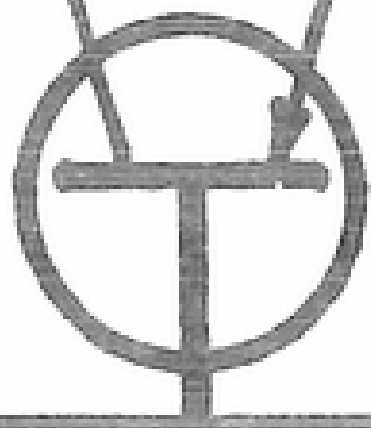


Central Oklahoma Radio Amateurs

COLLECTOR

EMITTER

AND



SINGLE COPY

25¢

MARCH 1977

VOL 3 No 26

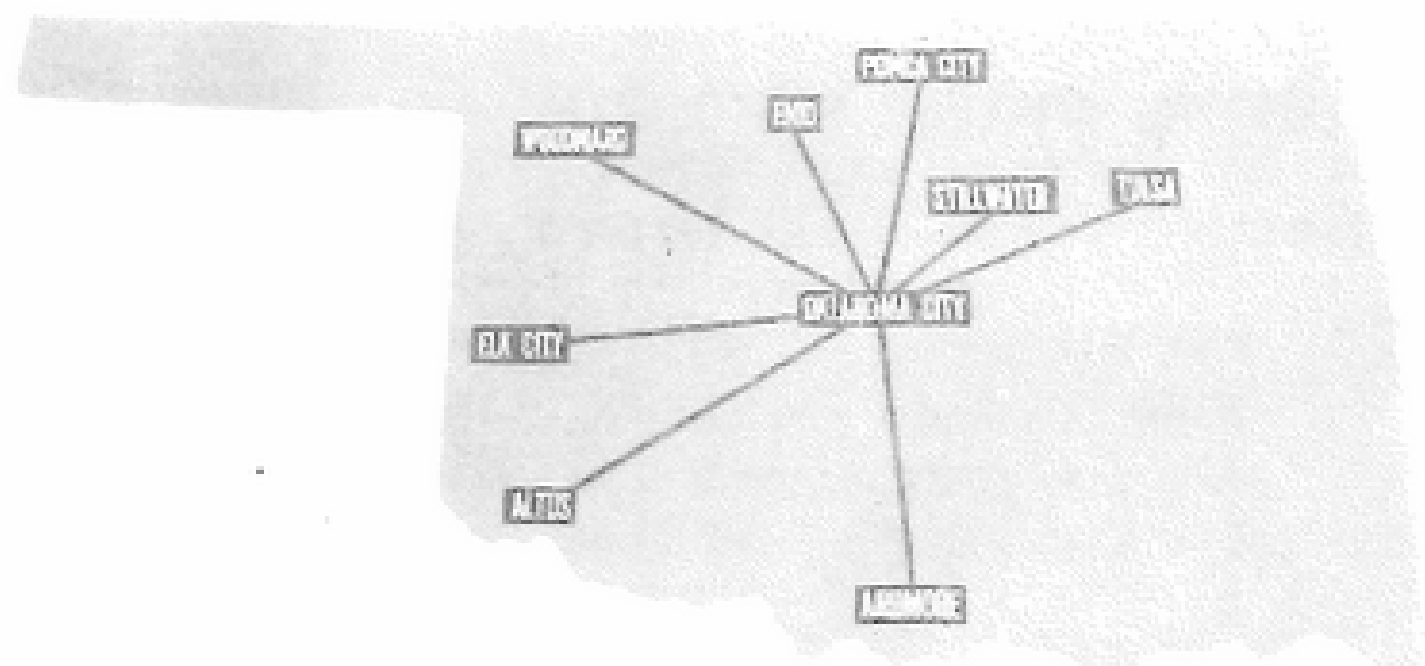
AN INFORMATIVE MAGAZINE
PUBLISHED MONTHLY BY AND
FOR OKLAHOMA RADIO
AMATEURS

AND ANYONE INTERESTED IN
LEARNING ABOUT IT



300 WEATHER WATCHERS

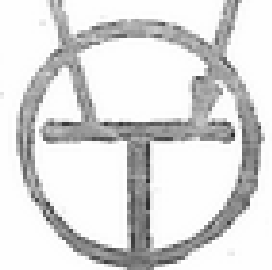
The largest group of hams since Ham Holiday last fall met at Channel 9, KWTB last Tuesday to make plans to take on Oklahoma Tornados. The season is approaching and they all want to be ready. The map at the right outlines the extent of coverage under the new concept.



See page 3 for story.

Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER



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AT OKLAHOMA CITY OK

Managing Editor Joe Harding, WA5ZNF 737-1044

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

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Vice President	Bob Ashby	W5HXL	942-5375
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PARTICIPATING CLUBS FOR CORA COLLECTOR & EMITTER:

AERONAUTICAL CENTER AMATEUR RADIO CLUB
Poatal Station 18, Okla City OK 73169
MEETS: 8:00 PM First Friday each month
Flight Standards Bldg, FAA Aero Center

Pres Dave Langley W4YDY 329-6333
Assist Lloyd Kirk WB5HUP 685-6566
v-P Bill Hulse W5NI 376-2125
Sec/Tr Robert Runyon W5JES 373-1818

MID-OKLAHOMA REPEATOR
MEETS: 8:00 PM Tuesday, first full week
in month. Okla City EOC, 4600 N Eastern

Pres Chet Hazelwood W5GDL 427-1439
V-P John Huckaby K5QDR 672-4706
Sec/Tr Richard Zanni WB6FYL 691-1809
Dues: Sid Gerber, 829 E Bouse, MWC, 73110

OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB
202 W Boyd, Room 219, Norman OK 73069
MEETS: 7:30 PM Alternate Tuesday STUDENT
UNION Room 161

Pres Kim Elmore WB5CLC 325-6717
V-P Kenny Hutchison WB5RXZ 364-3001
Sec James Jones WB5RKQ
Treas Mike Salem WA5EPK 321-5453

BICENTENNIAL AMATEUR RADIO CLUB
MEETS: 3rd Tuesday each month 7:00 PM
AIR National Guard, Will Rogers Airport

Pres Ken Newberry WB5PYN 685-2717
V-P John Oltmans WB5PZG 525-6066
Sec Jim Townsend WB5VCB 632-5445
Treas C Y Chandler WB5TKG 232-9005

OKLAHOMA CENTRAL AMATEUR RADIO CLUB
323 NW 10th, Okla City OK 73103
MEETS: 8:00 PM third Friday each month
American Red Cross Bldg, 10th & Hudson

Pres T. Van Woody W5FMX 942-2831
V-P Ken Ford WB5KHU 528-8770
Sec Joe Buswell WA5TRS 732-0676
Treas Ellard Foster W5KE 789-6702

OKLAHOMA CITY AUTOPATCH ASSOCIATION
MEETS: 7:30 PM 3rd Tuesday, Bi-Monthly
Oklahoma Military Academy 36th & Grand

Pres Gary McCormick WA5ETV 946-2898
V-P Guy Liebman K5GL 787-9547
Sec/Tr Jim Denman WB5EOL 681-6048
7705 S Charlotte Dr OKC 73159

EDMOND AMATEUR RADIO CLUB

MEETS: 7:30 PM first Monday of odd
numbered month, 3220 N Santa Fe (GE)

Pres Larry Dillard WB5CWB 685-4065
V-P Bart Wortham WA5JUJ 751-9536
Sec/Tr W. H. Thompson W5UIV 348-1475



Amateur Radio News Service

The annual weather meeting of the Oklahoma City Auto Patch

Association was held February 15, 1977, the meeting was very successful with over 300 people in attendance. Special thanks are in order for all the representation that traveled to Oklahoma City for the meeting. The additional equipment need for this year's activities will be installed by mid March, 1977.

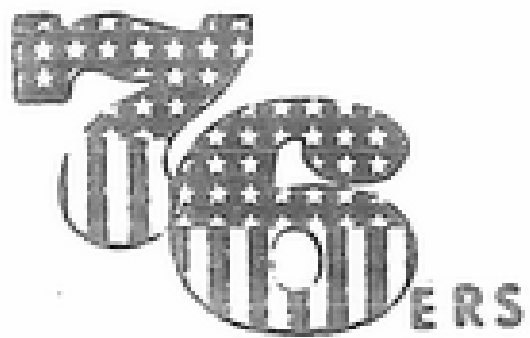
All groups in the outlying areas are requested to drop me a line as to your capabilities and frequencies that are in use in each local area. It is our intent to give extended weather coverage outside the Oklahoma City area. Any suggestions from those areas are quite welcome and shall be considered.

Wanted: More input to the column. I know many of you have projects or new equipment that are of interest to us all. Take a few minutes of your time to write a small article for the paper and share your knowledge with us.

I hope those of you who did not attend the meeting got to see the live interview of Hobe, WB5MLN on KWTW newscast of February 15. Hobe did an outstanding job of representing Amateur Radio to the public. This is the kind of publicity that Amateur Radio needs if we are to interest new converts to our ranks.

Extra Grid Maps are available to those of you that need them. In addition, the maps have been placed at Radio Shack Stores around Oklahoma City for people with scanners that monitor 22-82. Thanks should go out to KWTW for bearing the cost of printing this year's map--plus note the super paper that was used.

Wanted: Storm Spotters that will take wind speed readings during severe weather. Gary England will make available this year, the hand held weather stations that you have seen on TV. Gary would like to have six spotters to station themselves West of the city and travel to the East as directed during severe weather. If you would be interested in this, please give me a call.
March 1977



THE BICENTENNIAL AMATEUR RADIO CLUB



Minutes of the meeting of February 15, 1977

President Ken Newberry WB5PYN opened the meeting at 7:05 PM.

Reports were given on the Ham Holidays Committees. So far the committees have not taken any action as yet. Ham Holiday was explained to the new members and guests. Our Club has been designated as the prize committee.

Report was given from the C.O.R.A. meeting by President Newberry. A slide projector is being considered for purchase by C.O.R.A. and the idea of a group Flea Market being held by C.O.R.A. members. The Club showed their interest by a show of hands to join in this venture.

More interest is requested to work in the 6 Meter class areas by C.O.R.A. members.

Interest was shown for an Oklahoma City areawide Field Day.

Field Day reports were asked for by President Newberry as to the Club Having their individual Field Day. C.Y. WB5TKG gave his report and asked for help to find out what equipment is available.

Motion was made & seconded that our Club have our own Field Day. Motion carried.

C.Y. WB5TKG was asked to see about the Club using the same site (Woodson Park) that was used last year. Club discussion showed lots of interest in the use of this site.

Coy K5LMG presented the idea that the Explores Scout unit on the base be invited to join in the Field Day activities. There were no Objections to this.

The tentative date was set for about the last of June.

Report is to be given to C.O.R.A. that the Bi-Centennial Club will have their own Field Day.

Report was given by Ken Newberry that The Collector & Emitter has been entered in a nationwide contest for this type of publication. C.Y.'s Article " Your House is on Fire " was reprinted in another publication.

C.Y. WB5TKG introduced Kevin WB5KGP as a new guest and operator from the Tulsa area. He reported on the 40th Anniversary bulletins of W.I.A.W.

Coy Day K5LMG gave report on his QSL card procedure in working contacts. He uses W3KT-RDI Box # 66, Malvern, Pa. 20 cards for \$ 1.00.

Coy made a proposal that the Club become a participating member of the QSL Service of W71ZH QSL Service, Box # 17987-D Tucson, Arizona 85731 .



THE BICENTENNIAL
AMATEUR RADIO CLUB



Motion made & seconded that the Club purchase US and Foreign Call Book for Club use. Motion carried.

Edie Day WB5YHG passed her technician test in Dallas office on February 15, 1977.

Chuck Wilhite, Kevin, Bob and W.W. Northcutt were voted in and accepted as new members.

Ed CP5KD will be in South America on 21,400 every Monday and Thursday at 6 PM Oklahoma time during March. He will be available to work Oklahoma at this time.


Club dispersed for coffee at 8:PM. Reconvened at 8:15 PM.

Bob Pace WA5CJG was introduced as the Club guest speaker. His subject was 2-Meter repeater work. Anyone interested can contact Bob at this Address: WA5CJG Bob Pace 3016 S.W. 64th Oklahoma City, Okla. Tel # 405-681-4455.

Bob's talk was enjoyed by all and the question and answer session was very interesting to all present.

Meeting adjourned at 9:05 PM.

Jim Townsend WB5VCB
Sect.



GRAND OPENING
1 MARCH
NEW LOCATION
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SPECTRONICS

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NEW NAME
AMATEUR ELECTRONIC S
PHONE 634-8844





EDMOND AMATEUR RADIO CLUB, Inc.

FROM THE EDITOR

Well I guess if you stand in one place too long, someone will put you to work and that's what happened. Let me introduce myself for those of you who haven't heard me banging around on 63/03. The name on my birth certificate says I am Robert R Shaw, but I answer to just about anything, mainly Bob-Robert, WA7KGU/5. The family and I have returned from eight years in Arizona to the old home stompin grounds of Edmond. My XYL, Beverly, Robert L. and Kim round out the rest of the Shaw family.

Now, back to the part about the work! Dennis, WB5ISN, Known in most parts as "TRUSTEE", seems to think I should try my hand as editor of E.A.R.C., so what you are now reading is my first effort. (could be the last?)

We'll just give you some dumb stuff now and in the future get serious if that's possible with the group north of the river.

For the past few weeks a couple of the members started having Saturday morning coffee at McDonalds and, before we knew it, we had enough for a weekly club meeting. Even managed to get Mr. Dillard (They pronounced Dee-yard in Tiajuana) from south of the river. Sure makes for a good starting point to goof off for the day!

By the way I am teaching a novice class at C.S.U. and would appreciate hearing from you if you have some gear you might like to get rid of that would be good for a new ham, My phone number is 341-4763. Let me hear from you!

Wake-up, cause that's all I have for now and I need to sign out.

73's
Bob-Robert
WA7KGU/5

For sale; -KWM-2A station. AC & DC Supplies, Console Control, Phone patch. HOWARD THOMPSON W5UVI, 348-1475.

-MFJ FILTER for C W, 4cx250b amplifier and power supply for 2m. 91volt bias can be mod. for SSB. Dennis WB5ISN.

-Clegg 22er FM with 9 tx xtals., Standard 12 chan. 2m with some xtals and AC supply. Touch Tone Pad in box ready to go. DEEDS BIGELOW 341 0556.

Wanted: Tempo FMH Talkie and charger. Larry Dillard 685-4065.

Ten-Tec Kr-20 keyer for Larry Dillard, and Dennis Orcutt.

1 new Mastr 2 Repeater for 450. Dennis Orcutt 341-4200.

FROM THE TRUSTEEEEEEEE

We are sometimes encountering trouble with autopatch misuse..... If you don't ID ID ID. I will turn you off. If you use it for a MESSAGE SERVICE. I will talk to you on the phone, severely..... APPRECIATE YOUR REPEATER AND AUTOPATCH. It may not be there forever and I know how habit forming it is to some of you. Remember that there are many people listening to you. Act Mature with what you say to people on the patch especially your wives, Kiss them at home not on the radio. WB5ISN-WR5AHG Dennis Orcutt.

WE LOAN AND PAY MORE FOR ANYTHING OF VALUE

INCLUDING, GUNS, RADIOS, TAPE PLAYERS, ETC.

B U D D Y ' S P A W N S H O P

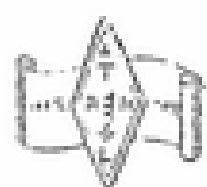
10924 NE 23RD

OKLA CITY

769-3949

ADDITIONS, NEW MEMBERS & CORRECTIONS TO CORA ROSTER - -

WB5CPR	Chuck Wilhite	7144 Comanche Ave	OKC	721-6225
A	W. L. Adams	7212 Wedgewood Cr	OKC	843-6415
A	Barry Ashworth	4612 NW 32	OKC	942-0660
A	David Atnip	809 Plaza Dr	Moore	794-0460
WB5NHZ	Henry Ball	927 Woods Ave	Norman	
A	G. C. Bandy	223 SE 45	OKC	794-3414
A	John Bigler	112 W Jarman	MWC	732-6260
W5RLJ	George Bittrolff	6515 Lakeview Dr	Mustang	
A	Dan Blundell	206 NE 19	Moore	799-4879
A	L. J. Burns	320 S Meadow Lane	Mustang	376-3616
A	Larry Cadell	Rt 1 Box 750E	Blanchard	485-2047
A	Robert Cartmill	518 SW 3	Moore	794-1869
A	Melvin Campbell	1440 SW 45	OKC	685-2517
A	Joe Paul Couch	908 E Hills	Moore	799-2943
A	Doyle Curtis	3814 NW Della	Norman	329-6349
A	Dianna Fogle	1407 SE 19	OKC	672-8506
A	Jerry Fogle	1407 SE 19	OKC	672-8506
K5KZV	Tom Gardner	Rt 5 Box 358	Guthrie	
A	Charles Gossett	Box 6369	Moore	794-2604
A	A. B. Griffin	P O Box 165	Prague	
A	Sandy Hawkins	116 SW 11	Moore	794-6144
A	Thomas Hawkins	116 SW 11	Moore	794-6144
A	Mitchell Hilger	1145 SW 78 Terrace	OKC	634-5213
A	Harley Holcomb	345 SE 39	OKC	
A	Harry Holzman	23 SE 39	OKC	634-9889
A	Wayne Huntman	2101 SW 28	OKC	634-1896
K5SUD	H. E. Hutchins	3721 SE 26	Del City	
WB5KGP	Kevin Johannes	1201 Devonshire Ct	Edmond	
WB5LTI	Larry Keun	7700 NW 27	Bethany	789-6097
A	Howard Kinsley	1115 1/2 S Douglas Blvd	MWC	
WB5HUP	Lloyd Kirk	4021 SW 28	OKC	685-6566
A	Roy Klotz	105 Pinewood Drive	Tuttle	381-3428
WB5ZVK	Lawrence Langer	4209 NW 22	OKC	942-3733
A	Ron G. Lewis	Rt 1 Box 194B	Mustang	376-3317
A	Raymond March	12100 SW 89	Mustang	376-3165
W5QFH	Robert McClain	1815 NW 27	OKC	
A	Johnny McGowen	7324 S Drexel Place	OKC	681-7243
A	Kay Northcutt	420 NW 95	OKC	842-1086
A	Mark Northcutt	420 NW 95	OKC	842-1086
A	DeWayne Orr	2400 S MacArthur (244)	OKC	681-0262
A	Jimmie Phillips	2948 Hillcrest Dr	Moore	794-1490
A	Leon Phillips	Rt 2 Box 270	McLoud	
A	Mary Phillips	Rt 2 Box 270	McLoud	
A	Forest Schooling	616 SW 51	OKC	634-2961
A	Lee Smith	3807 N Youngs	OKC	942-5351
WB5RKA	Glenn Sharpe	3000 GlenOaks	MWC	737-4594
WB5RLG	Frank Spann	Rt 3 Box 112A	El Reno	
A	Val Terry	1033 SW Binkley	OKC	634-7170
A	John Van Haven	7717 Hillcrest Dr	OKC	682-1339
A	Tom Vore	1100 NE 4	Moore	794-1288
A	Donna Ward	Rt 10 Box 296	Moore	799-2376
WB5PFW	Ralph Watkins	1414 W Shuttee	El Reno	
A	Gerald Wilson	13879 Whipporwill Dr	Choctaw	
A	Lester Wood	700 Askew Dr	MWC	732-5586
WB6FYL	Richard Zanni	9151 S Shartel (201)	OKC	691-1809
A	June Allen	7309 S Douglas AVE	OKC	632-1708
A	Robert Allen	7309 S Douglas AVE	OKC	632-1708
A	Jack Allison	2817 NW 13	OKC	947-5840
A	Gary Brewer	4812 NW 37	OKC	789-2756
WN5QOJ	Mike Cartwright	1712 Queensbury Dr	Moore	794-2091
A	Bill Green	1309 SW 71	OKC	685-7191
A	Wayne Hestand	5810 S Robinson	OKC	632-2823
WA4QXB	Marvin Moore	1121 Kings Court	Moore	794-6731
A	W. W. Northcutt	PO Box 38	Cement	
WD5ABT	Bob Odom	612 SW 9	Moore	799-3173
A	Ron Phillips	3114 SW 37	OKC	685-8612



W5PAA

YAKKEY-DEE-YAK FROM THE PRESIDENT

It was really great to see what one ole' timer called the "largest crowd in 15 years at the ACARC". There were around 60 at the meeting and they all seem to enjoy the feature program. Bill Brodie, K3TGY, put on an outstanding program and demonstration on RTTY. We had hoped that he could present a program in March on microprocessor control of his RTTY repeater, but he has had some delivery delays from the cabinet manufacturer. So he won't be pushed too much, we have moved that program back to May.

In March, I know we will have another outstanding technical program that will or should be of much interest to all. Carl, W5JJ, will talk about his favorite subject, "Some Misconceptions about SWR". Oklahoma City is very fortunate to have an expert and author on the subject right here in our area. I think that it is one of the most misunderstood subjects in amateur radio. Some of the theories that are heard on the amateur bands sound more like science fiction!

The Wiretap article that Rob, W5JES, submitted, has had some good responses. At least 7 Aeronautical Center employees have expressed interest in code and theory classes. We would like to get some started as soon as possible or we might have to wait until Fall. I want someone to take this project and go with it. Hopefully, we will have a chairman by the time you read this.

At the February meeting, George, W5NTL, and Bob, W5HXL, volunteered to be co-chairman for Field Day activities this year. All of those interested should get in touch with them to formulate plans.

Bill, W5NI, and Rob, W5JES, coordinated a project to put W5PAA QSL cards with club meeting times and a list of officers on the Aeronautical Center bulletin boards. Thanks to both for handling this project.

We are still looking for good programs for future meetings. Lloyd, W5IHUP, has come up with several ideas including the one that K3TGY plans for the May meeting. I am especially interested in technical programs because they usually have the largest turnout for meetings. I have ask W5IHUP to be the club program chairman. So he will be looking for assistance in this area.

At the last meeting, Rob was taking orders for ACARC name tags at \$2 each. The club makes nothing on these tags. He also signed up a number of new members. And we are working to sign up more. And a note to new members and newly licensed amateurs. Just because you are new to the club, don't sit back and let someone else run the club. Volunteer when asked and if you need help or guidance, other club members will be there to back you. You will be surprised at what you could do and how much you will enjoy your hobby. I know. It happened to me and I've seen it happen to others.

Dave, W4YDY

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WANTED TO BUY: Transceiver for novice operation. Prefer reasonably priced model HW16 with HG10VFO, or equivalent type equipment. Phone 529-6349, Doyle Curtis after 5pm.

*

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*

WOODY WELLING still needs radio books and publications in the Philippine. The ACARC is collecting for this very worthy cause...anything you might have by way of handbooks, and basic manuals as well as other information type data will be appreciated. Mark them for Woody Welling W7KMQ.

Minutes of the ACARC meeting Friday February 4, 1977.

The meeting was called to order at 8005CST by President Dave W4YDY/5 with 59 members and guests in attendance.

The meeting was moved to a larger room to accomodate the overflow crowd. For that reason too few notes were taken during the introductory part of the meeting, so none are recorded in these minutes.

Old business: Pres. Dave requested volunteers for a club program chairman, and a public relations chairman...none were forthcoming so Dave promised some appointments to be announced later. It was announced that ARRL will be raising dues to \$13.00 soon and that renewals could be bought now at the old price. Also club badges were again placed on sale at \$2.00 each. A new repeater is in operation in the area under sponsorship of the Wheatstraw Club on 146.01/61 from Calumet, Oklahoma. The ACARC repeater license application is being completed by John, W5UNA, and George, W5NTL, and will be forwarded to the FCC by 10 Feb. No further old business was undertaken.

New business: Carl W5JJ presented a talk on bumper stickers which can be purchased through CORA sponsorship at reasonable discounts, and asked for a vote of confidence from the membership in the project. A motion was made to express support for the bumper sticker project, seconded, and carried. Cost of the stickers will be approximately \$.35 in large quantities. W5JJ will check on the project and report to the membership at the next meeting.

Mr. Lee Akin has been appointed the Oklahoma County CD Director, and has requested our assistance in re-vitalizing his RACES/AREC programs. W5JGU, W5NTL, and W5JES are a committee to contact Mr. Akin, investigate what is involved, and report back to the club.

Bob, W5HXL, made a general inquiry as to how many and who in the club would be interested in attending and participating in a flea market at some early date. A good amount of interest was shown, and HXL will continue with his efforts to organize some... more later.

FD-77 was brought up, and discussed. If we do not participate with another organization such as CORA, W5PAA will sponsor our own FD exercise W5NTL and W5JES will co-chair the project this year either independently or in cooperation with another club, or CORA.

Dave W4YDY/5 introduced a 2 meter PA on a PC board which was the result of a club project from Raleigh, and inquired as to whether such a club project might be looked on favorably here. A measure of interest was expressed, and it was mentioned that six members were already engaged in a counter project which might be expanded if the pilot run was successful. Dave will work toward getting some kind of club project in the works at an early date.

Abe, WB5AUF, announced the dates for the Lawton Hamfest for March 19 - 20, There should be a good sized contingent from OKC there.

No further new business was conducted.

Bill Brodie, K3TGY/5 gave the program for the evening on RTTY and announced that WR5ASI is on the air on 146.10/70 and is working into Dallas on RTTY. The Dallas end accesses a computer which is available for various uses.

The program for the evening was put on by Bill Brodie, K3TGY/5. He presented RTTY in a most interesting and vital way, and stirred up considerable interest in the rather old art of Baudot code for amateur communications. We saw some excellent construction projects for control and conversion using solid state logic techniques. Bill also announced that a two-meter repeater WR5ASI is in operation presently from his home QTH, but soon from an Arbuckle Mountain site which will eventually

line OKC and Dallas teletype terminals, with a computer available for inputting at the Dallas end. WRSASI is on 146.10/70. Bill further offered his considerable expertise to any seriously interested amateur in the area for help in the RTTY area, and requested direct contact via his home fone 794-0406, or via either of the MORI repeaters. In all, it was a most interesting and enlightening presentation, and a fine program. Thanks Bill.

The meeting was adjourned at 2150CST for coffee and doughnuts.

* * *

OSU-VHF MEETING SET:

The OSU Radio Club will have a hamfest in Stillwater Saturday, March 26, 1977. Registration to begin at 10am. Cost: \$1.50. There will be door prizes, and a Flea Market with free tables. Plan on attending this very fine hamfest and help the OSU club celebrate the 50th anniversary of their station, at the Student Union on the OSU campus.

* * *

Call for assistance: Rev. DeWitt, K5CLS, minister of St. Lukes Baptist Church serves as an assistant Chaplain at University Hospital, and has called to our attention a young double amputee from a motorcycle accident who would like to pursue a budding interest in Amateur Radio. He is looking for help for Robert Thompson from Idabell who is presently in University Hospital. Word is that he needs a code practice oscillator and key, books, and other donated equipment. Perhaps someone could visit his room and find out more. For information on the project contact Rev. DeWitt at phone 769-5123 or 771-3145.

* * *

We received a flyer from Frank, K5MBK, in Lawton with a little note about the Lawton Hamfest March 19 and 20. Looks like a very big event down there and I'm sure a sizeable contingent from OKC will be on hand. We will make an announcement at the next meeting also.

* * *

Speaking of hamfest type activities...plans for a local flea market sometime in early April are shaping up. Bob, W5HXL, is getting the thing organized so if you feel compelled to get your trading hat on... make contact with HXL and get the latest info...More on this subject later.

* * *

An inquiry to ARRL has been dispatched concerning the availability of Life Membership through the club before the big increase in dues in April. More on this at the next meeting, or whenever we hear from headquarters.

* * *

Good Manners: Elsewhere in this issue Carl W5JJ continues his very good series on Operating Traditions, and again makes the point for good manners on the air. One mannerism that particularly bugs me (and hopefully others) is continued use of the word "break" by operators desiring to enter conversations and nets, under other than urgent and/or emergency conditions... It seems to me that this is one area requiring some attention from all of us and if you think this operating convention is recent... please note practice #4 in Ray Bryan's little note immediately following this page...I for one (at risk of getting some sore at me) have decided to declare war on any operator I hear using the word "break" for conversational entry. Use your call sign guys...be proud of it...

73 Robby W5JES

WANTED: HF SSB Receiver. Prefer solid state .55-30MHz. Eugene Lothes
8413 Brookridge Dr. OKC 73132

* * *

Some good advice for us all

The other day while cleaning out some old files in the club, I ran across a little card which so impressed me that I immediately put my name and call sign to it, and will display it in my shack. The little card has a place at the top for call sign and name if desired. The text of the card is reproduced below. There is not one of us, newcomers and old-timers alike, who couldn't benefit from a thoughtful review of these words; compliments of Ray K. Bryan, W5UYQ:

I am proud of this call because I am the only person in the world who has the privilege of using it. It identifies me more than my own name, as thousands of unseen friends will know me only by my call.

What I do when on the air with this cherished call, will bring me untold friends or enemies for life. It all depends on me, as I will not be judged by looks or station in life, but by my manners and the consideration I show my fellow Ham while on the air.

I value my friends more than any possession. To make this friendship stronger, I pledge myself to be a better operator by following these good operating practices:

1. I will listen on the frequency before testing or transmitting.
2. I will give the frequency immediately to a station calling break or emergency. I will assume that his call is urgent.
3. I will acknowledge a joining station immediately as he may have an important message.
4. When wishing to join a QSO, I will announce my CALL ONLY, between transmission breaks.
5. When working mobile or on known mobile frequencies, I will keep contacts short and allow time between transmissions for new callers or urgent traffic.
6. I will not forget mobiles are in motion and must have priority with short contacts. They are handicapped with low power and limited frequencies.
7. I will always be helpful and tolerant with my fellow amateur.
8. I will gladly take or give advice when I know it will help my fellow amateur or our hobby.
9. I will serve the public whenever the opportunity arrives.
10. I will do all in my power to cause my fellowman to respect all Radio Amateurs.

Ray is now W5IQ, and along with his lovely wife Mary, K5PBE, resides in retirement on the shores of Texoma Lake at Kingston. Many thanks for the thoughtful little card in the files Ray.

73 Robby W5JES

TECHNICAL REVIEW -W5JJ-

AMATEUR RADIO- Nov. describes a frequency counter for use with a variety of receiver types. Most interesting, though is a full-page adv. for the CIR Astro 200 digitally-tuned HF/SSB and CW transceiver. It has 39,000 frequency-synthesized channels throughout the amateur bands from 80 to 10 meters inclusive, is fully solid-state with 200 WPEP input, and boast a whole flock of cleverly-designed characteristics.

ELECTRONICS RETAILING, Jan. courtesy of W5HUFU, carries the unpleasant news of Richard Wiley's leaving the FCC in June. Wiley has been a true friend of radio amateurs. There's a mention of National Radio Co. returning to the amateur market with the NCX-1000, a transceiver with 1000 W PEP SSB/and CW input, 500 W AM and FSK input, 80 through 10 m, 8122 final amplifier tube, built-in power supply, and integral RF speech clipper. Sounds good! The \$1600.00 price is not so good, though!

73, Feb, ticks off a whole string of readable articles. They concern an atomic frequency standard from a TV rcvr, a keyer with a memory, speech pre-emphasis, the "third" method for generating SSB signals, the TTL building block, one-shot dialing for mobile phoning, and a simple ATU for random-wire antennas.

CQ, Feb, starts an analysis of the multi-band trap antenna; this looks quite interesting. W6SAI reviews a transmitter of the early 30s. K7GCO reveals much about the physical dimensions of coax cables and tells why some should be avoided. W9AD explains PEP for Novices. Don't overlook K2EEK's editorial!

QST, Feb, has too many good articles to list them all. Highlights are traps for wire antennas, linear ICs, solar activity, station control, 432 MHz solid-state PA, history of W1AW, and an amplifier for a mouse-power xmtr.

ELECTRONIC TECHNICIAN/DEALER, Jan. courtesy of W5KE, shows how a spectrum analyzer can be used for AF applications.

HAM RADIO, Feb, is about as far from "ham" radio as can be. It has scholarly articles on the Rx noise bridge, an CMOS counter, a 50-ohm terminator for VHF, determining capacitor size for bandspreading, isolating parallel currents in RF amplifiers, silver plating, keyer paddle construction, LC calculations, low-cost copper wire for antennas, etc.

HAM RADIO HORIZONS, Mar, is in the hands of all licensed radio amateurs; so you know how well it fills that niche left vacant when "radio" magazines disappeared to be replaced by "electronic," "digital," and "IC" types. Maybe it'll bridge that yawning chasm between the casual radio user or tinkerer and the amateur of radio communication and technolohg. I sincerely hope so. The lack of such a magazine has kept uncounted thousands isolated from amateur radio!

IEEE SPECTRUM, Jan, has "technology '77". Don't miss this inclusive overview of the art!

SHORT WAVE MAGAZINE, Dec, shows a neat trick for visual display of switch position by means of a 7-segment LED Numeric Display. For the chap with a boxful of tubes and a yen for RTTY operation, there's a simple TU. And, as usual, the world's most complete report of amateur activity.

WORLD RADIO, Feb, carries the latest FCC update, including a proposal by KL7OG for the establishment of a new frequency band at 11.300 to 11.325 MHz with a power limitation of 5 watts input.

CQ, Mar, is quite an issue! W6HDM hits electromagnetics from a different and novel angle. W9SCH tells of his adventures with a solid-state CW transceiver; beware of the two horrible goofs in the schematic! W9AD talks about TVI. W6SAI has his usual excellent info on antennas, W5JJ describes a triple-purpose antenna. ZL101 tells about antennas for portable operation. W2JTP tells about 6A3 ("AM") operation, spoiled only by his paranoid hatred of the ARRL! W6UYH has another part on multi band trap antennas. In it, though, he indicates he believes spark (damped or discontinuous waves) transmissions are the same as CW (continuous waves). If this portrays the scope of his knowledge of basics of radio, his writings should be regarded as trash!

CQ, Jan (it arrived after the Mar issue), is notable chiefly for W6SAI's antenna and W0YVA's Signal-One Improvements articles

POPULAR ELECTRONICS, Mar, has nothing to interest an amateur of radio communication and technology.

AMATEUR RADIO, Dec, reviews the Yaesu FT30001D solid-state HF transceiver. Also it mentions that the Wireless Institute of Australia is banning the use of "ham" for radio amateur. Too bad our ARRL continues to put down radio amateurs and amateur radio by using that insulting term! There's a novel and useful idea for tuning SSB transmitters using two pulsed square waves combined. The resultant waveform, when viewed on a scope, permits more than a guess about distortion.

HAM RADIO HORIZONS, April, tells about rigs for the 1750-meter band and for back-packing. Just don't get snookered by the "April Fool" article on SSB!

* * *

LEAGUE NEWS

As of the end of January 1977, there were 38,365 Novice Class, 61,359 Technician Class, 22,483 Conditional Class (a dying breed!), 84,086 General Class, 71,360 Advanced Class, and 15,732 Extra Class amateurs licensed. Of these, 115,281 were Full Members of the League. When you consider that of the total of 293,655 licenses issued, just one heck of a lot of these are totally inactive, 115,281 League members indicates an impressively-high percentage.

Our newly-elected West Gulf Division Vice Director, K5YHX, resigned. Thomas W. Chance, Jr., WA5VJX, has been appointed to fill out the remainder of the two-year term.

-W5JJ-

* * *

AMATEUR RADIO OPERATING TRADITIONS

-W5JJ-

Really, this should be entitled "Violations of Operating Traditions". For that's the meat of this month's chat about how we acquired operating practices..... and how those practices have been perverted.

As mentioned last month, we amateurs of radio communication drifted into a style of operation by simply following the dictates of good taste and gentlemanly behavior. One of the sidelights of such behavior is the matter of not detaining a fellow conversationalist by unnecessary verbosity. As early amateurs of radio communication were radiotelegraphists, they quickly devised means of abbreviation words, even sentences. Many of these terse methods of expressing one's thoughts were adapted from existing wire telegraphy practices. Others were the result of international conferences, such as the one held in Berlin in 1908 (if I recall the correct date). This conference saw the birth of the "Q" signals, three-letter symbols that enabled not only laconic exchange of information between operators speaking the same tongue but equally effective exchange between operators having no common language.

Now, let's consider how these excellent short-cuts are misused and even abused.

How often have you heard, on either radiotelegraphy or radiotelephony, an operator say "The QTH here is Okla. City"? That really means "The location of my station is here in Okla. City". Or "The QRM (some compound the liddery by making it QR Mary) is making it hard to copy you." Look up the meaning of QRM and note how sadly it is misused! One of the most common perversions is that of the old wire telegraphy abbreviation 73, which means Best Regards. What do you suppose 73's means? (Other than evidence that the user is "hamming it up" either through ignorance or deliberate usage just because he thinks it sounds veddy, veddy sophisticated!

You can dig up a hundred examples without having to pause. Just listen to any amateur band. If you want the superlative absolute of perversion listen across the Citizens Band!

This brings one to the spot where one might ask how to avoid making an ass of one's self by unintentional misuse of abbreviations. Well, the always-safe procedure is to talk English, just plain English. If there's real need to reduce verbosity, learn the proper abbreviations.....and then use them as they were intended to be used! You can find "Q" signals and other international abbreviations in the ARRL Handbook and in the Callbook; each of these two sources also lists a number of informal abbreviations widely used among radio amateurs. Most of the latter are ones that fall naturally to hand for a telegrapher..... like hv for have, bn for been, wx for weather, etc. They're so natural, if you're copying radiotelegraphy and hear one for the first time, you can readily guess its meaning.

Remember, garrulousness, bombastic verbosity, and pompous misuse of words are the mark of a ham (and I'm using that word in its dictionary meaning and popular connotation). Unfortunately, among the ranks of amateurs of radio there are some hams just as among actors there are some hams. In each of these instances, the ones who don't merit such a scurrilous and denigrating sobriquet deeply (and justifiably) resent being lumped with those whose conduct merits the appellation!

So.....the next time someone calls you a ham, before you kick him in the belly or deliver a karate chop to his neck, pause to consider that he may have heard a radio amateur acting the ham.....and (horror of horrors), could it have been you?

FOR SALE - Swan FM - 2X with AC power supply - 11 sets xtals \$175
SBE - 144 - - 9 sets xtals - \$160 -- TR 22 - 6 sets xtals, extra antenna and mobile mounting bracket \$150 - - GLB Synthesizer 10.7 IF \$125 - - Dycom E Amplifier 1-3 In 25 Out -- New \$25 -- HT 200 34-94 xtals, battery and antenna \$90 - - Wayne WA5AOB 732 - 1870

FOR SALE: HAMMERLUND FM-50, 2-M FM XCVR. INTERNATIONAL CRYSTALS FOR 34/94, 94/94, 52/52, 16/76, 22/82, 07/67, \$150.00. ALSO, FOR SALE, MFJ SPEECH PROCESSOR, MODEL LFP-520-BX. MAKE OFFER. ELMER FIELDS, W5BKN, 943-4979.

FOR SALE: Concord, 7 inch, reel-to-reel, portable recorder and play-back. Monaural. Model 220 w/mike. \$60. Ivan, W5HFU. Phone 942-4160 for this bargain.

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MINUTES FOR MEETING OF BOARD OF DIRECTORS OF C-O-R-A 28 Jan 77

Meeting called to order by Pres. Gene, WB5SQC, at 2000hrs local at Hdqtrs, Bldg. of Red Cross in OKC. Fifteen present -names on attached list.

Minutes of last previous meeting were not available, however, it was announced that the previous meeting time was used to get Okla Ham-Holiday working committees membership organized.

It was again announced that Hobe, WB5MLN, has materials about ready for presentation of programs in Public Relations for Amateur Radio. Still needed are 16mm sound movie projector and one for 35mm slides. A motion was passed to purchase one for slides, with a maximum cost of approximately \$100. This projector to be available for use of all participating clubs. After some discussion, it was decided that, at least for the present, a 16mm projector would be rented when needed. It was thought that it might be possible to borrow one.

Pres. Gene reminded all Okla H-H committees that the president's files contain materials, letters, flyers, etc, from past Ham-Holidays. He urged the new committees to make full use of this valuable store of information gained from our past experience in sponsoring H-Hs. Ellard, W5KE, stated he is ready to start getting out letters to possible suppliers of prizes.

It was announced that HO, WA5MLT, George, W5NTL, and Carl, W5JJ, would be working with the Publicity Committee.

Some work was done on make-up of H-H committees membership and organization, and on setting up of a regular schedule of committee meetings. Pres. Gene will send a letter to each club member who represents his club on the H-H committee for which his club is responsible. Gene will request that member to call a meeting of that H-H committee and see that a committee chairman is elected and in turn report back to Gene the name of the chairman and of all comm. members.

It was discussed that in the past the committees were prone to wait to become active until so late that they find themselves in a frenzy the last month or so before H-H. He strongly suggested each committee start now and get its work done early.

Fred, K5HFN, was authorized to check cost, etc, for renting a large tent for a fleamarket. This would be set-up on the grassy area to south of the motel, so that pick-ups, campers, vans, trailers, etc, could back up to it, around its perimeter, so these vehicles could be used for displays. This tent would be used to handle the over-flow from inside displays. It is expected all dealers will use inside areas, as in the past, and that any left-over inside space could be assigned for fleamarket use on a first come basis.

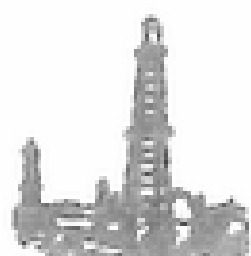
On Feb. 15 the Autopatch Club has scheduled a meeting at TV channel 9 bldg (7300 north Kelly) to discuss plans and training for use of amateur radio for weather reporting in the coming storm season. All interested amateurs are invited.

Pres. Gene said our Collector and Emitter publication has been entered in a national contest for similar publications.

Bob, W5HXL, suggested all clubs hold a joint fleamarket sometime this spring. The idea being to have fun and "move some junk".

After discussing field day activity of the past years, it was decided CORA would co-ordinate this year only if directly requested to do so by the participating clubs.

Meeting adjourned at approx. 2200hrs for coffee and do-nuts.



MID-OKLAHOMA REPEATER INC.

MINUTES OF THE FEBRUARY
1977 MEETING.

The meeting was called to order by Pres. Chet, W5GDL at 8:00 PM, Feb 8, 1977 with 49 members & 8 guests. After personal introductions several announcements were made concerning a possible Mini-Swap meet to be coming, & the VHF conference in Stillwater although no dates were available. Also Abe, WB5AUF informed us of the Lawton Hamfest March 19 & 20 at Montego Bay. Ken, K5VVZ reported that the new autopatch is operational on the 07/67 machine. He also gave us instructions on the proper usage of the patch. * on, # off. The important thing to remember is to IDENTIFY BEFORE TURNING ON PATCH. Sid, W5KOZ reported that no transmitter has been found yet to purchase for the 34/94 repeater. Pres. Chet, W5GDL, presented his two choices for appointment to the executive committee: Frank, W5PDH & Mac, K2GKK/5 and they were approved by the majority.

After all business was handled we were presented a very informative program on the Icom IC-22S by Mac K2GKK/5, it was a very good presentation enjoyed by all.

The meeting was adjourned at 9:30.

----- Rich WB6FYL/5.

DOPPLER RADAR FOR TORNADO WARNING

From The Sunday Oklahoman, December 12, 1976 by Wayne Singleterry

"Residents of central Oklahoma may begin receiving warning of impending tornados more than half an hour before the twisters touch ground as a result of research conducted by the staff of Norman's National Severe Storms Laboratory (NSSL).

Researchers have determined a characteristic radar 'signature' that reveals the presence of vortices (rotating motions of the atmosphere within a thunderstorm), which indicate a forming tornado.

Using a new Doppler radar, both the narrow vortex of a tornado, and the large circular motion of a mesocyclone, which can breed tornados, can be detected, said Donald Burgess, a laboratory scientist.

The more commonly used radars can only reveal precipitation particles thrown about by wind, which may or may not produce any indication on the radar screen.

Doppler radar reveals the velocity of winds parallel to its line of sight by a change in frequency of echos from wind-borne targets, such as rain or hail. By pointing the radar at one side of a vortex, researchers can determine the direction and speed of the mesocyclone.

Early detection of a mesocyclone is the most important factor in discovering tornados, Burgess said.

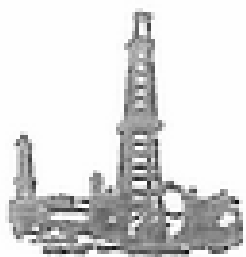
Out of 350 thunderstorms scanned by the Norman radar, during a five-year period from the spring 1971 to the spring 1975, 37 mesocyclones were identified. At least 23 of these were associated with reported tornados and 12 others brought damaging winds and hail.

'Fully 95 per cent of all these mesocyclones produced some type of surface damage,' Burgess said.

And no tornados occurred without the preceeding mesocyclone signature. The average time between the first indications of a mesocyclone and the occurrence of a tornado was 36 minutes."

The two Doppler radars that exist at present use a black and white video display. Only three shades of gray are available. Experiment will begin on a Doppler radar having a color display. Sixteen shades of varying colors can be used. Each wind velocity will be revealed by a different color.

+++++++ Bill, WA5RAQ -----



MID-OKLAHOMA REPEATOR INC.

PERSONAL SKETCHES

WAYNE HOGAN, WA5AOB

Wayne got his novice license about 1961, then his general class a year later. His chief interest in Amateur Radio is in the design and construction of equipment. The area of endeavor encompasses about every kind of equipment and includes VHF receivers and a good share of the design and construction of the 34/94 and 07/67 repeaters. He designed and built control boards for these repeaters. Wayne was trustee of 34/94 for several years and did a lot of the repairs and adjustments to keep it going. He was one of the original fifteen amateurs who met to form MORI in March, 1969. The 34/94 machine was then developed. After a few home sites and some experimentation the machine was installed at S. E. 89th and Sunnyslane in the Fall of '69. Now on top of the downtown Liberty Bank building, 34/94 still has some of the original equipment that Wayne designed and built.

His operating is most concentrated in the area of public service. Wayne was SCM, operated traffic nets and in Navy Mars. He was very active in the Oklahoma Central VHF Amateur Radio Club in recent years. He does not operate HF as much as he once did due to a lack of time.

Other activities that Wayne enjoys are fishing, water skiing and keeping up with the Sooners. He goes to the home games and some of the out-of-town games. Wayne believes in keeping in good physical condition. He exercises at the YMCA every day.

Wayne's wife, Norma does fine art painting and ceramics. She works with commercial art, also. She is planning to exhibit some of her art work in the South Oklahoma City Art Association Fine Art Show at the Crossroads Mall March 4, 5 and 6. Norma finds some time in her busy schedule to work with the Senior Citizens and to take college courses just for her own enlightenment.

Norma and Wayne do occasional traveling and enjoy taking movies and color slides of the scenery.

Judging by the three SKETCHES I have done so far, hams are a busy bunch.

+++++++ From a tape-recorded interview by Bill, WA5RAQ

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HOW
HOW

REPEATERS
REPEATERS

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A crew of explainer headed up by Joe, WA5TRS will explain how a repeater works. They will start with R. F., Controls and Autopatch. This looks like something a whole bunch of us can use. This will be at the next regular MORI meeting, March 8, at the EOC.

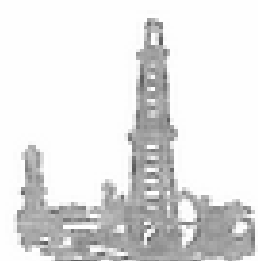
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SPACE PROBES DUE (from The Oklahoma City Times, Nov. 30, 1976)

"The National Aeronautics and Space Administration will set scientists to work in about 2 years listening for possible messages from other worlds, an engineer says....Bob Edelson, of the Jet Propulsion Laboratory in Pasadena, Calif.,told the National Telecommunications Conference...that he is one of several engineers and deep space scientists who will begin listening for extraterrestrial communications in the Fall of 1978.....

'It is likely that communication between different species exists today,' he said, adding that 'lifesights,' or stars suspected of harboring the elements necessary to sustain life, existed for five billion years before our sun was born.....

Asked why he believes the search is worthwhile, Edelson said, 'Because it's inconceivable to me that of the 7 trillion or more stars in the galaxy, that we're the only ones here.' " - - Bill, WA5RAQ - -

FOR SALE: Heath HW-202. 52/52, 34/94, 07/67, 81/21, 22/82, 37/97
2 mobile mounts. WB5EBX, Frank Carter, Phone evenings: 1-627-3394
Newalla, \$150.00.



MID-OKLAHOMA REPEATOR INC.

CORA COLLECTOR & EMITTER
HISTORY: MARCH, 1977

Next month will be the third anniversary of the conception of the Collector & Emitter. We readers and club members owe multiple and individual thanks to all of the editors and production staffs for the fine publication that they present to us each month. The following historical data from the MORI newsletter of April, 1974 is quoted as background information for our newer members.

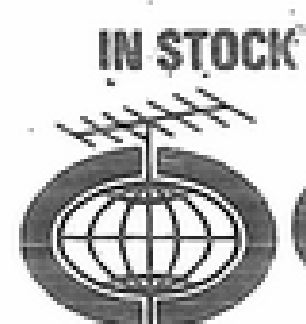
"COMMENTS FROM K5HFN--The VHF Club Board of Directors has received a suggestion from Carl, W5JJ that a single coordinated Amateur Newsletter be published in the Oklahoma City Area. This proposed newsletter would include input from all clubs, club officers, and members and would be a replacement for the present individual club publications. The plan would require closer coordination between the various clubs, editors, and secretaries. Needless to say, the plan would require the consideration and approval of all local clubs to be implemented. The plan, should it prove acceptable, would have both advantages and disadvantages. Some newsletters would have improved and wider dissemination. Total postage costs and total copies printed would be reduced. Present information indicates that the three local clubs have a combined membership of 297. Many of these are dual or triple club members, with some individuals active in four clubs. A reduced total of printed and mailed data would result in a savings to each club and would be a convenience to club members. Such a joint publication would not be considered as an effort to "join" all clubs into a single club since each has separate functions, formations, interests, and objectives. Present publications input could, if desired, be retained as separate sections of the combined newsletter. Some disadvantages and problems are the loss of the existing formats, loss of club paper identity, gathering and production of the various inputs, revised production and printing processes and selection of a responsible party from each club to a publications group and the selection of compatible publications date and deadline for input. There are multiple facets to be explored. Think about it and bring or send your ideas to the next club meeting, 30".

"There are a few things that could be added to Fred's comments and the original suggestion. First several of the clubs take advantage of techniques they have built up over a period of time to ease the economic strain of publishing. i. e. publishing on ditto instead of offset, etc. To publish a master paper would entail more expense to them. The principal advantage would be in the savings of postage that could occur. Thus I would propose the following. The club's go together under the banner of CORA and purchase second class mailing privileges which then each club could avail themselves as they see fit. If CORA is to be an ongoing function, then the 2nd class rate would be almost mandatory. It would be easier to establish the tax exempt status of this fledgling organization than to try to qualify any of the previous clubs. Not that the clubs are profit minded, but IRS requirements are such that a complete accounting since inception must be shown. (virtually). Second class mailing is a considerable saving, but a bulk rate permit has a certain fixed fee (about \$30 or so) plus an initial fee which must be paid which would make it difficult and unprofitable for all except the largest clubs. But by joining in the initial costs and letting each club pay for the mailing of each separate newsletter (minimums are required for bulk rate and in addition sorting by zip code is necessary) would not provide the savings of a single newspaper, but would be a reasonable compromise that would preserve the editorial integrity of each newspaper. In addition, this newsletter has already explored the possibility of the sale of advertising to offset part of the costs of printing and mailing. It is quite reasonable and rates are available on request. Before the discussion continues further, I would suggest that those interested sit down and calculate the number of multiple memberships that are present. Discussion will follow. Mike Salem, WA5EPK."

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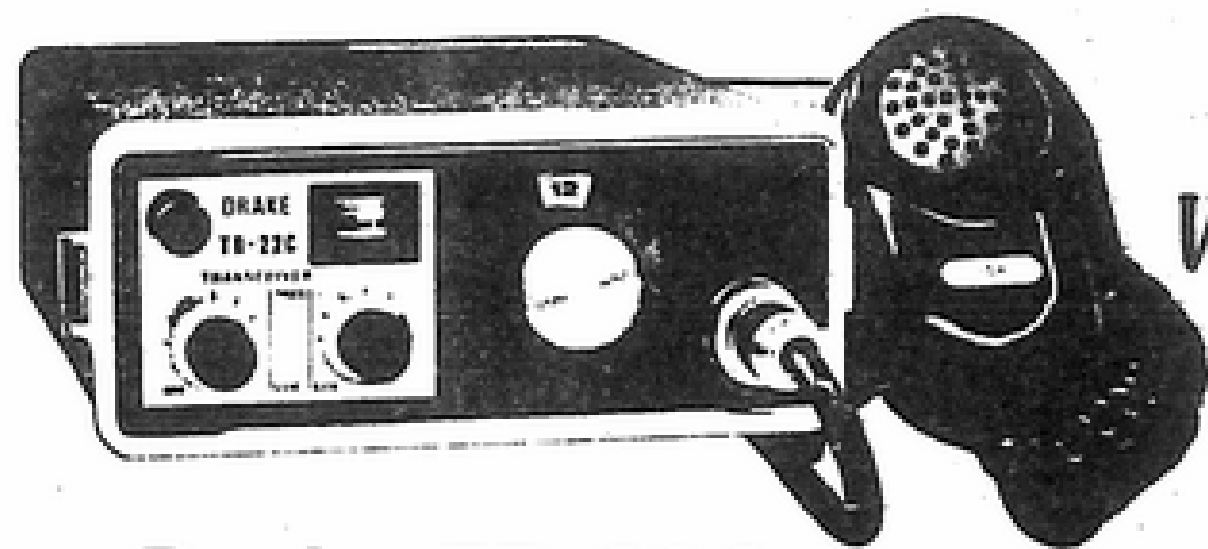


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OKLAHOMA CITY



Club NEWS

V5LOV
The Elmer Goodie Memorial
Station

MINUTES OF CLUB MEETING

MEETING WAS CALLED TO ORDER 8:00 PM BY PRESIDENT WOODIE, W5FMX, WITH 30 MEMBERS AND GUESTS PRESENT. CHARLIE GREENE WAS ELECTED TO FILL ONE OF THE TWO POSITIONS ON THE BOARD OF DIRECTORS HELD BY JIM, K5VRL. JIM WAS RE-ELECTED BY MISTAKE LAST MEETING.

PROGRAM FOLLOWED. CHARLIE, WA5JGU, DISCUSSED VARIOUS ASPECTS OF SETTING UP A STATION, HARDWARE AND LEGAL.

JACK MUSE, DISASTER DIRECTOR, AMERICAN RED CROSS, AN AMATEUR HIMSELF, WB5ZKZ, AND A REAL FRIEND OF AMATEUR RADIO, SPOKE ON SAFETY. HE PARTICULARLY DISCUSSED HAZARDOUS MATERIALS AND FIRE HAZARDS. FIRE IS THE SECOND LARGEST TAKER OF LIVES AND FIRST LARGEST ACCIDENT EXPENSE ITEM PEOPLE INCUR. HE GAVE AN EFFECTIVE TEST WHICH ILLUSTRATED MANY HOME FIRE HAZARDS AND PRECAUTIONS WHICH SHOULD BE TAKEN.

MEETING WAS ADJOURNED AT 9:55 AND THE GROUP RECONVENED AROUND THE COFFEE POT.
JOE, WA5TRS, SECRETARY

NOTICE-INFLATION

DUES TO ARRL, OR SUBSCRIPTION TO QST, WHICHEVER YOU PREFER, ARE GOING UP APRIL 1ST. RENEWAL FOR UP TO FIVE YEARS IS ALLOWED AT THE OLD PRICE FOR A SAVINGS IF ONE HURRIES. LIFE MEMBERSHIPS ARE ALSO GOING UP.

NEWS FROM THE CANDY COMPANY

CARL, W5JJ, SUPPLIED INFORMATION THAT THE FCC HAS APPROVED A NOTICE OF PROPOSED RULE MAKING BANNING THE SALE OR MANUFACTURE OF AMPLIFIERS COVERING 24-35 MHZ. COMMENT DATE IS APRIL 25, REPLIES DUE JUNE 6.

A NOTICE OF PROPOSED RULE MAKING IS SUPPOSED TO BE OUT REGARDING TYPE ACCEPTANCE OF AMATEUR EQUIPMENT. SOON THERE MAY BE A NOTICE OF PROPOSED RULEMAKING TO ESTABLISH SPURIOUS AND HARMONIC OUTPUT LIMITS FOR AMATEUR AMPLIFIERS. WATCH THE AMATEUR PUBLICATIONS FOR DETAILS.

A CORRECTION TO DOCKET 20282 WHICH, AMONG OTHER THINGS, INCREASED MAXIMUM POWER FOR NOVICES, WAS ADOPTED FEB. 4. THIS CORRECTION DEFINES PERMISSIBLE MAXIMUM POWER AS ALL POWER TO THE FINAL AMPLIFYING STAGE, EXCLUSIVE OF HEATER POWER. THIS DEFINITION IS DIFFERENT THAN THAT FOR HIGHER CLASS LICENSES.
JOE, WA5TRS

AMSAT-OSCAR-D

CARL, W5JJ, ALSO SUPPLIED COPY OF AN AGREEMENT BETWEEN ARRL AND AMSAT WHEREIN THE LEAGUE IS SUPPORTING THE OSCAR-D PROJECT WITH \$50,000, SOME MANPOWER AND ADMINISTRATIVE SUPPORT. ONCE LAUNCHED, OSCAR-D WILL BE IN PUBLIC DOMAIN AND THE LEAGUE WILL MANAGE OPERATION.
JOE, WA5TRS

OKC SEVERE WEATHER SYMPOSIUM

THE ANNUAL OKLAHOMA CITY SEVERE WEATHER SYMPOSIUM SPONSORED BY THE DEPARTMENT OF SAFETY AND EMERGENCY SERVICES, IS SCHEDULED TO START 9:00 AM AT SHERATON INN ON WILL ROGERS AIRPORT, MARCH 3.

INTERESTED CLUB EMERGENCY COORDINATORS SHOULD TRY TO ATTEND FOR THEIR OWN INFORMATION AND TO ANSWER QUESTIONS REGARDING AMATEUR RADIO, SHOULD THEY ARISE. SPEAKERS WILL INCLUDE CLYDE MITCHELL, DIRECTOR, SAFETY AND EMERGENCY SERVICES, CHARLES TURNBULL, COMMUNICATIONS SUPERVISOR, EOC. KEN WILK, NATIONAL SEVERE STORMS LABORATORY, AND



Club NEWS

WSLOV
The Elmer Goodier Memorial
Station

GARY ENGLAND, KWTW. THERE WILL BE INCLUDED A TOUR OF THE NATIONAL
WEATHER SERVICE FACILITY. JOE, WASTRS

Hodge Podge Construction Techniques

Many interesting circuits and projects appear in this (and other) publications that are simple, useful and educational but a major obstacle exists which prevents most people from getting past the "wish" stage. When the circuit is transferred from paper to hardware, the construction methods used may require fairly elaborate tools, patience and planning. Drills, chassis punches, nibblers, nuts, bolts, standoffs, terminal strips, etc. All have to be accumulated before construction can even be started. If a printed circuit board is to be used, one must be obtained (not too much of a hassle sometimes) or constructed (always a hassle).

What I suggest, particularly if only one circuit is to be constructed, is that perforated epoxy glass laminated board (perf board) be used with point to point wiring. I'll candidly try to pass along some suggestions to make it simple. Once the circuit itself is constructed, one can decide whether it is worthwhile to continue the job to completion, packaging it and providing terminals for interface to the outside world. Often, after my curiosity is satisfied, I find I don't really want to use the circuit, so little time is wasted on the more mundane construction effort.

Perf board is available from local parts houses. If it is bought in precut, small sizes, it is much more expensive than a large sheet of the stock so if much construction is contemplated, buy bulk sheet. Get the board with holes spaced on 1/10 inch square grid. The other patterns are worthless if dual inline package IC's are to be installed.

Fiberglass can be cut by tearing along the dotted line if you are Superman (or Wonder Woman) hi! Otherwise, a hacksaw with fine blade will do the job. I use my paper cutter though I am sure it is hard on the edge. I just grit my teeth and crunch! It is all over. If you have access to a sheet metal shear, cut the board up into useful miscellaneous sizes all at once and you are in business. If you later need a larger board, break the circuit into functional blocks and wire separate boards. The largest board I ever use is about 4 x 5 inches and one circuit has twenty devices on it not including transistors, resistors and capacitors.

Flea clips are worthless. If you don't know what they are you aren't missing much.

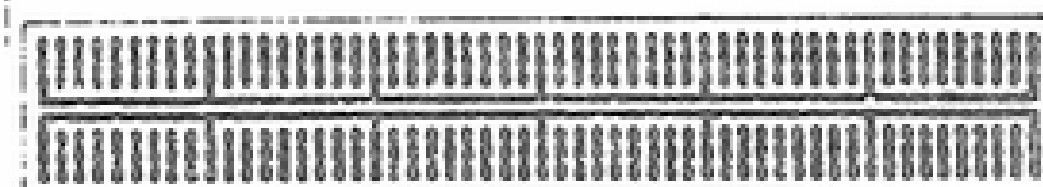
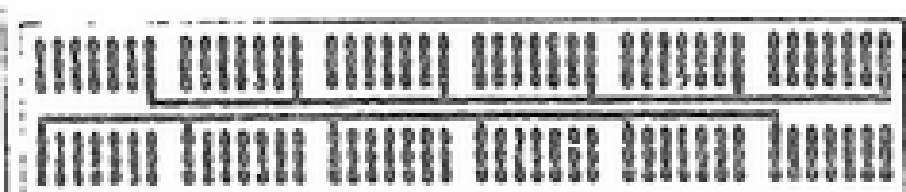
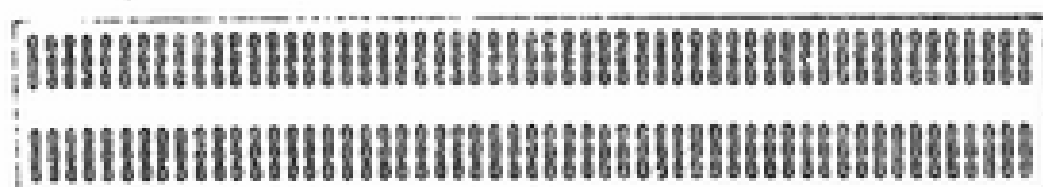
Sockets are a good idea. Although they are usually as expensive as the devices which plug into them. They provide solid attachment points for the wires and the devices can be pulled out of the circuit for troubleshooting or for use on another project. Molex Soldercons (pins) are little individual pin sockets that come in a strip. Desired number are cut off and soldered in place. After they are rigid, a tie strip is broken off by wiggling back and forth. They are difficult to use unless they are installed on regular printed circuit boards. If circuit-stik is being used, Molex pins tend to fall out when heat is applied for adding other components. When the IC is plugged in, the pins stay put pretty well but removing and replacing an IC is fairly tedious.

Circuit stik is adhesive backed foil which is put on the back side of the board to provide attachment points and conductor paths for components. Many configurations are available, the only really useful one is continuous strip of parallel circuit traces, each having three or four holes for component leads. See illustration. Lengths containing desired number of holes can be stuck to the board, in pairs, to act as solder points for dual inline IC's. The rest of the circuit stik line, particularly the foil tape is pretty unsatisfactory. To work properly, a pretty good size piece of the adhesive backed material has to be used. A single conductor won't stay in place.



Club NEWS

W5LOV
The Elmer Gooder Memorial
Section



CIRCUIT STRIP FOIL PATTERNS

Point to point wiring can be done by several methods. My favorite, because it is fastest and most successful, is wiring with No. 22 solid tinned buss wire. After tacking one end to a component lead or socket pin, I cut the wire to length and slip a piece of No. 20 Teflon sleeving over it. The wire can then be bent and routed neatly (?) and the other end soldered down. If a daisy chain is being wired, like for example, power distribution, I start with a wire that is plenty long and don't cut it until I am finished wiring. Sleeving is cut to length to insulate the wire between connections.

The advantage of this method is that there is no hassle with stripping insulation. Teflon stands soldering temperatures well and tinned buss wire takes solder well. Only disadvantage is that the wire I use is a little bit heavy and the sleeving a little bit large so the wiring does tend to get bulky. Teflon sleeving is expensive. In 100 foot roll, sleeving for No. 20 wire costs over \$20.00. (If anyone is interested, I would chip in for part of a roll of No. 22 sleeving).

When other components are being installed the leads are formed, pushed through the holes and bent in the direction they are supposed to go. Teflon sleeving is slipped over leads where short circuits might cause trouble. Soldering directly to IC pins is OK as long as a hot soldering iron is used. Too long an application of heat is more hazardous than overheating momentarily. All soldering should be done with an iron of sufficient capacity. I use a twenty-five or forty watt iron with small tip. It is necessary to get some surfaces quite hot before the flux in the solder will clean them. If a joint has been reheated two or three times to correct mistakes, remove the solder and apply fresh instead of reheating and reusing the old solder again. Solder goes bad if kept hot too long.

Before stabbing parts on a board, some time can be saved and trouble avoided if a rough sketch of the component layout is made and connections drawn in contrasting colors for clarity. It becomes obvious at this point when a device would wire easier if oriented differently. I usually draw the parts as seen from above and have to work from the sketch as if it is a mirror image. I make a lot of mistakes that way but I can't find my way around the maze of pins when looking at the solder side. I prefer to do my pin counting from the component side. I recommend that the constructor do it whatever way seems easiest.

I usually find all the mistakes before finishing the wiring because of the simple process of elimination. If there is a wire already on a pin I am getting ready to attach to, I go back and see from whence it came, whither it supposedly go, and put it there. When I can't think of anything else to solder in, I check all the pins with nothing on them, find what goes on them and solder thereon. At this point, I am finished with perhaps 90% certainty it is wired correctly.

I have, of course, used regular hook-up wire with vinyl insulation. It gets pretty scabby sometimes and doesn't like heat near sharp bends. The results sometimes tend to resemble a hobo's coat sleeve with frayed cuff and exposed elbow. Wire intended for wire-wrapping has tough insulation. Those little yellow-handled wire strippers, if properly adjusted do a fairly good job on this wire. One virtue of the stuff is that it is small and a neat wiring job is possible.

Wire wrapping, by the way, is probably a good way to build. It is used extensively in industry and the joints are as good as solder joints. I have not tried it because it requires special sockets with wire wrap terminals and special tools. An inexpensive hand wire wrap tool is readily available for about \$6.00 and it contains a stripper as well as unwrapper.

A battery powered wire wrap tool is now available for \$35.00. This is much cheaper than those previously available and is well within the budget of a large scale constructor. For the occasional small project, the manual tool should be entirely satisfactory. See advertisements by James Electronics, and others for more information.

Wire wrap sockets are only slightly more expensive than PC mount sockets and, when mounted on perf board, become almost equivalent to high dollar Augat prototype boards used in industry. Of course, when a project is completed by wire wrapping, it can be used as is forever without problem - no need to go on to the "Production" phase on a home project. (I just reread this and talked myself into making an order from James.)

The Vector wiring pencil is an interesting looking tool. I have tried it without much success because my irons were not hot enough. It contains a bobbin of 30 or 36 gage wire with special heat stripable insulation. The wire is fed down through the tool and out a fine tube in the tip. It is wrapped around a component lead or socket pin and the insulation is supposed to melt away when the joint is soldered. I had problems because of insufficient heat and shortage of hands. It seems that I had to hold the pencil with one hand, soldering iron with the other and solder with my teeth. The smoke from the flux made my eyes smart.

RF circuits present some special problems. Inductance of leads, particularly ground return paths, has to be kept low. I sometimes use two sided epoxy glass board, leaving one side alone and stripping or machining parts of the other side away. Once upon a time I made some end mills which would make a circular cut leaving an insulated island of foil for attaching leads. This method was a bit tedious and the mills weren't made from very good steel, becoming dull easily. I have had some success scoring foil with a knife and, using fine slim nose pliers, peeling unwanted foil away leaving attachment pads and conductive tracks attached to the board. Ground connections are made by drilling through the board and soldering to the foil on the backside.

Stud mounted RF transistors with leads that look like fan blades require special care in mounting. There aren't any short cuts. You carefully drill a hole in the board for the body of the transistor, leaving a bit of a clearance for foil to be folded from top to bottom side, a hole for the stud is drilled in a heat sink at the proper location. The board is prepared by running pieces of foil or shim stock from the two emitter islands through the transistor mounting hole, to the ground side of the board. The board is bolted to the heat sink, using suitable spacers; transistor is bolted to heat sink, and leads are soldered to board in that order. This order is followed and careful shimming is done to prevent upward pressure on the top of the transistor.

The only neat high power solid state circuits I have built were done by etching. Since narrow conductor paths are not used unless strip line design is being used, masking can be done by hand, drawing the mask on the board with magic marker.

Recently I got a drill stand for my hand grinder and found I could shave paths through the foil of a PC Board by putting a mill in the tool, setting the table at the right height and shoving the board under the cutter; crude but fast.

Dave, K5WMY, uses a system for RF work that is very good and is well above the "Hodge-Podge" class. MINI MOUNTS, manufactured by Christiansen Radio, Inc., are pieces of circuit board material with adhesive on one side and various foil patterns for IC's, transistors, etc. on the other. The patterns are arranged in the

configuration desired on an uninterrupted foil surface of PC stock and component leads are soldered to foil pattern on top. Grounding is made by soldering to the ground plane. When a circuit is complete, it has good mechanical and electrical integrity and can be used as-is. This is a fast method for growing circuits and not too expensive if only the necessary parts are bought. A brochure is available from the company at 1950 San Remo, Laguna Beach, CA 92651. Starter kits start around \$6.50 and a professional kit runs \$75.00. One high priced item which can be substituted is the ground plane. Surplus circuit board material from Smitty's works fine.

Etching of printed circuit boards is enormously above the "hodge-podge" class. It is not difficult to prepare artwork and etch a board but it does take some preparation. No exotic equipment is needed if the negative preparation is farmed out. Cost is negligible for this service. Perhaps if I am sufficiently motivated, or can get someone else in a moment of weakness to consent, we can get a article on practical advice for circuit board fabrication.

The most elegant "Hodge Podge" construction technique is "space wired" circuitry. Select the largest components, lay them on the table and solder all the smaller components to them. Short leads are stiff leads. After everything is soldered together, mechanical integrity is good. If the circuit works, attach terminals for the outside world to hook to, drop it in a suitable container and pour potting compound over it. Any hobby shop can provide a special clear grade of polyester resin called casting resin.

If the blob is a small one, say 1/4 inch thick, or so, double the amount of catalyst recommended. otherwise follow directions on the can. Lay the thing in the sunlight to take advantage of curing properties of ultra violet radiation, or put it next to a black light for twenty-four hours. (Don't bother setting it in a window ordinary glass filters U.V.). After the plastic is solid, remove it from the mold and scrub it vigorously with hot water and dish washing detergent. That will remove the tacky feel from the surface. Don't squeeze it too hard before it has cured completely or a permanent finger print will be embossed in your artwork.

Well, that is all I know about home brew, or at least all I can think of at the moment. If there are any other hints and kinks that come to your minds, let me know and we might be able to squeeze it into the C & E. Joe, WA5TRS

IC-22S Accessory Socket

ICOM has an optional 24 pin accessory socket for the '22S and it can be seen in the Owner's Manual illustration. It consists of Molex Nylon connector and a mounting bracket. The nine pin socket provided with the rig is adequate for most purposes but if one contemplates bringing the frequency programming lines out through that socket, there are insufficient pins for anything else. My rig already has 20 lines coming through the socket on the back!

I was unable to get the mounting bracket and was too impulsive to make one so I took the one provided with the round 9 pin connector and nibbled it out so the Molex connector would fit. It was not designed for that purpose, a close examination of the illustration in the book will show why, but it will work. Care must be taken not to nibble too much material from either edge used by the retainer or it won't catch.

The connector parts are available from Allied. The socket is Waldom type RI (03-06-1212), \$3.45 for package of 5 and the plug is P (03-06-2241), \$3.30 for package of 5. Both of these have mounting ears which can be cut off if not needed. Terminals come in packages of 100. The female is Waldom type No. 02-06-1103 and the male is 02-06-2103. They cost \$4.65 per package. Normally, female terminals are used in the receptacle and male in the plug but they can be reversed. One word of advice: Don't insert a terminal until sure it's where it belongs. They are pretty tough to remove without special tools. Joe, WA5TRS

For Sale: Collins KWM-2 with A/C Power Supply and BC-348 Receiver. Richard Bochynski 321-1239.

-- OKLAHOMA REPEATER CONFERENCE AND SWAPFEST --

When: Saturday, March 26, 1977

Where: OSU Student Union, Stillwater, Oklahoma

The OSU Amateur Radio Club invites the concerned Hams of our state to a meeting for the purpose of discussing the rapid growth of

repeaters in our area. We will spend a good deal of time reorganizing our frequency coordination processes and set up definite written guidelines for securing a frequency pair. Plus, we'll expect to hear reports from every repeater system represented about new equipment, frequencies, direction finding gear, and nets (especially weather).

A swapfest will start off our meeting. So, bring your gear, drink some coffee, and enjoy the fellowship of your Ham friends in person. Our New ARRL West Gulf Division Director, Jack Gant, W5GM, of Ardmore has indicated he will be there so don't pass up this opportunity to meet him and get his thoughts on repeaters.

- Schedule of Events -

10:00 - Registration and Swapfest begin. Registration fee \$1.50 to cover expense of refreshments and rooms.

1:00 - Business Meeting

5:00 - Business meeting ends. Those who have the time and desire will congregate at a local eating establishment for dinner. (more info at the meeting)

SEE YOU THERE !!!

Dear Joe:

I just got the last issue of Collector & Emitter yesterday. I wanted to add some information on the repeaters down here in Southwestern Oklahoma. There are two repeaters:

WR5AGI 146.190-.790 MHz - OPEN - Trustee: Dwight Dennis
Low-level- range 25-30 miles.
Used for emergency operations.

WR5ANX 146.190-.790 MHz - OPEN - Trustee: Loren Simms
High-level. Range 75 miles +.
Sponsor: Southwestern Repeater Association.

Brand new GE (with all the extras) especially built for .19-.79 operation. Due in service March 77. 73's

Loren

Amplifier Curbs Mulled

The Federal Communications Commission is proposing to crack down on illegal use by citizens-band radio operators of high-powered amplifiers which are creating interference with other CBers and with TV receivers.

But in doing so the commission would make it more difficult for legitimate users of the high-powered amplifiers, amateur radio operators, to get the amplifiers.

The commission would change its rules to prohibit the marketing of external radio frequency amplifiers capable of operating from 24 to 35 megahertz. CB frequencies are all in the 27 megahertz range.

The commission approved the action 7 to 0 late Friday but Chairman Richard E. Wiley expressed in a separate statement his concern for the amateur operators who, unlike CBers, must pass strict examinations on communications, FCC rules and international Morse code. They communicate internationally rather than locally as do CBers.

CB operators are licensed merely by filling out a form.

Wiley said "'One of the most 'professional' and self-regulated services within the commission's jurisdiction" is being penalized because the FCC wants to clean up what he called "the rapidly proliferating and sometimes troublesome CB service."

The CB craze of the past two years has meant an increase of between 500,000 to 1 million a month new operators.

Joe, WA5ZNF

K7UGA EYEBALL - - The other night I attended an Air Force Association meeting where the speaker was Barry Goldwater, K7UGA & AFA7UGA. I took a copy of the last Collector & Emitter up to the speakers table and presented it to him in the name of the 500 or so amateurs in the CORA area and thanked him for his help in amateur matters. He recognized the CORA C&E. Said he had seen several copies and enjoyed reading it.

* * * * *

IT PAYS TO DRINK COFFEE - - With the prices on a can of coffee these days that probably sounds kinda nuts. But, one evening after we had put the paper to bed several of us adjourned to the nearby pancake house for coffee, and, during the conversation I mentioned that I always had a problem in timing the operation when I developed the negatives each month, since I got to thinking about other things and pulled the negatives too soon or let them overdevelop. Then there was the matter of leaving the shutter open the right amount of time when shooting the pages. Joe, WA5TRS whipped out a pen and figured how to make just what I needed. A whole napkin full. He is working on that phase and Ray, WB5BTT has offered to donate the keyboard needed to punch in the correct time. Then there is Harding's Gizmo. To look at the box you might think someone was trying to tell me something; it says, OLD SPICE and is red instead of black but it is a real nice black box that I am afraid to look into because it works, and that is what it is all about. The timer, for that is what it is, was the handi-work of Bob, W5HXL and has cut down on spoiled negatives. Thanks, Bob, and now that you have all that spare time I bet I could come up with another little project if pushed.

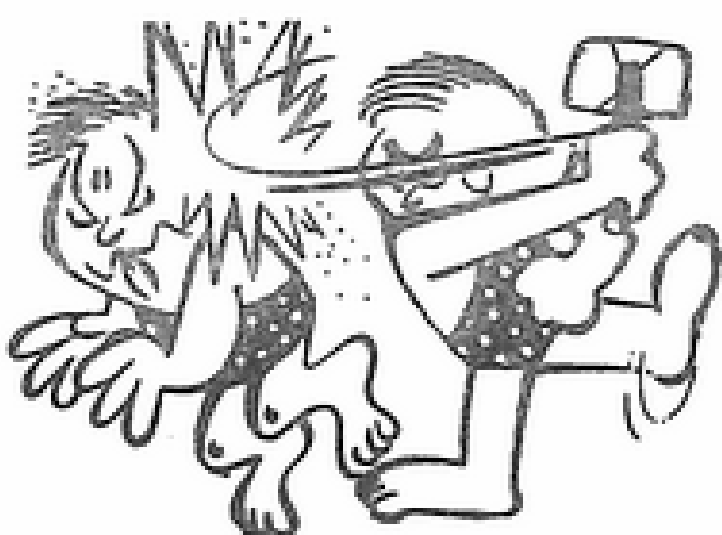
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REPEATER CONFERENCE AND SWAPFEST - - You might consider making your plans for Saturday March 26th and take in the conference and do a little swapping, etc. on the side. Read the whole story on another page and plan to attend and help.

* * * * *

W5UNF, HILARY, FROM DOWN MOORE WAY - - Sent in drawings and specifications for an interesting 146.5 MHz Ground Plan antenna that should be easy to construct and cheap, too. Unfortunately it was done in pencil on blue lined graph paper and I couldn't get it to reproduce without re-doing it in black ink and there just haven't been that many spare minutes this last month. Hope I can give it to one of the editors and get him to pretty it up. We use a photographic process and copy just about anything as long as it is black and white. In other words good strong contrast. Don't let this discourage anyone from sending in articles, kinks, etc. I may be slow but I get there, usually.



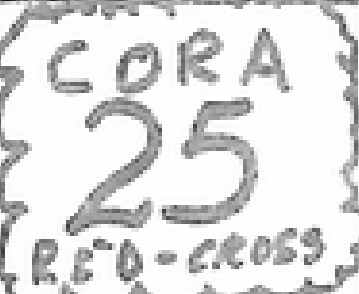
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REMINDER!

A B I G RED "X" HERE WARNS THAT ACCORDING TO RECORDS FURNISHED BY YOUR CLUB SECRETARY YOU ARE DELINQUENT IN CLUB DUES. NEXT MONTHS CORA COLLECTOR/EMITTER MAY BE THE LAST UNLESS YOU CONTACT THE CLUB INDICATED ON PAGE TWO AND RENEW OR CORRECT THE RECORDS.

POSTMASTER: Send Form 3579 to:
CORA C&E Box 15013
Oklahoma City OK 73115

MARCH HAM HAPPENINGS						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	ACARC 4	5
6	 7	MORI 8	9	10	11	12
13	14	 15	16	17	OKLA CENTRAL ARC 18	19
20	EDIT C&E 21	22	23	76ers MAIL C&E 24	 25 RED-CROSS	26
27	28	29	30	31		

See page 2 and/or individual club sections for details

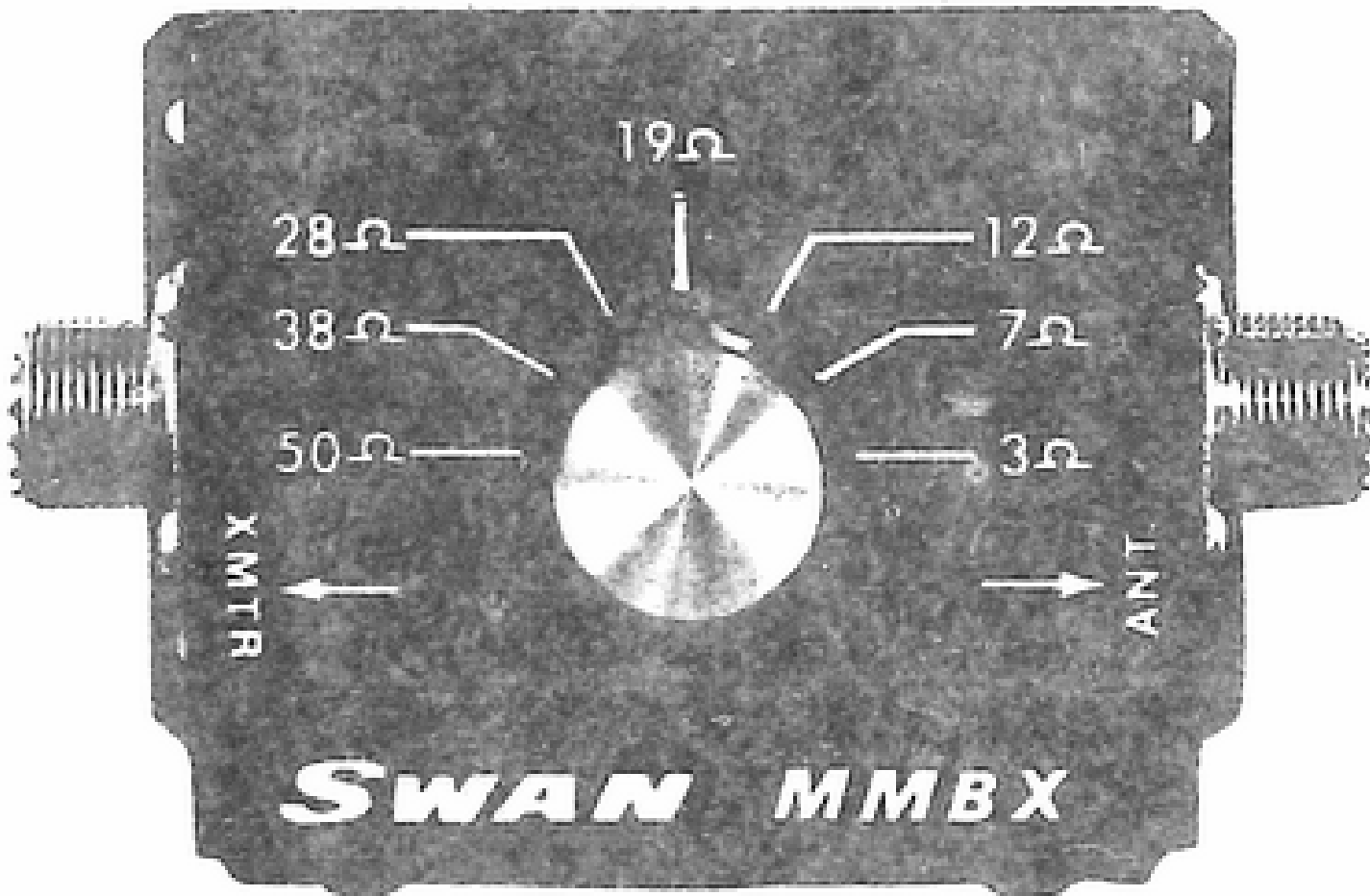
It keeps your transmitter and your antenna on speaking terms for a song.

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