine! 34/94 is alive and well with excellent audio, coverage and lots of air time.

MARK WB5SLA

OKLAHOMA SECTION / OKLAHOMA COUNTY
A.R.E.S. READINESS PLAN

1.0 INTRODUCTION

- 1.1 This document presents the emergency READINESS PLAN for the Oklahoma Section (and Oklahoma County) Amateur Radio Emergency Service (ARES).
- 1.2 The Oklahoma Section (County) Amateur Radio Emergency Service functions within this READINESS PLAN under the direction of the Section Emergency Coordinator (SEC) and County Emergency Coordinator (EC), who are appointed by the elected Section Communications Manager (SCM)
- 1.3 This READINESS PLAN is supported by licensed radio amateurs who have volunteered to register with local Emergency Coordinators (EC) and who have agreed to serve without compensation of any kind.
- 1.4 Under Federal Regulations, the contents of messages handled by amateur radio are not divulged to unauthorized persons and such public service communications are furnished without compensation of any kind.

2.0 PURPOSE

- 2.1 To provide a written guide containing minimum information needed in a communications emergency;
- 2.2 To facilitate mobilizing amateur radio operators and equipment in the shortest time without the need of detailed individual instructions;
- 2.3 To coordinate amateur radio capabilities in the Oklahoma Section (and County) to effect emergency communications in the event of a disaster or pending disaster, when regular communications fail or are inadequate;
- 2.4 To augment individual local emergency plans developed on a county basis;
- 2.5 To serve the following agencies with their disaster preparation and/or disaster relief activities (listed alphabetically):
 - (a) American Red Cross
 - (b) Department of Defense, Defense Civil Preparedness Agency
 - (c) National Weather Service
 - (d) Salvation Army
 - (e) Oklahoma State Civil Defense
 - (f) Other agencies requesting assistance
- 2.6 To assist adjacent ARRL Sections (Counties) during their emergency or test activities;
- 2.7 To establish frequency of training, drills and instruction, to maintain an effective state of READINESS.

3.0 ACTIVATING THE READINESS PLAN

- 3.1 The plan may be activated for any communications emergency as stated or implied in Section 2.0 of this document.
- 3.2 Any member of the Oklahoma Section (or Oklahoma County) Amateur Radio Emergency Service, licensed Amateur Radio Operator, or competent civil authority (contacting an amateur radio operator) may activate the READINESS PLAN.
- 3.3 All affected members shall be notified during the emergency period.
- 3.4 For limited communications emergencies, this READINESS PLAN authorizes the activation of only those branches of the Amateur Radio Public Service Corps (ARPS) required to serve the agencies as outlined in Section 2.0 above.

4.0 MOBILIZATION PROCEDURE--INTRA-SECTION (INTRA-COUNTY)

- 4.1 The amateur radio station activating the READINESS PLAN should notify the immediate Emergency Coordinator.
- 4.2 The Emergency Coordinator should activate his emergency plan and establish a key station (NCS), with VHF capabilities, in the disaster area, forming an intercom circuit.
- 4.3 The Emergency Coordinator should notify Emergency Coordinators in adjacent areas as required.
- 4.4 As soon as possible, the Section Emergency Coordinator (SEC) and Section Communications Manager should be notified by telephone or the National Traffic System (NTS).
- 4.5 The county, state or area leadership officials of the served agencies, as listed in Section 2.0 of this document, should be notified.

-CONTINUED NEXT PAGE-

5.0 MOBILIZATION PROCEDURE--INTER-SECTION (INTER-COUNTY)

- 5.1 When a large-scale emergency exists in the Oklahoma Section (and/or Oklahoma County) or adjacent Section(s) (and/or counties), the affected area SEC, EC or member shall contact the Oklahoma SEC direct or via NTS, advising the following:
- (a) Brief description of the emergency;
 - (b) Location where aid requested;
 - (c) Name of person/organization requiring services;
 - (d) Approximate equipment/manpower requirements;
- 5.2 Upon receipt of an Emergency Assistance Request, the SEC will mobilize the various ARPSC organizations in the Oklahoma Section and designate the assembly point for manpower and equipment. (In Oklahoma County, this function would be performed by the County EC, with the assistance of the SEC, if necessary).
- 5.3 The first arriving station at the assembly point will establish communications with the SEC or a responding EC via the two-meter repeater most accessible from the designated assembly point or 146.52 MHz.
- 5.4 The first EC to arrive at the assembly point will assume command, set up the necessary communications facilities, and prepare a roster of the responding members and their capabilities.
- 5.5 Arriving stations will turn off all equipment and engines while at the assembly point to conserve power and fuel, and check in with the command post leader.
- 5.6 Volunteers should report with an adequate supply of fuel, operating supplies, personal items and clothing required for the weather conditions. Vehicles which can serve as shelter and/or operating space are desirable.
- 5.7 The EC in charge of the assembly point will dispatch stations into the disaster area and various tactical locations as required by official orders for manpower/equipment via normal traffic procedures.
- 5.8 Operators will monitor the designated command frequency enroute to the assembly point and subsequent assignments. DO NOT TRANSMIT UNLESS CALLED BY NET CONTROL OR IN AN EMERGENCY SITUATION.
- 5.9 Several fixed stations will be designated "Key Stations" and will provide the necessary HF/VHF liaison from the disaster area to NTS and other tactical locations as required.
- 5.10 A "Key Station Personnel Roster" will be prepared by a station designated by the SEC for later use should conditions warrant.
- 5.11 The SEC has total responsibility to assure adequate communications services are available to any agency in need; and that proper liaison is established; and that all necessary organizations to facilitate the smooth and orderly flow of traffic is accomplished.

6.0 OPERATIONS

- 6.1 All messages (Third Party) handled on amateur frequencies must be prepared in standard ARRL form, with the exception of 6.2 below.
- 6.2 Messages handled on amateur frequencies during weather-watch or similar periods need NOT be in standard ARRL form. The Net Control Station or Radar Control Stations must keep a log of this traffic content, time, location, and station reporting.
- 6.3 All traffic originated by a served agency outlined in Section 2.0 must be signed with name and title.
- 6.4 Health and Welfare traffic can be signed by the originating station operator, after the information has been confirmed.
- 6.5 All ARES frequencies shall be made known to all ARES and RACES stations in the area of operation.
- 6.6 Oklahoma Section, National Traffic System, net frequencies are as follows:
- | | |
|---|--------------------|
| (A) Oklahoma Phone Emergency Net (OPEN) | 3.900 MHz LSB |
| Alternate | 7.825 MHz LSB* |
| (B) Oklahoma Liaison Net (OLZ) | 3.682.5 MHz CW |
| (C) Oklahoma County ARES Net | 146.34/.94 MHz FM* |
| Backup | 146.16/.76 MHz FM |
| Alternate | 146.52 MHz FM* |

* Not currently registered with the National Traffic System, and no net sessions are being held; however, it will be used should conditions warrant.

-CONTINUED NEXT PAGE-

7.0 DRILLS, TESTS, AND ALERTS

- 7.1 Drills, tests, and alerts may be conducted by the individual branches of the Amateur Radio Public Service Corps without the involvement of other branches at the discretion of the branch heads involved.
- 7.2 A test of this READINESS PLAN will be conducted at least once annually.
- 7.3 The Oklahoma Phone Emergency Net will meet each Sunday morning of the year at 1400-UTC (standard time) and 1300-UTC (daylight time) on 3.900 MHz for the purpose of maintaining a reservoir of trained amateur radio operators.

The readiness plan, above, has been formulated as the Oklahoma Section Amateur Radio Emergency Service READINESS PLAN, January 1978. This plan has been developed by the State Emergency Coordinator, the Section Communication Manager, and countless concerned amateurs all over the state and nation to fulfill our Part 97 obligation.

In an effort to establish an Oklahoma County Emergency Readiness Plan, it was found by the members of the Oklahoma County ARES that the unanimous acceptance of the State Plan was the best foundation for county plans; therefore, the State Plan was totally adopted as the County Plan, with the addition of designating the county responsibilities as well as the Section responsibilities.

The additions to this document appear in parentheses and only serve to personalize the County Plan. The State Plan remains intact, and may be followed by ARES groups outside Oklahoma County without interpretation.

This reprint of the State Readiness Plan appears in the Collector and Emitter to provide education to our newer readers who may have no knowledge of the Plan's existence. A thorough understanding of this basic plan is the intent of this publication. If there are any questions regarding this document or any of the procedures or organizations involved in emergency preparedness, contact your county Emergency Coordinator, State Emergency Coordinator, or the Section Communications Manager.

SECTION COMMUNICATIONS MANAGER: Leonard Hollar WA5FSN
RFD 1, 710 South 10th St., Kingfisher, OK 73750
(405) 375-4411

STATE EMERGENCY COORDINATOR: H. O. Townsend WA5MLT
2346 Louise Lane, Norman, OK 73071
(405) 329-4426

OKLAHOMA COUNTY E. C.: Bill Skipper KB5BS
449 N. Air Depot, Apt#20, Midwest City, OK 73110
(405) 733-0889

AMATEUR RADIO EMERGENCY SERVICE

The ARES meeting began Monday the 21st. at 7PM with 19 amateur attendance. After introductions, Larry Mooney from the National Oceanic and Atmospheric Administration (NOAA) discussed the SKYWARN program with the group. ARES decided to have training on three consecutive Saturdays. These dates were set as Feb. 9, 16, 23 @ 9AM. Refer to SKYWARN page issue of C&E.

There was also a discussion about an H.R. report on the Oklahoma County Emergency Training Net. If there is anyone that would like to give a weekly break-down of this report, Please contact me or check into the net and state so.

The 3.9Mhz Weather Net that meets every weekday at 5:45PM needs NCS and weather recording stations to report state-wide weather to the National Weather Service. If you would like to help one day a week for 15 to 30 min, Contact Joe Buswell K5JB or myself.

ARES needs 16 to 20 volunteers in June that can operate mobile or portable over a 10mile motor-X course without use of a repeater. Contact Pat Sherrill N5PS or Bryan Dehart N5BEV.

The Methodist Church is establishing an Explorer Post in emergency operations and communications. This is YOUR chance to get youths from 14 to 18yrs. old involved in amateur radio. Demonstrations are needed in Feb. of the different aspects of the Wonderful World of Amateur Radio. OK you CW, ATV, and Teletype enthusiast contact Fred Taylor KA5CXW at 528-1537 or 734-2034 and give a real showing! Bill Skipper KB5BS

SKYWARN SEMINAR

The Oklahoma county chapter of the Amateur Radio Emergency Service "ARES" in conjunction with The National Oceanic and Atmospheric Administration "NOAA", National Weather Service will have three Expanded storm spotters Seminars. These seminars will cover in depth different types of cloud structures associated with severe weather, tornado safety and more. We hope that these seminars will help you during the upcoming season. To provide a more accurate account of what is happening in the field.

Due to the limited amount of space available at the National weather service, and to provide you with a more thorough training. The seminars will be limited to thirty persons each. You only need to attend one. Each seminar will be a two part session.

- (1) 9:00 A.M. to 12:00 P.M. Training session probably at South Oklahoma Jr. College.
- (2) The group will be split into two groups of 15. One will view a video tape of the Wichita Falls tornado. The other group will tour the National Weather Service. They will then exchange places.

All seminars will be on a Saturday, 9:00 A.M. to 2:00 P.M., (lunch 12:00-1:00). If you would like to attend, please send the card below to me with S.A.S.E. Check the date you would prefer to attend. I will try to schedule you for the day you have indicated. If that date is full I will call you and ask if you can attend on another date. I will return your reservation with the address of the 9:00 A.M. to 12:00 meeting. You will need that card for admittance. If more than three seminars are needed to fulfill demand we will add additional seminars.

Don, AE5N

.....
tear off at dotted line

SKYWARN TRAINING SEMINAR RESERVATION

NAME:

CALL:

ADD.

CITY

STATE

ZIP

I would like to attend the Skywarn Seminar, 9:00am. to 2:00pm. Saturday,

February 9 ()

Mail to: D.H.Duck, AE5N

February 16 ()

3913 SW 24

February 23 ()

Okla. City, Okla. 73108

Remember S.A.S.E.



MEETS: 8:00 pm First Friday each month
 Flight Standards bldg, FAA Aero Center
 PRES Bob Pace WA5CJG 376-3569
 V-P Bill Oliver K5KDR 329-6333
 SEC Bob Graham WB5NSV 677-8685

Club Editor, Bob Graham, WB5NSV

MINUTES OF THE JANUARY MEETING OF THE ACARC

The meeting was called to order by President Bob Pace, WA5CJG at 8:00 PM. There were 47 members and guests present. Following the usual round of self-introductions, Bob announced that the constitution change voted on at the last meeting (concerning the new dues rates) is currently being typed, and will be sent to FAA Labor Relations as soon as possible.

Bob then announced that we are in bad need of help with our Amateur Radio classes, which have been held at the Red Cross. These classes are well attended, and are very much in demand. In the interest of helping others get started in amateur radio (not to mention upgrading) we certainly need to keep these classes going. Any wishing to help with conducting classes, please contact Bob Pace, WA5CJG, or Bob Graham, WB5NSV.

A report on the latest CORA activities was then given by Bill Oliver, K5KDR.

Ivan Miller spoke for a moment on the Iranian crisis. He said that listening to an all-band receiver showed propaganda is abundant. He urged everyone to write the Iranian Embassy asking for the release of the hostages.

Jim Buswell, N5BEQ, announced that Bill Skipper, KB5BS, is our new EC for Oklahoma County, and that Bill is setting up an ARES program in this area. Everyone is encouraged to participate.

President Pace then reported that the clubs repeater (25-85) is up and working fine.

At this point the meeting was turned over to Holley Holcomb, N5ABL, from the nominating committee for the election of our president for 1980. A motion was made by Ellard Foster, W5KE, and seconded by Charlie Greene, WA5JGU, to elect by acclamation for president - Bob Pace, WA5CJG, for vice-president - Bill Oliver, K5KDR, and for treasurer - Lee Forest, W5HLZ. (As an added note Lee has had to resign this position due to personal reasons) Motion Passed. Jess Lewis, N5AUG and Bob Graham, WB5NSV, were both nominated for Secretary. Bob Graham, WB5NSV, was elected. A motion was made by Paul Asplin, WA5HTL, and seconded by Jim Buswell, N5BEQ to elect Bryan Dehart, N5BEV, as Associate Assistant to the President. The motion passed.

One of the hardest things that a club president must do is to come up with new and interesting programs at our club meetings each month. If you have any suggestions or if you would like to give a program anytime please contact Bob Pace, WA5CJG.

A motion was made by Charlie Greene, WA5JGU, to adjourn for donuts and coffee. Needless to say this motion carried immediately.

73-Bob Graham, WB5NSV, Secretary

Random Words From The President:

Well here we go for 1980, I would like to express my thanks to the club officers for the fine job they did in 1979, it was great. In fact the year 1979 was a good year for Amateur Radio, we saw the completion of WARC and out of that we got some new frequencies. I know some of these new frequencies will get more use than some of the ones we have now. By the way that is something our club is going to do something about. Look else where in this C & E for more info.

The ACARC had its annual election of officers in Jan. and the officers stayed about the same except for the election of Bryan N5BEV as the assistant to the president for the associate membership. I would like to welcome Bryan aboard, cause I need some help setting up programs for the club. This year we will need nine programs for our meetings, If any of you out there have any ideas for programs let me hear from you please. Don't look now but before you know it we will be getting ready for field day and then will come H. H. 1980 plus a lot of others. So if I ask for HELP please try to do your part to make this year a good one...

73, BOB PACE, WA5CJG



AERONAUTICAL CENTER AMATEUR RADIO CLUB, INC.

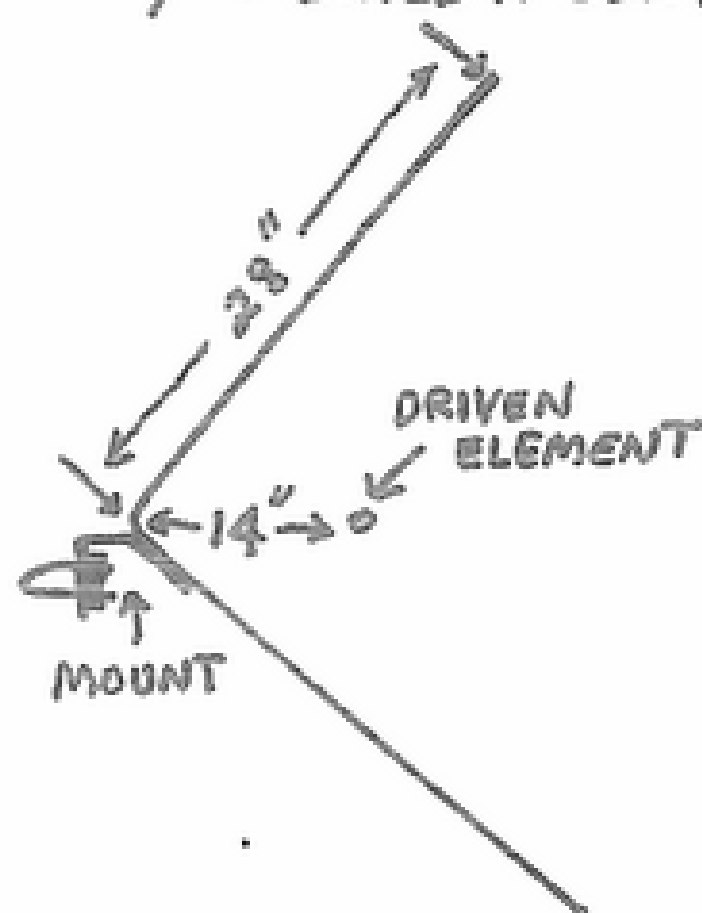


WSPAA

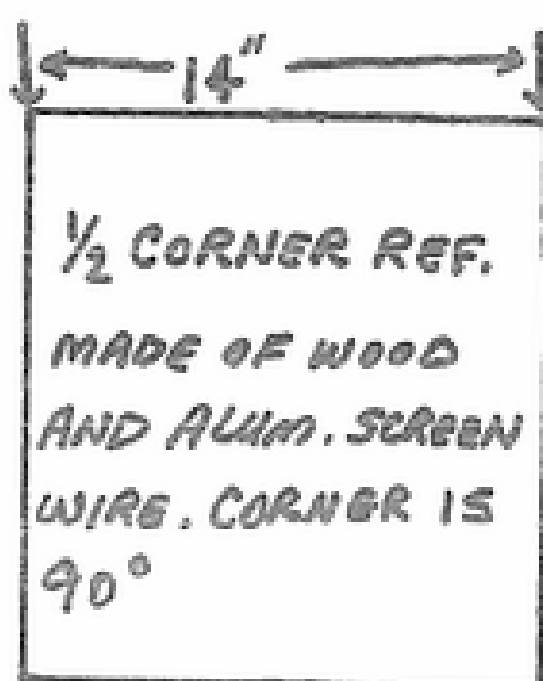
UP YOUR FREQUENCY TO 220, 440, 1296, 2300 mhz or higher....

If you would like to build a converter for one of these frequencies watch this space in your C & E....

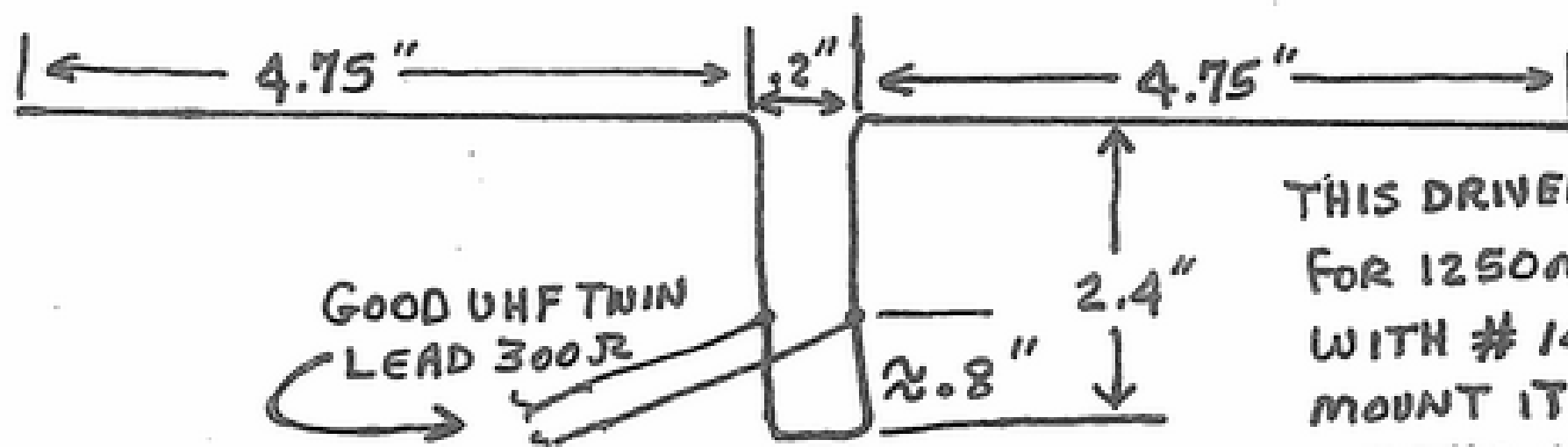
BEFORE YOU BUILD A CONVERTER, LET TAKE A LOOK AT SOME GOOD ANT'S.



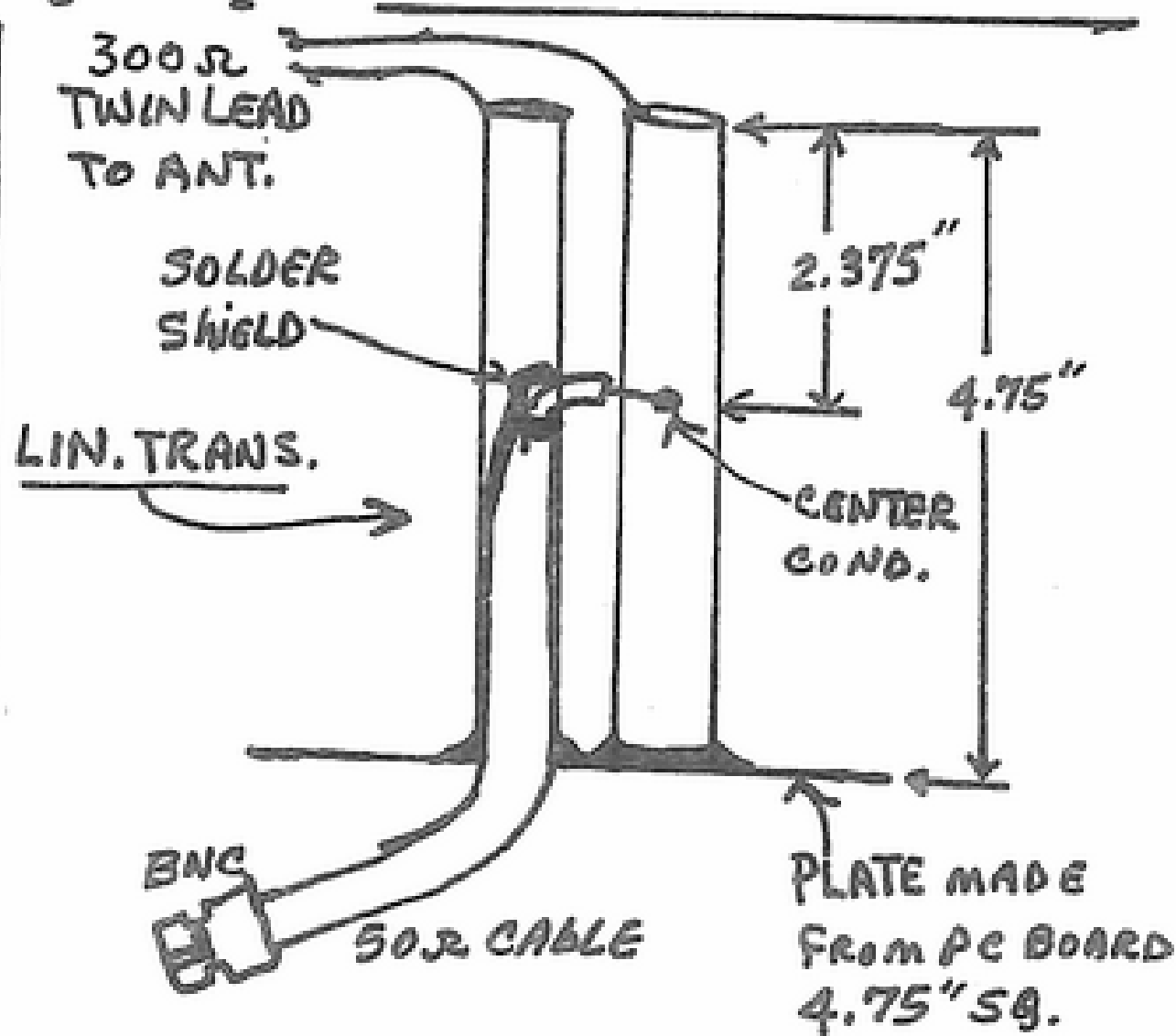
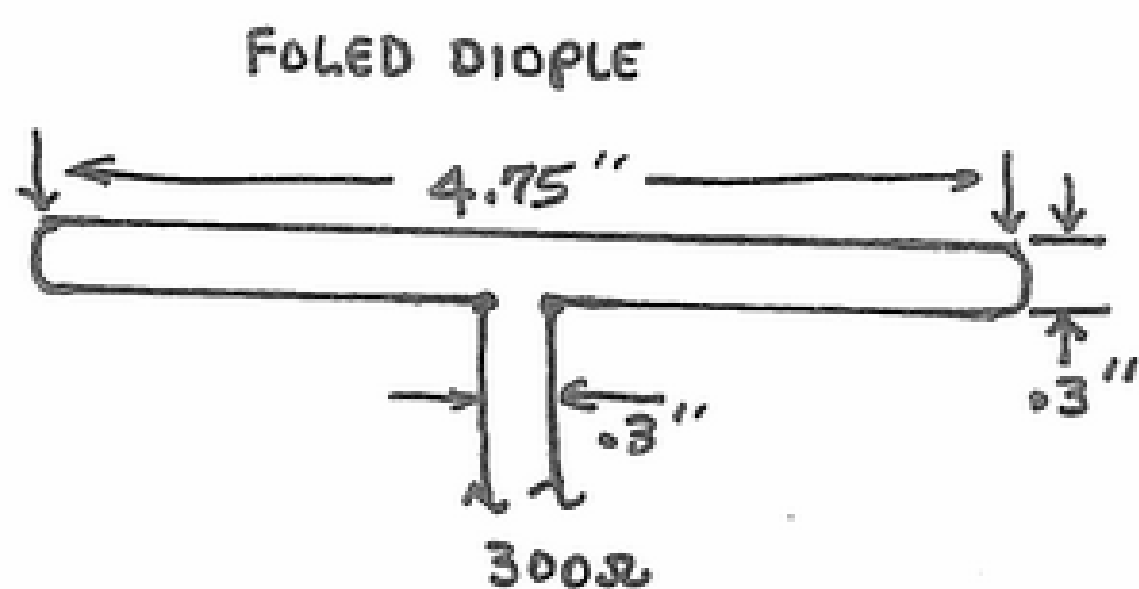
CORNER REFLECTOR



THIS ANT IS FOR 1250-1300
DRIVEN ELEMENT WILL
COVER 10 MHz



THIS DRIVEN ELEMENT IS CUT
FOR 1250MHZ, YOU MAKE IT
WITH #14 COPPER WIRE
MOUNT IT IN THE FOCAL POINT
OF THE CORNER REF.



73, Bob, WASCJG

FOR SALE: Dentron DTR-2000L 2 KW linear amplifier. Excellent with very few hours. Bought February, 1979 and very seldom used. I want \$1000 or will sell as a package with Drake C-Line in separate ad for \$1900 for the whole works. Also have new pair of Cetron 572B finals for Heath SB-200, Dentron Clipperton-L, etc., \$55. K2GKK, 405-672-4947 or Callbook address (1978 or later).



CLUB EDITOR
Joe Buswell, K5JB
732-0676

MEETS: 8:00 PM Third Friday each month
American Red Cross, 10th & Hudson OKC
PRES Jim Williams K5VRL 789-0769
V-P Clarence Sittel K5YAQ 947-4015
SEC Joe Buswell K5JB 732-0676
TREAS Ellard Foster W5KE 789-6702

MINUTES OF JANUARY MEETING

MEETING WAS CALLED TO ORDER AT 8 P.M. BY PRESIDENT KEN, WB5KHU, WITH 20 MEMBERS AND GUESTS PRESENT. HE BEGAN WITH THE ANNOUNCEMENT THAT THERE WAS GOING TO BE A HOUSECLEANING OF THE CLUB STATION WITH JUNK GOING FOR FREE AND SURPLUS EQUIPMENT GOING FOR REASONABLE OFFERS.

BOB, W5HXL, CHAIRMAN OF THE NOMINATING COMMITTEE ANNOUNCED NAMES OF THOSE WHO HAD BEEN SELECTED FOR NOMINATION FOR CLUB OFFICES. ADDITIONAL NOMINATIONS WERE MADE AND RESULTS OF ELECTION WERE:

JIM WILLIAMS, K5VRL, PRESIDENT
CLARENCE SITTEL, K5YAQ, VICE PRESIDENT
JOE BUSWELL, K5JB, SECRETARY
ELLARD FOSTER, W5KE, TREASURER
BOB ASHBY, W5HXL, DIRECTOR
JACK MUSE, WB5ZKZ, DIRECTOR

CARRYOVER BOARD OF DIRECTORS MEMBERS ARE BILL, WA5FWD, C. Y., WB5TKG, AND CHARLIE, WA5JGU.

CHARLIE, WA5JGU, LET THE CAT OUT OF THE BAG THAT JACK, WB5ZKZ, HAS BEEN HARBORING A NEW GENERAL CLASS LICENSE. IT IS ALSO RUMORED THAT JACK IS GETTING FAMILIAR WITH A NEW KENWOOD TS-520SE. CONGRATULATIONS JACK!

A WORK PARTY WAS SCHEDULED FOR THE FOLLOWING MORNING TO MOVE SOME GENERATOR TRAILERS AROUND. THE CLUB AUTHORIZED PURCHASE OF SOME MORE CRYSTALS FOR THE 2 METER FM RIG. PROGRAM MATERIAL AND LICENSE CLASSES WERE DISCUSSED. THE NEW PRESIDENT JIM, K5VRL, AJOURNED THE MEETING AT 8:28 AND THE GROUP HEADED FOR THE GOODIES IN THE RADIO ROOM.
JOE, K5JB, SECRETARY

WANT AD THE CLUB STATION, W5LOW, AT RED CROSS HEADQUARTERS IS IN NEED OF A PAIR OF LOW IMPEDANCE EARPHONES. DONATIONS WOULD BE CHEERFULLY ACCEPTED. WE WOULD EVEN GIVE A PAIR OF HIGH IMPEDANCE JOBS A TRY. KEN, WB5KHU, TRUSTEE

AC/DC LED INDICATORS

PERHAPS YOU NOW WISH YOU HAD PUT SOME PANEL INDICATORS ON THAT HOME BREW EQUIPMENT. AS THE OLD SAYING GOES "IT'S NEVER TOO LATE". LED'S ARE ALMOST PERFECT FOR THIS NEED BECAUSE OF THEIR SIZE, EASE OF MOUNTING AND POWER REQUIREMENTS.

FIGURE 1 SHOWS THE USUAL WAY OF USING AN LED ON DC. THE RESISTOR IS SELECTED SO THAT THE CURRENT/BRIGHTNESS IS LIMITED. BRIGHTNESS IS DIRECTLY RELATED TO THE CURRENT AND EVEN HALF A MIL WILL GIVE YOU A DIM INDICATION. THE LED IS JUST ANOTHER TYPE OF DIODE SO POLARITY AND MAX CURRENT MUST NOT BE EXCEEDED. I SUGGEST YOU BENCH CHECK TO BEST MEET YOUR NEEDS.

FIGURE 2 IS SOMEWHAT MORE INTERESTING IN THAT THE LED IS USED ON AC. ALL WE HAVE DONE IS TO ADD A REVERSE DIODE SO THAT THE PIV IS NOT EXCEEDED. DON'T TRY TO USE AN LED ON AC WITHOUT THE DIODE UNLESS THE AC VOLTAGE IS VERY LOW. CAN THE LED BE USED ON 115 VAC? OF COURSE, PROVIDED YOU USE A DIODE AND THE CORRECT RESISTOR, BUT YOU MAY FIND A 1-2 WATT RESISTOR IS NEEDED.

FIGURE 3 IS NOVEL IN THAT A RELAY IS USED IN PLACE OF THE RESISTOR. VOLTAGE DROP ACROSS THE LED IS PERHAPS ONLY A COUPLE OF VOLTS SO THE

OPERATION OF MOST RELAYS SHOULD NOT BE AFFECTED. JUST BE SURE OF THE RELAY CURRENT AND YOU WILL HAVE GOOD RESULTS.

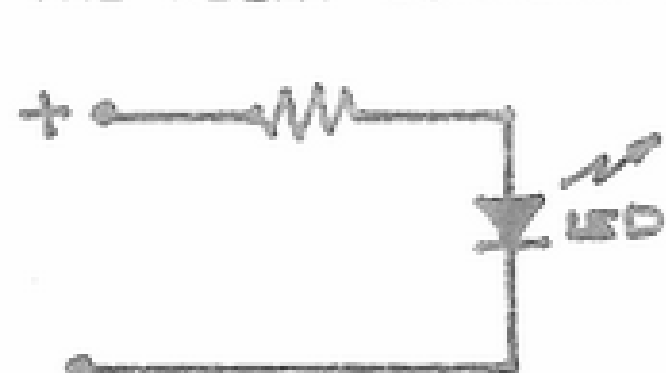


FIGURE 1

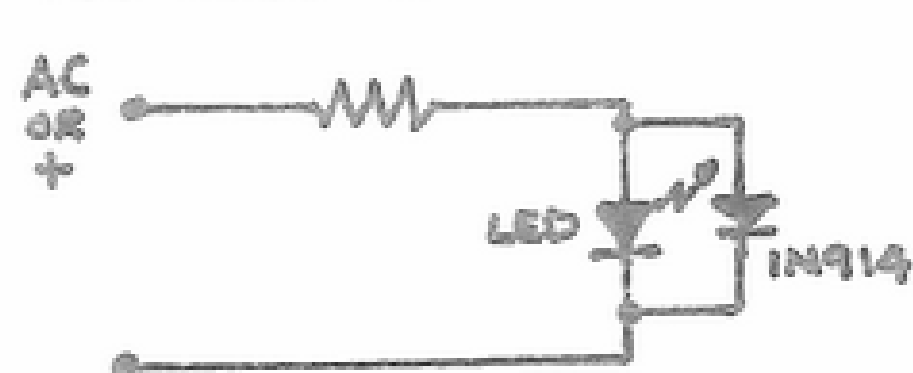


FIGURE 2

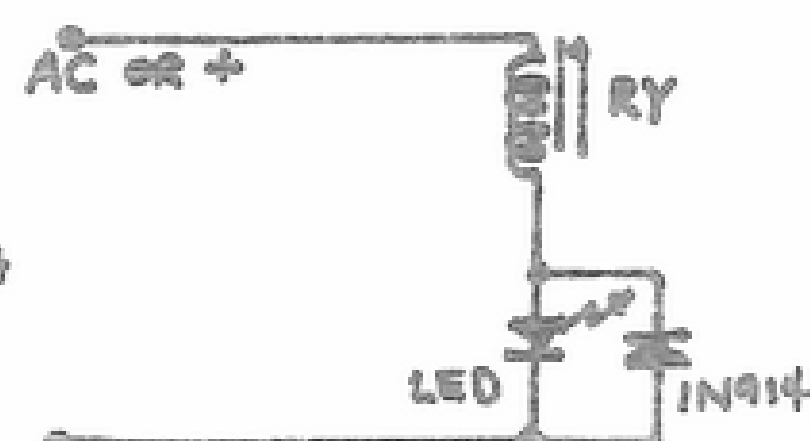


FIGURE 3

IN CLOSING, DON'T FORGET TO CONSIDER USING AN LED AS A PILOT AND VOLTAGE REGULATOR IN SOME SPECIAL CIRCUITS. THE VOLTAGE DROP ACROSS AN LED IS QUITE CONSTANT AND CAN BE USED FOR SPECIAL PURPOSE.

BILL, N5CC

YAESU FT-207R

THIS IS NOT A NEW PRODUCT REPORT. I WAS TELLING FRED, KA5CXW, SOME THINGS I HAD DONE FOR, OR RATHER, TO MY NEW FT-207R TALKIE AND HE SAID I OUGHT TO PUT IT IN THE COLLECTOR AND EMITTER. WELL, HERE IT IS FRED.

FIRST THING I DID WAS MAKE A SPARE BATTERY OUT OF SPARE CELLS FROM A MOTOROLA HT-220 BATTERY. WISDOM OF THIS PRACTICE IS DOUBTFUL IF ONE HAS TO PAY MUCH FOR THE MOTOROLA PART. I HAD A SPARE WHICH WAS NOT BEING USED REGULARLY, WHICH MADE IT WORTH LITTLE, RIGHT? RIGHT ON! THE DREMEL MADE SHORT WORK ON THE CASE. IN A JIFFY I HAD TWELVE CELLS AND SEVERAL CASE PARTS WHICH WOULD BE USED IN A MAXIMUM RECYCLING EFFORT. THE MOTOROLA BATTERY IS THE SAME WIDTH AS THE YAESU BATTERY SO PART OF THE CASE WAS USED TO GIVE THE RESULTING NINE CELL BATTERY SOME SHAPE. THE BATTERY WAS MADE BY CONNECTING THE NINE CELLS IN THREE COLUMNS OF THREE CELLS EACH. THE ORIGINAL BATTERY CONTACTS WERE SLIPPED IN THE GROOVES PROVIDED TO MAKE CONTACTS FOR THE NEW BATTERY. THE WHOLE THING WAS TAPED TOGETHER WITH MYLAR TAPE, WHICH, BY THE WAY IS TOUGH AS A BOOT AND QUITE A GOOD INSULATOR. IT CAN BE OBTAINED IN STATIONARY OR OFFICE SUPPLY STORES.

NEXT STEP WAS TO FIGURE HOW TO CHARGE THE NEW BATTERY OUT OF THE RADIO. IN FACT I WANTED TO CHARGE EITHER BATTERY OUT OF THE RADIO SO ONE COULD BE CHARGING AND ONE COULD BE DISCHARGING.

ONE THING THAT ALWAYS BOTHERS ME WHEN I PUT A BATTERY ON CHARGE IS HOW DO I KNOW ANYTHING IS HAPPENING? USUALLY THE CHARGER HAS SURPLUS VOLTAGE BECAUSE CONSTANT CURRENT CHARGING IS EMPLOYED. THE CHARGER THAT CAME WITH THE YAESU DID NOT HAVE MUCH SURPLUS VOLTAGE. A LOOK AT THE SCHEMATIC REVEALS WHY. IF THE BATTERY IS NOT IN THE RADIO, FULL OPEN CIRCUIT CHARGER VOLTAGE CAN APPEAR ON THE INNER WORKINGS. CURRENT LIMITING 'MAY' PREVENT CATASTROPHE BUT I HATE TO RUN THE RISK. I ELECTED TO USE THE YAESU CHARGER FOR BOTH INTERIOR AND EXTERIOR CHARGING OF THE BATTERIES.

THE CIRCUIT IN FIGURE 1 WAS MY FINAL SOLUTION. DIODE D1 WAS INCLUDED TO SIMULATE THE CHARGING CIRCUIT IN THE RADIO. I ATTEMPTED TO SENSE CURRENT FLOW THROUGH THIS DIODE BY USING THE .7 VOLT FORWARD DROP TO TURN ON A GERMANIUM TRANSISTOR. I GOT IT TO TURN ON OK BUT IN TRYING TO GET IT TO TURN OFF, THE PARTS COUNT WAS GETTING OUT OF HAND. THE CIRCUIT IN FIGURE 1 HAD A SECONDARY BENEFIT ANYWAY. IT COULD BE USED TO DETERMINE BATTERY CONDITION. A FULLY CHARGED BATTERY, PLACED ON THE CONTACTS CAUSES THE LED, D2, TO GLOW DIMLY.

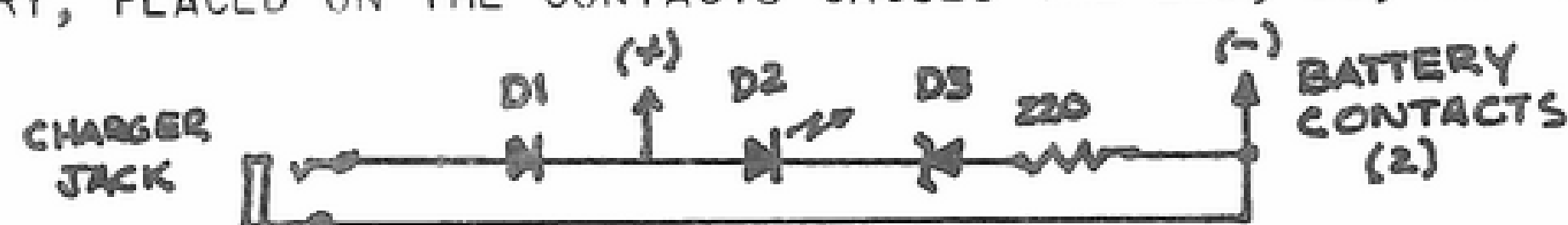


FIGURE 1. BATTERY CHARGING STAND.

THE ZENER DIODE WAS SELECTED EXPERIMENTALLY AFTER THE LED WAS SELECTED. ZENER BREAKDOWN VOLTAGE OF THE ONE I SELECTED WAS ABOUT 13.4 VOLTS...NOT EXACTLY A STANDARD VALUE EXCEPT MAYBE FLEA MARKET SPECIALS MARKED 9 VOLTS, OR MAYBE 12 VOLTS OR ???

REMEMBER THE OLD MOTOROLA BATTERY CASE? WELL HERE IS WHERE THE REST OF IT IS PUT TO USE. THE JACK, LED AND A COUPLE OF WIRE TERMINALS WERE INSTALLED IN IT. THE REST OF THE PARTS SOLDERED IN AND CASE GLUED BACK TOGETHER AND THE PROJECT WAS FINISHED IN LESS THAN AN HOUR.

TO OPERATE, THE CHARGER IS PLUGGED IN. WHEN VOLTAGE IS AVAILABLE, THE LED GLOWS BRIGHTLY. WHEN A BATTERY IS MAKING SATISFACTORY CONTACT WITH THE PINS, THE LED EITHER GOES OUT, IF THE BATTERY IS DISCHARGED, OR GLOWS DIMLY IF THE BATTERY IS PRETTY WELL CHARGED.

ONE ADDITIONAL NOTE ON THE YAESU FT-207R. FOR SOME REASON, PROBABLY UNRELATED TO SAKE, THE DESIGNERS HAVE PROVIDED THE BATTERY SUPPLY VOLTAGE TO THE INTERNAL SPEAKER. UNLESS ONE WANTS TO TEST RELATIVE TOUGHNESS OF SPEAKER VOICE COILS, I ADVISE AGAINST WIRING AN EXTERNAL SPEAKER TO THE REMOTE MIKE/SPEAKER SOCKET PROVIDED AND RETURNING THE VOICE COIL TO GROUND. CAREFULLY INSPECT SUBSTITUTE SPEAKER/MIKE WIRING BEFORE PLUGGING IT IN. I DON'T KNOW HOW YAESU DID IT BUT I WOULD PROVIDE A CAPACITOR IN THE SPEAKER LEAD TO PREVENT SMOKE DAMAGE.
JOE, K5JB

RECEIVER SPECIFICATIONS

JERRY, KA5DCM, HIT ME WITH A SUGGESTION THAT WE RUN A 'DEAR ABBY' TYPE OF COLUMN SLANTED TOWARDS RADIO PROBLEMS IN THE C&E. I DON'T KNOW IF TRYING TO COPY THE SUCCESS OF THAT COLUMN IS A GOOD IDEA BUT THE IDEA OF KICKING PROBLEMS AROUND IS A GOOD ONE. HE GAVE ME A SAMPLE QUESTION: WHAT IS THE DIFFERENCE BETWEEN CROSS MODULATION AND INTERMODULATION DISTORTION?

THAT'S A GOOD QUESTION JERRY. WITHOUT RUNNING FOR THE BOOKS, I'LL TRY TO ANSWER IT.

TO THE LISTENER OF A RECEIVER, THERE IS VERY LITTLE DIFFERENCE. HE IS HEARING SOMETHING ON A FREQUENCY HE WAS'NT EXPECTING TO HEAR IT ON. THE RECEIVER CHARACTERISTIC THAT ALLOWS IT IS VERY SIMILAR FOR THE TWO EFFECTS. THE EXACT MECHANICS OF FORMATION ARE A LITTLE DIFFERENT AND FOR THE SAKE OF DEFINITION, I WOULD SAY THAT IF AN UNWANTED SIGNAL SEEMS TO BE RIDING ON A DESIRED SIGNAL, IT IS CROSS MODULATION. IF A SIGNAL SEEMS TO BE APPEARING THAT IS A COMPOSITE OF SIGNALS ON FREQUENCIES REMOVED FROM THE LISTENING SPOT, IT IS IMD.

THE BEST REFERENCE ON RECEIVER MEASUREMENTS I KNOW IS AN ARTICLE IN JULY 1975 QST BY WES HAYWARD, W7ZOI.* EVER SINCE THAT ARTICLE APPEARED, THE ARRL LAB HAS BEEN MAKING TESTS TO MEASURE NOISE FLOOR, THIRD ORDER INTERCEPT POINTS, AND SO FORTH, IN AN ATTEMPT TO DISTINGUISH THE FINE DIFFERENCES BETWEEN RECEIVERS COMING OUT ON THE MARKET.

TO MEASURE IMD, TWO GENERATORS ARE USED AND RECEIVER RESPONSE ON FREQUENCIES ABOVE AND BELOW THE TWO SIGNALS IS OBSERVED. TO MEASURE CROSS MODULATION, THE RECEIVER IS TUNED TO ONE GENERATOR AND A SECOND GENERATOR, WHICH IS AMPLITUDE MODULATED, IS TUNED TO A SECOND FREQUENCY AND INCREASED IN STRENGTH UNTIL THE MODULATION IS OBSERVED ON THE FIRST SIGNAL.

GOOD DYNAMIC CHARACTERISTICS AND A HIGH THIRD ORDER INTERCEPT POINT ARE PROBABLY AMONG THE HIGHEST OF PRIORITIES FOR RESPONSIBLE RADIO DESIGNERS TODAY. ASK C.Y., WB5TKG. THE ANSWER HE GOT FROM ICOM WAS "WE THINK THEY ARE PRETTY GOOD BUT YOU SHOULD GO TO A DEALER AND COMPARE. SOME OF OUR RADIOS ARE BETTER THAN OTHERS." GOOD QUESTION JERRY.
JOE, K5JB

* SEE ALSO PAGE 56, NOV 79 HAM RADIO...K5JB

The South Canadian Amateur Radio Society

MEETS: 9:30 a.m. third Saturday each month,
Red Cross Building, North Campus, Norman
Pr Laverne Hoag KB5DK 329-7625
VP John Stehr N5ABC 364-8761
Tr Jess Speer W5SQJ 321-7302
Se Jerry Howard KA5GHJ 364-3518

KB5DK IS NEW PRESIDENT OF SCARS

Laverne Hoag, KB5DK, was elected the president of SCARS for 1980 during the group's December meeting at the Cleveland County Red Cross.

John Stehr, N5ABC, was elected vice president. Jess Speer, W5SQJ, was named treasurer. A secretary (and esteemed reporter for C&E) was also elected, but the gentleman is out of town at the moment and will not be named until he has formally accepted.

Hoag, a member of the OU faculty, was the ramrod of SCARS's fund drive late last year, and has promised to work more in the direction of completing the public subscription drive early this year. He is also faculty sponsor of the OU club, proving that you can't give a good man too many jobs. N5ABC works at a Norman commercial radio shop and was largely responsible for obtaining and on-lining the new SCARS emergency services repeater. Jess, who is retired, is one of the area's most avid experimenter-builders, and is a charter member of the club.

W5OU/R FULLY OPERATIONAL

The new Norman repeater, W5OU/R, now has its IDer on line and is operating fulltime on 147.66-06 from a 150-foot tower in downtown Norman. There is no autopatch on the machine.

The Norman club has not set a single, fixed figure on contributions by those who wish to support and use the machine. However, the general rule has been that persons wanting to join SCARS and support the machine have sent in \$20 checks, while those interested only in helping the repeater have sent in \$15. The man to ask for details is W5SQJ.

WB5UUX TO BE NEW CLEVELAND COUNTY EC

Charles McCown, WB5UUX, has been nominated to be the new ARRL Emergency Coordinator for Cleveland County, according to H.O. Townsend, WA5MLT, SEC.

Charlie will succeed WB5TZZ, who terminated December 31 after a 2 1/2-year stint.

If the outgoing EC can be allowed a personal note, he just wants to say that Charlie will do a great job, and will have some fine people assisting him. The Assistant ECs terminate along with the EC, and Charlie will name his own persons. During my tenure, I was fortunate to have Jess, AF5X, in charge of rosters and the callup tree, and Bill, K5KDR, handling ARES membership records and "the ham welcome wagon." I could not have made it sometimes without these two guys providing advice and solid assistance in every aspect of the emergency operation. I want to thank them.

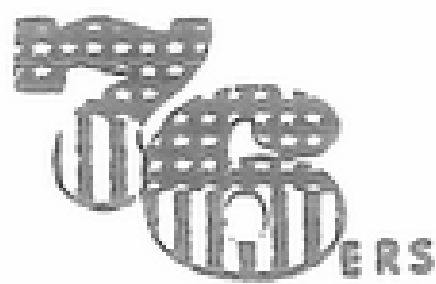
Thanks also go to Carl, WB5QNK, who was an assistant during early months of my term, and Bill, K3TGY, who was an assistant for the Moore area during most of 1979.

Charlie brings fresh ideas and energy to this often thankless job. He will find a solid group of dedicated amateurs waiting to help him. We wish him all the luck in the world.

WD5HAM PENS HAM RADIO MAGAZINE ARTICLE

Bonnie, WD5HAM, was the author of a fine article in Ham Radio Horizons a month ago. Aimed at the YL, it told all about amateur radio as a hobby and gave tips on how to join the OM as a licensed operator. Bonnie, a prolific author, is increasingly active on the hf bands. She says she's already received many notes and cards from YLs who appreciated the article, and has had the pleasure of being recognized on the air as the author of the piece. Some of the art accompanying the article was taken at a SCARS coffee break.

TRADE OR SELL: ART-13 (with tubes) \$20. Q-Meter (Boonton 170) \$95.
Call 321-7302, Jess, Norman.



BICENTENNIAL AMATEUR RADIO CLUB

MEETS: 7:00 PM on the 2nd Tuesday of each month
at Air National Guard - Will Rogers World Airport
President: Joe Couch WD5BMP 282-4353
V. P. : Kay Northcutt WD5DYJ 842-1086
Secretary: Tom Cassidy N5AOZ 751-1194
Treasurer: Jim Buswell NSBEQ 947-1180



MINUTES

The January 1980 meeting was called to order by Prez Joe WD5BMP at 7:02/23 pm on the 8th with 52 members and guests present.

The minutes were approved as published in January's Collector and Emitter.

The report of the Treasury was approved as read by Tom, N5AOZ with the reminders that each member's dues are renewable in the same month of the year as last paid and dues to CORA are now 25¢ per member per month per supporting club.

It was announced that Bill Skipper KB5BS is now the official Emergency Coordinator for Oklahoma County and with much able assistance has begun our local Amateur Radio Emergency Service (ARES) with regular meetings the third Mondays of each month at the central Red Cross offices, emergency practice and training net on the 146.16/76 repeater each monday nite at 9 pm, Skywarn training set for 9, 16 and 23 February @ 9 am with much more to follow.

Dick WB5TMW volunteered to serve the balance of the year as one of our CORA representatives for the club. He replaces Don AE5N.

There being no old or new business brought before the club the business meeting was adjourned @ 7:20/30 for coffee and donuts.

The program that followed was "Power Dividers, how to calculate, measure, build and mount your own so that they work" by Marshall Williams K5MB.

Next month's program will be Doc Goodhead WA5CZN on ATV (Amateur TeleVision) followed in March by Bob Cooper W5KHT and "SHF (Super High Frequencies) and in April with Mike Salem N5MS possibly on "Hams & the Law" or something equally esoteric.

Mark your calendars accordingly!

5 JAN 80, ATV, at the Air national Guard Center, 7 pm.

Jim N5BEQ
Secretary

Those of you who missed our meeting last month missed a very fine program by Marshall K5MB. Paul WA5HTL is hard at work getting programs for the club. The program for February will be presented by Dr. Goodhead WA5CZN and will be on ATV.

The March program will be by Bob Cooper W5KHT...more on that later.

I want to thank Susie KA5FED for taking the editor's job and Dick WB5TMW who is the new CORA representative. If anyone else would like to represent the club I will be happy to talk with them.

Have been talking to members about ways to get more activity on our repeater. Is there any support for a remote receiver to increase our range?

Also what about running CW practice for two or three weeks just before the F.C.C. comes to town. What about a 10-meter-to-2 meter link? These are some ways to spark some interest, WHAT DO YOU THINK?

C.Y. WB5TKG suggested at the last meeting that we have our programs first and then our business to allow our guest speaker leave early if needed, think about it.

Ron KE5M is playing with a new toy, computer sent CW on the HF bands. Seems his computer can send up to 399 WPM, that sure keeps a one finger typist busy!

73

Joe, WD5BMP

Central Oklahoma Radio Amateurs

FROM THE SECRETARY...

The regular monthly meeting of the CORA Board of Directors was held Tuesday, January 22, 1980. President Chuck Wilhite, K5NK, called the meeting to order at approximately 7:30 p.m. Twenty-five representatives and guests were present, with nine member-clubs in representation.

CORA has renewed membership with the Personal Communications Foundation, which provides references to legal actions regarding amateur radio.

Bill Skipper, KB5BS, Emergency Coordinator, Oklahoma County Amateur Radio Emergency Service, reports that ARES is meeting on a regular basis and is making progress. ARES was formed as a result of the CORA Emergency Steering Committee. (Membership form for ARES may be found elsewhere in this publication.)

Start making your plans now--HAM HOLIDAY '80 is just around the corner. The Ham Holiday committies are at work to again make it an interesting and entertaining weekend for the entire family, amateur or not! Remember, your club plays an important part in helping make Ham Holiday work. If you have ideas for any of the committies, please contact a member of the appropriate club.

Facilities - AUTOPATCH
Ladies' Programs - AERONAUTICAL CENTER
Pre-Reg. and Reg. - BICENTENNIAL AMATEUR RADIO CLUB ('76ers)
Prizes - MORI
Technical Programs - WHEATSTRAW CLUB (with assistance from
SCARS, CHOCTAW CLUB & ATV)
Publicity - VHF

Kay Northcutt, WD5DYJ, CORA SEC'Y

AMATEUR 2 METER "SAMARITANS"													
"SAMARITAN": ONE READY AND GENEROUS IN HELPING THOSE IN DISTRESS. WE WILL MONITOR THE 34-94 REPEATER EACH WEEK DURING THE HOUR WHERE OUR CALL SIGNS APPEAR BELOW, SO THAT ANY CALL FOR HELP ON THAT FREQUENCY WILL NOT GO UNNOTICED. FOR ADDITIONS, DELETIONS, OR CHANGES: CONTACT C.Y. WB5TKG 232-9005													
	12	1	2	3	4	5	6	7	8	9	10	11	12
M O N	AM							KAS DCM	WB5 NXO		WB5 TKG		
	PM				WAS HTL	N5 BEQ		KAS CXW					
T U E	AM							KAS DCM	WB5 NXO		WB5 TKG		
	PM				WAS HTL	N5 BEQ		KAS CXW					
W E D	AM							KAS DCM	WB5 NXO		WB5 TKG		
	PM				WAS HTL	N5 BEQ		KAS CXW					
T H U R	AM							KAS DCM	WB5 NXO		WB5 TKG		
	PM				WAS HTL	N5 BEQ		KAS CXW				N5 BEV	
F R I	AM							KAS DCM	WB5 NXO		WB5 TKG		
	PM				WAS HTL	N5 BEQ		KAS CXW					
S A T	AM										WB5 NMK		
	PM	N5 BEQ										N5 BEV	N5 GE
S U N	AM	N5 GE									WB5 TKG		
	PM	N5 BEV					N5 BEQ					N5 BEV	

CHOCTAW ARC



MEETS: 7:30 PM 2nd Monday. Woods Community Baptist Church, SE 29 & Choctaw.
 PRES Frank Carter AB5H 391-3394
 V-P Bob Allen WD5EVP 632-1708
 SEC/CLUB EDITOR June Allen N5ARV 632-1708
 TR R. G. Edwards KA5ALO 390-8297

The January meeting was called to order at 7:30 P.M. by President Carter, AB5H. All members and guests were made welcome. The treasurer's report was read and accepted.

A committee consisting of D. L., K5EGQ; Mike, K5UV; and Richard, KA5ALO was appointed to locate a site and equipment for Field Day 1980. Members who have equipment which can be used during Field Day should contact one of the Committee Members. D. L. has volunteered to locate larger meeting facilities for the club as we have out grown present location.

The club wishes to express their thanks to Bill Skipper, KB5BS for a most interesting talk on emergency communications. Recognition is also in order for the nice club tee shirts made up by Bob, KA5EOS.

CHAIN PULLING--

AB5H--Joined weight watchers
 K5EGQ--Monitoring 09
 WB50HK--Became a snow bird
 W5WZM--Should exercise 09 crystal
 KA5EOS--Breaking horses
 KA5ALO--Good at passing the buck
 N5AZP--Planting antenna farm
 WD5FIJ--Signal sapping
 W5HLZ--On water haul
 K5KZV--Deporting cats
 WD5KFT--Calling YL Net

June/N5ARV

See you next month.

FOR SALE OR TRADE HY GAIN TH6-DXX 'THUNDERBIRD' TRI-BAND BEAM.
 RON, WA5EAI, 681-0896, AFTER 6 PM.

FOR SALE TEMPO S-1 2 METER HANDY TALKIE, TT PAD, CHARGER, MOTOROLA BELT CLIP, RUBBER DUCKY, EARPHONE, ORIGINAL CARTON. \$325.00 ALSO, 2 METER KLM AMP, 70 WATTS. \$135.00. LARSON MOBILE MAG MOUNT ANTENNA \$25.00. ALL OR PART. JAMES GARDNER, KA5DHF, 8-5 WEEKDAYS 631-8821, AFTER 5 PM AND SAT AND SUN, 321-8779.

FOR SALE HEATH SB-101 80-10M TRANSCEIVER WITH 400 HZ CW FILTER AND ALL MODS EQUAL TO OR BETTER THAN SB-102 WITH HOME BREW POWER SUPPLY AND SHURE 440 MIKE, \$375.00. OUTBOARD VFO FOR SB-101, \$100.00 BOTH FOR \$450.00. JOE, K5JB, 732-0676, HOME, OR 329-8920, OFFICE.

FOR SALE MINT CONDITION COMPLETE DRAKE STATION. T4X TRANSMITTER, R4C RECEIVER WITH NOISE BLANKER AND 160M CRYSTALS, MS4 SPEAKER AND AC SUPPLY, INCLUDES DRAKE STATION CONSOLE WITH PATCH, CLOCK, ROTOR CONTROL AND ETC. CALL JOHN, WB5FZD, 364-3447 EVENINGS

FOR SALE: Two 4-400 Eimac tubes in sealed boxes. \$100 for the pair.
 Bill Skipper, KB5BS, 405-733-0889.

MEETS: 2:30 PM 1st Sunday. Location varies. See Text.

PRES Ted Vanlangham WB5JNT 262-1675

V-P Ray Barnes AB5Z

SEC/TR Ralph Wilder WA5PFK 623-5421

CLUB EDITOR Virginia Beneda, WB5WTH, 825-3302



As the first Sunday in 1980 unfolded it's arms the Wheatstraw ARC greeted the new decade in Calumet with 30 members and guest's present. One guest K5BGG has been blessed with very descriptive phonetics for her call -"Beautiful Great Grand-mother" and Great Grandfather Houston, K5VFR, concurs with these phonetics very quickly. We enjoyed your company - come again soon.

From the opening moments it was obvious that the first order of business for 1980 is to get our new president WA5JNT, Ted, in order. Not only is he our new Captain he enjoys rocking the boat, however it seems the whole group enjoys rocking because we set sail for a fun afternoon. Do not despair for our leader though, I learned by reading the mail on 2 meters that his daughter Tammy is coaching him on homework in the evenings.

The adopted procedure for business was followed (after a fashion) and after the official call to ORDER????, introductions, reading of minutes and treasurers report; several interesting observations were shared. The regular 9 O'clock traffic has handled several messages besides keeping the fellows in closer contact. To anyone who may be concerned this is an open net meeting specifically to assist anyone needing to move traffic and the fellows checking in are glad to help if they can. This same invitation is open for the regular club net on wednesday evenings at 8:30 so don't be bashful "Try us - You may like us". Ralph WA5PFK gave a report on check-ins for 1979. The repeater was down one week, so for the remaining 51 weeks the largest net numbered 25 and the smallest was 5 one week in October; Where'd everybody go? Overall average for the year was 18.058, I don't know about this .058 person - but it appears some half-baked ham needs to start cookin' on the front burner; namely me! 41% of the membership checked in. Come on gang! we can do better than that.

Leonard WA5FSN reported spotting areas were being set up by Sky Warn for training by the National Weather Service; one in Kingfisher and one in Watonga scheduled for March. This is not only a public service but a real opportunity for each operator who has not received this training. The public is surprisingly interested when they discover we are hearing reports across the state come into the weather service.

A very NICE thank you note was read from Crippled Children's Hospital for the Christmas contribution from the club. They emphasized some child could not have received a gift had it not been received. What a joy to think you may have spread some happiness through so small an effort.

K5GG1 reported on some Rohn tower and also gave a program explaining why a receiver hears different frequencies from frequency transmitted, showing how he calibrated this on the computer. The old saying is that every time the brain receives new information it puts another wrinkle in the gray matter; if this be true George's brain must resemble a prune while mine is undoubtedly slick as an onion.

Several attended the repeater society meeting in Woodward; WA5FLT passed out application forms for personalized ID cards; Some members who had been ill were able to be with us again while some of the regulars took their turn on the sick list. We hope all of you will be able to join us in February when we meet at the Gold Room of Citizen's National Bank at El Reno: Sunday February 3 @ 2:30

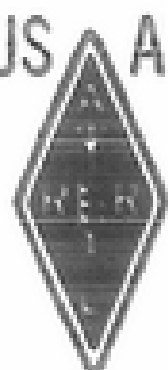
Motion was made for adjournment when someone remembered we needed a volunteer for net control in January, so Johnny K5GBN dived in and saved the day so we get on to the goodies and visiting, and did we ever take a cruise through those home made cookies as soon as the motion was seconded for adjournment.

HAVE A GOOD NEW YEAR

73 WB5WTH - Reporter

FEBRUARY MEETING PROGRAM: Larry Mooney, WB5PWY, representing N. A. S. will give a short seminar in conjunction with the national SKYWARN program.

ALTUS AREA



AMATEUR RADIO
ASSOCIATION

MEETS: 7:30 PM 2nd Thursday each month
North Main Fire Station [CD]
PRES Steve Norris W5KI
V-P
SEC/TR Mike Schenkle W5VXU
CLUB EDITOR Mike Schenkle, W5VXU

The Altus Amateur Radio Association met, 7:30 pm at the North Main Fire Station. Fifteen amateur radio operators were present for the meeting. Those attending were; W5KI, WB5SSS, WA5OGC, Ida Ruth Meeks YL of WA5OGC, KA5DRH, W5VXU, WB5MJS, W5CCV, W5ZDT, WB5KRH, WB5IAF, KA5BDS, WA4RCS, WA5TXG and WA5CBF.

The meeting was called to order by Loren Simms, WA5CBF. Self-introductions of attendees was made. A warm welcome was extended to all newcomers. Mike Schenkle, W5VXU, club secretary, made the financial report. Loren presented information on the upcoming Civil Defense Weather Watch organizational meeting scheduled for January 22. Larry Mooney, WB5PWY, of the National Weather Service will present the program. Bob Myotte, Altus Civil Defense Director, will be in charge of the meeting at the Blue Room of the City Auditorium at 7:30 PM.

The meeting was turned over to Dwight Dennis, WB5KRH, the Emergency Coordinator. He spoke at length of the AAARA February meeting. The meeting is entitled "Sky Watch 80". An edited video tape of the Wichita Falls tornado will be presented and narrated by Dwight. A review of the Weather Watch procedures and guidelines will be covered.

A short break followed for those wishing to dig-into the donuts and coffee.

The main part of the program was next on the agenda. Bud Smith, WA5ZAF, who had been a KL7 and stationed at the naval base at Kodiak Island in Alaska, spoke of his experiences during the Alaskan earthquake in 1964. He showed a book of photographs of the devastation. Bud was at his post for three days handling emergency and health and welfare communications. His amateur radio station was the only link with the outside world following the earthquake and tsunami (tidal wave).

A film entitled "Though the Earth be Moved" on the quake was shown. The film is on loan from the Department of Defense Civil Preparedness. The most avid part was the actual footage (copied from 8mm) as the earthquake and tidal waves took place.

Another break took place for a grab at donuts, coffee and Cokes. Dwight Dennis took several of the old members and new-comers on a short walk -thru of the Emergency Operations Center communications room. Many of the people were impressed with the XITEX RTTY converter in-line with the loop for state Weather Information wire. Hard copy is preserved on a Model 15.

At the very first of the meeting, numbered tickets were given out. A drawing was held for several prizes of so-called "true-treasures". Two small speakers were won by Charlie Woodworth, KA5BDB, a portable light and regulated power supply were won by Ricky Walkup, WB5SSS, and an audio transformer useful for building a simple phone patch was won by Bud Smith, WA5ZAR. The grand prize of a bag of very useful parts was won by Ida Meeks. I have the feeling that Oliver will have them soon.

The film "Earthquake" was shown to conclude the meeting. It was 28 minutes long and gave a vivid look at the aftermath of the California earthquake of 1972.

The meeting was concluded at 10:15 PM. Hope to see all of you at the January 22 Weather Watch meeting at the Blue Room and then the regular February 14 Club meeting.

kay

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

MEETS: 7:30 PM 3rd Thursday of month.
Security Bank Basement, Ponca City
PRES Chuck Willis WB5DOT 765-5366
V-P C. L. Hallmark W5ZWM 762-8620
SEC/TR Jay Williams W5TXF 765-9440
CLUB EDITOR Chuck Willis, WB5DOT

I'm sorry I missed the December deadline but I didn't get to the post office quick enough. At our December club meeting, we voted to increase our dues to 12.00 per person for the year. This will provide our members with all of the facilities that the club has to offer, such as the repeater, autopatch, and receipt of the Collector & Emitter for another year. In addition the club voted to purchase another antenna for the repeater transmitter site. After the club business was finished we heard an excellent presentation on RTTY by Jay Williams, W5TXF. I want to remind you again that the club dues are due in January, and to continue receiving the Collector & Emitter without interruption, you will need to be paid up in January.

As I look back over 1979, amateur radio operators have shown the importance of amateur radio to this country. I can remember the ham in Whicita Falls who operated his station off car batteries for two nights handling H&W traffic. Even though the tornado had carried off his station mike out the window of his home, he found a way, as most hams would, of getting on the air and helping. I can remember when ham radio was our only communication out of our now besieged embassy in Iran. I can remember the long nights this past spring that our club, along with many other clubs, was on duty in deserted places watching the sky for danger. We seem to be a nation that focuses on the negatives when there are so many positives about us. All of us can relate instances in 1979 of rude conduct, willful and malicious interference, "kerchunkers", and other unsundry acts, but we must not lose sight of the good that has been done, and can still be done.

This January 1 brought to a close another decade, and I find it interesting to note the changes that have occurred within our ranks during the 70's. Several ham manufacturers are no longer counted among our ranks as we start the 80's. We have seen Hallicrafters, National, Atlas, HyGain and others bow out of the market place. We have seen Heath acquired by yet another company founded by an amateur long ago (Zeinth). We have seen Allied Radio become Radio Shack. We have seen the rapid rise and fall of the CB fad. We observe the rapid influx of Japanese technology into the ham shack. Ten years ago Yaesu and Kenwood were funny sounding names among the Hallicrafters, Nationals, Galaxies, Hammerlunds, and Collins. Now it is difficult to find someone who doesn't operate a Yaesu or Kenwood. We have seen NBVM, SSTV, OSCAR, QRP, and Ghz become part of the buzzwords of our everyday vocabulary. Who would have thought in 1970 that microcomputers would be commonly found in ham equipment at the end of the decade? Or digital displays? Not only can we generate morse electronically with computer precision, but we can read and translate it electronically with the same precision. Clattering RTTY machines are being replaced with microprocessor keyboards and TV displays. Remember XTALS and 75 watts? Those were the things that novices were made of. How about when techs got novice privileges? Yep those all happened this last decade. As I sit here writing this, I wonder what kind of world some other ham may be writing about in January of 1990???????? It's enough to boggle the mind. To test your memory, I have made up a list of equipment long since gone, but maybe not forgotten. How many can you match?

Since I have stood on my soapbox long enough, I will say 73 and see you next month

Chuck



KAY COUNTY 2M NET CONTROL OPERATOR SCHEDULE

Feb 1980

date	no	primary control	secondary control
01/28/80	158	W5ZWM	WA5UBO
02/04/80	159	WB5JYC	WB5DOT
02/11/80	160	N5EO	WD5ACK
02/18/80	161	WA5UBO	W5ZWM
02/25/80	162	WB5DOT	WB5JYC
03/03/80	163	WB5ACK	N5EO

TEST YOU MEMORY

SOME OLDIES BUT GOODIES

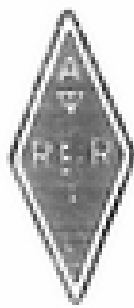
Can you match the following gear with the manufacturer?????????????

- | | |
|-----------------------|----------------|
| 1. Hammarlund | a. SR-2000 |
| 2. Clegg | b. Ranger II |
| 3. Sideband Engineers | c. AF-68 |
| 4. Heathkit | d. DX-20 |
| 5. Hallicrafters | e. PM-2 |
| 6. National | f. 32V-3 |
| 7. E.F. Johnson | g. 753 |
| 8. Allied | h. Galaxie 300 |
| 9. Collins | i. SB-33 |
| 10. Harvey Wells | j. HRO-600 |
| 11. Eico | k. 99'er |
| 12. World Radio Labs | l. CX-7 |
| 13. Elmac | m. R-100a |
| 14. Swan | n. 2NT |
| 15. Signal One | o. TBS-50D |
| 16. Drake | p. SW-120 |
| 17. TenTec | q. HQ-180AC |

I'll give the answers next month. Notice that one Japanese rig was sold in this batch. All of these were sold in 1970.

Wanted: Reasonably priced "general coverage" or "ham bands only " receiver for novice. Jeff Jamieson KA5FRI, 805 Ash Street. , Blackwell Okla. 74631 405-363-2954

THE AMERICAN RADIO RELAY LEAGUE, INC.



OFFICE OF THE SECTION COMMUNICATIONS MANAGER

LEONARD HOLLAR

WILL LEAD RIGHT OFF WITH THE NET REPORTS.

NETS	SESSIONS	QNI	QTC	WX
O.P.E.N.	5	308	51	
O.F.O.N.	21	439	194	
S.T.N.	26	567	159	
O.A.N.	31	201	39	
O.L.Z.	31	210	65	
O.T.W.N.	26	525	55	306
M.A.R.C. (LOCAL)	31	522	4	
M.W.O.S.N. (LOCAL)	13	106		

PAUL, W5IQL, HAD 100% PARTICIPATION IN THE WEATHER NET IN 1979, CONGRATS. OUR CONGRATS TO THE OPS WHOSE CALLS KEEP SHOWING UP WITH 100% PARTICIPATION IN CAND AND DRN5 NTS NETS. WB5MVR, WB5NKC, WB5NKD, K5TEY, WB5ELG, N5AUP, & WA5OUV.

DECEMBER TRAFFIC TOTALS WERE DOWN SOME FROM A YEAR AGO BUT WAS WELL TAKEN CARE OF. REPORTED WERE: 89 ORIGINATIONS, 1868 RECEIVED, 2027, SENT AND 126 DELIVERED. TOTAL 4110. WB5NKC, W5REC AND WB5NKD RECEIVED BPL CARDS FROM YOURS TRULY.

NOW INTO TRAFFIC COUNTING, AS PROMISED, FROM OUR OPERATING AN AMATEUR RADIO STATION BOOKLET;

ORIGINATED: ANY MESSAGE ORIGINATED BY SOMEONE OTHER THAN YOURSELF, FILED WITH YOUR STATION FOR INITIAL TRANSMISSION.

RECEIVED: EVERY MESSAGE RECEIVED BY AMATEUR RADIO AT YOUR STATION. THIS INCLUDES ALL MESSAGES RECEIVED, WHETHER FOR RELAY OR RECEIVED FOR DELIVERY.

SENT: ANY MESSAGE TRANSMITTED FROM YOUR STATION BY RADIO TO ANOTHER STATION, WHETHER SUCH A MESSAGE WAS INITIALLY TRANSMITTED FROM YOUR STATION OR WAS RECEIVED FROM ANOTHER STATION.

DELIVERED: ANY MESSAGE DELIVERED BY YOU TO THE ADDRESSEE, PROVIDED THAT THE MESSAGE WAS RECEIVED AT YOUR STATION BY RADIO AND THAT THE ADDRESSEE IS SOMEONE OTHER THAN YOURSELF.

THESE FIGURES ARE THE BASIS OF THE TRAFFIC TOTALS THAT APPEAR IN THE QST COLUMN. I RECEIVE SOME OF THESE REPORTS BY CARD, BUT, MANY STATIONS HELP THEIR COUNT (AND MINE) BY SENDING A MESSAGE. THOSE RECEIVED ON OR BEFORE THE 7TH OF EACH MONTH WILL BE INCLUDED IN THE COLUMN. NO MATTER HOW LARGE OR SMALL THE COUNT.

73's.

Leonard

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HIGH TIMES IN WOODWARD-OKLAHOMA REPEATER SOCIETY STYLE

No doubt about it, repeater construction is definitely a growth industry around Oklahoma. Not that we have a monopoly on the activity. The proliferation of the two meter handie talkie (woops, that a Motorola trade name, I meant walkie talkie, OK?) has caused such an upsurge that it seems that everybody and their brother is planning or constructing these machines. For all practical purposes, every two meter standard frequency in the metropolitan areas is taken or certainly asked for. I believe that WA5ZNF and K5JB have compiled a table of the various repeater frequencies in use around the state which appears in another part of the C & E.

I suppose that this should not be a surprize. Since the deregulation of repeater activity by the Federal Charlie, there are no insurmountable hurdles to be faced to put a repeater on the air. I personally believe that just about every club can justify the expenditure and time to put a repeater on for members. No doubt that repeaters constitute a cohesive force that keeps club members sociable and informed. And all it takes is just an extension on your present license (that is, a few logging additions). I still have the original license for the Oklahoma University 28/88 repeater, WR5AFW, but it will be a thing of the past come the next renewal time.

Small towns and local suburbs are getting into the act. Everybody wants to put a system on the air. Now this growth is not a bad deal. In fact, every open repeater that goes on the air increases the value of the two meter radio, especially if you happen to own one of those smancy fancy synthesized babies. But all of this growth causes the inevitable growing (and groaning) pains. You don't just put up a repeater and yell, "Banzai!" And that is why the Oklahoma Repeater Society was born. This organization succeeded the old Mid-States VHF Group and provides coordination and technical assistance to its various members. The meetings are established twice a year, one of which coincides with the Ham Holiday meeting in the summer and another meeting set by the various officers for Winter. I got a notice from John WB5UOE that the winter meeting had been set on January 12, in Woodward. Hum, that's a fur piece to travel, but it seemed worth the effort. Gasoline being what it is,, I figured that we might as well take the high road as the low road, so I badgered K5JB into considering using his skills and airplane for the trip. Not that Joe needed any real serious discussion. He is generally game for this kind of caper. Bob W5HXL and Mac K2GKK signed up for places on Buswell Airlines and we sat around waiting for a final decision on the weather.

Joe called Saturday morning and told me that everything was go. I had already checked the weather and was puttering around the house getting ready. I jumped into the car and rattled up to the airport where Joe was putting the finishing touches on his preflight. I decided to forgoe my usual preflight of a Dramamine cocktail (two dramamine and a glass of milk), but I wished I had brought one for Mac who claimed that he gets green around the gills when sputtering around the sky in small airplanes. Nonsense! He did just fine. And Bob could hardly have been feeling ill since he asked if we had hot and cold running stewardesses. Darn, I forgot the doughnuts.

Mac came loaded for bear, radiowise. He was unsafe on any frequency with his Icom in the back seat. JB put him to work arranging for ground transportation upon our arrival. The flight was absolutely smooth and Joe called our estimated time of arrival within a couple of minutes. Meanwhile, Mac had talked one of the local gentry, Orin, into trekking out to the airport to pick us up. The wind was up quite a bit and quite cold once we got out of the nice warm airplane. I decided that I should have brought that pair of electric underwear but substituted some fancy running to lower my exposure. We hustled into town

and after soliciting several recommendations for eateries, talked Orin into driving uptown for some eats.

I love small town restaurants. The food is of a traditional nature and generally good. And like Joe says, its pretty hard to screw up breakfast. It was quite good. My pancakes (Blueberry, of course) looked so good that Joe had a side order for himself. A couple of cups of coffee and it was a little before Twelve. The meeting started at 1:30 p.m., so we shuffled out and hiked back to the Courthouse in the cool air.

The meeting got underway with K5FVL gaveling control. We swished through a couple of committee reports, which I hope will be reported elsewhere, then the meeting was thrown open for new business and a check of the present master checklist for the various repeaters operating through the state. Dan's up to date list underwent quite a bit of change during the ensuing melee. Pat WA5BPS didn't make it to the meeting, but will benefit from the information presented after a relay from Dan. Dan Prater suggested that we encourage people to sign up for the special personal identification offered by the Department of Public Safety and will get up a mailing to send out to the various members of the ORS. I'll probably hustle up to the DPS to get the current application form. Wow. ORS isn't exactly swinging from overpopulation, but it should be a priority of everyone who uses VHF FM to consider a membership. Frequency coordination is perhaps the most important function. Oklahoma is fairly lucky to have a very cooperative group. Just about every system in the state has made an effort to check with the frequency coordinator or his assistants. Their general function is to suggest and not assign frequencies. This central clearing house will let you know the closest frequency assignment to your location. One other matter was discussed briefly before the meeting regarding these frequency reservations. The expression is "use it or lose it." It has always been the policy to note a coordinated frequency for use until a system was actually placed in operation or have the frequency reordinated if no system is placed in operation within six months. This procedure increases frequency usage and allows the coordinator to "purge" his system to remove unused frequencies and make them available for reassignment. This is an important aspect of the coordinator's job and apparently has been subject to misunderstanding in the past. It is not a malicious intent to "dump" someone's frequency, but intended to maximize the available number of unused frequencies. Although the policy is reflected by a six month reservation of the coordinated frequency, as a general rule, the actual waiting period is much longer than that.

The meeting broke up about 3:30 or so and Joe, Mac, Bob, and I bummed a ride back out to the airport. Joe kicked the tire and lit the fire and although it was a little windy, we hustled out to the runway for the trip back. Mac was yacking away in the back, too busy to get sick and the flight was a milk run back to Oklahoma City.

Back on the ground and Joe and I planned to head over to one of the local coffee watering holes for the post flight debriefing. Bob begged off and headed home. Mac called wife Judy and we headed over to Headquarters South. The session rolled on and on and Joe and I were later joined by Ron, WA5EAI. I was so filled with coffee by the time I left, my eyeballs were brown. I staggered home just in time to catch the last of Saturday Nite Live. I had planned an early start the next day, but the bull session cut into some chores I needed to do around the house. Oh well, I certainly hate to leave good company.

Next Oklahoma Repeater Society Meeting will be at Ham Holiday 1980. Join up and speak up. The repeater you save may be your own.

Micheal Salem N5MS

A CMOS SWITCH IN TIME - THE 4016 IS JUST THAT KEEN

COS/MOS forms the backbone of one of the most versatile logic families around. These little goodies use very little current (your basic nanoampere consumption at rest) and have good noise immunity characteristics. Current consumption goes up with frequency, but for low speed digital, CMOS can't be beat. And the voltage can be anything from 5 volts to 15 volts on the supply. Now, not all of those nifty 4000 series goodies are strictly digital. No indeed gentle reader, I specifically refer to the 4016 Quad Bilateral Switch that is useful for transmission or multiplexing of analog or digital signals. The basic circuit is as follows:

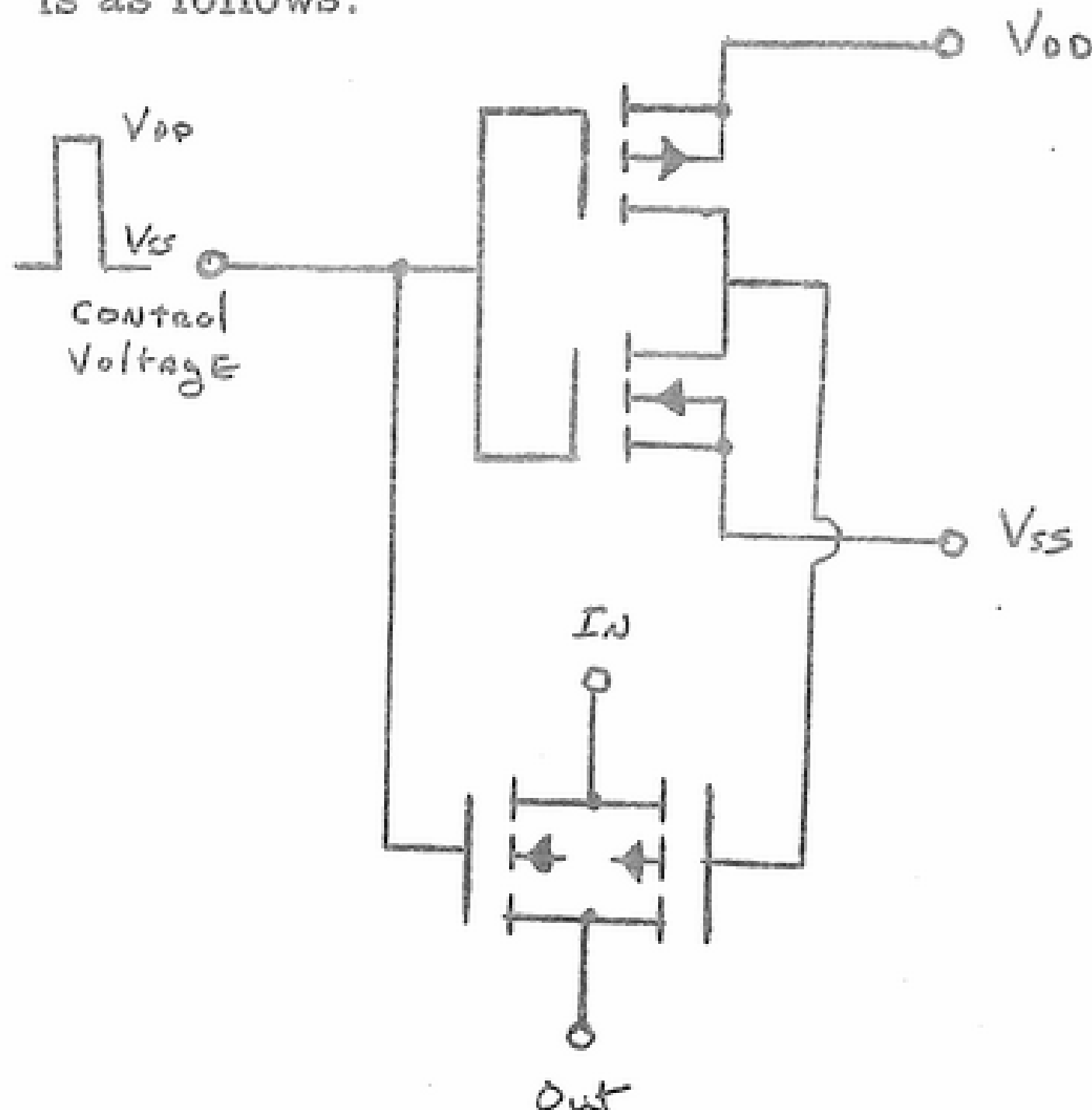


Figure 1. CMOS Bilateral Switch.

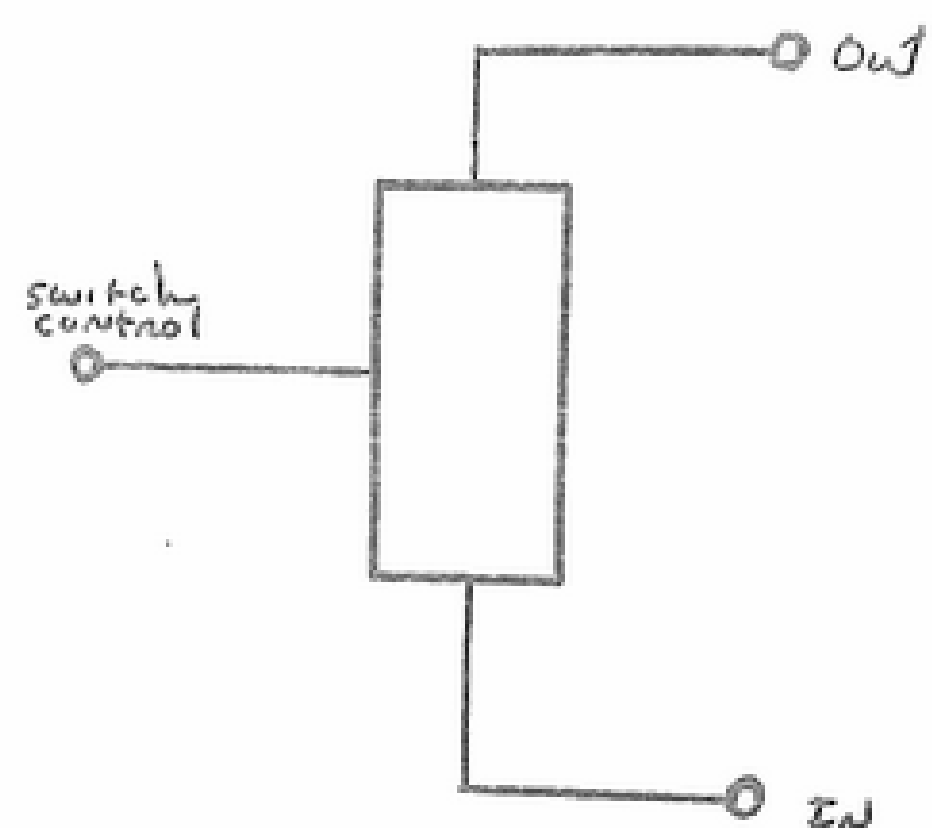


Figure 1a. Functional Diagram

There are four of these switches on a single 4016 substrate. Each switch consists of an n-channel and a p-channel device. The source of the p-channel device is connected to the drain of the n-channel device and vice versa. Only one control voltage is required per switch. V_C , the control voltage drives the n-channel unit directly; the p-channel unit is controlled by $\overline{V_C}$ through an inverter included on the chip. Both channels are biased "On" or "Off" simultaneously by the control signal and its inverter.

You may immediately note that this switch has a few advantages over a regular transistor bipolar switch. First, there is no voltage offset through the switch and the switch is entirely bidirectional. The signal being controlled is not related at all to the voltage used for control. When the switch is on, the input signal voltage is transmitted to the output terminal.

Now, you have a device that is essentially a switch. What can you do with it? Well, the applications are actually unlimited. As long as you remember a few of the typical characteristics, such that the on resistance is somewhere around 300 ohms, you can build switches as shown below:

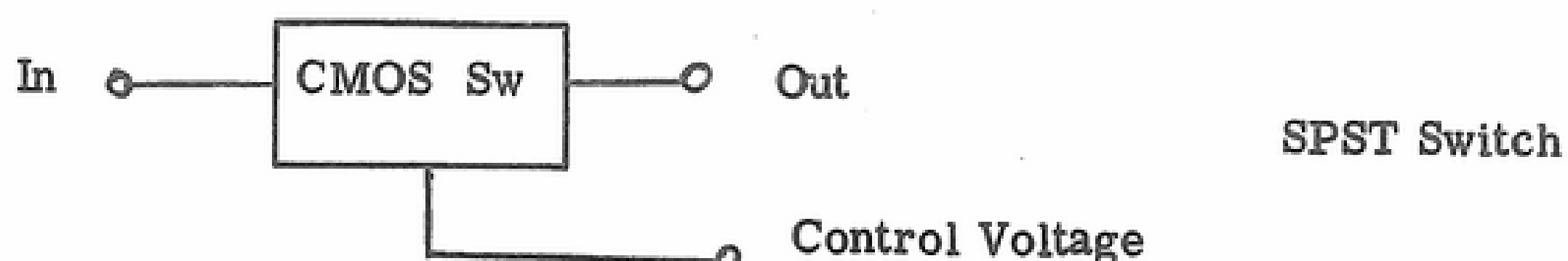
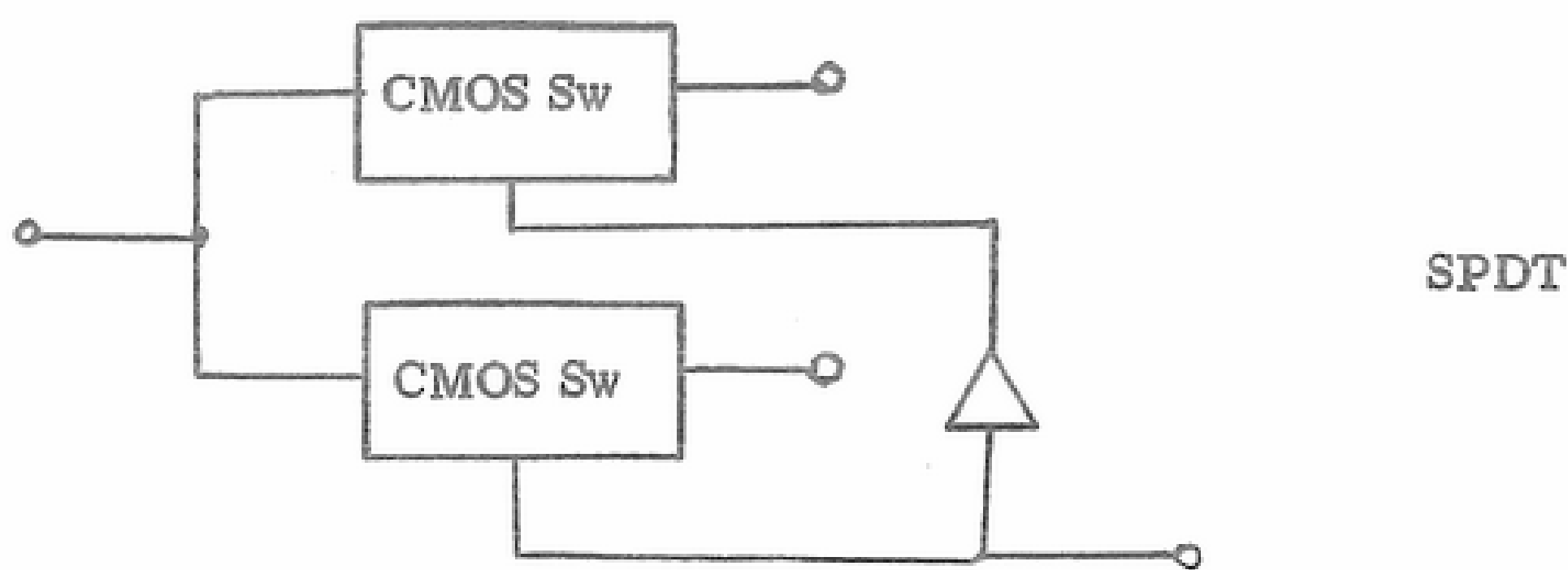
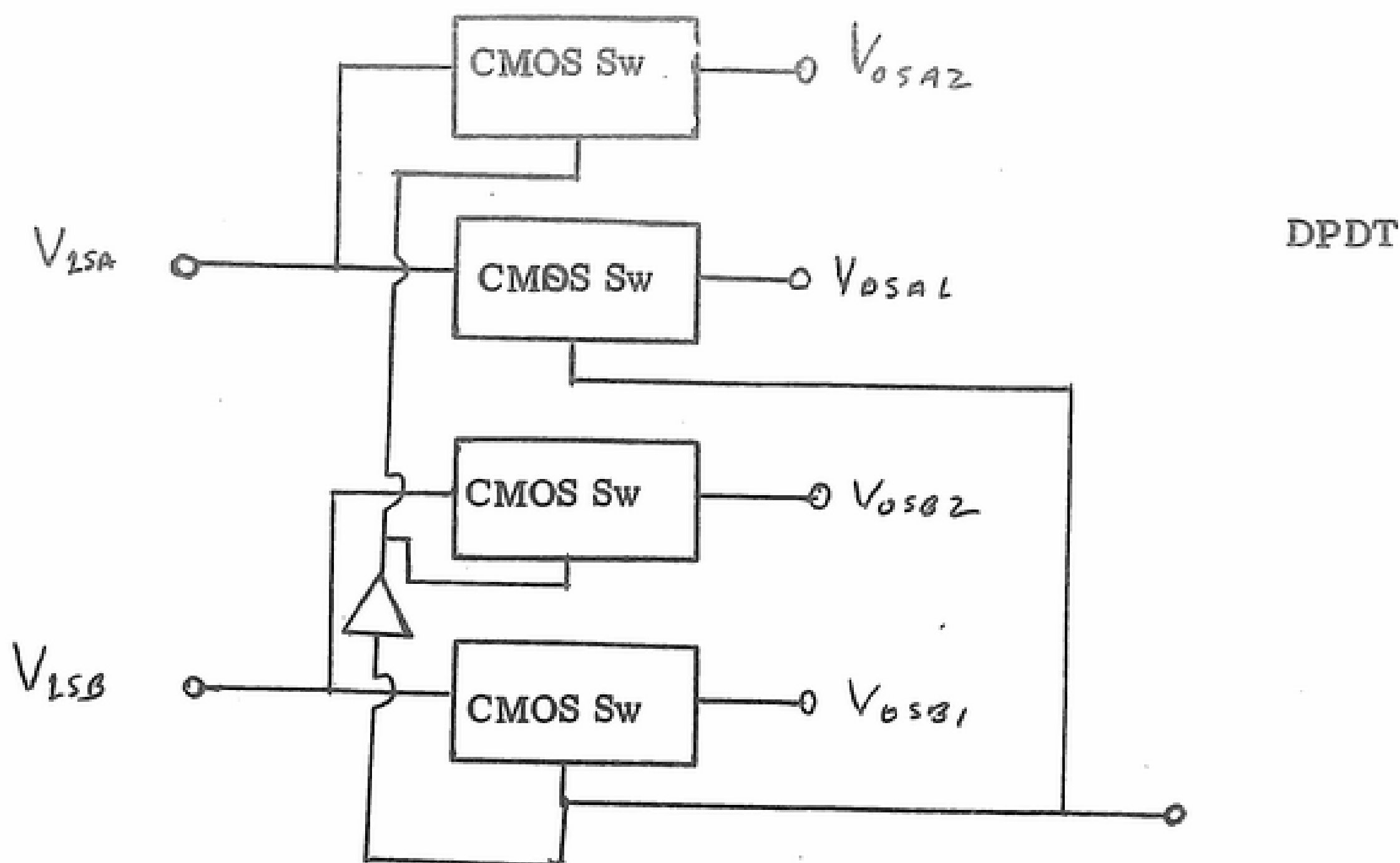


Figure 2. SPST



SPDT

Figure 3. SPST



DPDT

Figure 4. DPDT

You can feed either audio or digital signals through the switches and by applying various control voltages, you could multiplex your inputs to the various outputs. I have experimented with using these switches in the input circuit of an operational amplifier and found that they were quite effective in shutting off the 741 op amp. In some instances, you will need a load resistance of 10 K or so or less, to get the transmission gate to switch off or on. The circuit I fiddled with looked something like this:

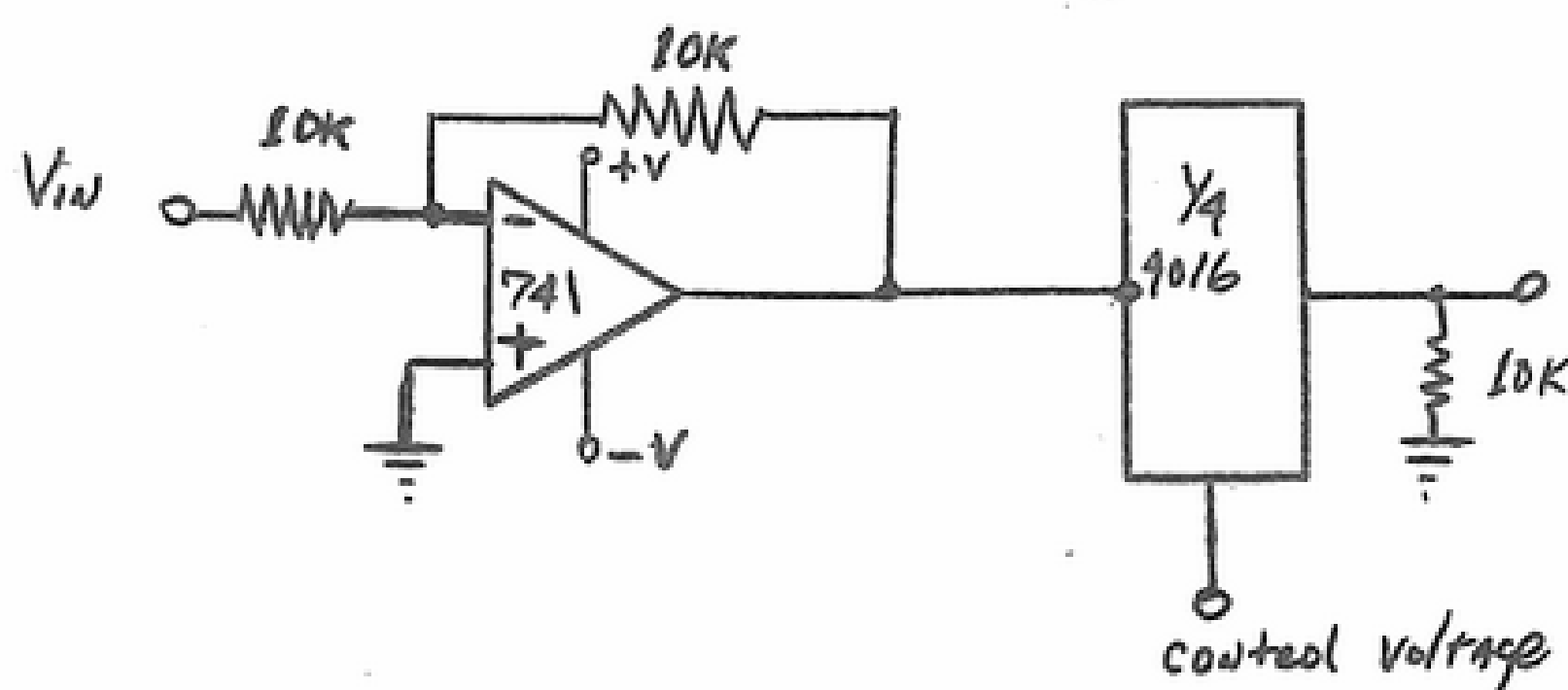


Figure 5. Op Amp Audio Switch

As I recall, it seems like you could switch gain in an op amp by the use of a couple of 4016 gates in the feedback loop:

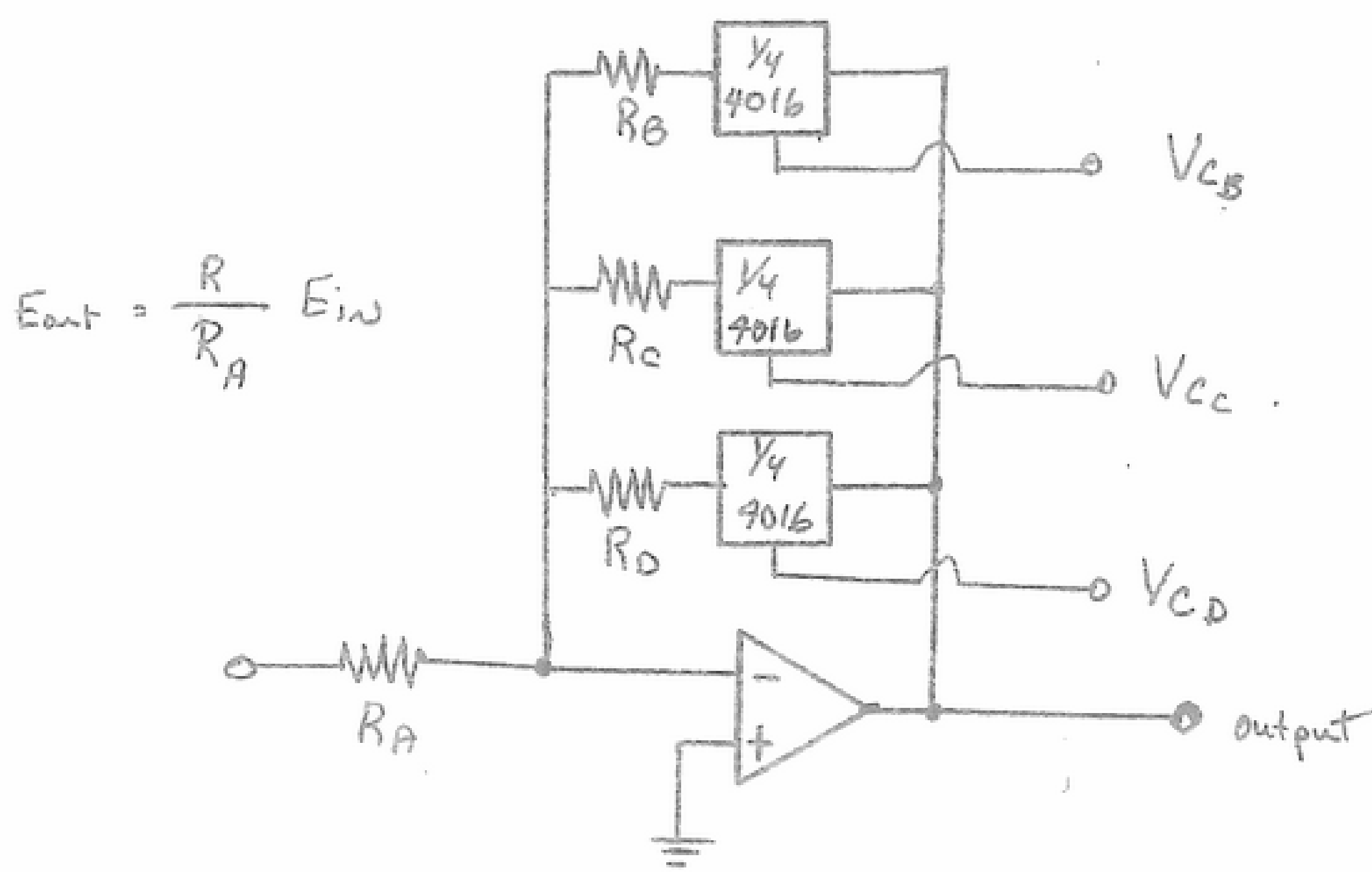


Figure 6: Variable Gain from an Op Amp using 4016 in Feedback loop.

The equation $E_{out} = \frac{R}{R_A} E_{in}$ defines the general gain equation for an op amp

given a few of the niceties (called assumptions) such as infinite input impedance and infinite gain (I am sure that you have a couple of these in the junk box somewhere). Anyway, by switching various resistors in and out of the feedback loop (the R of the Equation) you can set various gains that can be entirely controlled by digital signals. If there were only two 4016 gates and resistors in the feedback loop, you would have three gain settings, assuming that open loop gain is not useful. With the three 4016 gates shown above, you would have 7 useful gain settings (again assuming that open loop is a null set). Actually, the total number of useful gain settings is equal to 2^n where n is the number of 4016 gates in the feedback loop. If open loop is not useful to you, then subtract 1 from that number.

What use is an op amp in this configuration? Well, think about it. You could use it to reduce the level of your I.D. er when someone has your repeater keyed. That is, the presence of a carrier reduces the ID level so that it doesn't drown out the user. Of course, you use a single op amp and mix your various audio sources by the use of a summing amplifier and switch the gain according to what the input is. For example, your telephone audio may need quite a bit of amplification to drive the transmitter because of losses that would be sustained in the hybrid network. Auxilarly outputs may not need as much gain, such as the ID or tape recorded message. This might all be very simple with a handful of 4016s.

Four 4016 gates in the feedback loop (one chip) could give you 16 different gain settings and could almost qualify as a digital volume control. Just the thing to attach to your microprocessor and music synthesizer.

Like I said, there are four of these little goodies on each single 4016. What is the solution if you need just one of these switches? Well, Bob WA5CJG has come to the rescue in the form of a circuit he showed to K5JB and WA5NSV who bootlegged it to me. I don't have the circuit values and I am not sure that a part or two is not missing, but it goes something like this:

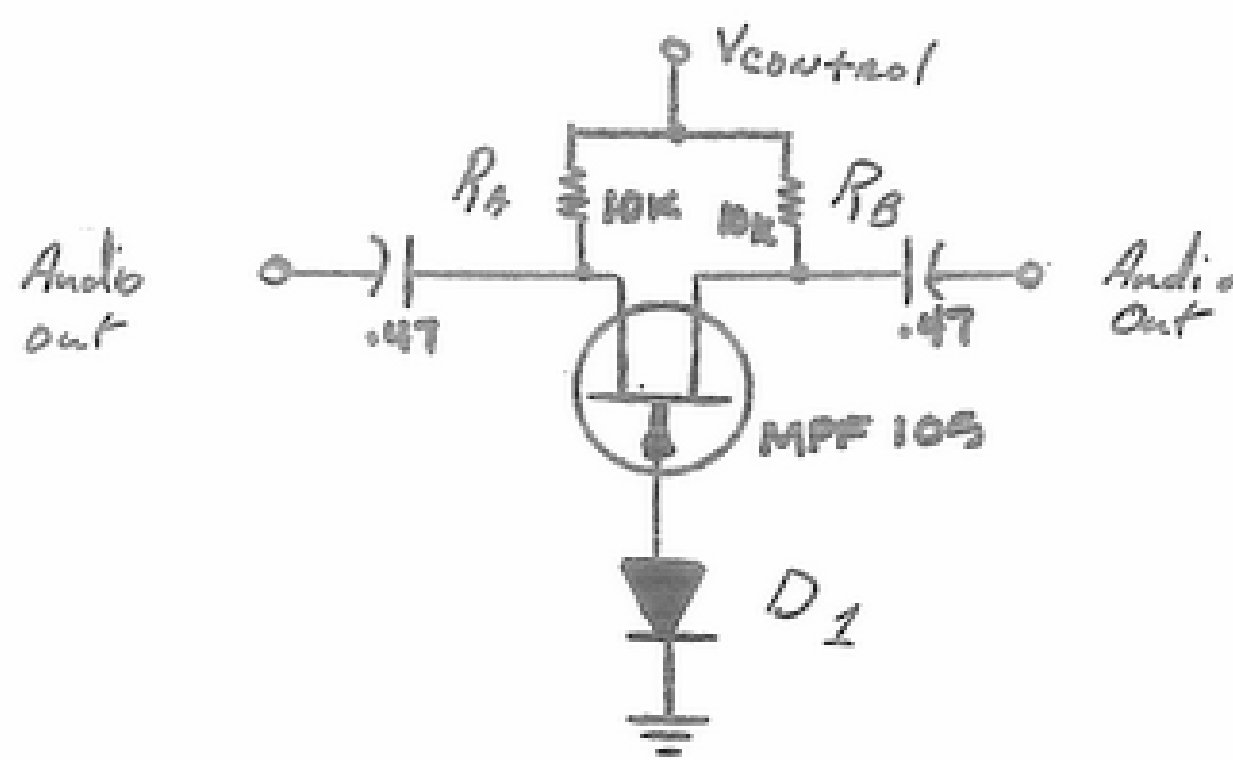


Figure 7. Single Audio switch shamelessly stolen from WA5CJG

I tried to catch Bob before C & E pasteup, but missed the boat. Perhaps we can persuade him to diagram the complete circuit for the next issue. Good FET audio switches are hard to come by. Diode D1 prevents the gate from going positive for the N-Channel FET. The two capacitors isolate the Drain and Source from any outside DC biases and $V_{control}$ controls the audio switching.

Perhaps Bob will step forward and identify this pet circuit.

Keep in mind a couple of points when messing with 4016 switches. First, they are bilateral switches and will conduct equally well in both directions. Second, they need a little bit of a load on the output side before they will turn on. Third, when the switches are turned on, they have a resistance of about 300 ohms. Fourth, the voltage transfer characteristics are not strictly linear, that is, there could be some nonlinearities that could distort the signal. No problem with digital, but a minor nuisance with audio. I have, however, seen these goodies used as audio switches in broadcast quality audio mixer boards and couldn't seem to detect any real distortion. If you do any high precision analog data acquisition and want to use 4016's as the signal multiplexers, don't, the voltage transfer characteristics may eat you up. There are various alternatives and better quality switches with much better transmission characteristics better than the 4016, but also at an elevated cost. Data on the 4016 can be found in the RCA CMOS 1975 Databook Series. There is also a pretty good Application Note in the same book.

Micheal Salem N5MS

FOR SALE: A complete, top-grade HF station!! Drake R-4C receiver with 2400, 1500, and 500 Hz filters. 13 range XTALS for 160, 10, WWV, MARS, and Shortwave Broadcast included. T-4XC transmitter with new finals, spare finals, and two range XTALS. AC-4 power supply. MS-4 speaker. Vinyl dust covers. All manuals and shipping boxes. Commercial used prices run \$1100-plus for all this. \$1000 firm. K2GKK, 405-672-4947 or Callbook address (1978 or later).

STOLEN RADIO

On the night of December 24, 1979 sometime between approximately 11:15 and 12:30 Jack Harkins W5CPI had a Kenwood model TS-120S all solid state 80 meter through 10 meter mobile transceiver stolen. The serial number is 0011235. Any information concerning the whereabouts of this rig should be reported to Jack's daughter, Linda - 949-0858 or his grandson, Charles Kelly, WD5IGW - 949-0899. There will be a reward given.

FOR SALE: Regency HR-2B 2m FM with all 12 channels full. Contact Harry Watts, WB5DGT, Vici, OK, or Tom, W50ZE.

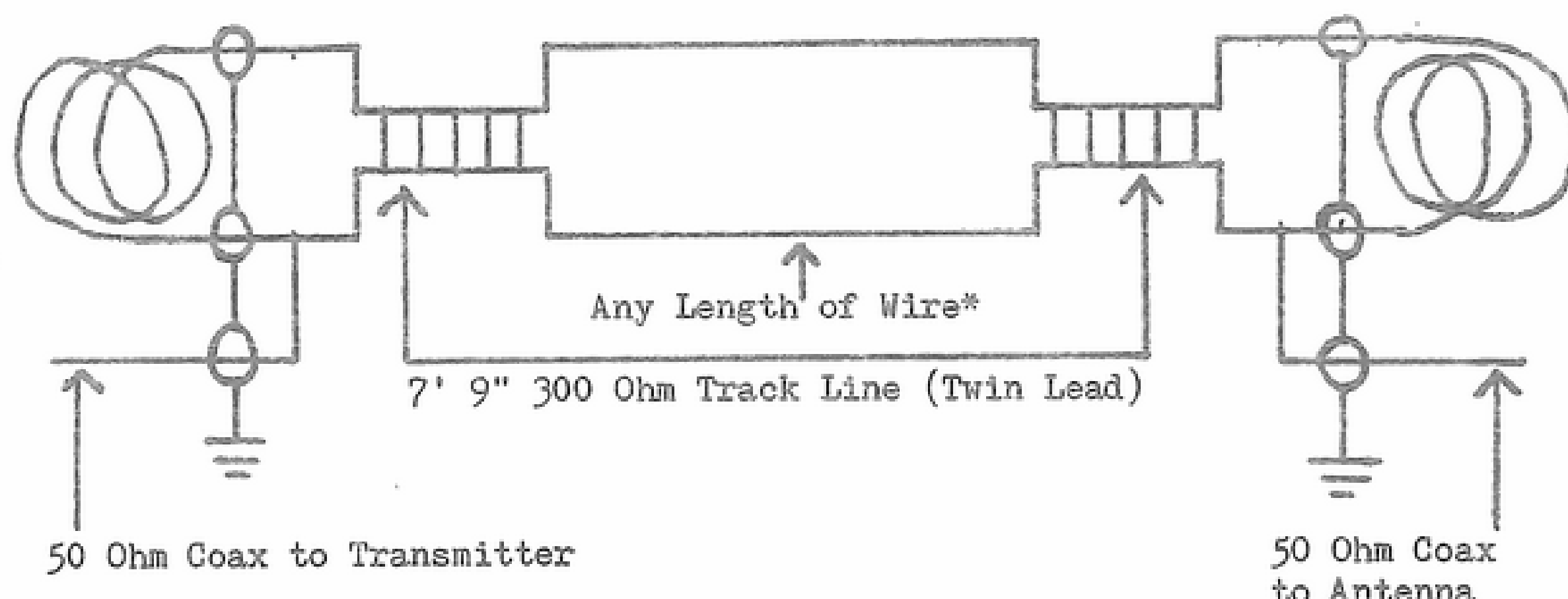
CLUB EDITOR

Chuck Wilhite, K5NK, 721-4926

MEETS: 7:30 PM 3rd Tuesday each month
Okla. Military Academy, 36th & Grand.
PRES: Doc Goodhead WA5CZN 721-8592
V-P: Chuck Wilhite K5NK 721-4926
SEC/TR: Karen Recer WD5HBX 751-5378

"WEST VIRGINIA MOUNTAIN LION"

12' 1" RG8 Wound on 5" I.D. Coffee Can



*Electric fence wire was used because of low cost up to one mile long.

While in West Virginia last fall, I met Bob, WD8PON who lives in the village of Liberty, West Virginia. I had visited with Bob during the summer while he was on vacation. After finding his family and mine had mutual interests other than Amateur radio, he invited us to drop in when we came to his state. Now West Virginia is the most rugged state from top to bottom that you ever saw and I asked Bob how he managed to get out with his ham rig when he lived in that narrow "Holler" between those high hills. Then is when he grinned and asked me if I had ever heard of the "West Virginia Mountain Line"? I said "no" and wasn't too sure if I was getting ribbed or not. Then is when he gave me the specs for the thing and said some CBers had developed it - claimed some to be one mile long and had little loss from rig to antenna. Not being an antenna technician with all the formulas, etc. I want to pass this little jewel along to you for your comments. Have you ever heard of it? Have you ever used anything like this? What do you think about it? Do you think it will work? If so, how - what theory? Don't write or call me, write your letter to the editor. Hi.

Frank - N5FM

JANUARY MEETING We would like to thank Phil Davis, WA5REL, for the excellent program he presented at the January meeting. Phil works for the Oklahoma Department of Transportation in the Communications Branch. Phil gave us a rundown on all the various repeaters throughout the state which the Highway Department uses and how they are able to communicate with any part of the state at all times.

A lively business meeting followed the program and most all participated. Most of this pertained to the recent problems of the repeaters. An Executive Committee meeting will be held after the C & E goes to print and it is hoped some of the problems can be worked out. The outcome of this meeting will appear in the March issue of the C & E.

An excellent turnout followed for the second meeting, that one being for coffee and goodies. For those who have not been making the meetings, you are missing some of the most interesting meetings in town. Plan now to make the meetings.

FEBRUARY MEETING: With all the recent rain and thunder and lightening we have been having in January, it isn't hard to believe that the storm season is upon us again. The February meeting will once again be held at KWTW, channel 9, located at 7401 N. Kelley Avenue. Gary England, chief of meteorologist and his crew will be in charge of the program. Hobe Bergan, WB5MLN has made the arrangements for us and is working with Gary. All clubs are invited to attend this important meeting. Mark your calendars for this meeting to begin at 7:00 on February 19, 1980. K5NK



OKLAHOMA CITY AUTOPATCH MEMBERS

KB5AC	Ray Dawson	WD5FXP	John Young	WA4PIG	Charles Kennamer
WD5ADQ	Wilbert Tidwell	WB5GCX	Oscar Staudt, Jr.	WB5PTQ	Merrill Scott
WD5AEJ	Dean Vaughan	W5GDL	Chet Hazelwood	WB6QLL	Foy W. Pulliam
KA5AFN	Bob Janda	N5GE	Tom Childers	WB5QMP	Randy Foltz
N5AHA	Jim Snow	K2GKK	Don MacDonald	WB5QPI	H.B. Zachry
N5AKL	Freddie Demerson	K5GKX	Willis Lubert	WB5QXU	James Curry
K5AOT	Robert Carlile	K5GL	Guy Liebmann	WA5RAQ	William Rogers
N5AOZ	Tom Cassady	W1GOM	Art Roberts	N5RC	Robert May
KA5AQY	Edward "Buddy" Kidd	K4GVI	John Marshall	WA5REC	Mark Adams
W5AS	Howard W. Baker	WD5HBX	Karen Recer	WB5RKA	Glenn Sharpe
KA5ASJ	Haven Mankin	WA5HDG	Maurice Woods	W5ROU	Willard Hines
N5AUE	Terry Shoemake	KL7HIT	Jim Pruitt	WB5SIX	Jim Kerr
N5AWE	Earl Gregg	WD5HJX	Bob Dunn	N5SW	Chuck Guschke
N5BAX	Mary Lou Mankin	KB5HK	William West	K5SXJ	David Ferguson
N5BCG	Mary Lester	WD5HPR	Don McDown	WB5TFX	Ben Gard
KA5BDB	Charley Woodsworth	WA5HTL	Paul Asplin	WB5TFY	Pat Gard
N5BEQ	Jim Buswell	WD5HUC	F.D. "Dolph" Irick	WB5TKG	C.Y. Chandler
N5BEW	Ken Esadooah	W5HVR	Phillip Shera	W5TMM	Don Morris
K5BJJ	Clarence Eng	WD5HKK	Ken Stepp	W5TPJ	W.T. Cronenwett
KA5BJS	Judy MacDonald	W5HXR	Dr. Bill Hubbard	WA5TSJ	Tommy Todd
WD5BKU	Bill Johnson	WD5IDF	John Bohan	WA5TSL	Montie Fisher
N5BLJ	Jerry Gourley	K5IGB	Ron Tucker	W5TY	Ray Long
WA5BQX	Robert R. Shaw	N5IH	Henry Israel	W5UGM	Jerry Rader
N5BRK	Randy Del Torto	WD5IHJ	Dean Courley	WB5UIY	Stan Van Nort
N5BSB	Curtis Tindall	WB5ISN	Dennis Orcutt	K5URJ	Perry McWorter
KA5BUX	Conrad Schreiner	WB5ISO	Wendell Cochran	WB5VIS	A.B. Chaney
KA5CAY	Ron McCalip	WD5ISS	Donald Saunders	WB5VPW	Carl Cash
K5CAZ	Paul Denwalt	WD5IWZ	Lynn D. Shearer	W5VSW	K.L. McCullough
WD5CCX	Bill Maynor	WD5JAY	Frank Morrison	N5WM	Bill Riddles
WD5CGN	Jeff Gard	K5JB	Joe Buswell	WA5WTG	Jack Tipton
WB5CNM	Randy Williams	WB5JBK	Gary Shidell	WB5WTR	Leon Miller
WB5CTS	Steve Hutcherson	WD5JFJ	Bill McKelvie	WB5WXC	Bill Sherer
WB5CWB	Larry Dillard	WA5JHB	Marvin Stokes	WA4YBT	Wallace Wilson
KA5CXW	Fred Taylor	K5JL	Jay Liebmann	K5YGM	John Spivey
WA5CZN	Dr. Robert Goodhead	K8JM	John Millett	WB5YLZ	Chuck Sullivan
KA5DAU	Jenna Kidd	K5JVD	Bill Williams, Jr.	K5YXF	Tommy Bond
K6DBR	Dick Cohen	W5JYT	Bill Humphreys	WA5ZAN	Wallace McRay
KA5DBY	Betty Bradley	WB5KAK	Doug Brown	K5ZCC	Bennie Baker
WB1DCW	Steven Pagash	WA5KDZ	Mel Perkins	WB5ZGP	Heinz Schilling
KA5DDE	Mike Crews	WD5KFT	Clara Storm	K5ZHD	Jan Cox
KB5DI	Lu Fisher	W5KOZ	Sidney Gerber	WA5ZNQ	Joe Hustak
WB5DKG	Ruth Riddles	WA5LBI	Robert Discus	WB5ZOI	Lloyd Wright
WD5DSH	Rod Harrison	WA5LZD	Rosalie Stokes	W5ZVB	Paul Freeland
WA5EAI	Ron Cron	KE5M	Ron Recer	WA5ZXB	Donald Davis
WD5EGB	Edgar Engbrecht	K5MB	Marshall Williams	<u>ASSOCIATE MEMBERS</u>	
W5EMB	John Whitten	WB5MLN	Hobe Burgan	KA5ADE	Burl Keeten
KA5EUB	Robert Bradbury	WB5MLX	Glenn Cochran	KA5DFY	A.E. Farrell
WB5EVO	Paul Adams	K5NK	Chuck Wilhite		Danny Dewey
WD5EXY	William J. McMullin	WB5NYA	John Pendleton		Jim Immel
WA5EYV	Charley Plemmons	WB5NYX	Larry Griffin		Glen Scott
WD5FEI	Martin Vinson	W5NZS	Larry Hazelwood		
WD5FHR	Dee Mize	AA6O	Robert Runyon		
WD5FKE	Jack E. Stewart	WB7OAA	Dave Roper		
WD5FKF	Reuben Castleberry	W5OEC	Ed Duclos		
WD5FKG	Ed Blackwell	W6OHD	R. L. Ray		
K5FLL	Jim Del Torto	W5OU	Gordon Jones		
N5FM	Frank McCollum	WB5OVB	Bob Votaw		
KA5FMM	Jeff Krumme	W5OXJ	Everett Cox		
WB5FPO	Bill Rogers	WA5PHJ	James Dawson		
WD5FUG	Leslie Stewart	K5PJU	Bob Williams		
K5FW	Bob James	K5PL	David Medders		



ON INSURANCE AGENCY 1818 NORTH WESTERN P.O. BOX 60448 OKLAHOMA CITY, OK. 73146 405-521-

January 15, 1980

PROPOSAL FOR: Oklahoma City Auto Patch Corp.
Attention Henry Israel

Type of
Coverage: Broad Form Personal Articles Floater
(this is the "all risk" form, with a Locked Vehicle Warranty.)

Deductible: From each claim the sum of \$ 50.00 shall be deducted.

Coverage:
On: This policy, which will be issued to the association shall
cover Transmitting and Receiving equipment, Antennas,
Including All Necessary equipment for the use thereof. Including
Portable, Fixed Base, and Equipment in Vehicles.

Amount of
Coverage: Each member will be insured to a maximum of \$ 2,000. You will
be allowed to purchase additional coverage at the rate of \$ 1.50
per \$ 100.00 of added coverage.

NOTE: When Loss Occurs, You Will Be Required To Show Proof Of
Loss. That is you will be asked to give proof that the
equipment claimed existed.

Cost: The cost per member of this plan will be \$ 30.00 per year, and
this will cover the basic \$ 2,000. of coverage.
Additional coverage can be purchased at the rate of \$ 1.50 per
\$ 100.00 of added coverage.

Minimum earned premium for the total association is \$ 500.00
per year.

Enrollment in the first six months of coverage will require the
total premium, however in the last six months of the policy year
the basic premium will be one half, or \$ 15.00. (this is to
allow those new members to your association the coverage at
a rate which reflects the time they were a member)

NOTE: ALL THOSE WHO ARE GOING TO TAKE THIS COVERAGE SHOULD START
NOW...

The
Company: The company which is writing this coverage is Fireman's Fund
Insurance company. The Whittington Insurance Agency will be
working directly with your association, so all questions should
be directed to the agency.

Certificates: Each covered member of your association will be given a certificate
which will state the specific amount of coverage that was purchased.

Respectfully Submitted

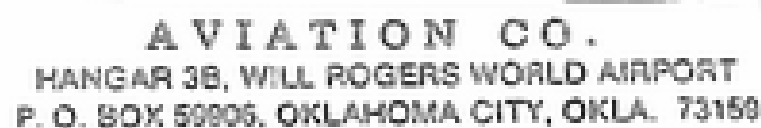
Bill Orcutt, CIC
Whittington Insurance Agency

It is now possible for Oklahoma City Autopatch Association members to cover their equipment at a very reasonable rate, with extremely good coverage. A copy of our commitment letter from the Whittington Insurance Agency is included for your consideration and information.

The following are the exclusions that will be listed in the policy and certificates:

- For enrollment or information concerning the commitment letter or the above exclusions, contact: Henry Israel, N5IH. Home: 722-3848 Office: 843-1721

FOR SALE: Late Heath SB-102, with CW filter, remote VFO, power supply and mic. \$325.00. Ray, WB5BTT, 732-6498.

[illegible]

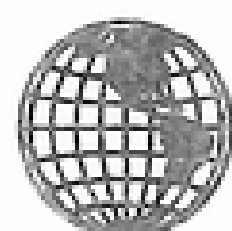
OFFICE 405-681-2331
HOME 405-341-8289

5-10



I HEARD: AQY loves his Wild Turkey but can't afford it.....TDW's windshield wipers squeaking.....TKG doesn't know enough to ask a sensible question.....CXW is strictly classical.....JVD has to put his finger on his antenna to be able to hit the repeaters.....BEQ, TKG, GE, BEV and CXW mixing drinks.....KFT feels like a pauper among the millionaires and turtles.....DDI is a living example of a procrastinator.....OZE puts his toes on the ceiling when he goes to bed at night.....FLO found out he had blood pressure four years ago.....JO has limited ability to absorb new information.....HXL can't get his XYL to get the paper on cold mornings.....ZOJ is hard of hearing.....SW calling CQ DX on 15 MHz.....FXP with a case of the sneezes.....H conning OLO out of some venison.....YLZ can smell breakfast cooking a mile away.....GKK has a cat with a shorted power supply.....SJV waiting on his electric blanket to warm his bed and some Pepto-Bismo to settle his stomach.....BEQ out looking for mistletoe.....TDW likes a lot of bread.....BJS telling GKK she was getting a haircut whether he liked it or not.....SJV's girlfriend's cooking upsets his stomach.....JYT talking to himself.....YLZ gets sexy when it rains in the mornings.....M has a soggy front seat.....PZW breaking the speed limit to catch INZ out on the interstate.....CZN is tearing up his new neighbor's TV, an attorney.....GKK correcting SJV on his grammar.....AOZ got a grab bag full of surprises at Christmas.....ERY has a mouse catching dog named Polkadot.....MEL is looking for a noise blander to cut out his son's hair styler's noise on his radio.....GE gets madder than 10,000 elephants for someone to call him Tommy.....EYV only shines his shoes to keep people from thinking he is crude.....FHR actually had a clear thought.....HBX would like to work for the railroad.....NBH's receiver has a broad rearend.....KFT and TDW talking about the use of Sears catalogs in the good old days.....BEQ monitoring 67 while he was on the throne.....KFT was once in a halfway house during her younger days.....DYI wants to become better known.....FKG is now a Drake man.....CZN feels bad that all his friends are deserting YAHOO equipment.....FKF carries a fruit jar in the car with him, never knows when he might need it.....YLZ using profanity.....ETB feels snow is a cover-up and for the penguins.....TDW calling TKG Big Ears.....GEZ wore blisters on his fingers practicing his cw.....BEP had a big weiner roast.....GEP files all information she hears on the Night Owl Net.....ETB is an optimistic pessimist.....PDH laying booby traps for his wife.....INZ's terrific ignition noise.....NBH will drink to anything.....SJX having pancakes and sausage at midnight.....and a whole lot more.

K5NK



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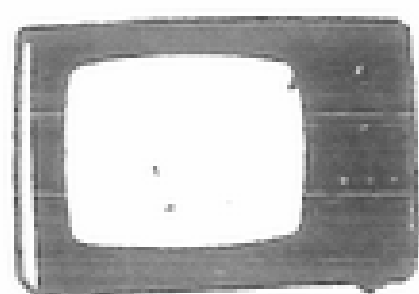
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AMATEUR
TELEVISION
SOCIETY

MEETS: 7:30 PM 2nd Thursday
Central State Univ., Edmond
Pr James Buchannan W5JGC 495-2777
VP Paul Asplin WA5HTL 521-2861
S/T Mike Woods N5ANG 528-3699
CLUB EDITOR: Larry Griffin

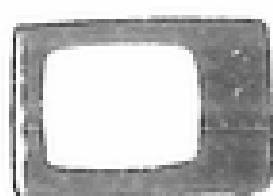
The ATV meetings are being held in the Communications Building at Central State University in Edmond, Oklahoma. We welcome all amateurs interested in video communications equipment and technical information to join us.

The manufacturer of the in-band repeater has indicated that it will be shipped not later than the 15th of February. The antennas are on order, and the coaxial cable is already on hand. The repeater will be located in Edmond. Antennas are to be installed somewhere between the 100 and 270 ft levels on the KCSU radio tower. The input to the repeater will be 439.25 MHz, and the output will be 427.25 MHz. The output of the repeater will be approximately 7 watts.

The cross-band repeater has been received, and it is in the process of being installed in the Northwest section of Oklahoma City by Tony K5CFM. The receiving antenna is on hand, and the transmitting antenna is being constructed. This repeater should be on soon. The input to this repeater will be 434.0 MHz, and the output will be 1265.0 MHz.

The ATV club presently has 26 members. Most of them are on the air. Any of the club members will be happy to assist anyone interested in getting started in ATV. There are several sources for information and equipment. The present membership includes the following:

Asplin, Paul	WA5HTL	6902 NW 57 Bethany, Okla. 73008
Balew, Dave	K5WMY	700 Timber Ridge Midwest City, Okla. 73130
Buchanan, James	W5JGC	3114 Wheeler Ave Bethany, Okla. 73008
Buswell, Jim	N5BEQ	4716 NW 12 Oklahoma City, Okla. 73127
Chandler, C.Y.	WB5TKG	1833 1/2 NW 7 Oklahoma City, Okla. 73106
Demand, Bill	K5SKA	2317 NW 121 Oklahoma City, Okla. 73120
Edlund, Bob	W5DS	Rt 2 Box CS36 Cresent, Okla. 73028
Franklin, Glen	K5LDL	512 S Macomb El Reno, Okla. 73036
Goodhead, Robert	WA5CZN	11017 St Charles Oklahoma City, Okla. 73132
Griffin, Larry	WB5NYX	306 E Key Blvd Midwest City, Okla. 73110
Hutchins, H.E.	K5SUD	3721 SE 26 Del City, Okla. 73115



AMATEUR
TELEVISION
SOCIETY

Jump, Rodney	WB5VQG	8709 S Linn Ave Oklahoma City, Okla. 73159
Kerr, Virgil	W5LIL	5909 NW 45 Oklahoma City, Okla. 73122
Lanier, James	WD5HHI	1221 NW 107 Oklahoma City, Okla. 73114
Lewis, John	WB5YJP	Rt 14 Box 45 Moore, Okla. 73160
Longley, Ross	WA5ZNW	1506 Glenwood Moore, Okla. 73160
Merritt, Tony	K5CFM	3920 Tamarisk Dr Oklahoma City, Okla. 73120
Mills, Billy	KA5ERL	3625 Teal Del City, Okla. 73115
Mills, Bob	KA5CHE	19 W 8th Edmond, Okla. 73034
Riddles, Bill	N5WM	2647 NW 55 Pl Oklahoma City, Okla. 73112
Sheaffer, Charles	W5WL	2336 NW 46 Oklahoma City, Okla. 73112
Watkins, O.J.	WB5SRX	816 N Juniper Ave Midwest City, Okla. 73130
White, Marvin	K5EQP	2108 S Post Rd Midwest City, Okla. 73130
Williams, Jim	K5VRL	6400 NW 30 Terr Bethany, Okla. 73008
Williams, Bob	K5PJU	13 S Easy St Edmond, Okla. 73034
Woods, Mike	N5ANG	1812 NW 31 Oklahoma City, Okla. 73118

James S. Buchanan, W5JGC

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- - - - Bill, WA5RAQ + + + +

Accolades are in order for the following volunteers who
answered the call to mail the January issue of C&E:

N5PS Pat Sherrill	WA5CJG Boh Pace	WB5BTT Ray Peters
AE5N Don Duck	WD5IDB Howard Wise	W5WSW Howard Ridgway
Travis Duck	K5KDR Bill Oliver	Peggy Ridgway
Lori Duck	K5HQP Marvin White	WA5ZNF Joe Harding
WD5KHU Ken Ford	K5HFN Fred Wright	Frances Harding
KA5CXW Fred Taylor	WB5NMK George Lee	Jim N5BEQ

NEW ARRL NUMBERED RADIOGRAMS

The following is the NEW list of the ARRL's standard, numbered radiograms. The number on the radiogram designates a complete thought or communication and can be used to greatly simplify message content and allow more text per message. For more information on traffic handling, consult Operating an Amateur Radio Station, published by the ARRL, or watch for future articles on the subject in C & E.

THIS LIST IS EFFECTIVE JANUARY 1, 1980. DESTROY PREVIOUS FORM TO AVOID CONFUSION!

GROUP ONE--FOR POSSIBLE "RELIEF EMERGENCY USE"

ONE	Everyone safe here. Please don't worry.
TWO	Coming home as soon as possible.
THREE	Am in _____ hospital. Receiving excellent care and recovering fine.
FOUR	Only slight property damage here. Do not be concerned about disaster reports.
FIVE	Am moving to new location. Send no further mail or communication. Will inform you of new address when relocated.
SIX	Will contact you as soon as possible.
SEVEN	Please reply by Amateur Radio through the amateur delivering this message. This is a free public service.
EIGHT	Need additional _____ mobile or portable equipment for immediate emergency use.
NINE	Additional _____ radio operators needed to assist with emergency at this location.
TEN	Please contact _____. Advise to stand by and provide further emergency information, instructions or assistance.
ELEVEN	Establish Amateur Radio emergency communications with _____ on _____ MHz.
TWELVE	Anxious to hear from you. No word in some time. Please contact me as soon as possible.
THIRTEEN	Medical emergency situation exists here.
FOURTEEN	Situation here becoming critical. Losses and damage from _____ increasing.
FIFTEEN	Please advise your condition and what help is needed.
SIXTEEN	Property damage very severe in this area.
SEVENTEEN	REACT communications services also available. Establish REACT communications with _____ on channel _____.
EIGHTEEN	Please contact me as soon as possible at _____.
NINETEEN	Request health and welfare report on _____. (State name, address and telephone number.)
TWENTY	Temporarily stranded. Will need some assistance. Please contact me at _____.
TWENTY ONE	Search and Rescue assistance is needed by local authorities here. Advise availability.
TWENTY TWO	Need accurate information on the extent and type of conditions now existing at your location. Please furnish this information and reply without delay.
TWENTY THREE	Report at once the accessibility and best way to reach your location.
TWENTY FOUR	Evacuation of residents from this area urgently needed. Advise plans for help.
TWENTY FIVE	Furnish as soon as possible the weather conditions at your location.
TWENTY SIX	Help and care for evacuation of sick and injured from this location needed at once.

NOTE: Emergency/priority messages originating from official sources MUST carry the signature of the originating official.

See next page for routine messages with ARRL Radiogram numbers

Photocopy these pages for your desk and your car's glove compartment.

ARRL NUMBERED RADIOGRAMS, CONTINUED

GROUP TWO--ROUTINE MESSAGES

FIFTY Greetings by Amateur Radio.
FIFTY ONE Greetings by Amateur Radio. This message is sent as a free public service by ham radio operators here at _____. Am having a wonderful time. Will let you know when I return.
FIFTY TWO Really enjoyed being with you. Looking forward to getting together again.
FIFTY THREE Received your _____. It's appreciated; many thanks.
FIFTY FOUR Many thanks for your good wishes.
FIFTY FIVE Good news is always welcome. Very delighted to hear about yours.
FIFTY SIX Congratulations on your _____, a most worthy and deserved achievement.
FIFTY SEVEN Wish we could be together.
FIFTY EIGHT Have a wonderful time. Let us know when you return.
FIFTY NINE Congratulations on the new arrival. Hope mother and child are well.
*SIXTY Wishing you the best of everything on _____.
SIXTY ONE Wishing you a very merry Christmas and a happy New Year.
*SIXTY TWO Greetings and best wishes to you for a pleasant _____ holiday season.
SIXTY THREE Victory or defeat, our best wishes are with you. Hope you win.
SIXTY FOUR Arrived safely at _____.
SIXTY FIVE Arriving _____ on _____. Please arrange to meet me there.
SIXTY SIX DX QSLs are on hand for you at the _____ QSL Bureau. Send _____ self-addressed envelopes.
SIXTY SEVEN Your message number _____ undeliverable because of _____. Please advise.
SIXTY EIGHT Sorry to hear you are ill. Best wishes for a speedy recovery.

* Can be used for all holidays.

ARRL numbers should be spelled out at all times, and count should include the number of words used to convey the radiogram number. As an example: FIFTY SEVEN counts as two words in the word total count. Remember, the old radiogram number system has been terminated, and this system takes over. Please update your files accordingly.

Messages containing ARL texts have the same form as any other message, except that the letters ARL are inserted in the preamble before the check and in the text before spelled-out numbers, which represent texts from this list. More information on traffic handling will appear in future issues of Collector and Emitter, or learn on the air on one of the following nets:

OKLAHOMA NIGHT OWL NET -	Nightly 10:30 pm local	146.07/.67 FM
OKLAHOMA FIVE O'CLOCK NET-	Mon-Fri 5:00 pm local	3.9000 MHz LSB
SOONER TRAFFIC NET	Mon-SAT 5:30 pm local	3.850 MHz LSB
OKLA TRAFFIC & WX NET	Mon-Sat 5:45 pm local	3.900 MHz LSB
OKLAHOMA LIAISON NET	Daily 6:00 pm local	3.682.5 MHz CW
OKLAHOMA AREA NET	Daily 6:30 pm local	3.705 MHz CW

AI-city

Amateur
Radio
Club

Wewoka---Holdenville---Seminole



Meets: 7:30 PM 1st Monday
Place: VTO
Pres: Ben Gard WB5TFX 379-3112
VP: Carl Cash WB5VPW 257-2243.
S/T: Nancy Haydon KA5FDA 3796448
Acting Ed: Pat Gard WB5TFY

Hello! We're very proud to be a CORA affiliate Club. Our club has been in existence for 3 years. The driving force behind the club's beginnings was N5ME, Al Johnson (since moved to Brownwood TX). We Boast 18 members drawn from Hughes and Seminole counties. Our Board of Advisors consists of Reedy Booker, W5ADC, Walt Graves, K5ZDB, and Earl Dixon, W5ITH. We have conducted 14 licensing classes during our three years, and gained members from each.

We meet wherever we're invited, usually at A.B. and Dot Chaney's (WB5VLS and WB5VPS) in Wewoka or the Sears store in Holdenville. We love to have visitors---just contact a club member for the meeting place.

The January meeting was called to order by President Ben Gard, WB5TFX. We met a week late this month to avoid the New Year's aftermath. Old business was the paying of dues, \$3 per member and family to cover the CORA dues. New business included a search for a program person for February. (no luck...guess we have it again...anyone have any ideas?) and the announcement that Doctor Paul Kernek, he used to be W5PGN, is in Baptist General Hospital on Okla City, room 463. We wish him a speedy recovery.

The program was a hands-on fun/experience. J.B., WB5VLT, brought several grid dip meters and material to build an antenna. We quickly pieced out a 10 meter dipole, hung by a paper clip and string from the ceiling. Then the fun began---cut and pieced out (cut off too much) and the Heathkit HD-1250 promptly rolled over as its battery died. We interred it with appropriate rites, and continued with an Armu surplus TM 11-6625-276-10 Test Oscillation Set AN/PRM-10 (Stamford Electronics & Taffet Radio & TV). I had never gotten to use one before. We also tried out a Palomar Engineers R-X Noise Bridge.

The meeting was adjourned after I began asking again for a program person for the next meeting---maybe we can persuade Jeff, KA5FMM, to let us play with his cable TV machines again. That satellite set-up is something! (Printing out the messages that go over the cable channel is hilarious! There were more mistakes than in a beginning code class.)

See you next month.

Pat, WB5TFY

P.S.: Plug Time --- the Oklahoma Night Owl Net meets every night at 10:30 on MORI's 146.07/.67 machine. Try it---You'll like it!

REACTIONS: profanity or obscenity on the air is exhibited sickness of bias, bigotry, a closed mind, a glaring lack of vocabulary and genuinely wasted when used for shock-value only.

Jim N5BEQ

FUNNY LITTLE VALENTINES....

From KA5CXW

To KA5FED

Roses are Red
Violets are Blue
I think "I Love You"
But, I know I Love
My Yaesu....

Shawnee Amateur Radio Club



W 5 S X A

MEETS: 8:00 PM, 2nd & 4th Tuesday
Shawnee City Hall, EOC

Pres John Owens WB5CNL 273-0848
VP Les Stewart WD5FUG 567-3895
Sec/tr Bill Warren WB5TZO 275-0119
CLUB EDITOR Jay Tingler, WD5BUQ

1979 REMEMBERED: Novice and General classes; 7 Novices, 2 Techs., 1 Advanced.... SET January 27 in a snow and ice storm; 16 H&W messages.... Annual Channel 9 weather watch seminar.... Silent Key, Bill Lewellen, WB5WKJ.... NOAA Weather Service Training.... H.O. Townsend, SEC visit.... SARC affiliated with CORA.... CPR Training, 4 certified.... Field Day, June 23, Bad Rain, Good Steaks.... Bill Skipper visit DF DEMO.... Club House Roof Repaired.... Tri-Co Rptr Flea Market.... Civil Defense Communications Vam.... And much more.

NEAR GREATS: Ever know anyone who almost made it big? You know, like the tax accountant that only knew of 16 ways.... or the song writer who came up with "Get Your Kicks, on Route 67" and "Chattanooga Greyhound." We have one of those in SARC. Bill, WB5TZO had this real neat idea on how to find the microphone on the floorboard while driving in traffic. Something about an LED circuit that would come on under certain conditions. But Dean, N5BEZ, had already worked on this problem and established what has since become known as Akin's First Rule of Radio: "OBJECTIVE": To find the microphone rolling around on the floor board, in heavy downtown traffic when someone in the group has just turned it to you. SOLUTION: First you find the radio. Then you follow the curly wire coming out of it. The swelled up part on the other end of the curly wire is the microphone 99.96% of the time." (Thanks Les)

NEW FOR 1980: SARC officers for 1980 are John, WB50NL, President, Les, WD5FUG, Vice Pres; Bill, WB5TZO, Sec/Treas. Tri-Country Repeater Officers for 1980 are Ron, WB5UPU, President; Dean, N5BEZ, Vice Pres; Bill, WB5TZO, Sec/Treas.

EMERGENCY OPERATIONS: BENNETT BASORE, W5ZTN, was down from Stillwater on 8 January 1980. He made a very fine presentation regarding emergency operations in the Stillwater area including photos of the very fine installations in the EOC.

NEW EMERGENCY COORDINATOR: Mel, K5KXL, has resigned as Pottawatomie County Emergency Coordinator. Earl, WB5ZBA, has agreed to accept the challenge of this position. We are grateful to him and all have pledged their support and assistance in providing a viable county-wide emergency communications system.

MORE UPGRADES: New upgrades in January include:

WALT - KA5FIT - Tech - Tecumseh
Randy - N5BRK - Tech - Dale
Bob - WD5CDV - ADV - Shawnee
Les - WD5FUG - GEN - Prague
Bob Barton - ADV - Bethel Acres
Otto - KA5FID - TECH - Chandler

Will report the new call signs later and many thanks to Les and others who took care of the classes.

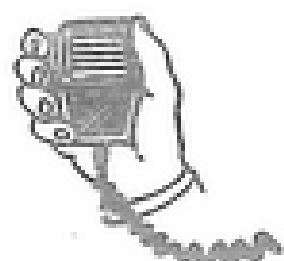
WA5MLT H.O.T.: Thanks to the SEC for another visit on Jan 22, 1980.

"ALL I KNOW IS WHAT I HEAR ON THE RADIO"

73. Jay / WD5BUQ

As an afterthought in this column, I wonder what it would be like to live in a town without Ham stores and Radio stores? And how much shipping cost or gasoline would we expend to a town with a store that supplies what we need for our projects --- I think we are very fortunate.

73



THE Z ANY NEWS F REQUENCY

By JOE, WA5ZNF

The repeater map in this issue was put in the center so you could pull it out and keep it in the car, hip pocket or any other convenient place. It is furnished to you courtesy of the Oklahoma Repeater Society and is the work of several people, notably Dan, K5FVL, Jim, WB5SJX, Joe, K5JB and C.Y., WB5IKG. They did all of the collating and the alpha system of showing where duplicate frequencies are located. Without that the whole map would be a jumble of frequencies.

Now, no one claims to be perfect, well that is not many, and I am sure there is room for improvement and some additions and/or corrections to be made. If you know of one let me know by letter. CORA C&E, P.O. Box 15013, Okla City OK 73155 or if in the Metro dialing area just call me at 737-1044 and we will note all changes and when it looks like an update is needed one will magically appear in your C&E.

If you have a better idea for listing and locating all of the repeaters in Oklahoma tell me about it-I think I'm flexible.

* * * * *

It pays to advertise in the C&E. Last month I called for help with my car and six people Offered to take care of my problem. After a few adjustments and a couple of dollars worth of parts it is back doing real good for 104,000 miles. Thanks to all of you who showed that a "Ham in Need is a Ham indeed", or something like that.

* * * * *

Just another reminder - When preparing copy for the C&E please help cut costs by using the full 7" width on your typed lines and single space. Your two page double spaced article will take only one page if single spaced and save us \$7.00 for that extra page. Any other help you need, just contact me and I will try to help.

* * * * *

Have been asked some questions about the mailing labels. Your club affiliation is shown on the TOP line, ie: 018002 means you belong to Aeronautical Center Club and yuor dues are up in February 1980. More clubs, more entried. If no call sign appears after your name: An "A" means we don't have a call for you. If a string of XXXXX appear you had better get paid up soon. The numbers to the far right are postal zones for figuring postage. "1" says you get your mail in Oklahoma County. "2" --you get your mail in Oklahoma but out of Oklahoma County. There are different rates for each zone, just as for parcel post.

* * * * *

CLUB OFFICERS - - Is your club's logo (page heading) right? Officers, calls, phone numbers, date and time of meeting, would you like to have repeater frequencies you operate included? Let me know soon, long before next paste-up. Hopefully I will be able to change the system and make it more useful.

* * * * *

Bob, WB5, and I are working on a new (and better) roster and as soon as we get a few more phone numbers it should be ready to go.

1. Name:

2. Call:

AMATEUR RADIO EMERGENCY SERVICE

REGISTRATION FORM



3. Address:

4. City:	5. State /Prov.:	6. Zip:
7. County:	8. Home phone:	9. Bus. phone:
10. License Class:	11. Primary radio interest:	
12. (Circle bands you can operate)		
CW:	160 80 40 20 15 10	
PHONE:	160 75 40 20 15 10 6 2AM 2FM	
MOBILE:	160 75 80 40 20 15 10 6 2AM 2FM	

13. Can your home station operate without commercial power? ☐ YES ☐ NO

If yes, what bands? 160 75 80 40 20 15 10 6 2AM 2FM

14. Request FULL membership ☐ LIMITED membership ☐

15. Signed:

16. Date: 19.....

Detach and send this card to Bill Skipper, KB5BS, your EC
449 N. Air Depot #20, Midwest City, OK 73110

To All Radio Amateurs:

The Amateur Radio Emergency Service (ARES) is a voluntary organization of licensed radio amateurs, who have registered their capabilities and equipment for providing emergency communications as a public service to the community. The purpose of the ARES is to furnish communications in the event of natural disaster, when regular communications fail or are inadequate. Sponsored by ARRL, the ARES functions at the local level to meet local communications needs.

The ARES has a long history of public service going back to its formal inception in 1935. Since that time the ARES has responded countless times to communications emergencies.

Experience has proven that radio amateurs respond more capably in time of emergency when practice has been conducted in an organized group. There is no substitute for experience gained *before* the need arises.

The ARES in each locality operates under the direction of the Emergency Coordinator (EC), whose function is to direct the activities of the ARES to maintain a state of readiness.

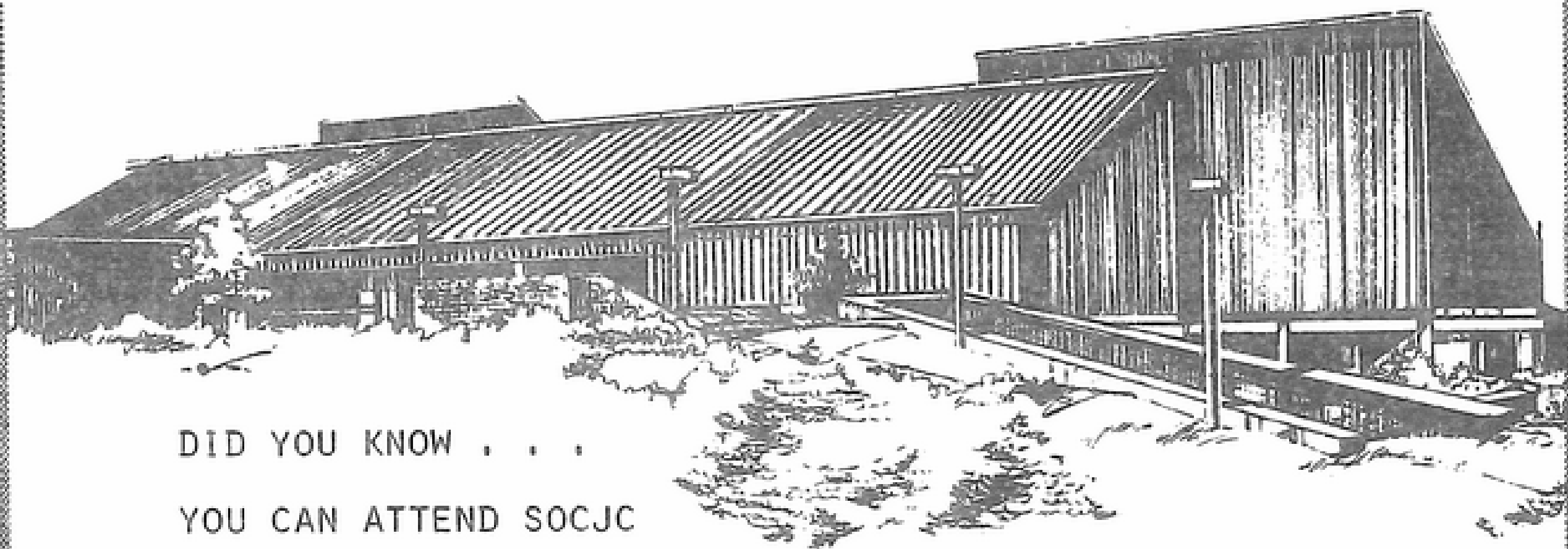
League membership is not required for registration. Registration does not require possession of any specially designed equipment. All amateurs can be of assistance to the ARES.

Membership is either on a FULL or LIMITED basis. A FULL member is an amateur who takes an active part in local ARES activities. A LIMITED member is one who supports the program but is *severely* restricted in the amount of aid he may render. In many cases the local EC can help determine which type of membership best suits the local ARES activities. There is provision in the ARES for *every* amateur regardless of class of license, equipment owned, or personal circumstances.

Won't you join us in providing this essential amateur radio service?

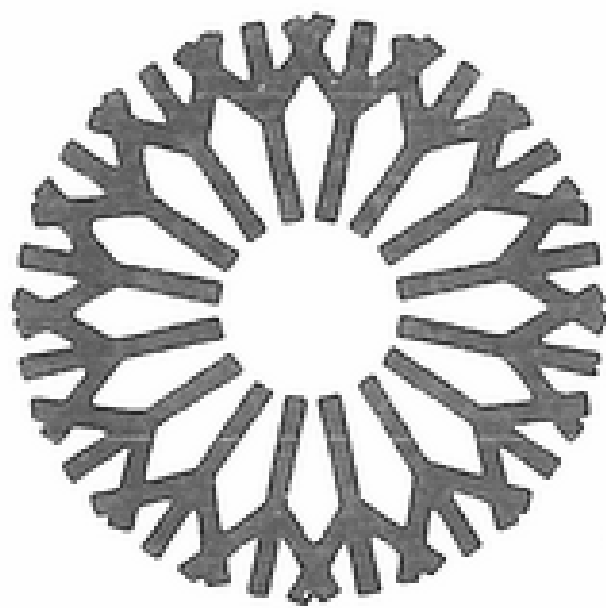
See individual club sections for times, places & details.

FEBRUARY 1980 HAM HAPPENINGS						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
OTWN 5:45 DAILY 3900	ARES NET 9 pm 16/76		ONON 10:30 DAILY 07/67	YLNET 9 pm 16/76	ACARC 1	2
WHEAT- STRAW AT 3 El Reno	TRI-CITY -- 4 EDMOND CLUB	MORI -- 5 47 YEARS	6	ATVES KAY ALTUS	8	9
10	CHOCTAW -- 11 A.F.MARS	OU SHAWNEE -- 12 76ers	13		VHF 15	SCARS 16
EARS 17	ARES 7 pm @ Red Cross 18	AUTOPATCH Channel 9 19	EDIT C+E 20	21	ALTUS SPECIAL 22 MEET	23
24	25	CORA 26	76ers MAIL 27 C+E	28	29	



DID YOU KNOW . . .
YOU CAN ATTEND SOCJC

WITHOUT A HIGH SCHOOL DIPLOMA?

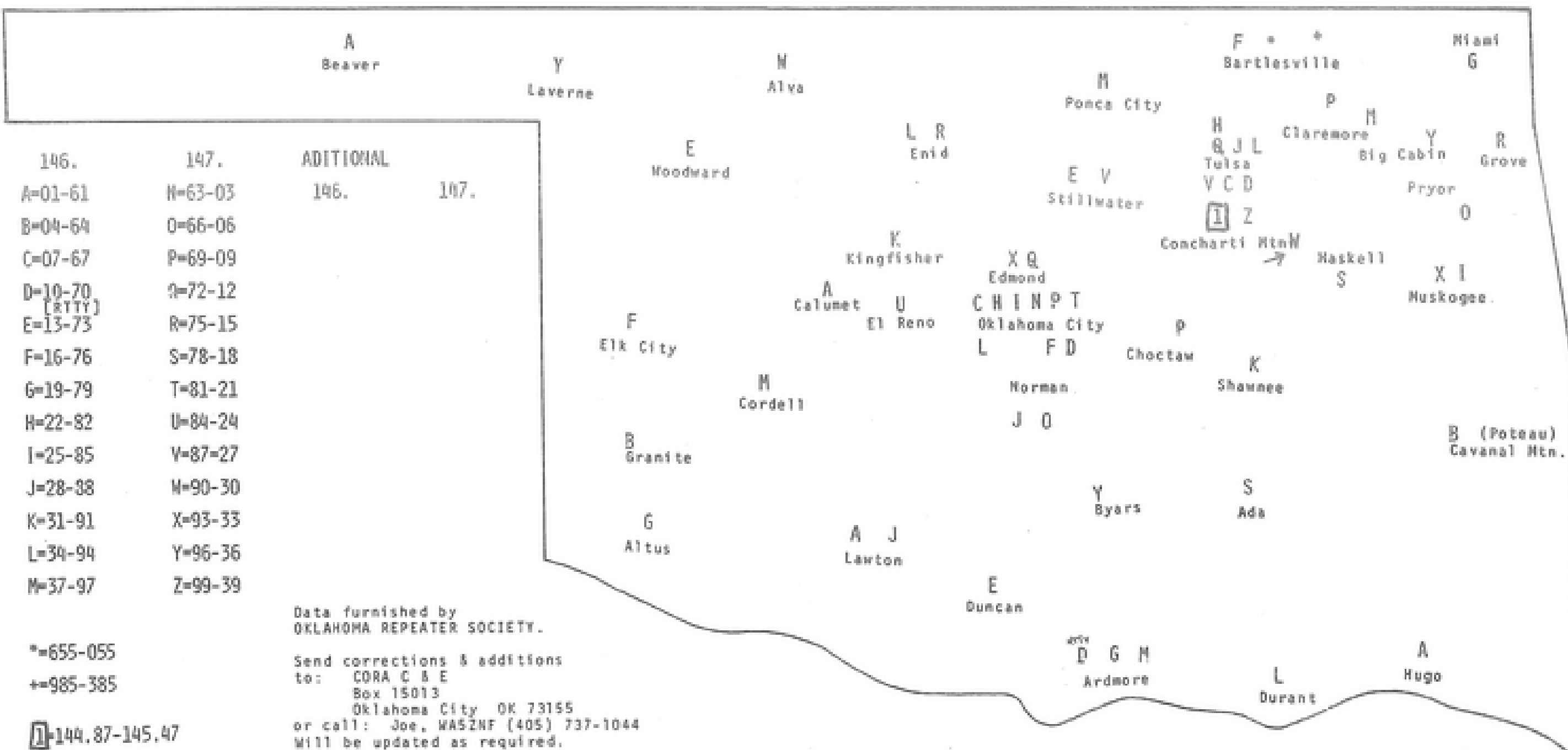


YES. MOST PERSONS OVER 18, REGARDLESS
OF PREVIOUS EDUCATION, CAN ENROLL IN
COLLEGE CREDIT COURSES EVEN IF THEY
DIDN'T FINISH HIGH SCHOOL. HIGH
SCHOOL SENIORS WHO NEED LESS THAN A
FULL LOAD TO GRADUATE MAY BE ADMITTED
AND THERE ARE NO ADMISSION REQUIREMENTS
FOR NON-CREDIT COURSES.

South Oklahoma City Junior College

7777 S. May

682-1611



Data furnished by
OKLAHOMA REPEATER SOCIETY.

Send corrections & additions
to: CORA C & E
Box 15013
Oklahoma City OK 73155
or call: Joe, WA5ZNF (405) 737-1044
Will be updated as required.

144.87-145.47

CORA Collector & Emitter

-24-

February 1980

February 1980

-25-

CORA Collector & Emitter