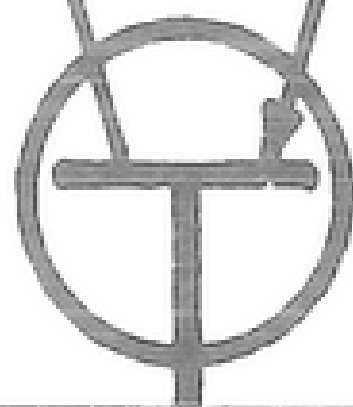


Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER

SINGLE COPY

25¢



AN INFORMATIVE MAGAZINE
PUBLISHED MONTHLY BY AND
FOR OKLAHOMA RADIO
AMATEURS

AND ANYONE INTERESTED IN
LEARNING ABOUT IT

Volume 5

JUNE 1979

Number 53



The Aeronautical Center Amateur Radio Club, after a few months of work, experimenting, changing, adapting and several other operations have a micro computer "on line". The operator above, Bob Graham, WB5NSV deserves much of the credit because he was the driving force in getting the project started and has spent many off duty hours in writing programs, de-bugging, then changing to something better. It can be used with the club station transmitters to send CW, maintain the station log, keep track of club members and a whole bunch more. This months CORA Collector & Emitter, which, by the way had its start as the clubs publication before CORA existed, will be mailed with stick on labels prepared by the computer. A new roster of area amateurs who are affiliated with CORA was prepared by Bob and helpers.

KRYDER ELECTRONICS

YOUR COMPLETE AMATEUR RADIO STORE

OWNER/MGR. IN OKLAHOMA CITY: CHUCK GUSCHKE N5SW



YAESU



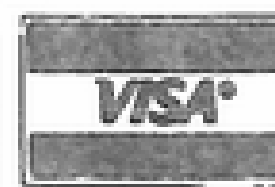
Larsen



STOCKING THESE AND ALL OTHER MAJOR LINES

LOCATED AT:

5826 NORTHWEST 50TH
MACARTHUR SQUARE SHOPPING CENTER
OKLAHOMA CITY, OKLAHOMA 73122
AC 405/789-1951



HOURS:

TUESDAY & FRIDAY 10-9
WEDNESDAY, THURSDAY & SATURDAY 10-5
CLOSED SUNDAY & MONDAY

ALSO LOCATED IN

FT. WAYNE, INDIANA & PHOENIX, ARIZONA

Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER



Published monthly by CORA Inc 1020 Arthur Dr Oklahoma City OK 73110
ADDRESS ALL COMMUNICATIONS TO:

CORA C&E, P. O. Box 15013, Oklahoma City OK 73155

Unless otherwise indicated contents may be reprinted by club type, non-profit publications without prior permission. Credit: CORA Collector & Emitter

SECOND CLASS POSTAGE PAID AT OKLAHOMA CITY OK
[USPS 116-150]

Managing Editor Joe Harding, WA5ZNF 737-1044
Subscription: CORA members \$1.50 a year. All others \$3.00 a year.

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	Mark Northcutt	WD5DYI	842-1086
Vice President	Chuck Wilhite	K5NK	721-4926
Secretary	Jim Buswell	KA5EET	947-1180
Treasurer	Ron Recer	WD5FRQ	751-5378

CLUB EDITORS, REPORTERS, CONTRIBUTORS. Send your items to them!

ACARC Bob Graham	WB5NSV 677-8685	OCARC Joe Buswell	K5JB 732-0676
BIARC Bill Riddles	N5MM	OKCAP Henry Isreal	N5IH 722-3848
ALTUS Mike Schenk	K5VXU	MORI George Lee	WB5NMK 946-2754
OUARC Nathan Kirby	KB5BF 364-7979	CARC Richard Edwards	KA5ALO 390-8297
WARC Virginia Beneda	WB5WTH 825-3302	TECHNICAL WRITER Mike Salem, N5MS	

PARTICIPATING CLUBS FOR CORA COLLECTOR & EMITTER:

AERONAUTICAL CENTER AMATEUR RADIO CLUB
Postal Station 18, Oklahoma City OK 73169
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
Treas	Sam Gover	WA5WHO	

MID-OKLAHOMA REPEATER
MEETS: 8:00 PM First Tuesday of Month.
Oklahoma City EOC, 4600 N Eastern

Pres	Chuck Wilhite	K5NK	721-4926
V-P	Bill Atkins	N5AH	737-6984
Sec/Tr	Jim Jones	K5PER	634-5235
Dues:	Sid Gerber	829 Bouse	MWC 73110

OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB
MEETS: 8:00 PM, 1st & 3rd Thursday
Rm 449, Carson Engineering Center.

Pres	James Gardner	KA5DHF	321-8779
V-P	Dan Orr	WD5GKZ	325-6951
Sec	Peter Richeson	KA5COI	325-3015
Treas	Nathan Kirby	KB5BF	364-7979

ALTUS AREA AMATEUR RADIO ASSOCIATION
MEETS: 2nd Thursday, 7:30 PM
North Main Fire Station [CD]

Pres	Steve Norris	W5KI
V-P		
Sec/Tr	Mike Schenk	W5VXU

WHEATSTRAW AMATEUR RADIO CLUB
MEETS: 2nd Sunday, 2:30 PM. Location varies. See Calendar on back page.

Pres	Marvin Stokes	WA5JHB	893-2221
V-P	Ted Vanlangham	WD5JNT	262-1675
Sec/Tr	Ralph Wilder	WA5PFK	623-5421
Act	Joe Hyatt	WA5GHK	375-3783

SHAWNEE AMATEUR RADIO CLUB
MEETS: 8:00 PM, 2nd & 4th Tuesday.
Shawnee City Hall EOC

Pres	Earl Couch	WB5ZBA
V-P	Jay Tingler	WD5BUQ
Sec/Tr	Bill Warren	WB5TZQ

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

Pres	Ken Ford	WB5KHU	528-8770
V-P	Jim Williams	K5VRL	789-0769
Sec	Joe Buswell	K5JB	732-0676
Treas	Ellard Foster	W5KE	789-6702

OKLAHOMA CITY AUTOPATCH ASSOCIATION
MEETS: 7:30 PM 3rd Tuesday of each month
Oklahoma Military Academy, 36th & Grand

Pres	Frank McCollom	N5FM	751-3577
V-P	Henry Isreal	N5IH	722-3848
Sec/Tr	Hobe Burgan	WB5MLN	751-1646

M E M B E R



BICENTENNIAL AMATEUR RADIO CLUB [76'ers]
MEETS: 7:00 PM, 2nd Tuesday each month
Air National Guard, Will Rogers Airport

Pres	Mark Northcutt	WD5DYI	842-1086
V-P	Joe Ramage	WB5TDW	685-4814
Sec	Joe Couch	WD5BMP	282-4353
Treas	Don Duck	AE5N	

CHOCTAW AMATEUR RADIO CLUB
MEETS: 2nd Thursday, 7:00 PM
Indian Meridian School Cafeteria

Pres	Frank Carter	AB5H	391-3394
V-P	Gary Chambers	WB5WHF	390-8250
Sec/Tr	R.G. Edwards	KA5ALO	390-8297

CENTRAL OKLAHOMA RADIO AMATEURS
MEETS: 7:30 PM. Normally on last Tuesday, but see calendar. Red Cross Bldg.

CORA officers listed above.

EDMOND AMATEUR RADIO SOCIETY
MEETS: 2:00 PM, 3rd Sunday, room 205, Science Bldg., Central State.

Pres	Howard Wise	WD5IDB	341-2510
V-P	Ken Stepp	WD5HXX	
Sec/Tr	Bill Wright	WA5ZLW	

Central Oklahoma Radio Amateurs

A BAKER'S DOZEN

By the time this publication reaches your home, CORA should have grown by another club. We are proud to welcome the Edmond Amateur Radio Club into the CORA effort. The club owns and operates both a 2 meter and a UHF repeater. Many of its members are well known in the area, and we will all look forward to a lasting relationship with the club in CORA. Welcome!

C & E's NEXT ISSUE

Next month's issue of Collector and Emitter will be our Ham Holiday issue. The C & E will be mailed to every ARRL member in the state. At that time, we hope to also include information about all the member clubs in the CORA organization. We want the July edition to be cram-packed with interesting articles and reports from the member clubs.

The primary advantage of making the July issue a "showcase" edition is to let the non-club-member be aware of the activities of Oklahoma amateurs. This may persuade this person to get involved, possibly with your club.

The other advantage is gaining the attention of clubs in the state not affiliated with CORA. We can show these clubs that by combining news from all around the state, we can provide them two big advantages: (1) A lower cost-per-unit for a club newsletter, and (2) the latest news from other clubs in the state.

More about CORA next month.

YL NET A REALITY

Oklahoma YL's now have the opportunity to meet and talk in a regularly scheduled 2 meter net. Open to all Tech and higher licenses, the net has no club affiliation. YL's can catch the net on 16/76 on Thursday nights at 9 p.m. Other info in this issue.

EMERGENCY PREPAREDNESS

CORA Emergency Communications Group Representatives are formulating a master plan for emergency preparedness in the Oklahoma County area. Each club should have a representative to help plan what to do and who to help in the event of a disaster or community emergency. This program is designed separately from the pre-emergency Weather Net on 22/82 and will not replace any existing nets or state emergency master plan.

CORA agreed to take the responsibility to formulate a master plan. This is done to draw top planners, organizers, and training personnel from all the CORA member clubs, making a cooperative venture from the very beginning. If you have ideas, contact your club's Emergency Communications Group Representative. Your suggestions will be appreciated.

Mark, WD5DYI
CORA President

Carried over from page 6

They ask you to call in by sending a little-known (and unofficial) Q signal, QNI, and expect you to check in by sending a shorthand identification.....often a letter or two of your call. Or you can pick some other "sine" (as it's called). The NCS will come back with the "sine" you sent. Then you call in with your call letters and list your traffic.....something like this....."QTC 2 Lawton Ok." Here, again, you may be asked to send your radiogram to a designated station on frequency, or you may be directed to move off to a stated frequency to pass the traffic.

It's a curious fact, but most radiotelegraph NCSs are better operators than the average radiotelephone NCS! I don't know why. All, though, are dedicated Amateurs and are eager to have other Amateurs participate in the traffic net activities.

C.O.R.A.

Central Oklahoma Radio Amateurs, Inc.

HERE YOU SEND A MESSAGE

The FCC says, as one of its justifications for permitting Radio Amateurs the use of portions of the valuable frequency spectrum, "Recognition and enhancement of the value of the Amateur Service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communication." Read that again. Think what it means. Realize that every person holding an Amateur Radio Operator License has a firm obligation to be able to handle emergency communications. You not born with that knowledge, nor can you acquire it instantaneously and without conscious effort. But acquiring that ability is a part of being an Amateur of Radio. Like learning the International Morse Code, it takes thought and practice but is much more easily mastered.

Mark Northcutt, CORA President, asked me to tell how to compose a message and how to handle one. I'll try to tell you in as few words as possible without slighting the subject too much.

Let's see how you, a non-traffic handler, would go about composing a message. A neighbor comes into your shack and asks you to send a radiogram. He writes out the name, address, and telephone number of the person to whom it's going, the text he wants sent, and how he wants it signed. You're going to put it into radiogram form. First you split it, mentally, into three portions. The first of these is called the Preamble. It identifies the message, the station sending it, the place from which it's sent, and the person to whom it's going,plus a little bit more. All of these items are important to the proper transmission of a radiogram. Let's list each, using the sequence in which they will appear in your message.

- A. The Number. You assign one to each message you originate. You can start a new series each day, month, or year..... usually each year. The number uniquely identifies that message.
- B. Priority. This says how important you believe the message to be. Almost all will be Routine.
- C. Handling Instructions. Optional and best left out!
- D. Station of Origin. That's your call letters.
- E. Check. That's the number of words in the text portion of the message. We'll define Text later.
- F. Place of Origin. Generally this is the city and state where your operating.
- G. Time Filed. The hour (using UTC and the 24-hour system) that the message was given to you.
- H. Date. The day and the month (but not the year) the message was filed.
- I. Address. Name, street and number, city, state, ZIP code, and telephone number of the person to whom the message is going.

Now you're ready for the body of the radiogram, the part called the Text. It is set apart, both at the beginning and the end, by the Separative prosign. On radiotelephony the Separative prosign is voiced as Double Dash. On radiotelegraphy it is keyed dah dit dit dit dah (BT). Note carefully it is not the prosign voiced as Break and keyed as BK, which signifies you're making a brief pause in transmission to listen for the other operator.

Central Oklahoma Radio Amateurs

Between the two Separative prosigns lies the intelligence to be transmitted. The person filing the message should write this in "telegraphic" form. That is: No unnecessary words, all punctuation spelled out, all numerals spelled out. This practice cuts down on errors and also helps to avoid hassles with the receiving operator about word counts. You count each word, including those for punctuation and numerals, between the two Separative prosigns. In case your word count is questioned, you send the first letter of each word; if you're on radiotelegraphy, remember you're sending the equivalent of words, so space seven bauds between each initial letter. Immediately following the Separative prosign at the end of the Text is the signature. This may be one word, or it may be a full name, address, and telephone number (and it should have this full information if the message requires a reply by Amateur Radio). After the Signature comes the prosign indicating the completion of message. This is voiced as End of Message or keyed as dit dah dit dah dit (AR). Then you're ready to turn it back to the other operator for verification of reception. This is done by voicing Over or keying dah dit dah (K).

The receiving operator will confirm reception on radiotelegraphy by the single letter prosign R (Received completely) or the Q signal QSL (I acknowledge receipt). Some radiotelephone operators use the same procedure. Others say "I confirm you number xxxx."

I suggest you practice writing out dummy radiograms. Compose enough so that you can put one on paper without having to consult a guide. Try sending some (for familiarization) on your code practice oscillator. Should you prefer radiotelephony, try speaking the words aloud, just as you would into a microphone. Try to get some one to listen to you and tell you if you're speaking too rapidly. Remember, that receiving operator is having to write what you're saying..... and not many Radio Amateurs are Court Stenographers!

If you're trying to decide whether your message handling should be on radiotelegraphy or radiotelephony, you might keep in mind one fact (easily verified). A message can be keyed at ten words a minute and often be transmitted more accurately and more rapidly than by voice!

Even knowing that fact, it's probable you'll be using voice for some radiograms.....and there's nothing wrong with that! You might ask how does one go about getting connected with a net handling message traffic. There are many so-called traffic nets plus other groups that'll accept traffic under certain circumstances. the true traffic nets invite persons having messages to call in. Often the Net Control Station (NCS) will ask that you call in by call letters only. Other NCSs may ask that you give call, location, and traffic destination. To join a net already in progress, just give you call letters rapidly. Don't say "Break." In all cases, you'll be made welcome. Some nets will have you give your radiogram to another station "on frequency." Others may ask you to move off frequency to pass the traffic. Just follow the NCS's instruction.

It's a bit different on radiotelegraphy. All these NCSs are addicted to the use of special Q signals (and other practices) that are unknown to Amateurs who have not been initiated into traffic handling. By doing so, they scare off the beginning or would-be traffic handler, who fears to make a boo-boo. Not to hesitate! The NCSs are a good bunch, and they'll make you welcome.....as well as confused.

Continued on page 4

Edmond Amateur Radio Society, Inc.

Our regular monthly meeting for May was rescheduled for the 20th. Attendance was excellent with all but one of our voting members present. Our main topic of discussion was preparation for Field Day. Reservations for Chitwood Park have been made and most of the needed equipment has been volunteered. For finalization of our Field Day plans, our next meeting will be June 9.

We wish to extend an invitation to the Edmond Amateur Radio Club to join us in Field Day this year.

We will meet at Chitwood Park at 1000CDT on June 23 to set up our stations, with key-down at 1300CDT. The operating schedule will be made up that morning. Paid up members from E.A.R.S. and E.A.R.C. will be given first priority for operating the stations.

As mentioned last month, E.A.R.S. is in the process of renewing its certificate. Although the old certificate record book has been misplaced, we have found a few of the original certificate holders. Our latest find is Hutch K5SUD, who holds certificate #7 issued March 9, 1960. If you are a holder of one of our certificates, or know the whereabouts of someone who is, please contact Howard WD5IDB at 341-2510.

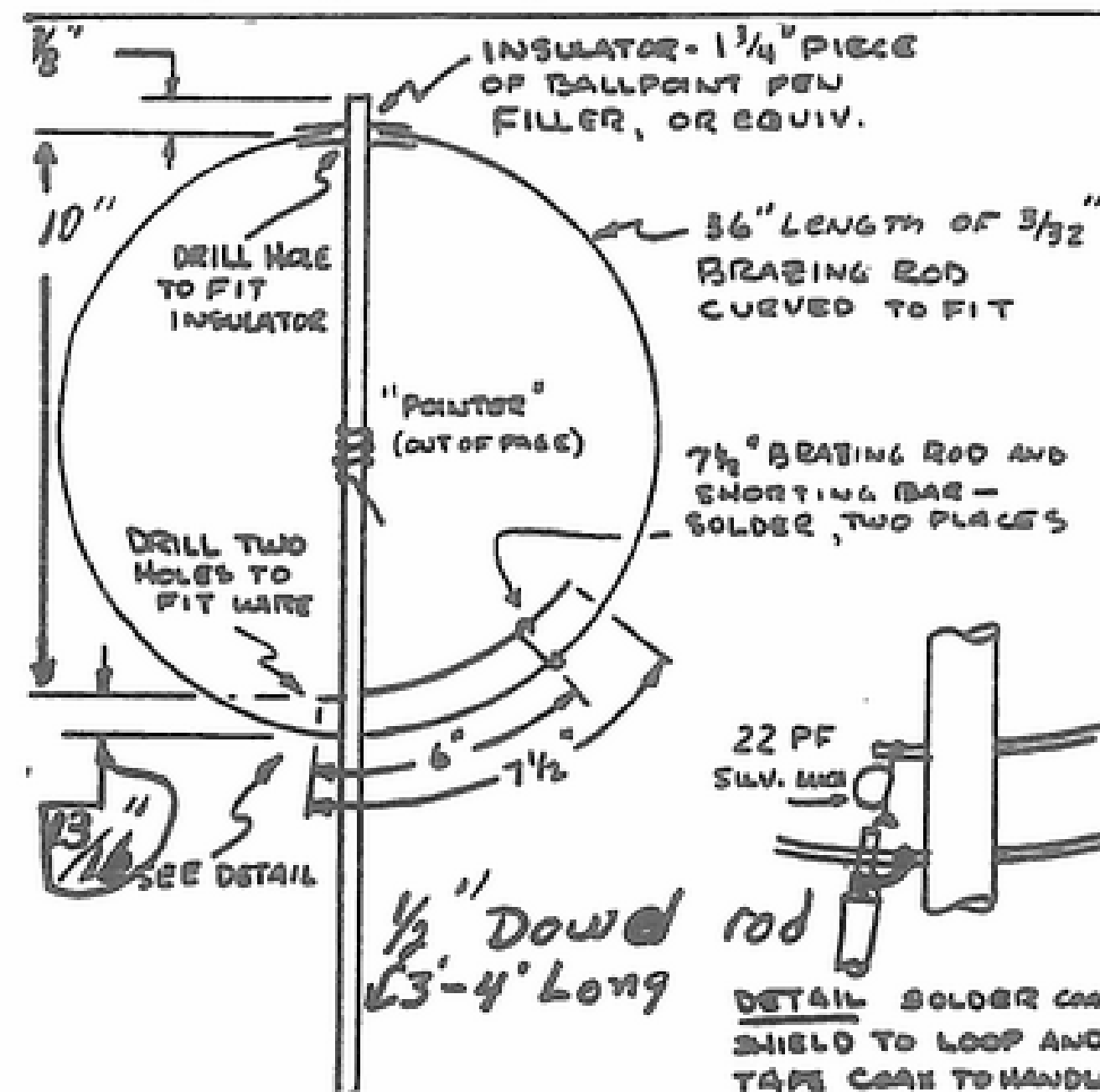
Another very valuable find is the E.A.R.S. scrapbook. Thanks a lot to J.D. Keeling WA5ZGN for locating this for the club. It sure is interesting seeing the old newspaper article and pictures of past Field Days and other activities. Did Bob WA5BQX really look like that 15 years ago ???

We intend to continue the tradition with the scrapbook so that future generations of E.A.R.S. can look at us and laugh or whatever..... Beginning this month, our club photographer DEE WD5FHR will be visiting each member's shack to get new pictures for the scrapbook. So everyone get ready! Just one word of warning--don't clean up your shack! No one would believe a picture of a clean ham shack. HIHI.

In addition to being our photographer, Dee has volunteered to be our representative to the Emergency Communication Group. Now the big question--will Dee find time before fall to get up his new antenna and tower???

Although we are called Edmond Amateur Radio Society, we are not exclusive for only Edmond hams. Wherever you may live, you are very welcome to attend our meetings, and for measly \$10.00 you can become a member. Our only membership requirements are (in addition to your \$10.00) an interest in amateur radio and a desire to help E.A.R.S. grow.

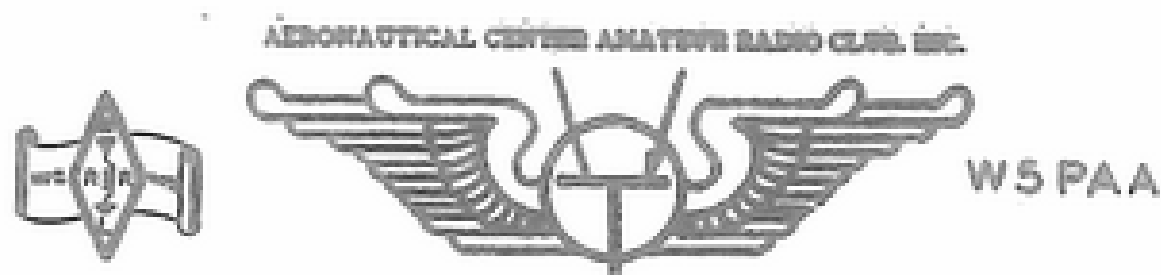
So, bring your ideas and interests to the Edmond McDonalds on June 9 at 8:30 a.m. and help us get ready for Field Day. 73, Howard, WD5IDB



W5KOZ

enna so I coiled three or four turns around the handle about 18 inches below the antenna to act as a choke. The antenna seemed to act a little more consistently. Written by Joe Buswell, K5JB previously published in April 1978 Collector and Emitter.

Sid, W5KOZ developed the simplest and therefore, probably most practical tool for transmitter hunting. His loop antenna is not a true magnetic loop since it is not shielded but either by design or luck, Sid's loop has a single null if it is used in a clear area, relatively free of reflections. I duplicated his antenna using the sketch and it worked exactly like Sid's. One might feed a little power to it with a transmitter and directional wattmeter and vary placement of the gamma shorting bar and value of the 22pf capacitor for minimum reflected power and see if the antenna works better. On the other hand it might not work as well, spoiling the single null which is peculiar to this design. The shield of the coax trailing down from the antenna might be acting as a "sense" ant-



RANDOM WORDS FROM THE PRESIDENT:

Welcome to HAM HOLIDAY 1979 will be the words on every-ones lips in just two more months, so if you haven't sent in your pre-registration do so as soon as you can!!!!

The May meeting of the ACARC was a very good one, we had a good turn out and I would like to thank everyone for coming out. The program was presented by Mr. Bob Graham WB5NSV, it was all about Frequency Synthesis. Bob also told how to convert a 11 meter rig to 10 meters, the program was very good, thank's a lot Bob!!

NOTICE #####
The program for our next club meeting will be an ARRL FORM chaired by Jack Gant W5GM the meeting will be held in the auditorium of the H.Q. bldg. at the F.A.A. center, we will use the 25/85 repeater for talk in, the meeting is on the first (1st) of June 1979 at 8:00 pm we would like to invite everyone to come on out and join us for a good time.

AT last report almost all the names for the C&E mailing list were put in the computer I don't think most of the people out there reading this have any idea just how much time it takes to set up a mailing list as large as the C & E 's. If it hadn't been for the many long hours that Bob Graham WB5NSV spent at the computer writing the program and typing in the names it would not have been done, it seems that when it is time to say I will help there are only a very few that will commit themselves to do the job, Bob is one of those who will all ways do more than his part, it doesn't seem enough just to say THANKS, why don't some of the rest of you get with it a say I'LL help, try it you might like it!!!

WE have been having a heat problem with the repeater, and we are now building a system to allow out-side air to vent into the repeater cabnit thanks to Holly N5ABL.....

Again this year our club and the Oklahoma Central Amateur Radio Club will conduct FIELD DAY activities together. WE will set up north east of the Shamrock Building on Rockwell right by Wiley Post Airport. If anyone would like to come out and help or just watch come on because we will have a good time, see you the 23 nd & 24 th of June...

73, Bob Pace, WA5CJG.

"OLE CHICKEN PLUCKER" ON 2 METERS?

In the Oklahoma City area lately, amateurs have picked up on an old (and bad) habit--Phunny Phonetics. This is acceptable in passing conversation, but when every QSO contains it, or when time is spent on the air trying to dream up new phonetics for a callsign, it's time to start thinking.

What happens if this keeps going? Pure speculation follows: (1) We begin to hear others, wanting to get into the act--it's only natural. (2) We begin hearing a legitimate callsign, followed by its cute explanation. (3) We then hear licensed amateur radio operators called directly by their "cute" call. (4) Soon, callsigns are a thing of the past and (5) why make the effort to get a license? I'll just make up a "handle" and buy a radio.

Does this sound ridiculous? Nope. It happened once. It's the band some amateurs are sorry we collectively lost 25 years ago. It's the band the F.C.C. has practically given up on. It's the band used to know where "smokey" is. It's the band on which everybody talks and nobody hears. It's evolution.

Your callsign is even more unique than your name, even a cute name. You are the only person in the world known by your specific callsign. Have your fun, but think about the evolution process. What happens when a one week old amateur hears a W5 be cute?

Mark, WD5DYI



MINUTES OF THE ACARC MEETING MAY, 1979

The meeting was called to order at 8:00 PM, by President Bob Pace, WA5CJG. There were 41 members and guests present. A round of self-introductions was followed by several announcements. With deep regret, it was reported that Elmer Fields, W5BKN, is now a silent key. Elmer had been a member of our club since the first months of our existence. He will be missed by all.

George Lagaley, W5NTL, gave a report on the most recent C.O.R.A. activities. George announced that the Kay County Amateur Radio Club is now a C.O.R.A. affiliated club, and we welcome them. George then announced that Coy Day, N5OK, spoke at the C.O.R.A. meeting, and asked C.O.R.A. to assume leadership for emergency communication activities. C.O.R.A. did assume this leadership role, and more information will follow soon.

Bob Pace asked that any club equipment found to be inoperative, be so noted in the log book for that station, and that a note be attached to the equipment to prevent others from trying to use it. Bob reminded the members that all members do have access to our club station; However, anyone wishing to gain entrance must present a current membership card at the security desk (in HQ Bldg) to sign out the key.

Ham Holiday '79 is coming along fine, and everyone should get their preregistrations in as soon as possible.

Our Field Day site for this year will be on Rockwell, near Wiley Post airport. Bob Pace passed around sheets for those interested in participating in our field day effort, and an effort to put a C.O.R.A. booth at the State Fair.

Jack Gant, W5GM, West Gulf Director for the A.R.R.L. will conduct an A.R.R.L. forum at our June 1st meeting. This meeting will be held in the Head-Quarters building at the regular meeting time. The club station will also be open, and directions to the meeting will be posted there.

A program was presented on frequency synthesizers by yours truly. The meeting was adjourned at 9:40 for coffee and donuts..

Respectfully Submitted Bob Graham, WB5NSV

♥ ...ATTENTION YL's... ♥

Are you a licensed amateur with a Technician, or higher class license? Do you sometimes feel as though you are the only YL around? Then turn your 2 meter rig to 146.16/.76 each Thursday evening at 9:00 p.m. Local, and I guarantee you'll have a good time!

Due to the kind consideration of the Bicentennial Amateur Radio Club ('76ers), we are making an eager attempt to organize a regular YL net, and on May 10th things got off with a BANG! We had seven check-ins for an hour-long round table, agreed to meet the next week and again had seven check-ins (look out, OM's!).

Remember, you do not have to be affiliated with any particular club or live in Oklahoma City--the net is for any YL who can access the repeater. We've had check-ins from Blanchard, Guthrie, Holdenville, Del City and Oklahoma City.

Mike shy? Don't worry--just check in for the count a couple of times until you get more familiar with the group--but do check in. The net is very informal--a net control is present to keep track of check-ins and give all a chance for comments.

So, mark your calendars--Thursdays, 9:00 p.m. on 16/76--see you there!!

Kay, WD5DYJ

TRICKIE DICKIES'

BLACK MARKET SPECIALS

--Bearcat Scanners--

BC-4/6, 6Channel, 4-Band, Hand-Held	113.95
Thin Scan (NEW) 4 Ch., Lo/Hi VHF, pocket calculator size	105.78
Bearcat 8 5 band, 8 Ch., Xtals required	116.55
BC-210 6 band, 10 Ch., <u>NO</u> Xtals required	205.54
BC-250 6 band, 50 Ch., <u>NO</u> Xtals required	274.14
BC-3L/H 2 band, 8 Ch., Xtals required	98.67

--Regency Scanners--

R-106 5 band, 10 Ch. Xtals required	84.50
E-106 5 band, 10 Ch. Xtals required	99.40
K-100 All Bands 10 Ch. <u>NO</u> Xtals required	177.57
Digital Flight Scan 720A 16 Ch. <u>NO</u> Xtals required	229.40
4 -L/H/U 3 band, 4 Ch. Xtals required	55.97

--Weather Alert Radios--

Bearcat Alert AC/DC	55.95
Regency Weather Alarm AC/Battery	33.95

--Scanner Antennas--

Base ACS-085 with coax	14.89
AU-801	20.95
Moble AU-808 Tri-Band Trunk Mt.	24.95

--Car Stereo--

Cobra 99GTL in-dash AM/FM Stereo W/Cassette Player	
5 Station Pushbutton tuning, Fader, Auto Stop	111.95
Cobra 98GTL " " " W/8 Track	111.95
Cobra 97GTL Cassette without pushbutton	99.95
Cobra 95GTL 8 Track without pushbutton	99.95
Cobra in-dash AM/FM Stereo, W/40 Ch. CB, 46XLR	159.95
Cobra " with pushbutton 47XLR	165.95
Cobra " with Cassette 50XLR	234.95
Cobra " with 8 Track 55XLR	229.95
Marume M9 AM/FM/MPX/Pushbutton	48.79
Marume M8000 AM/FM/8 Track, manual tune	58.39
Marume M5000 AM/FM/Cassette, manual tune	58.39
Marume AR-124 AM/FM/Cassette, man/auto reverse	78.99
Radar Detector Fuzzbuster II	84.95

***NOTE; Cobra 20oz. Coax & Triax Speakers, and 40 Watt Amp.
are half price with the purchase of a Cobra radio.

--Accessory Sale--

Anphenol PL-259 .65	Locking Slide Mt.	2.25
Fe male SO-239 .65	P.A. Speaker	4.95
Double Female 1.00	12V Sub-Min. Bulb 8 $\frac{3}{4}$ " Leads	.99
Double Male 1.45	and many more	
Scanner Plug 1.45		

Most items are 10% over wholesale cost. Factory Limited Warranty,
Many more items are available such as Rohn Towers & Accessories,
Coax, Mics, Guy wire, Telescoping masts to 50', Speakers by
Cobra, Jensen, Concept, AM/FM Portable Radios/Cassettes.

***Once you've made up your mind what you want, give ole Dick
a call, and if he can't beat the price !!! buy elsewhere!!*

'73' '73' '73' DE WB5TMW WB5TMW 685-2867 685-2867
Toll Free, if in OKC.

Prices may change due to date of printing! May 22, 1976

All sales are under the counter, cash & carry.!"#\$%_&'()*+&



Club
NEWS

WSLOW
The Elmer Goulder Memorial
Station

MINUTES OF MEETING

MEETING WAS CALLED TO ORDER AT 8 PM BY PRESIDENT KEN, WB5KHU, WITH 19 MEMBERS AND GUESTS PRESENT.

FIELD DAY REPRESENTATIVE JIM, KA5EET, REPORTED THAT THE LOCATION WAS STILL PENDING.

CORA REPRESENTATIVE BOB, W5HXL, GAVE REPORT ON C&E, HAM HOLIDAY, AND EMERGENCY COMMUNICATIONS COORDINATION. BOB WAS SELECTED TO REPRESENT THE CLUB ON THE CORA EMERGENCY COMMUNICATION COORDINATING COMMITTEE.

JUNE MEETING WILL BE HELD AT LAKE OVERHOLSER WITH A PICNIC AND POSSIBLY FIELD DAY. JULY MEETING IS UNCERTAIN BECAUSE OF CLOSENESS TO HAM HOLIDAY. AUGUST MEETING WILL BE A WATERMELON FEED.

ANTENNA SYSTEMS ON THE CLUB STATION WERE QUESTIONED AS TO QUALITY. SEVERAL SUGGESTIONS FOR RECONDITIONING WERE DISCUSSED AND C.Y., WB5TKG, WILL MANAGE THE WORK PARTY WHEN CHANGES ARE MADE.

CHARLIE, WA5JGU, REPORTED ON ACTIVITY RELATED TO THE LAWTON/WICHITA FALLS TORNADOES. HE ALSO DESCRIBED NEW TERRITORY IN THE TEXAS PANHANDLE FOR WHICH THE WESTERN OKLAHOMA DIVISION OF THE AMERICAN RED CROSS HAS ASSUMED RESPONSIBILITY. A NET CALLED THE PANHANDLE EMERGENCY NET MEETS AT 7 PM ON 3933. IN CASE OF EMERGENCY DURING DAYTIME, 7233 IS ESTABLISHED TO MAKE CONTACT WITH OKLAHOMA CITY. CHARLIE REPORTED THAT THE AMATEURS CONTACTED IN TEXAS WERE ENTHUSIASTIC ABOUT PROVIDING COMMUNICATIONS FOR THE RED CROSS.

BOB, W5HXL, REPORTED ON THE FLEA MARKET BEING HELD ON SECOND SATURDAYS OF EACH MONTH IN THE PARKING LOT OF THE HEATH STORE. IT WAS MOVED AND PASSED THAT THE COFFEE GET-TOGETHERS AT RED CROSS BE SUSPENDED ON THE DAYS OF THE FLEA MARKETS.

I GAVE AN ABBREVIATED DESCRIPTION OF HOW THE VBC 3000 NARROW BAND VOICE MODULATION SYSTEM WORKS.

THE GROUP BROKE FOR COFFEE AND DONUTS AT 9:20. JOE, K5JB, SEC'Y

NARROW BAND VOICE MODULATION

ONE RAINY AFTERNOON, AFTER SNEAKING OFF FROM THE OFFICE TO GO TO THE DENTIST...REALLY!...I DROPPED INTO KRYDER'S TO SEE WHAT WAS NEW. AFTER SHOWING CHUCK, N5SW, HOW NEAT MY TEETH LOOKED...AHM, I TOOK A TOUR OF THE LATEST KENWOOD AND YAESU RIGS. CHUCK THEN EXCUSED HIMSELF TO TEND TO A MONEY CARRYING CUSTOMER.

LATER HE CAUGHT ME LOOKING OVER A SMALL BOX WITH A BUNCH OF SWITCHES AND PRODUCED A MANUAL FOR THE VBC 3000 NARROW BAND VOICE MODULATION ADAPTOR MANUFACTURED BY VBC, INC, SAN MATEO CA, AND DISTRIBUTED BY HENRY RADIO.

THE DEVICE IS QUITE AN AUDIO STUNT BOX. IT DOES INTERESTING THINGS TO BOTH TRANSMIT AND RECEIVE AUDIO. CHUCK HOOKED UP THE RECEIVE SIDE TO A TRANSCEIVER AND LET ME PLAY WITH IT UNTIL HE GOT TIRED OF ME ASKING SO MANY DURN FOOL QUESTIONS. HE SAID IF I WAS SO CURIOUS ABOUT IT AND TOO TIGHT TO BUY IT, I MIGHT AS WELL BORROW IT TO WRITE A TECHNICAL REVIEW FOR C&E.

SO HERE WE ARE, AFTER MANY HOURS OF STUDYING THE THING, TESTING ITS VARIOUS FEATURES AND TUNING THE HF BANDS LOOKING FOR SOMEONE ELSE WITH ONE SO WE CAN ESTABLISH A TWO WAY ON NARROW BAND.

THE TECHNOLOGY OF NBVM WAS FIRST DESCRIBED TO AMATEURS IN QST ARTICLES IN DECEMBER 77, NOVEMBER 78 AND DECEMBER 78. THE COMPANY WAS PERFORMING DEMONSTRATIONS FOR THE FCC WITH THE ULTIMATE PURPOSE OF REDUCING CHANNEL BANDWIDTH IN COMMERCIAL OPERATIONS. FOR A DETAILED ANALYSIS OF THE TECHNOLOGY OF VOICE ENERGY DISTRIBUTION, THE NOV. 78 QST ARTICLE SHOULD BE READ.

BRIEFLY, THE NBVM ADAPTOR USES ACTIVE FILTERS TO SEPARATE SPEECH INTO TWO BANDS, 50-600 HZ AND 1500-2500 HZ. THE UPPER BAND IS INVERTED AND MOVED DOWN AGAINST THE LOW BAND AND THE RESULTING SPECTRUM IS FED TO THE MICROPHONE INPUT OF THE TRANSCEIVER. THE TRANSMITTED BANDWIDTH WOULD BE 1550 HZ EXCEPT THAT MOST SSB TRANSMITTERS ROLL OFF THE FREQUENCIES BELOW ABOUT 300 HZ. THE ACTUAL BANDWIDTH IS THEREFORE ABOUT 1300 HZ.

SWITCHING IS PROVIDED TO ALLOW A LITTLE GREATER BANDWIDTH IF DESIRED. IN "WIDE BAND" NBVM, THE HIGH VOICE BANDWIDTH IS INCREASED TO INCLUDE VOICE FREQUENCIES OF 1000 TO 2500 HZ. THE TRANSMITTED BANDWIDTH, ASSUMING 300 HZ CUTOFF BY THE TRANSMITTER, IS THEN 1800 HERTZ. THESE COMPARE TO BANDWIDTHS OF 2100 TO 2400 HZ NORMALLY TRANSMITTED BY A GOOD SSB TRANSMITTER, TUNED AND OPERATED PROPERLY. PICTORIALLY, THE AUDIO MANIPULATION IS DESCRIBED IN FIGURE 1.

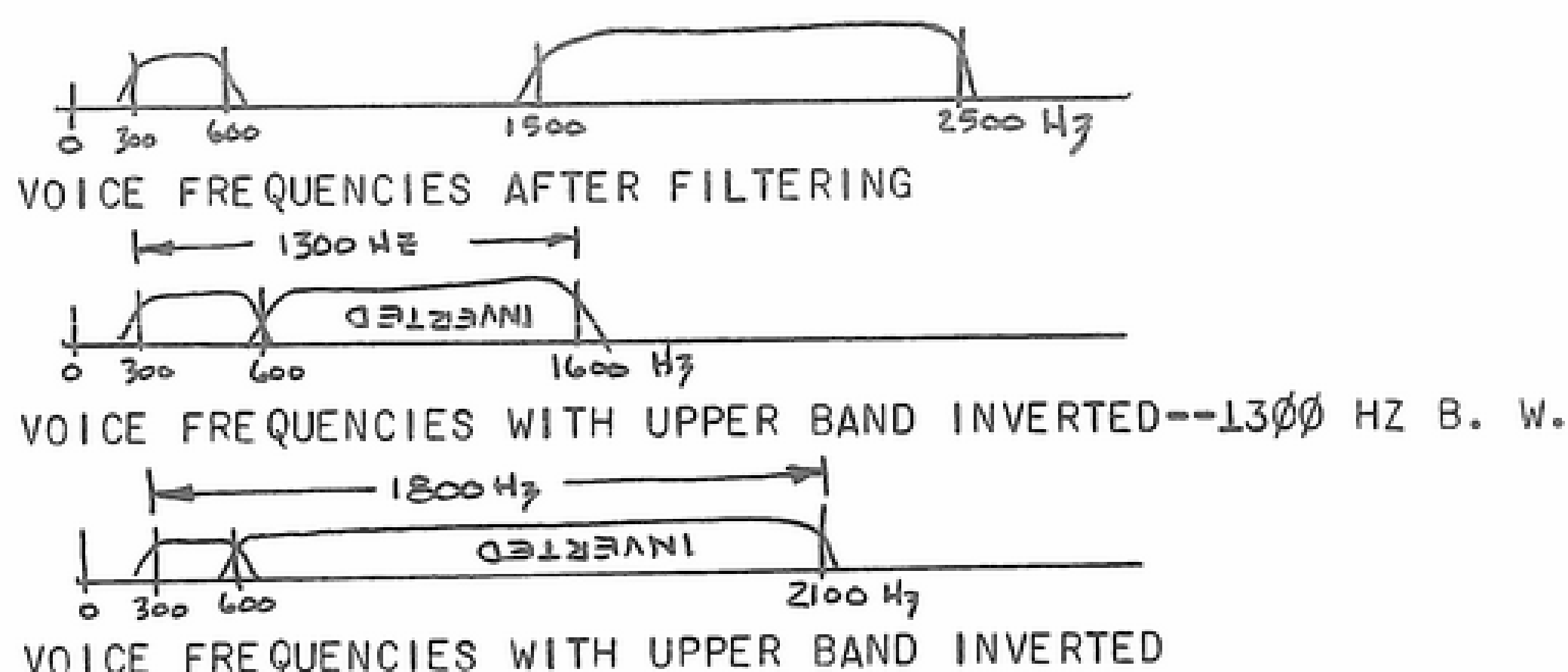


FIGURE 1. NBVM MANIPULATION OF VOICE FREQUENCIES

INVERSION OF THE UPPER VOICE BAND IS ACCOMPLISHED BY MIXING THE SPEECH, AFTER FILTERING, WITH A 3100 HZ SIGNAL IN A BALANCED MIXER AND FILTERING ALL BUT THE LOWER SIDEBAND. A VOICE TONE OF 2500 HZ NOW BECOMES 600 HZ AND 1500 HZ BECOMES 1600 HZ.

RECEPTION AND DETECTION OF NBVM SIGNALS. AS THE OLD AUTO REPAIR MANUAL SAYS, IS THE REVERSE ORDER OF DISASSEMBLY. THE 300-600 HZ BAND IS FILTERED AND SET ASIDE TEMPORARILY. THE 600-1600 HZ BAND IS FILTERED OUT AND MIXED WITH A 3100 HZ LOCAL OSCILLATOR SIGNAL. THE MIXER OUTPUT IS PASSED THROUGH A LOW PASS FILTER AND THE RESULT IS THE ORIGINAL 1500-2500 HZ VOICE SPECTRUM. THIS IS COMBINED WITH THE 300-600 HZ VOICE FREQUENCIES, AMPLIFIED AND FED TO A SPEAKER. THE RESULTING VOICE ON THE SPEAKER IS MISSING THE RANGE OF SPEECH BETWEEN 600 AND 1500 HZ BUT INTELLIGIBILITY IS NOT SERIOUSLY IMPAIRED.

THERE ARE AMPLITUDE TRICKS ALSO AVAILABLE IN THE VBC 3000 UNIT. A SIGNETICS 571 COMPANDER IS INCORPORATED FOR AMPLITUDE COMPRESSION AND EXPANSION. MORE WILL BE SAID ABOUT THIS LATER.

EVEN IF THE TRANSMITTING STATION DOES NOT HAVE A NBVM ADAPTER, THE RECEIVING STATION CAN USE FEATURES BUILT INTO THE UNIT TO ENHANCE COMMUNICATION QUALITY OF SIGNALS RECEIVED UNDER DIFFICULT CONDITIONS. THE ACTIVE FILTERS WHICH ARE A PART OF THE FREQUENCY SLICING CIRCUIT OF THE NBVM ARE PROVIDED FOR USE WHEN THE FREQUENCY COMPRESSION CIRCUIT IS NOT BEING USED. THE 2100 HZ LOW PASS FILTER DOES A GOOD JOB OF CUTTING HIGH FREQUENCY CHATTER AND NOISE COMPONENTS OUT OF THE RECEIVER AUDIO. THE SKIRT SHAPE IS PROBABLY BETTER THAN THAT OF MOST RECEIVERS. THE 1600 HZ LOW PASS FILTER AND 700 HZ HIGH PASS

FILTERS CAN BE SWITCHED IN FOR A 900 HZ BANDWIDTH FOR CW RECEPTION. THE FILTERS HAVE NO UNDESIRABLE RINGING CHARACTERISTICS.

WHILE WAITING TO FIND SOMEONE ON THE AIR USING A NBVM UNIT I RAN SOME EXPERIMENTS USING A TAPE RECORDER. LETTING THE TAPE RECORDER SIMULATE A TRANSMITTER, I TRIED THE VARIOUS MODES AND THEN PLAYED THEM BACK THROUGH THE NBVM UNIT. THE RESULTING SPEECH SOUNDED MORE OR LESS NORMAL. THERE WAS A SLIGHT AMOUNT OF DISTORTION FROM THE LOWER FREQUENCY VOICE COMPONENTS GETTING INTO THE HIGHER FREQUENCY CIRCUITS. IT SOUNDED LIKE A SLIGHT SQUEEKINESS IN THE BACKGROUND. IF ONE LISTENED CLOSELY HE COULD HEAR A TRACE OF THE 3100 HZ INJECTION SIGNAL. THERE WOULD PROBABLY BE NONE OF THAT SIGNAL NOTICABLE ON THE AIR. THE AMPLITUDE COMPANDER SOUNDED PRETTY EFFECTIVE ON THE RECORDING. A RECORDING MADE WITH COMPRESSION AND PLAYED BACK WITH EXPANSION SOUNDED NORMAL AND TAPE HISS WAS SUPPRESSED.

CONNECTION TO THE TRANSCEIVER IS SIMPLE. THE UNIT IS PLUGGED INTO THE SPEAKER AND MIKE SOCKETS OF THE RIG. A MICROPHONE AND SPEAKER ARE PLUGGED INTO THE UNIT. TWELVE VOLTS IS APPLIED AND IT IS READY TO GO ON THE AIR.

SETTING THE RECEIVE CONTROLS IS SIMPLE. THE VOLUME CONTROL ON THE VBC 3000 IS SET AT MIDRANGE AND THE VOLUME CONTROL ON THE RIG IS SET FOR A COMFORTABLE LISTENING LEVEL. THE VBC 3000 HAS A LM 380 AUDIO AMPLIFIER IC SO IT IS NECESSARY TO USE A 4 OHM SPEAKER TO GET THE MAXIMUM POWER OF ONE WATT OUT OF IT.

SETTING THE TRANSMITTER CONTROLS IS EQUALLY SIMPLE. WITH THE FREQUENCY COMPRESSOR OFF, THE MIKE GAIN CONTROL IS SET FOR METER INDICATIONS ONE WOULD GET IF THE TRANSMITTER IS PROPERLY TUNED. THE AUDIO CONTROLS ON THE RIG ARE SET AS THEY NORMALLY WOULD BE.

THE AMPLITUDE COMPANDOR IS USEFUL EVEN WHEN NOT WORKING ANOTHER NBVM STATION. IT HAS TWO FUNCTIONS. ON TRANSMIT, MICROPHONE AUDIO IS PROCESSED WITH A VARIABLE GAIN AMPLIFIER. THE INPUT LEVEL IS MEASURED AND GAIN OF THE AMPLIFIER VARIED SO THAT FOR EVERY TWO DB OF CHANGE OF INPUT, THE OUTPUT CHANGES ONE DB. AT ZERO DB, OR .775 VOLTS RMS, INPUT, THE OUTPUT IS ZERO DB. AT -40 DB INPUT, THE OUTPUT IS -20 DB. THE RESULT IS THAT THE AVERAGE AUDIO POWER IS INCREASED BECAUSE THE WEAKER SOUNDS ARE AMPLIFIED MORE THAN THE STRONGER SOUNDS.

USING THE AUDIO PROCESSOR IN AN IC-701 AS A BASIS FOR COMPARISON, I ASKED RAY, W5REC, WHOSE EAR AND HONESTY I CAN TRUST, TO GIVE ME A REPORT. HE REPORTED THAT THE COMPRESSION IN THE VBC 3000 WAS MORE PLEASING SOUNDING THAN THE ONE IN THE 701. HE SAID THE LATTER WAS A BIT TOO BASSY. ON TAPE RECORDED TESTS, THE COMPRESSION WAS PERCEPTIBLE AND NOT A TRACE OF THE "CB'ER WITH THE 5 WATT RADIO AND 100 WATT MOUTH" EFFECT WAS EVIDENT. IN THE ARTICLE WHICH FOLLOWS, MORE DETAIL ON THIS COMPRESSION CIRCUIT WILL BE COVERED.

THE EXPANDOR PORTION OF THE VBC 3000 PERFORMS THE REVERSE OF THE COMPRESSOR, SIGNALS WHICH COME IN AT ZERO DB GO OUT AT ZERO DB, SIGNALS OF -20 DB COME OUT AS -40 DB, AND SIGNALS OF -30 DB COME OUT AS -60 DB. THE RESULT IS THAT WEAK SIGNALS VIRTUALLY DISAPPEAR. IN EFFECT, A RECEIVED SIGNAL THAT IS READABLE ABOVE THE NOISE WILL BE FURTHER RAISED ABOVE THE NOISE BY THE EXPANDOR. IN RECEIVING TESTS, A SIGNAL THAT WAS JUST PERCEPTIBLE IN THE NOISE WAS NOT HELPED ANY BY THE EXPANDOR, BUT SIGNALS WHICH WERE 6 DB, OR SO, ABOVE THE NOISE WERE MUCH IMPROVED BECAUSE THE NOISE WAS VIRTUALLY STRIPPED AWAY. SIGNALS WHICH HAD SOME DEGREE OF SPEECH COMPRESSION WERE BRIGHTENED CONSIDERABLY BY THE EXPANDOR. I HAVE COME TO EXPECT COMPRESSED SIGNALS TO SOUND A BIT FLAT AND WAS RATHER IMPRESSED WITH THE EFFECT OF EXPANSION. SOME OF THE LITERATURE ON THE SUBJECT REFERS TO THE "RAIN BARREL" EFFECT WHICH EXPANSION IS SUPPOSED TO CORRECT. I AM NOT SURE WHAT THE "RAIN BARREL" EFFECT IS BUT IF THERE IS A SIGNIFICANT AMOUNT OF DISTORTION BEING TRANSMITTED, NOTHING SHORT OF MAGIC IS GOING TO CORRECT THE AUDIO.

IF YOU NOTICED THE VARIOUS WAYS I HAVE BEEN SPELLING COMPANDOR, COMPRESSOR, AND EXPANDOR, LET ME EXPLAIN. I JUST GOT THROUGH READING THE SIGNETICS APPLICATION NOTE AFTER REALIZING I WAS GETTING IN OVER MY HEAD TRYING TO EXPLAIN THE THING. NOW I AM GLAD I KNOW HOW TO SPELL THOSE WORDS BUT I'M TOO LAZY TO GO BACK AND CHANGE THE FIRST PART OF THE TEXT.

FINALLY AFTER SEVERAL DAYS OF LOOKING, I FOUND ANOTHER NBVM EQUIPPED STATION ON THE AIR. ACTUALLY, CHUCK, N5SW, HEARD THE STATION AND CALLED ME. ALAN, N1AF, WAS CALLING CQ NARROW BAND AND I ENGAGED HIM AND THE TAPE RECORDER AT THE SAME TIME. THE CONTACT WAS A SHORT ONE SINCE ALAN WAS READY TO GO TO BED BUT I DID GET A CHANCE TO RUN A FEW EXPERIMENTS. THE IC-701 BEING USED TO TEST THE VBC 3000 HAS VARIABLE BANDWIDTH I. F. WHILE LISTENING TO ALAN ON 1.3 KHZ. BANDWIDTH, I NARROWED THE I.F. TO APPROXIMATELY 1.3 KHZ AND NATURALLY, THERE WAS NO CHANGE IN HIS SIGNAL. IF HE HAD HAD A WEAK SIGNAL, THE NARROWING OF THE BANDWIDTH WOULD REMOVED SOME OF THE NOISE SURROUNDING HIM AND IMPROVED THE SIGNAL TO NOISE RATIO. AS IT WAS THOUGH, HE WAS MORE THAN 50 DB ABOVE THE NOISE. IN OTHER WORDS, THERE WAS NO NOISE TO REMOVE. NARROWING THE BANDWIDTH OF THE I.F. ON THE 701 TO 1.3 KHZ MAKES AN ORDINARY SSB SIGNAL PRETTY DIFFICULT TO COPY. AS IT WAS, THE COMMUNICATION QUALITY OF ALAN'S VOICE WAS GOOD.

WITH THE NBVM ADAPTER TURNED OFF, I COULD MAKE OUT A LITTLE OF WHAT ALAN WAS SAYING BECAUSE THERE WAS MORE INFORMATION IN THE LOW FREQUENCY PARTS OF THE VOICE THAN I THOUGHT THERE WOULD BE. I DID NOT GET MUCH OF A CHANCE TO EXPERIMENT WITH TUNING THE SIGNAL INVERTED BUT I SUSPECT THAT THE LOWER FREQUENCY VOICE COMPONENTS WOULD CAUSE QUITE A BIT OF INTERFERENCE IF THE I.F. IS NOT MANIPULATED TO SHAVE OFF THOSE PARTS OF THE TRANSMITTED SPECTRUM. I AM STILL LOOKING FOR OTHERS TO EXPERIMENT WITH.

N1AF INDICATED THAT THOSE WITH NBVM WERE USING 14.210 AS A CALLING FREQUENCY AND MOVING TO 14.236 TO RAG CHEW. ALAN AND HIS FRIENDS MEET ON THE FORMER FREQUENCY AT 0200Z SO THAT IS AS GOOD A PLACE AS ANY TO TUNE AND SEE WHAT IT SOUNDS LIKE.

I GUESS IN CONCLUSION, THE NBVM 3000 HAS NO TECHNICAL DRAWBACKS EXCEPT PERHAPS THAT FAILURE OF ONE OF THE HYBRID IC'S WOULD LEAVE ONE WITH ONLY ONE SOURCE FOR REPLACEMENT. PERFORMANCE IS GOOD. DESIGN APPEARS TO BE VERY SOUND. THE PRACTICAL DRAWBACK IS WHAT IS ONE GOING TO DO WITH IT? ONCE THERE IS A WHOLE MESS OF THEM ON THE AIR, OPERATORS CAN HAVE A LOT OF FUN GOING QRP AND MAKING LITTLE TRACKS THROUGH THE ETHER. IT WOULD ALSO BE FUN TO SEE HOW CLOSE ONE COULD GET TO THE BROADCAST STATIONS ON 40 METERS AND STILL BE ABLE TO CONVERSE. FOR THIS I WOULD BE TEMPTED TO GO "QRO". TO GET FULL BENEFIT FROM NBVM IT WOULD BE NECESSARY TO HAVE NARROW I.F. AVAILABLE TO PREVENT STRONG SIGNALS CLOSE TO THE OPERATING FREQUENCY FROM TAKING OVER THE AGC AND KNOCKING THE DESIRED SIGNAL DOWN. UNFORTUNATELY, IF EVERYONE HAS A WAIT AND SEE ATTITUDE, THERE NEVER WILL BE A WHOLE MESS OF OPERATORS WITH THEM AND THEY WILL NEVER CATCH ON.

IT MIGHT BE A GOOD IDEA TO BUY THEM IN PAIRS. RELATIVES WHO KEEP IN CLOSE CONTACT BY AMATEUR RADIO MIGHT FIND THEM OF SOME BENEFIT WHEN THE GOING GETS ROUGH. OTHERWISE, THEY WOULD HAVE TO RESORT TO .1A1, THE REALLY NARROW BAND MODE OF CW, EGAD!...HOW PROVINCIAL!

NOW TO GET DOWN TO THE NITTY GRITTY. THE ASSEMBLED UNIT IS AVAILABLE FROM HENRY RADIO FOR \$350. A CIRCUIT BOARD CONTAINING ALL THE BRAINS COSTS \$275. ADD A BOX, SWITCHES AND SOCKETS, AND YOU CAN GET ON THE AIR WITH A LITTLE HOME BREW SATISFACTION. THE MANUFACTURER WILL SUPPLY ALL OF THE HYBRID IC'S AND THE ARRL HAS A PRINTED CIRCUIT LAYOUT IF YOU REALLY WANT TO ROLL YOUR OWN. INFORMATION ON HOW TO GET THE PARTS IS IN THE QST ARTICLE FOR DECEMBER 1978.

IF YOU WANT TO SEE WHAT IT LOOKS LIKE AND FLIP ALL THE SWITCHES, SEE

CHUCK AT KRYDER'S. TELL HIM JOE SENT YOU.
JOE, K5JB

JOE, K5JB

MORE ON AUDIO PROCESSING-THE COMPANDOR

NOW, AFTER READING THE PREVIOUS ARTICLE, YOU ARE EXPERT ON COMPRESSORS AND EXPANDORS YOU MAY WANT TO RUN A FEW EXPERIMENTS AND PERHAPS BUILD A COMPRESSOR OR EXPANDOR FOR YOUR SSB RIG. A WORD OF ADVICE IS IN ORDER FIRST. NOTHING TURNS THE BRETHREN OFF QUICKER THAN HEARING A HARSH COMPRESSOR ON 2M FM. COMMUNICATION RANGE IS REDUCED AS WELL AS POTENTIAL CONTACTS. SO, BE CAREFUL ABOUT THE DISTORTION AND BACKGROUND PICKUP BEFORE TRYING THIS THING ON THE AIR, SPECIALLY ON 2M FM. AFTER IT IS TESTED AND FOUND SATISFACTORY ON A TAPE RECORDER, TRY IT ON THE AIR. I CAN'T EMPHASIZE THIS ENOUGH.

FOR A COMPLETE RUN-DOWN ON THE SIGNETICS 570/571 COMPANDOR, SEE THE JULY 1977 ISSUE OF HAM RADIO. THE CIRCUIT IN THE VBC 3000 NBVM UNIT IS VERY SIMILAR TO THE COMPRESSOR AND EXPANDOR DESCRIBED IN HR. THERE ARE MINOR DIFFERENCES, ONE INTENDED TO CUT EITHER CIRCUIT OFF FOR VERY LOW SIGNAL LEVELS. BY INCORPORATING FEATURES OF BOTH THE HR ARTICLE AND THE DECEMBER 1978 QST ARTICLE, THE COMPRESSOR AND EX

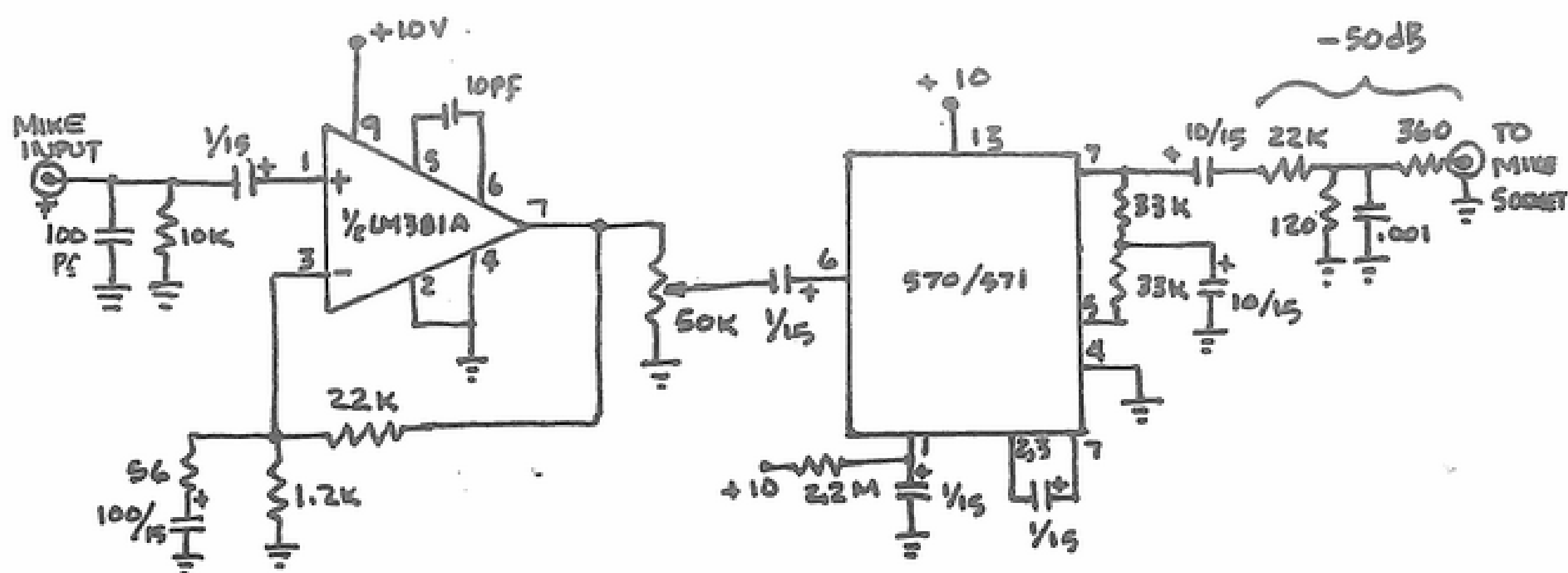


FIGURE 1 COMPRESSOR

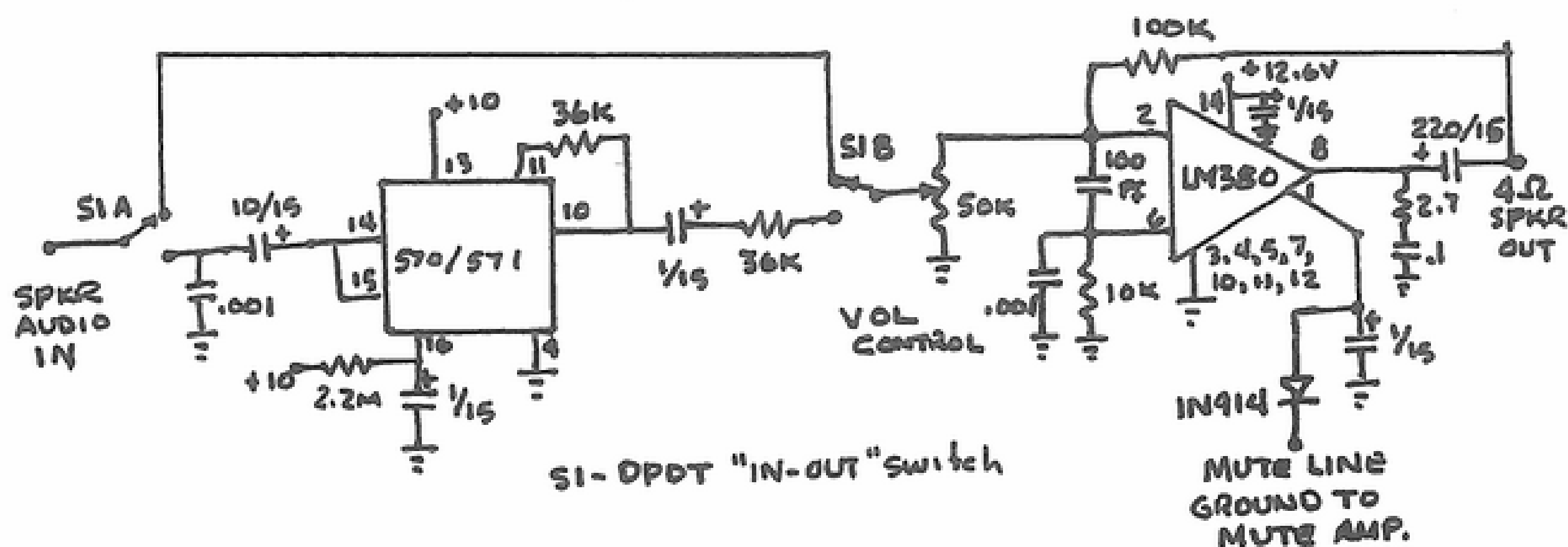


FIGURE 2 EXPANDOR

THE 570 IS THE SAME AS THE 571 WITH EXCEPTION THAT THE LATTER HAS CLOSER TOLERANCES AND A HIGHER SUPPLY VOLTAGE RATING. EITHER ONE WILL WORK FINE IN THESE CIRCUITS. EACH DEVICE CONTAINS TWO IDENTICAL SECTIONS. EACH SECTION CONTAINS: A VARIABLE GAIN CELL WITH INPUTS ON PINS 3 OR 4, A RECTIFIER WHICH MEASURES SIGNAL LEVEL AND CONTROLS THE GAIN CELL, INPUTS ON PINS 2 OR 15, A TIMING CAPACITOR FOR THE RECTIFIER, CONNECTED TO PINS 1 OR 16, AN OP AMP WITH OUTPUTS ON PINS 7 OR 10, INVERTING INPUT ON PINS 5 OR 12 AND INTERNAL 20K RESISTOR TO THE INVERTING INPUT ON PINS 6 OR 11. POSITIVE SUPPLY

VOLTAGE IS CONNECTED TO PIN 13 AND GROUND IS CONNECTED TO PIN 4. PINS 8 AND 9 ARE FOR TRIMMING TOTAL HARMONIC DISTORTION AND ARE NOT NEEDED IN THIS APPLICATION.

THE DEVICE IS DESIGNED FOR USE IN TELEPHONE CIRCUITS WHERE IMPEDANCE IS ASSUMED TO BE 600 OHMS. ZERO DB, REFERENCED TO ONE MILLIWATT, IS APPROXIMATELY .775 VOLTS RMS. TO GET MICROPHONE LEVELS UP TO THOSE NEEDED BY THE 570 REQUIRES A PREAMP HAVING APPROXIMATELY 50 DB GAIN. THE ONE SHOWN IN FIGURE 1 USES A HIGH PERFORMANCE LOW NOISE OP AMP SUCH AS A LM381A. ANY OF YOUR PET PREAMP CIRCUITS WILL WORK AS LONG AS THE LEVEL FED TO THE 570 IS 0 DB AT MAXIMUM NORMAL SPEECH LEVELS. THERE IS 10 DB OF HEADROOM IN THE 570 SO DON'T BE TOO CONCERNED ABOUT SLIGHT OVERDRIVE. THE 50 K CONTROL ON THE OUTPUT OF THE PREAMP WILL ALLOW TRIMMING OF THE LEVEL TO GET ZERO DB LEVEL. WIDE OPEN SETTING WILL BE A GOOD STARTING POINT. BACK IT DOWN IF IT IS A LITTLE TOO HOT.

THE OUTPUT OF THE 570 IS ATTENUATED 50 DB TO BRING THE LEVEL BACK DOWN TO THE PROPER MICROPHONE LEVEL. THE MIKE GAIN CONTROL ON THE RIG CAN BE ADJUSTED TO TRIM THE DRIVE BUT FOR GOOD "COMPRESSOR ON -COMPRESSOR OFF" TESTS, THE ATTENUATOR SHOULD BE CHANGED, IF NECESSARY, TO MATCH THE FINAL GAIN SETTING OF THE PREAMP. TO SWITCH THE THING IN AND OUT, JUST USE A DOUBLE POLE-DOUBLE THROW SWITCH ON THE INPUT AND OUTPUT. THE COMPRESSOR SHOULD BE INSTALLED IN A RF TIGHT BOX OR ALL KIND OF HORRIBLE THINGS MIGHT HAPPEN WHEN YOU SOAK IT IN RF.

TO TEST OPERATION OF THE COMPRESSOR, SET THE LEVELS SO THAT ON A LOUD SOUND LIKE "FOUR", TRANSMITTER OUTPUT IS SAME AS WITH UNCOMPRESSED SPEECH. THEN TRY AGAIN WITH THE MICROPHONE SIX INCHES AWAY OF USE A SOFTER WORD LIKE "FIVE" AND SEE HOW OUTPUT IS GREATER WITH COMPRESSOR ON. NATURALLY, YOU FORGET THE TAPE RECORDER NONSENSE, CALL SOMEONE ON THE AIR AND SEE WHAT HE THINKS.

THE EXPANDOR, FIGURE 2, NEEDS SOME KIND OF AMPLIFIER TACKED ON AFTER IT TO RAISE THE POWER TO SPEAKER LEVEL. IF AN AMPLIFIER IS AVAILABLE, THE LM380 IS NOT NEEDED. JUST CONNECT THE 36K RESISTOR LEADING TO THE 50K POT, TO THE EXTERNAL AMPLIFIER. THERE IS SUFFICIENT VOLTAGE AT THE SPEAKER OUTPUT OF THE RIG, OR PROBABLY THE EARPHONE OUTPUT, FOR THAT MATTER, TO DRIVE THE EXPANDOR. .775 VOLTS INTO AN 8 OHM SPEAKER IS ONLY 70 MILLIWATTS SO DON'T OVERDRIVE THE THING TOO MUCH BY CRANKING THE VOLUME UP. LIKE THE COMPRESSOR, THE EXPANDOR CAN BE SWITCHED IN AND OUT BY USING A DOUBLE POLE - DOUBLE THROW SWITCH ON THE INPUT AND OUTPUT OF THE EXPANDOR. USE THE LM380 EVEN WHEN THE EXPANDOR IS SWITCHED OUT AND IT WILL BE UNNECESSARY TO PERFORM SURGERY ON THE RIG.

PIN 1 ON THE LM380 CAN BE USED AS A MUTE LINE WHEN TRANSMITTING. SINCE YOUR MICROPHONE WILL BE CONNECTED TO THE BOX ANYWAY, HOOK THE PTT CIRCUIT TO THE MUTE DIODE AND THE SPEAKER WON'T SQUAWK WHEN STRAY RF GETS INTO YOUR RF-TIGHT BOX.

BOTH THE EXPANDOR AND COMPRESSOR NEED TO BE SUPPLIED WITH A WELL REGULATED AND FILTERED POWER SUPPLY. 10 VOLTS IS A GOOD VOLTAGE TO USE BECAUSE IT IS LESS THAN 12.6 WHICH IS COMMONLY AVAILABLE, AND CAN THUS BE EASILY REGULATED. AN LM340-10 IS A GOOD REGULATOR TO USE IF THE SUPPLY VOLTAGE IS KEPT ABOVE 12.5. THE LM380, IF USED, SHOULD BE GIVEN FULL SUPPLY VOLTAGE BECAUSE IT IS HARD PRESSED TO CRANK OUT ONE WATT AS IT IS.

TO TEST THE EXPANDOR, SET THE RECEIVER VOLUME CONTROL SO THAT THE AUDIO OUTPUT IS ABOUT .7 OR .8 VOLTS RMS ON A TONE. A SIMPSON 260 VOM, FOR EXAMPLE HAS A DB SCALE ON TI. SET IT AT ZERO DB. ADJUST THE EXPANDOR COLUME CONTROL FOR A COMFORTABLE LISTENING LEVEL. SWITCH THE EXPANDOR IN AND OUT AND COMPARE LISTENING LEVELS. JUGGLE THE LEVELS UNTIL THE DESIRED SIGNAL STAYS THE SAME VOLUME WITH EXPANDOR SWITCHED IN OR OUT. MOST IMMEDIATE IMPRESSION YOU GET IS THAT YOU HAVE A NOISE FILTER. NOISE WHICH IS LOWER LEVEL THAN THE

SIGNAL WILL BE GREATLY SUPPRESSED. IF RECEIVER AGC IS NOT COMPLETELY EFFECTIVE, ADJUST VOLUME FOR VARYING SIGNAL LEVELS BY RESETTING RECEIVER VOLUME CONTROL AND LEAVE THE EXPANDOR CONTROL WHERE IT WAS INITIALLY SET.

THE SECOND EFFECT YOU WILL NOTICE IS THAT VOICES WHICH ARE PROCESSED WITH COMPRESSION WILL BECOME MORE LIVELY AND SOUND MORE NATURAL. A WEAKER SIGNAL THAT IS NOT COMPRESSED WILL HAVE OCCASIONAL DROUPOUTS. WHEN THE SIGNAL FADES INTO THE NOISE, CUT THE EXPANDOR OFF. SOMETIMES YOU CAN GET ENOUGH FRAGMENTS OUT OF THE NOISE TO CARRY ON. I FOUND THAT FOR LONG OPERATING PERIODS, THE EXPANDER MAKES FOR A LITTLE LESS FATIGUE SINCE THE BACKGROUND NOISE IS SO GREATLY SUPPRESSED. YOU WON'T BE ABLE TO HEAR ANYTHING YOU COULDN'T HEAR BEFORE BUT I THINK YOU WILL ENJOY THE NOVELTY OF THE THING. JOE, K5JB

ROTOR, ROTOR, WHOSE GOT THE ROTOR?

DURING ANTENNA SYSTEM SURVEY LAST SATURDAY, IT WAS DISCOVERED THAT THE ROTOR ON THE SMALL MAST AT THE RED CROSS BUILDING WAS MISSING. THOSE PRESENT THOUGHT THEY COULD REMEMBER SOME GOOD SAMARITAN VOLUNTEERING TO OVERHAUL IT BUT COULDN'T REMEMBER WHO. IF YOU REMEMBER WHERE THE ROTOR WENT, CONTACT AN OKLAHOMA CENTRAL AMATEUR RADIO CLUB OFFICER AND THE THING CAN BE PUT ON ITS MAJESTIC PERCH. K5JB

SPEAKING OF ANTENNAS...

C. Y., WBYTKG HAS ASSUMED THE JOB OF ORGANIZING AN ANTENNA REPAIR PROJECT AT W5LOW. SOME OF THE COAX IS IN PRETTY SORRY SHAPE AND THE TRI-BANDER IS PINWHEELING ON ITS MAST. ENOUGH COAX HAS BEEN FOUND TO REPLACE THE HF ANTENNAS' FEEDLINES BUT A CHEAP, OR FREE, SOURCE OF 50 OHM COAX SUITABLE FOR VHF USE IS STILL NEEDED. ALSO, WHAT THE TRI-BANDER NEEDS IS A GOOD MAST PLATE A' LA MOSELY. IF ANYONE HAS ANY IDEAS, COAX, OR SCRAP ALUMINUM, SEE C.Y. JOE, K5JB

Amateur Radio Operation Expands Traub Studies

Youngsters in the third grade at Traub Elementary School have had the opportunity to talk with people from such faraway places as Denver, Colo., and Damascus, Ark., in a unique amateur radio program established to stimulate interest in regular school subjects.

The idea of using short wave radio to stimulate interest in map skills, geography and communications was developed by Sam K. Morgan, Traub teacher who also is an amateur radio operator.

Mrs. Edith Lowe, principal at the Midwest City school, approved the new approach to

social studies teaching.

"Ham radio operators in the Midwest City-Del City School district have shown an interest in the project," Morgan said. "Some have volunteered to man the portable radio station during school hours."

One of the volunteers is Tracy Stuart, a new resident of Midwest City who is an airman assigned to the 552nd Airborne Warning and Control Squadron at Tinker Air Force Base.

Airman Stuart, his wife, Donna and their son, Craig, moved to the Tinker area from Tucson, Ariz.

Morgan said amateur radio operators contacted by the

Traub Students appear to be as excited by the experience as the Traub youngsters are.

One of the recent radio contacts was with a teacher who was on her spring break, who took time to tell the Traub children about her 9-year-old daughter.

Morgan said all grades at Traub may be brought into the program as it is developed, giving the other students an opportunity to talk with people in places such as Houston, Dallas, and Irving, Texas, Bossier City, La., and Denver, Colo., where radio contacts have already been made by the third-graders.

BOOK REVIEW

GETTING ACQUAINTED WITH MICROCOMPUTERS by Louis E. Frenzel, Jr.

Published by: Howard W. Sams & Co., Inc., 4300 W. 62nd Street,
Indianapolis, Indiana 46268

Paperback, 288 pages, Cost about \$9.00. Knowledge of electronics, digital and binary fundamentals must be possessed by the reader.

There are seven chapters on the following subjects:

1. Basic concepts, definitions, organization, operation, peripheral equipment.
2. Classification, architecture, register, stack, instruction set, addressing modes.
3. Learning through self-study and experimentation, building a trainer, selecting a microprocessor, commercial trainers, building a library, acquiring parts.
4. Software fundamentals
5. Programming techniques
6. Programming practice
7. Hobby and personal computing

Seven appendixes: Manufacturers, Articles, Magazines, Courses, Parts, Instruction set for 6800, ASCII Code.

CHAPTER ONE explains the fundamentals of computers. There is a progression from the general descriptions to more specific explanations. Special terms and phrases are clearly explained. Various sizes of computers are described. Peripheral devices are described.

CHAPTER TWO. Microcomputers are briefly classified and categorized in several different ways to help you understand the units that are available. Registers, the instruction set and addressing modes are defined and related so that microcomputer architecture basic concepts are revealed. The author stresses the need for the reader to refer to the manufacturer's literature for microprocessors in order to achieve a more in-depth understanding. Data sheets on 14 microprocessors are given in the book.

CHAPTER THREE. The object of the book is to guide you through a hands-on learning process. Chapter 3 tells about setting yourself up with a microcomputer learning laboratory. It tells what is needed, how and where more information may be obtained to either build or buy a learning laboratory. Interconnections & power supplies are explained. Principles in selecting a microprocessor are given. Data sheets on 15 commercial microcomputer trainers are given. Factors involved in building a microcomputer are given.

CHAPTER FOUR. A major goal of the book is to teach programming. This chapter assumes you will dig deeper into microcomputers than will the average home computer appliance operator, so machine and assembly languages are discussed. Higher level languages are also explained.

CHAPTER FIVE gives some introductory programming techniques, then gives programming examples using the 6800 microprocessor. The instruction set for this microprocessor is given in the Appendix. Data movement, register operations, arithmetic operations, logical operations, decision-making instructions, subroutines and input/output operations are covered in detail.

CHAPTER SIX puts the programming fundamentals of Chapter 5 to use. A series of experiments is given for you to use on the microcomputer learning laboratory. Each experiment contains a practice problem that you can solve by writing a program for it and running it on your trainer. Conversion from a 6800 to some other microprocessor is explained.

- - continued

. . .continuation of BOOK REVIEW

CHAPTER SEVEN. Those who would rather just buy a personal computer, its accessories and programs will find Chapter 7 helpful. This chapter is a guide to buying a computer, its peripherals, and software. Some predictions of the future are also made.

The book provides good basic information for those starting into computers, even those who do not plan on going the learning laboratory route.

+ + SEVEN THREE and EIGHT EIGHT from Bill, WA5RAQ - -

+++++

WILSON MARK 2 AND MARK 5 CAN BE IMPROVED

Here are some mods and repairs that will help.

1. Squelch operation during cold weather:
 - A. Change C58 from ceramic to Mylar of same value.
 - B. Change C56 from .01 ceramic to .001 Mylar.
2. Popping or burp sound:
 - A. First try a different "rubber duck", this may solve problem.
 - B. Remove R53 (100 ohm).
 - C. Install jumper from R40/C54 junction to R48/C62 junction.
 - D. Install a 470pf capacitor across R50 to ground.
 - E. Change R50 from 330K to 220K.
3. Audio distortion:
 - A. Check the 450kHz discriminator (FL3) for breaks or loose connect
 - B. If this was not the problem perform Mods 1 & 2.
 - C. Remove R56.
 - D. Remove R54 and install 2 diodes (1N4148) in series, in its place (Band of diode goes to C63/Q18 junction)
4. Oscillation:
 - A. Check heat sink for tightness and contact around Q25, if this is not the problem, perform following steps.
 - B. If there is a 39ohm resistor across the foil side of Q25, remove.
 - C. Remove ww resistor/rf choke R76/L6 & install a 22 ohm resistor.
 - D. Change C109 from 33pf to 47pf.
 - E. Install a 330 ohm resistor across L4, on foil side of board.
 - F. Install a 470pf capacitor across diode D6.

It should be noted that any mods performed by anyone other than the Wilson factory will void the warranty.

Raymond Roton, N5AUB

+++++

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+



WANTS: AVIONICS TECHNICIANS FOR
REPAIR AND INSTALLATION OF AVI-
ONICS EQUIPMENT (NAV/COM, PULSE
FLIGHT CONTROL) IN IN GENERAL
AVIATION AIRCRAFT.

GENE NAILON - K5DLE
Avionics Manager

EXPERIENCE IN GENERAL AVIATION
AVIONICS PREFERRED - - BUT NOT
REQUIRED

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

5-10

+++++



GREETING'S "HAM LAND"

AND "HAPPY FATHER'S DAY" TO THOSE WHO QUALIFY

And I must apologize to all the Mother's who missed the Mothers Day Greeting last month. Uncle Sam's pony must have thrown a shoe so the newsletter did not arrive in time for publication -- CARRIER PIGEON ANYONE!!

On Sunday May 20 a group of 20 "Wave Riders" and guests circled up in the Kingfisher Park Corral and punched out a little business in the first open air meeting of the year. We were missing several of our regulars for various reasons, and hope those who were on the sick list are much improved.

George, K5GGL, and Joe, WA5FLT attended a computer "Show & Tell" recently, and Joe Says George was the best one on the program. So, congratulations George, and more power to you if your brain can call that kind of punishment fun.

Renewing the repeater license was discussed by those who understood enough to discuss, and we want to say thanks again to those who shoulder the responsibility for us freeloaders. Bill, N5WM was drafted to pay dues and become a member; then the President WA5JHB appointed him and K5VRL to be our representatives to the CORA meetings. Congratulations, Jim, thought you might like to know. You see - the art of self defense can only be employed if self is in attendance. Johnny, K5GBN will be net control, and I urge everyone to do a better job of checking in than your "Wagon Tongue" reporter does.

June promises to be an interesting meeting. It was suggested that in view of the recent disasters in Okla. & Texas it may be well if we had some sch-ing in proper radio procedures in case of disasters, so Leonard WA5FSN consented to bring us a program on organizing an emergency net, and how to work with the Red Cross and handle emergency traffic etc: so make plans to attend and later on we may have an opportunity to practice techniques. Sounds exciting - and could be a real community service.

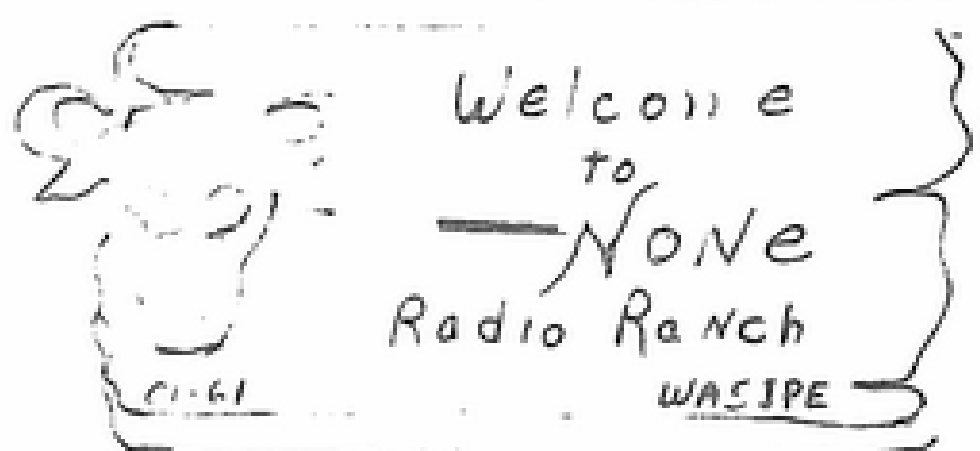
The meeting adjourned in favor of pop and cookies that were thoughtfully provided by our Kingfisher hosts & hostesses. The next meeting will be June 10 at the Watonga State Bank, 2:30 p m , so saddle "Old Paint" and "Ride"

Please excuse all mistakes. New typewriter - Old stupidity.

See you in Watonga

Held over from last month.

WB5WTN



It was interesting to note as we converged upon the Okarche school building for our April meeting that WA5PFK, Ralph's Porsche, and K5-VRL, Jim's "A" Continental were already on the scene and some Jr. Hi aged boys were on the way to the Gym for some friendly fuedin' over a basketball, when all at once they stopped

short to take a second look. You could tell at once curiosity had set in , and as they talked among themselves and pointed they had to take one trip around the vehicles and peer through the windows. No way could imagination justify what was lurking inside a set of wheels like these. I was interested in their reaction since we have grown so accustomed to rejection of anything considered establishment; but after a few seconds of respectful admiration and a couple of backward glances, it was off to the business of basketball as usual. Then upon entering the building it looked as if "Mr. Clean" and "El Neat-o" had met to do battle to see which could out-clean the other. I was recently in one of the supposedly better school systems of the state and the appearance inside the building resembled the inside of a litter bag. So I just wanted to say "Orchids" to Okarche. Your self respect and dignity are refreshing.

DAYTON DOES IT AGAIN

It was bigger than ever. At least it seemed that way even though the attendance was down from the previous year. It seems like every year on the last weekend of April, all roads lead toward the mecca of amateur radio hamventions in Ohio. This year WA5JXX and K5HMD abandoned the Dayton express in favor of quick trip further Southeast to Atlanta for their growing hamfest. I had a difficult decision to make about whether to go or not and a check of the finances showed negative vibrations about the trek. This, in addition to the fact that for the first time I would be earthbound for the trip (since Joe and Roger weren't along to fly) almost forced me to scuttle the trip. But as the warmer April weather began to tempt me, the juices began to flow and it was not too difficult to schedule a ride with Dennis WB5ISN and a host of others traveling in a motor home. A minor emergency cropped up when we found out that our reservations had apparently been lost, but a few phone calls and we were well established in the top floor of the downtown Holiday Inn for living accommodations.

The last time I spent over 15 hours in a car was quite a few years ago when my folks and the rest of the family went to Kansas City to pick up my brother and then trek across Kansas for a Colorado vacation. I spent twelve hours in a Toyota on the way to Expo in Chicago in 1972 for that hamvention and had to be pried out of the car with a tire tool. I vowed never again. But this was different. To actually stand up in a motor home while traveling was a new experience and with various couches and beds available plus running water and a PRT (Passenger Relief Tank), I began to look forward to the trip. In addition, Howard, Bob, Stan, Smitty, Wendall, Dennis and I each had a place in the home and lots of room. Also, for the first time since I began to go to Dayton some 4 years ago, my baggage was virtually unlimited since all the previous trips had been by private plane with a baggage limitation so tight that I thought I would have to turn my underwear inside out to get under the weight requirements.

We planned to leave on Thursday sometime in the late morning or early afternoon and drive straight through. Dennis called me the night before and we planned the getaway. I stopped by the local Safeway the next day to pick up some goodies to munch on during the trip. As I paid for some \$11.43 of junk food, I suddenly realized that I must look like the biggest junk food junkie through the line that day. The clerk merely looked down at the pile and suggested that the food value looked low. I mumbled something about taking a trip with a group of people and that I had been appointed chairman of the junk food committee. I almost went back and bought a bottle of vitamin tablets to throw in with the potato chips, doritos, cookies, etc. Thank goodness, when I arrived in the City at the motor home that Wendall had brought some apples. I didn't feel so bad with a little fresh fruit along with my peanut butter and Triscuit crackers.

The trip was uneventful with the exception of the quart of milk that accidentally broke in the refrigerator (Ouch). A couple of quick stops to clean out the residue and gas guzzling were the only breaks. Indiana has a neat trick for convincing you their gas is cheaper than the surrounding states. They charge you a sales tax and don't list it on the price per gallon out front. Like I told Dennis when we were paying 75.9 cents per gallon plus sales tax that the little sign posted on the price sign that said "Does not include sales tax" but in my opinion, it does include the windfall profit.

We got into Dayton Friday morning about 9:00 or so and checked the Holiday and found out that our room wasn't ready, so we checked out breakfast spots and came back and got in a little early. After cleaning up, we went to Mendelsohn's Surplus and checked out the goodies available including feedthrough capacitors for just 10¢ apiece and another plug in for my frequency counter that goes

to 500 Mhz and works as a heterodyne unit so you can get one cycle resolution in one second unlike most of these fancy prescalers that do not have BCD output to drive the digit. I also found a few small other items, but didn't have the time to check out the surplus PC cards for spare boards for my counter.

Back into the motor home and Stan and I went down and rented a car to head out to the convention site to check through the commercial exhibits. The flea market would not begin until the next day at 6 a.m. sharp. The commercial exhibits included a few unusual goodies such special low noise 4 ghz amplifiers which would form dandy beginnings for a Low Noise Amplifier (LNA) for a Satellite ground receiving station. Tack this onto a Traveling Wave Tube Amplifier that another exhibitor was selling and you could have an adequate LNA for less than \$400. Some other exhibitors were selling miniture Sony televisions that had been removed from some hospital somewhere for just \$50 apiece. You feed the DC 12 volts and antenna into one SO239 connector. There must have been a 1000 people carrying those things around by the end of the convention.

Most of the usuals were there, VHF Engineering, Dentron, Yaesu was showing their new keyboard programmable walkie talkie, Icom had displays around the various areas. Kenwood had a big display and all of the TS-120 transceivers sold out the first day(including a couple to people in our party). We went back to the motel and took the Hustler antenna off of the van and put it outside the balcony of the top floor and loaded up on 75 meters to maintain a schedule with several fellows back home including K5JB. We had almost had Joe talked into coming up to Dayton on Saturday morning if the weather was right Thursday nite while mobiling through Missouri (we were mobiling through Missouri, not Joe). The weather turned sour and Joe got grounded, so he didn't make it.

The next day was cold. This was the first time that I can remember such weather and it was complicated with some nasty rain that broke up some sweetheart deals taking place in the flea market. But in another fashion, it did lower the price of some items. I got a video modulator for channel 3 or 4 (out of a video tape recorder) including sound subcarrier for just \$10. A fellow saw me checking batteries with the K5JB battery tester and said that he would give me a dead Mt-500 battery if I would send him the schematic. (It was a deal). Another fellow traded me a double handful of slimline batteries for an extra K5JB tester (most of them were duds, one maybe, and one possible). I found a 10.5 Ghz gunn diode oscillator and 17 db horn for less than \$50.00 and have been considering building a transmitter with (It works and puts about 10 mw! A report in a forthcoming issue of C & E). I found another MT-500 battery and Stan, Jim Shideler WB5YWO, and I bought three of them for \$25 apiece (a good deal). Dennis and Wendall (WB5ISN and WB5ISO respectively) found some 4 foot dishes complete with hardware and feedhorns for a very reasonable price. I found a reasonable assortment of 1/8 watt resistors for a reasonable price. The flea market was great.

When the rain came later, I went back inside and checked the commercial exhibits to warm up and then darted back out to check for some iceberg bargains. There were a few available. By the way, Communications Concepts had kits of hard to find parts for building your own amplifiers for VHF and UHF including capacitors and chokes.

Next day, it was back out to the flea market for more scrounging and Dennis and the others planned to leave to head back to Oklahoma. I had booked an airline flight out of Dayton for 7 :30 that evening. I will not recount the fact that I was originally bumped on a confirmed and paid for ticket or that my flight out of DFW was mucho late for fear of slandering several airlines. I got back and it was just in time to go drink coffee with K5JB. Another successful raid on the state of Ohio. Just wait until next year. Anybody want to take a bus ?

Micheal Salem N5MS

A FINE I. D. (SPECIAL IDENTIFICATION CARD FOR AMATEURS)

For a couple of months, I have been trying to put together a story about a discovery I made a couple of C & E issues ago. I thought I would have all the facts for the April issue, but the requirements of careful research delayed the release. In any case, the story can be told now that I have all the facts.

The story has its genesis in a conversation that occurred several months ago with WB5DUC. Larry and I were talking about the personalized license plates for amateurs that are available from the Oklahoma Tax Commission. A particular question about the plates came up and neither of us could answer it. I offered to look it up and checked out the law library a couple of days later. The sections of the State statutes dealing with personalized tags are found in Chapter 57 of Title 47, Motor Vehicles. I don't remember what the exact question I was searching for, but under Sections 251 and 252, I found the following requirement of the State to provide a Special Personal Identification Card for Amateur Radio Operators in the State of Oklahoma:

§ 251. Special identification, right to

Any person who is the holder of an unrevoked and unexpired general class or better license issued by the Federal Communications Commission to operate an amateur radio station in Oklahoma shall be entitled to special identification as herein provided. Laws 1953, p. 215, § 1.

Library references: Telecommunications C=385; C.J.S. Telegraphs, Telephones, Radio and Television §§ 302, 316.

§ 252. Special personal identification card

Such person shall upon proper application be entitled to a special personal identification card, the style of which shall be fixed by the Department of Public Safety; provided, every such card shall bear the applicant's name, the date of issuance of such card, a serial number to be assigned by the Department of Public Safety, the official call letters of the radio station assigned to the applicant by the Federal Communications Commission, and such other information as the Commissioner of Public Safety shall direct.

Every such card shall be issued by the Department of Public Safety, and application therefor shall be made on forms provided by the Department of Public Safety. Laws 1953, p. 215, § 2.

Library references: Telecommunications C=385; C.J.S. Telegraphs, Telephones, Radio and Television §§ 302, 316.

Humm ??? I have never heard of this before. I mean, the idea of obtaining a special personal identification card was something that no one had mentioned at any hamfest or meeting I'd ever been to. So what happened? The law was passed in 1953 along with the law providing for special amateur tags. The law had not been modified or repealed and apparently in effect still. I thought I would check with the Department of Public Safety and see what gives.

I called and asked to speak to the person who was responsible for issuing the special personal identification cards for amateur radio operators because I wanted to obtain an application card. The lady answering the phone told me that I needed to call the Oklahoma Tax Commission and ask for special plates. I said no I already had a set of those and I now wanted a special personal identification card. She said wait a minute and put me on hold for about a minute. The next voice said that I was talking to someone in the Public Information Office and what was it that I wanted? I again asked for an application for a special personal identification card and was told that they were given out at Radio Shack. I thought that it might be a good time to bring out the big guns, so I drug out the statute

The voice on the phone gulped and said wait a minute. I was put on hold for a couple of minutes this time and this time another voice came on and asked again what I needed. I repeated my request and again read the statute over the phone and the voice said wait a minute again. This time the wait stretched to about 5 minutes and the gentlemen came back on and said sure enough that is what the statute said and the Department of Public Safety was responsible for the cards and not the Oklahoma Tax Commission, but he had just talked to a fellow down in the records division who said that he had been with the department since 1963 and this was the first time that somebody had requested one of these cards. The matter was going to be referred to the Department of Telecommunications and they would get back to me. Well, I called them back a couple of days later and spoke with a very nice gentleman, Mr. Gene Thaxton, who is the Telecommunications Manager, who told me that indeed this was the first request that they had ever had for these ID cards, but they would indeed issue me one and would get me an application as soon as possible.

The implementation of such a program requires a little bit of time, so I wrote them a letter just to be sure that they would not forget me. Mr. Thaxton called me later and told me that they had just sent out the application blank to me and all I needed to do was fill it out and send it back to them and they would send me an ID card. I got the application and filled it out and returned it the same day. The card arrived a few days ago and I have shown it below:


STATE OF OKLAHOMA
Issue Date May 1, 1979

DEPARTMENT OF PUBLIC SAFETY
SPECIAL AMATEUR IDENTIFICATION

Charles Michael Salem
Name

N5MS Amateur Extra Class Aug 16, 1982
Call Class of License Expires

79001
Serial Number


COMMISSIONER

I think that they misspelled my name, but this could be the way they intend to list them.

As can be seen from the statute, a serial number is required. My serial number apparently indicates that it is the first card issued in 1979 (or for that matter, the first one issued under the law that anybody knows about). The card expires contemporaneous with the expiration date of my license and I suppose will have to be reissued each time it expires.

Where did the law come from? I don't know. Perhaps someone who was around when the law was passed will step forward and volunteer an explanation. In any case, the purpose of the law is found in Sections 254

§ 254. Purpose of law

It is hereby declared the purpose of this Act¹ to provide special identification for individuals who hold an unrevoked and unexpired general class or better license, issued by the Federal Communication Commission, to operate an amateur radio station in Oklahoma, in order to encourage such persons to assist in providing and maintaining a means of communication in emergency areas, national or local. Laws 1953, p. 215, § 4.

¹ Sections 251-256 of this title.

Library references: Automobiles ⌘41; Telecommunications ⌘382; C.J.S. Motor Vehicles § 106 et seq.; C.J.S. Telegraphs, Telephones, Radio and Television §§ 298, 316.

§ 255. List of licensed operators to be secured and maintained

It shall be the duty of the Department of Public Safety to secure from the Federal Communication Commission and maintain each month a current list of the general class or better licensed amateur radio station operators in Oklahoma. Laws 1953, p. 216, § 5.

Library references: Telecommunications §385; C.J.S. Telegraphs, Telephones, Radio and Television §§ 302, 316.

Section 255 requires the DPS to keep a current list of general class or better licensed amateurs and update it monthly. Apparently, there was an intense interest at the time the law was passed in utilizing amateur radio operators for emergency communications.

Incidentally, there is a special requirement for persons who obtain special tags or ID cards to report the the expiration or revocation of the license to the Oklahoma Tax Commission or Department of Public Safety (or both if you have both an ID card and tags) and return the identification to the DPS within 5 days as specified by Section 256:

Ch. 57 AMATEUR RADIO OPERATORS 47 § 314

§ 256. Expiration of amateur license—Notice and delivery of identification—Violations

Upon the revocation or expiration of the amateur radio station operator's license of any person in Oklahoma who has been issued identification as herein provided, said person shall immediately notify the Oklahoma Tax Commission and the Department of Public Safety and shall, within five (5) days thereafter, deliver the identification to the Oklahoma Tax Commission and/or the Department of Public Safety.

Any person violating the provisions of this Section, or any person who knowingly permits another person to make use of the identification herein provided for to obtain entry into any restricted area in this State, or any person who by misrepresentation obtains any identification herein provided for, shall be guilty of a misdemeanor and shall, upon conviction thereof, be punished by a fine of not more than One Thousand (\$1,000.00) Dollars or be sentenced to imprisonment in the county jail for not more than one (1) year, or both. Venue for prosecutions shall be in the County Court of any county in which such violation is committed. Laws 1953, p. 216, § 6.

Library references: Telecommunications §385; C.J.S. Telegraphs, Telephones, Radio and Television §§ 302, 316.

The statute also specifies some pretty severe penalties for such failures. I would assume that if you have properly renewed the license prior to the expiration that you would need to resubmit your ID card request, but wouldn't be required to return the ID card under criminal sanctions.

By the nature of the statutes, it would seem that the ID card can be used for admission into certain restricted areas in the state. Just what is defined as a restricted area is left to uncertainty, but since the purpose of the act is to encourage people to assist in emergency communications, I would assume that this would include disaster areas and such. In any case, applications are available from the Telecommunications Department of the Department of Public Safety for those of you who would like your own special personal identification.

Micheal Salem N5MS

HAM '79 AND **ARRL** **Holiday** **STATE** **CONVENTION**

At The Beautiful

LINCOLN PLAZA FORUM
OKLA CITY JULY 27·28·29
4345 NORTH LINCOLN BLVD OKC

TECHNICAL PROGRAMS

INTERESTING AND TIMELY TOPICS - HF, 2 METER, RTTY, COMPUTER, QRPP ????

DEALER - EQUIPMENT DISPLAY

SEE THE LATEST EQUIPMENT AND MEET THE DEALERS

SUNDAY BANQUET & AWARDS DRAWING

GOOD FOOD - GOOD AWARDS

QCWA BREAKFAST~EYEBALL QSO'S

COME PREPARED TO SEE YOUR OLD & NEW FRIENDS

DOOR AWARDS GALORE

PRE REGISTRATION AWARD - A SUPER 2 METER RIG

GRAND AWARD - - A FANTASTIC H F RIG

10,000 SQ FT FLEA MARKET

PRE-REGISTRATION FOR OKLA. HAM HOLIDAY & STATE ARRL CONVENTION
Make check to CORA. Mail to CORA, box 14424, Okla City OK 73113.
Must be received by July 20 1979. Tickets held at desk. Send
s.a.s.c if confirmation desired.

Name _____ Call _____

Street _____

City _____ State _____ Zip _____

Others _____

Others _____

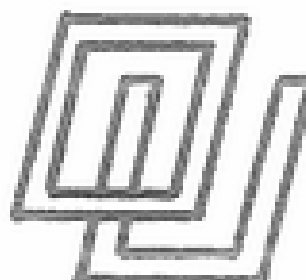
_____ Total pre-registrations @ \$4.00 _____

_____ QCWA Breakfast Tickets @ \$5.10 _____

_____ Sunday Banquet Tickets @ \$7.25 _____

Tax and tip included.

Reserve me a table for Flea Market (NON Commercial) ☐



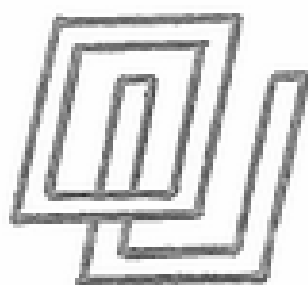
ROLE IN WR5AFW REPEATER UPDATE TOLD

Last month we summarized the progress the OUARC has made in updating the 146.28/88 repeater system. The repeater has purchased, rather the club has purchased for it, it's own autopatch to replace the borrowed one we now have. We have acquired the parts for the Salem-Ryan Microprocessor and have even bought a GE Progress Line repeater. Mike reports the "prog" while old, nevertheless, should about double the power output. The "BIG" buy for the year has got to be the Phelps-Dodge duplexer. Bought a duplexer lately? If you have you would realize the \$500 we paid for ours was a real bargain. Mike Salem, our WR5AFW trustee, was the person responsible for finding the bargains. Mike really saved the club some money by searching out these bargains. Yes, the club has made some real progress this year in repeater updating, but the role of you the readers is really what made it possible. We found the bargains and completed the purchase orders, but you provided the donations.

As the end of the 78-79 school draws to a close we find a total of 66 persons have contributed to the effort this school year. Of this 66, seven were not even hams, but, nevertheless wanted to help. A dozen or so contributors were from the South Canadian Amateur Radio Society (SCARS), a fine bunch of Norman hams who use the WR5AFW system in their emergency communications net. A greater number of our contributors are just occasional users of the machine who realize it takes money and time to keep the repeater on the air. It is good to see several Moore and Oklahoma City amateurs making contributions. At this time, the four officers of the OUARC, it's two trustees, and our faculty sponsor, Professor W. T. Cronnenwett, W5TPJ wish to thank the following persons who have made donations to the Alpha Sigma Delta Radio Society. It is you who are the real "heroes" in our effort to update WR5AFW: Keith, David, Ed, Gayland, John, Tom, Paris ... Rus WA6TLK ... Shadi KA5EOW ... John WB5FZD ... Joe KA5AXQ ... Lee WB5RQB ... Carl WB5QNK ... Kenny WB5RXZ ... Gene WD5GTC ... Kevin WD5GTB ... Howard W5FIH ... Jim N5OU ... Gordon W5OU ... Fred WB5KRD ... Mark KA5ELO ... Deryl WB6WZC ... Alan WB5QLF ... John WD5EKT ... Terry WB5GFP ... Wade KB5EK ... Henry WB5NHZ ... Sam WA5RPP ... Jack WB5TZZ ... Leland W5MCN ... Jerry W5MCJ ... Fred K5LDE ... Kevin WB5OSP ... Dave WB5FQW ... Louis W5UZD ... Bob WB5WJW ... Woody W5VAU ... Bob N5ALG ... Don WB5SKB David KA5J ... Laverne KB5DK ... Godfrey WA5VIH ... Sandi WB5HEW ... Kirk WB5MJM John WB5YJP ... Andy WD5BDK ... Ford W5AIP ... Charles WB5UUX ... Curt WB5QMB Jess AF5X ... Edd WB5GLC ... Richard WB5YII ... John W5AVK ... Bill K5KDR ... Glenn WD5FVI ... Robbie WB5VXL ... Bob WD5CJB ... Jess W5SQJ ... Roger K5VRX ... Don WA5CDZ ... Gerald W5VUK ... H. O. WA5MLT ... Dave N5DW ... John WB5HZO

PRESIDENT APPOINTS FALL FOOTBALL, CONSTITUTION, AND PUBLICITY COMMITTEES

Our leader, James Gardner KA5DHF, has appointed three important committees which must complete their work by the end of August. James KA5DHF, John N5ABC, and Nathan KB5BF are on the committee to rewrite the constitution in light of the new Section XIII student organization recognition procedures recently approved by the OU Board of Regents. These procedures require at least 10 currently enrolled students before the UOSA can release funds to the organization. There are several other changes which have caused us and several other organizations to rewrite their constitutions. We just need to be sure we have a good membership drive on campus this fall, and we should have no problems. A key committee will be headed by Lee Hardy WB5RQB. The Fall Back to School Publicity Committee will see to it that the students arriving this August will know of the OUARC and, hopefully, will be joining in the fun. James KA5DHF will take the Football Communications Committee chair. James did an excellent job organizing this effort last year, although we got started late and were only able to work the last two games. All of us are on these last two committees because Lee and James will need all the help they can get. Lee's committee will be primarily making posters to plaster around the campus this Fall, and manning a table in the Student Union and/or OU housing in order to meet these new arrivals. Lee simply cannot do it all himself so let's all give him some help. The job is easier when we all pull together.



Alpha Sigma Delta Radio Society

Dedicated to serving The University, the community,
and introducing amateur radio to tomorrow's leaders.

OU FOOTBALL COMMITTEE DRAWING UP PLANS FOR THE FALL

Football games are a sell-out when the BIG RED returns to Norman after doing battle in the tough Big-8 conference. James Gardner KA5DHF is already drawing up plans for communications coverage by amateur radio on game days. I have always enjoyed the festival like atmosphere of these Saturdays and the friendly rivalry of the fans and the teams. If you have a 2 meter talkie with 52 direct or 146.28/88 crystals and want to help on the game days of Sep. 15 (Iowa), Sep. 22 (Tulsa), Oct. 6 (Colorado), Oct. 27 (Iowa State), Nov. 10 (Kansas State), or Nov 24 when the Big Red of Nebraska come to town, call James (days) 631-8824 or (nights) at 321-8779. James reports coverage will again be in parking lots, at the OU police dispatcher, and even inside the stadium this year. The O.U.P.D. will provide stadium passes for those amateurs who work inside the stadium. Stadium passes will be on a first come reservation basis so call James now if you wish to work a certain game or games. Coverage of the traffic starts around 11 AM with everyone helping the O.U.P.D. with the traffic. Usually, the O.U.P.D. gives us a briefing before 11 AM and issues passes for those who must go inside the stadium. Net control takes over after the briefing. About 15 minutes before the game starts the amateurs who will work the stadium ramps go to their positions. The others grab a hamburger or something and fan out to the parking areas. The population of Norman just about doubles on game days so the parking lot patrols are real important. If you see any suspicious activity it is reported to net control located along side the police dispatcher (you don't hit em with your talkie). Our job is to be the eyes and ears of the police. Several Oklahoma City hams have asked if they could participate this year. James says: "Glad to have you; we want this to be a fun time for all amateurs not just OU club members". James also said he reserves the right to take the best girl watching position, but that all positions are pretty good for this year round sport! Getting serious, he did relate how our basic goal was to be an auxiliary communications system for the OU police. They just do not have the manpower to cover everything, so our extra eyes and ears help instantly alert them to any serious problems which need immediate attention. A lot of things can happen when you get over 70,000 people in such close proximity. The O.U.P.D. genuinely appreciates our help and this is an excellent opportunity for us to demonstrate how useful amateur radio can be as a public service. Jim needs to know as soon as possible if you want to help so he can properly plan, so plan on calling him as soon as you can.

SID GERBER W5KOZ and JOHN LEWIS WB5YJP DONATE TOWERS TO W5TC

Sid Gerber W5KOZ and John Lewis WB5YJP responded to our Collector and Emitter article last month which mentioned our W5TC trustee, John Stehr N5ABC, was looking for a tower for W5TC's tri-bander. John WB5YJP donated the tower that will hold the beam. John gave us a 38' Consolidated steel tower. Sid, a member of MORI, gave us a smaller tower that we have been needing for our VHF antenna for W5TC. The present antenna (VHF) sits on a short pole; Sid's tower will get it and maybe one more lighter antenna up about 25' above the Carson Engineering Center roof. Sid also gave us his collection of QST in bound volumes for a 25 year period. We deeply appreciate this, Sid. That steel tower that John Lewis gave us should really do the job holding the Ham IV rotor and Hy-Gain tri-band beam. A look at the previous page will show that John WB5YJP is also one of our contributors who have helped us update WR5AFW this year. John says he doesn't use 28/88 much but he just believes in what we are trying to do and wanted to help. John WB5YJP lives due East of Moore just off Sunnylane Avenue. James Gardner KA5DHF asked me to put his thanks in this article and so did John Stehr N5ABC. All of us really appreciate the donations. When W5TC finally becomes a first-rate station it will be in part due to the unselfishness of guys like you Sid and John.

UPGRADES

Nathan Kirby KB5BF

David Gibson - change call from WB5CRX to KA5J

Mid-Oklahoma Repeater Inc.

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

The meeting was called to order at 8:00 PM by President Chuck Wilhite, K5NK, with a strong and urgent reminder to police the place after the meeting. Chuck is getting tired of having his ears knawed on. Seriously, you can see the management's view - the members of a responsible organization should be responsible enough to clean up after themselves. If they are kind enough to give us a place to meet, we should leave the room as orderly as possible - instead of leaving it in a condition to cause them to have second thoughts about the desirable, or otherwise, facts of having a bunch of hams around.

There were the usual introductions in a room that seemed unusually full of people - glad to see everybody.

Certain business was discussed and acted on - including the election of an Executive Committee - Jim, K5VRL, Ken, K5VVZ & Frank, W5PDH. There was a report on CORA meeting and business, and of the prizes to be given at Ham Holiday.

There was a discussion of setting up emergency procedures, and practices, with a possible participation of CORA in the matter. There was mention made that those procedures need to be revamped, of training in net operations and their uses. Also, of parts played by the various clubs and their repeaters in cooperation with Red Cross, etc. I have heard that there were some chaotic conditions in communications during the aftermath of the Wivhita Falls - Lawton disasters. On the other hand, some others I have heard, thought that hams did a remarkable job, considering the conditions. Many local hams did good service here in town, relaying messages, etc. The men manning the Red Cross station, W5LOW, I understand did a lot of hard work for long periods of time - they are to be commended! Which gets back to the fact that we might just need some practice and training in emergency communications, to avoid confusion, duplication and waste of effort, and maybe chaos.

The financial status of the club was read by Jim, K5PER, and accepted. There was a discussion of 34/94 problems and Jim and Ron were authorized to check on and maybe replace needed equipment. Preferably looking for a good buy to replace the whole set-up, and recommending it to the club.

Other mundane matters were dealt with, then there was a discussion of autopatch procedures. Those things don't come free! An open repeater and patch are great things, and of great convenience, and maybe necessity when an emergency or other urgency arises. - - - -

THIS DOES NOT MEAN THAT OCCASIONAL USE OF THE REPEATER OR PATCH ARE OBJECTED TO, OR DISCOURAGED. ESPECIALLY, IF YOU NEED IT. AFTER ALL IT IS A PUBLIC SERVICE TO ALL HAMS FOR CONVENIENCE OR NECESSITY. The point being - don't constantly abuse a privilege. The repeaters are open to all - but don't take unfair advantage of others that have paid their way; and above all, consider the tremendous amount of time and effort, etc. put in by those who maintain them. Those gentlemen don't get enough credit for their time and effort. Without them, the repeaters would be inoperative and useless for anyone. The club would welcome most of you as members, because we would like to have you as one of us.

Permit me to editorialize a little further, my title is "Club Editor", mostly it is really serving as sort of a reporter. the above, doesn't mean that I, or anyone else, is perfect. Sometimes, it seems to me that I am chief mistake maker, not intentionally, but that does not change the error or possible inconvenience it has caused someone else - at least, I try to correct my error. in procedures when I realize them. Oh. I think I have plenty of company. (Continued)

A little further indulgence, please - There is a matter of courtesy that many of us need improvement in - to quote someone, "Be as patient with others as you can, and try not to make him impatient with you". Another way of saying, "Do as you would be done by". Maybe trite and old, but still true.

Respect others and be courteous. If a conversation is not obviously private, and you wish to join the group - give your call, and give the others a chance to recognize you and invite you into the group. Make a slight pause between transmissions to give someone a chance to join you; recognize him and invite him into the group if agreeable. Rudeness is an unacceptable way of using ham radio. Don't use language you wouldn't want anyone to hear, female, FCC, the good Lord, or otherwise. Anyone that yells "Break, Break", makes one think a "CR'er" got on the wrong radio. Reserve "Break" for emergencies, ONLY.

All of this has been printed or discussed before, but it is still valid operating procedure. Remember, also, many non-hams have scanners and listen. Improper language and information can be heard by many people, some of them might even make improper use of said information. - And, what sort of impression do the scanner listeners get of hams?

Program, quite interesting, was presented by Heathkit people, in the persons of Leon, WB5WTR and Dale, WA5RER. Thanks, gentlemen, for an interesting discussion of Heathkit products.

There was a sale of used equipment by our obliging professional auctioneer, John Sneed, WB5LER, I believe. Forgive me, but I got my notes mixed a little.

There was a drawing for a door prize, but I didn't get who it was that won it. Maybe e. can supply the info, if he will, please, ed.? (Sorry, George, I didn't make the meeting. Ed.)

Regards, George, WB5NMK

* * * * *

Requiescat in Pace

On 29 April Elmer L. Fields, W5BKN, became a Silent Key. On 29 April Amateur Radio lost an irreplaceable member, for Elmer was a type no longer being produced. Elmer had everything that makes a superb Amateur of Radio. A former high-speed radiotelegraph operator in the CAA, he was a master of code. A builder and designer of the equipment he constructed, Elmer could take whatever parts that were on hand and come up with equipment that performed a desired function. He taught himself the theory that enabled him to become a broadcast operator with a Radiotelephone First Class license. He was a well-rounded radioman. But, most important, he was a gentleman in the fullest sense of the term, polite, self-effacing, but ever ready to lend a helping hand. God has a new star in His Heaven!

W5JJ

SONY SUPERSCOPE
SPRAGUE
AmpereX 3M
marantz
SUPERSCOPE
ATLAS SOUND SONY
SHURE
KELITE AKTRON

BIC

Kelly's
DISCOUNT
ELECTRONICS
4221 N. MacArthur
PH: 787-0822
Oklahoma City.

TUBES 50% OFF
Free Testing
Most Electronic
Engineers and
Technicians buy
from us

WORLD WIDE ELECTRONICS
J. C. BIDDY

(405) 525-9897
1715 N.W. 15TH

OKLAHOMA CITY, OKLA.
73106

CHOCTAW AMATEUR RADIO CLUB

Pres., Frank Carter, AB5H, 391-3394
V-P, Gary Chambers, WB5WHF, 390-8250
Sec./Treas., R.G. Edwards, KA5ALO, 390-8297

Well, well, here it is. Time to write again. I've always heard that "time flies" but I think its got a new twist.

Whatever happened to Choctaw? I'm sure some of you noticed, we just did not make the last C&E. Well, I have a reason--spelled excuse, story, fib yarn, whatever. I was heading for the door, when my wife said(from out of no-where) "Honey, you had better call the doctor." But what to call him! Have you ever heard of False alarms? As some of you know by now, this wasn't--a false alarm, that is! Finally got my son to go with my two daughters.

Is everybody about ready for field day? I've heard it said, you're never ready until its a thing of the past. Looks like Mike and Frank are going to be our main CW ~~tail-tapper~~ er volunteers. Now that sounds real good.

While I'm thinking of it, we have the repeater operating in Choctaw now. That was a lot of fun 'cause all we had was a hammer, screw-driver and an axe. K5EGQ's home will probably never be the same. HI!

Frank AB5H mentioned having worked Jerusalem recently, but I haven't heard of anymore local DX going on around him. I'm not to sure he would tell me or anyone else about it if he did. Oh well.

Heard tell WB5OHK is still coming and going. He sure stays busy most of the time.

Jim WD5ITV got a receiver a while back and has been putting it together. He also got one of those 11M beams(new)for $\frac{1}{2}$ price--he got it somewhere else. Well, after a lot of head scratching, he finally figgered out why it looked like an 2M long beam. It was only $\frac{1}{2}$ there.

Bob KA5EOS got his ticket recently and has been very busy. I had an opportunity to work him last night, and I sure enjoyed it. He said he would try to upgrade ASAP so look out gens es advanced. He's sure getting good on that code.

Heard Jack WD5HNO is trying to do Frank out of those DX honors--Mid-west City to Choctaw. Actually, it was the other way around--He sent out an honest CQ on 40 and someone(I won't say who)answered him. So please don't give Jack to hard a time. Hear that Frank??

Gary WB5WHF has been into studies lately, so I haven't heard much from him. Summers almost here though.

I really don't want to sound like a commercial, but I just have to say this. I recently bought an HW-3 from our local store, and as sometimes happens, it got delayed in shipping. Leon really went out of his way to locate it. I've got it going now, and have sure enjoyed it. Mostly, I just want to say FB Leon and thanks.

Well, see you next month, Lord willing and have lots of DX, The real kind though.

Rick KA5ALO

FOR SALE: Swan 500 CX with Power Supply - 117 XC. Also 2 meter Linear.

Ray - K5LLX Phone: 375-3510

EXTRA CLASS
AMATEUR RADIO
W5KE

FIRST CLASS
RADIOTELEPHONE
LICENSE

ELLARD'S EX EL

ELLARD W. FOSTER, OWNER

5905 N.W. 42nd Street, Phone: 405/789-6702

OKLAHOMA CITY, OKLA. 73122

TELETYPEWRITER
ASSEMBLIES

USED TEST
EQUIPMENT

EXCESS
ELECTRONICS

Tektronix
COMMITTED TO EXCELLENCE

MIKE RILEY

Sales Engineer
Measurement Products

Tektronix, Inc.
800 N.E. 63, Suite 201
Oklahoma City, Oklahoma 73105
Phone: 405-848-3361 or 800-522-8196 (Okla. WATS)



HOW BIG IS SMALL?

Writing in the Wall Street Journal, Richard A. Shaffer tells about how more and more active and passive devices are being implanted on a tiny "chip".

The limiting factor for photo etching, the practice most commonly used, is the wavelength of light. Because of diffraction, this process is limited to lines over 10 kiloangstroms wide. That's a narrowness hard to imagine, but it's still much too wide to meet projected (and wished for) designs. By the use of electron-beam scanning and etching, rosy dreams foresee lines as narrow as 100 angstroms!

With such construction, large scale integration could make possible computing devices now only dreamed of such things as computers that respond to queries (and make reply to queries) in spoken English, that read handwriting, that border on Sci-Fi artificial intelligence.

W5JJ

THEY RESPONDED - THEY CARED - THEY SHARED

High Appreciation and TNX from the Amateur Radio community are due the following:

Hobe	WB5MLN	Howard	WD5IDB
Ken	WD5HXK	Sid	W5K0Z
Dale	K5WUF	Jack	WD5FKE
Martin	WD5FEI	Bill Teasley	(no call, yet)

On May 16th & 18th, the Amateur Radio Operators volunteered to provide communications between organizedsof activities at Oklahoma's 11th Annual Special Olympics at Central State University.

Coordination was smooth and all lost groups were united expediently with their "Super Heroes", except for Thursday the 19th, for which no one volunteered.

Plans are underway now for Mid-May 1980 - Oklahoma's 12th Annual Special Olympics -- contact Hobe or I, and again, TNX.

Jim, KA5EET

May 11, 1979

OM:

When I was in Oklahoma City this past week I picked up a copy of the May CORA C&E magazine and enjoyed it very much. Please enter my subscription with the enclosed \$3.00 check. I am in Oklahoma City about every 3 or 4 weeks and the C&E will be a great way of keeping informed on your ham activities.

73

Larry Waggoner, WØKA
Wichita KS

P.S.: Give Mike Salem, N5MS, an A+ for his articles.

FOR SALE: Signal Corps radio filter, F-L-5-A, can be used for voice or CW, \$7.50. Signal Corps receiver, BC-348. Good novice rig. \$30.00, negotiable. NCX-3 transceiver with AC/DC power supply & speaker cabinet. \$180.00. Al, WB50HK, 390-2983.

FOR SALE: General Electric Pre-Progress Line Radios. Schematics and other information supplied with purchase of Radio. We have some units that are working mobile on 52.525 mhz direct, some units that have been converted for base station use (115vac), and for the person that likes to do it himself we have some units that have not been put on amateur frequencies. For more information contact:

Joe Garland
893-2660
781-4394



MINUTES



The April '79 meeting was called to order at 7:32 pm on the 24th by the President, Mark WD5DYI, with 22 members and guests present representing all members clubs but Choctaw, Wheatstraw and Altus.

Minutes of the March Meeting were approved as published in the May Collector and Emitter through advance copies provided each representative by Secretary Jim KA5EET. Motion to approve was made by Bob WB5NSV and seconded by Bob WB5PWZ.

The Treasurer's report was approved as read by Ron WD5FRQ. Motion to accept was made by Ellard W5KE and seconded by George W5NTL.

Announcements: Carl W5JJ announced the passing of Jack Gant's father the first part of April (Jack W5GM is West Gulf Coast ARRL Director).

Bob WA5CJG announced that June's ACARC meeting will be an ARRL FORUM, 1 Jun 79, in the Mike Monroney Aeronautical Center Auditorium in the Headquarters Building. The unknowing will be directed from the club station location and on repeater 25/85.

Mark WD5DYI announced that the Bicentennial Club has offered the 16/76 repeater for a "YL Net" with an organizational meeting "on the air" 10 May. Also, MORI will offer door prizes at meetings beginning 1 May 1979.

Bob W5HXL announced that the Kay County Amateur Radio Club is requesting CORA membership by letter. Also, KTVY, CH. 4, has a 35-hour/week part-time opening for a first phone; person to contact is John Bushnell.

Bill K5KDR announced the South Canadian Amateur Radio Society (SCARS) is considering joining CORA and requested, received and took back to SCARS a copy of the CORA Constitution for their study.

Old Business: Bob WB5NSV brought samples of mailing labels and a club roster printed by our computer. Further, he announced the plan to provide a printout of its roster to each club requiring it returned by the club's secretary with corrections made thereon to accurize and update the computer's memory.

The Secretary was asked to formally request a State Fair booth by letter. Nine individuals have committed their time to operate the booth 21-30 Sept 79. More Committments will be required.

Ham Holiday 79 Committees: We had 21 registrations as of 24 April 1979. Publicity has mailed either cards or letters to all publications and nearby Clubs. Bob WB5NSV submitted a proposed button ID design, Carl W5JJ moved and Ron WD5FRQ seconded that CORA accept the design in black on a gold background. Motion carried.

It was moved, seconded and carried that the Facilities and Program Committees will coordinate their needs together and report to CORA 29 May 1979, the next meeting.

New Business: Paul WA5HTL moved, Jim KA5EET seconded and motion carried that CORA accept the Kay County Amateur Radio Club into CORA membership upon receipt of their written request (which arrived by 1 May 1979). This brings our total membership to 11 clubs.

Coy N5OK, Oklahoma County Emergency Coordinator presented a need for Traffic training and practice and requested CORA assistance. Zack WB5QPI made a motion seconded by Jim KA5EET that CORA take up the leadership for Oklahoma County Emergency Coordination. Motion carried. Ron WD5FRQ moved, Zack WB5QPI seconded that CORA appoint a steering committee to gain volunteers from each member club to become a standing emergency coordination committee to assist the county coordinator under CORA's leadership: motion carried and volunteers were Zack WB5QPI, Mark WD5DYI, Paul WA5HTL, Bob WB5PWZ, and Howard WD5IDB. The Committee established Thursday, 3 May, 1930 hours at Central Red Cross for its first meeting.

There being no further new business the meeting adjourned at 10:07 pm.

Jim, KA5EET, Secretary

CORA Collector & Emitter

Shawnee Amateur Radio Club



W5SXA

SARC is alive and well in Shawnee!! This group meets twice monthly in the EOC room of Shawnee City Hall. A regular business meeting is scheduled at 2000 hours each second Tuesday and an informal meeting at 2000 hours each fourth Tuesday. Often, there is business to conduct - however briefly - during the latter meeting. Visitors are welcome at any meeting.

Many thanks to Chuck, K5NK and Joe, WA5ZNF for coming down to talk to us about CORA. We have been looking forward to affiliation with the association for some time and hope that we can make a contribution to the total effort.

Amateur radio classes were conducted from January through the middle of April resulting in seven Novices, two Technicians and one Advanced Class. Among the Novices were Otto B. Burton, aged 79, of Chandler and his house guest Hans Boysen, a foreign exchange student from Norway. Dean Akin went all the way to Technician. Syrena, KA5DWC, first harmonic of Mary, WD5FIJ and Leon, N5AZP, upgraded to Tech. Norman Anderson, Ex K2MOJ re-licensed to Advanced Class. We are pleased..... (At press time the only new license received was by David Zeller of Maud - KA5EUQ)

Our sister club, Tri-County Repeater, Inc. has completed a winter-long project to re-hab the 31/91 machine. It is an open repeater and all are welcome - until it's abused: Also, it will soon include autopatch with * up and # down logic - also open for the time being..... (Times out in 3 minutes + 15 seconds)

Tri-Co is having a flea market to raise money for support of the system. The big sale will be in the parking lot adjacent to our old club building at West Federal and Saratoga on June 16, 1979. That's out at the airport and talk-in will be on 31/91 and 52 direct. We need your money - so be there!!!

Some club activities so far this year - official and otherwise - include: an S E T on ice; CPR training; storm watch training courtesy of NWS and Ron, KA5CAY CD Director for Shawnee; emergency severe weather operations; and in between the guys are already talking about Field Day, HamCom and HAM HOLIDAY, etc.

That clever Bill, WB5TZQ scheduled a three-week computer school at Wright-Patterson AFB right on top of the big Dayton bash. Brought back one of those fancy new synthesized HTs complete with pad - and a whole bunch of other goodies.

Attempts are being made to re-hab the old club building out near the airport. A new door, security screening, shelving units and work bench top have been acquired and now need a work day or three to get them installed. But first comes roof repair - or a whole new roof!! Donations of time, labor, money, etc are needed. So come on all you SARCs, lets get on with it.

73, JAY, WD5BUQ

FOR SALE: Mosely TA40KR 40 meter add-on for Mosely 33 or 36 beam. New, complete except the guy cord (150' of nylon) is missing. WD5BUQ/273-3033.

AUTO - HOME - TRUCK - BOAT - FIRE LIFE
WORKMEN'S COMPENSATION BUSINESS LIABILITY
LOW COST FINANCING

WA5YGX



Bill Beamer

AGENT
2411 NORTH PORTLAND
OKLAHOMA CITY, OK. 73107

BUS: 943-9674
RES: 721-9527

An Authorized Beltone Dealership
Hearing Aids and
Audiometers



AE5N
DONALD H. DUCK
Special Instruments Representative

Beltone Hearing Aid Service
2828 N.W. 50th
Oklahoma City, Oklahoma 73112
Telephone (405) 947-4442

6 Meters

ALOHA FROM HAWAII

KH6IAA



ALFRED PACHECO
20 MOKUHONUA LANE
HILO, HAWAII 96720

SMIRK - 1725

HAWAII-TO-OKLAHOMA
PATH CONFIRMED ON
THE SIX METER BAND!

This copy of the KH6's card face is included in hopes of being better able to make my point about chasing DX on the six meter band as the sunspot cycle is again on the rise.

On the 5th of May at approx 0300Z, five area amateurs were fortunate enough to establish two-way SSB contact with this Hawaiian station on 50.120MHz.

The five central Oklahoma operators who confirmed Hawaii on this six-meter opening are: Jerry, WB5WKK at Choctaw; Freds WB5WLS and K5HPN; Steve, WB5CTS; and yours truly, N5WM. Leon, WB5WTR had his 4-element beam pointed south with no rotator on it and he could faintly hear the KH6. This opening appeared to be F-layer skip, not "Sporadic E" as is most common on six meters, especially during low periods of sunspot activity. Our signals were actually skipping over the California operators and the Hawaiian was working fives and sevens by the dozens!

Last month, I congratulated Johnny, K5GBN at Calumet and Curtis, KA5AJR at Bethany for working the Quito, Ecuador station (K4ERO/HCl) on six meters. I took a few good digs at my pal Steve, WB5CTS for missing him. Well, in addition to the Hawaiian, Steve has picked up three Argentine stations since last issue. As he attempted to ring my phone off the wall during all that, there I sat in the back yard with Leon, WB5WTR, working on my six meter beam. I guess Steve got the last laugh on me for that, after all! -- but on 23 May at 0140Z, he alerted me to a Bahamas station (KB4ND/C6A) and four of us bagged him (WB5WKK, WB5WTR, WB5CTS, & N5WM).

But enough of the specifics -- let's talk about the six meter band in general. As the eleven-year sunspot cycle approaches its peak (in 1980), this VHF propagation can really become something phenomenal. It did in 1957-58 -- but it was poor by comparison in 1969. The coming peak is supposed to be as good or even better than the late 50's openings, where six meters would be open for days at a time and Europeans, South Africans, South Americans by the dozen, and scores of Japanese stations were all worked right here in Oklahoma on a somewhat regular basis.

Yes, it's been twenty years since six has done the kind of tricks it's doing right now, so I'll repeat what I wrote last month: IF YOU DON'T HAVE A SIX METER RIG, GET ONE. Most of the stateside activity is right around 50.1MHz. (50.0-50.1 is for cw only, and the SSB/cw international call frequency is 50.110MHz). There is still some AM activity, usually 50.2MHz and above (50.250 is the hottest AM freq). You can buy an AM transceiver at the hamfest flea markets for \$35 to \$60 and, with about an hour of work, they make a fine cw transmitter, too.

Frank, N5FM, is back on the air with us, too. He and I worked a cw operator in Mountain Home, Idaho a few nites ago (while WB5CTS was working three VE7's in British Columbia, just north of Vancouver). Frank reminds me to say something about six meter FM -- it's great, too. The Autopatch Association operates a repeater here with output on 52.525MHz (the international FM freq). Six FM DX is very interesting. The last time I fired up on 6FM, I worked a W8 in Detroit.

Please give me your comments about six meters and this column. If it is of interest to you, I'll keep submitting material.

- Bill Riddles, N5WM



The Oklahoma City Auto Patch Association held its May meeting on May 15, at 7:30 p.m., in the Oklahoma City Military Academy. Approximately 30 members attended.

It was decided to discontinue the 156 member limit on membership. I have appointed Rubin, WD5FKF, to head a committee to collect delinquent memberships and to secure new members for the Club. All rosters will be printed in the C&E and members are expected to update their roster from new member listings in the C&E. This committee will handle all the input to the C&E concerning memberships.

For the benefit of those who do not know, our Club has a fixed amount of money each month that is committed. WB5MLN, Hobe, the Club Treasurer, has submitted a statement of monthly fixed operating costs as follows:

Telephone Service	-	\$ 61.92	
Liability Insurance	-	8.75	
Postage	-	6.00	
Electricity (Aprox.)	-	25.00	
To C&E For Members	-	19.00	(Based on 150 Members)
		<u>\$120.67</u>	Per Month/\$1,447.74 Per Year

As you can see from the above statement, we have to average five renewals or new members each month just to meet our fixed expenses. No allowance for equipment, maintenance or new equipment purchases are included in the above statement. We spent approximately \$1,000 in building our new building at the base of the tower. The membership is now approximately 150 members; however, it was about half that a year ago. This means it is the responsibility of all members to recruit new members. WB5YLZ, Sully, has been appointed to head the Nominating Committee. This committee will have a slate of nominees for the Club Offices for the election in August. Should any of you wish to serve as Officers of the Auto Patch Group, see Sully. Nominations will be accepted from the floor during the election; however, Club bylaws require prior agreement of the nominee before nomination.

During the May 15 meeting, motion was made, seconded and passed, directing the Club President to make an apology to the amateur community in general and, those listed in this column last month in particular, for said article. The opinion expressed was that of the Club Editor and did not necessarily represent the membership as a whole. In the future, all articles appearing in this column will be followed by the call letters of the person responsible for the column.

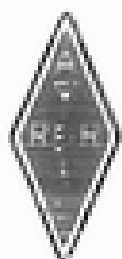
N5FM

The June 19th meeting of the Auto Patch Association will be a joint meeting with the "Apple II Users Group". This is a group of people interested in personal computers, who meet informally each month to discuss and exchange microcomputer information. During this meeting Ken Sliger and Martin McCormick of High Technology, Inc. will present a program on personal computers. Included will be video tape, computer graphics and speech synthesis, which should be very interesting. Will start at 7:30 p.m. sharp.

N5FM

N5RC, Bob, brought a guest from Quito, Ecuador, South America. Eduardo Breilh, HC1EB, who has served as Vice President of Amateur Radio in Ecuador, was very interesting to visit with and was welcomed by the members present.

N5FM



ALTUS AREA
AMATEUR RADIO
ASSOCIATION

President - Steve Norris W5KI

Sec/Treas. - Mike Schenkel W5VXU

The monthly meeting of the Altus Area Amateur Radio Association was called to order at 7.30 PM, April 12, in the meeting room of the North Main Fire Station.

Steve Norris, Club President, opened the meeting with the introduction of the newly upgraded Major Bailey, KA5CES and Bill Dunn, WD5IRR, both of whom attained the heights of General Class.

The financial report revealed that the club was operating in the black with nearly \$250.00 in the bank.

The subject of the upcoming Field Day was brought up with a warning that the next club meeting would be used to come to grips with all the problems and ideas for this annual event.

A bunch of roses were presented to all who were concerned with the communications into and out of Vernon, Texas, during the recent disaster when Jim, WA5OPV stated that in his opinion, it all "sounded real good".

A film entitled "Voice for Mercury" was shown rounding out the evening's events after which the meeting was adjourned across the street for the usual coffee and chatter.

On Tuesday evening, April 17th, a meeting was held in the North Main Fire Station attended by interested amateurs to critique the recent communications into and out of the Vernon, Texas, disaster area.

Under the guidance of Steve Norris, Club President, the purpose of the meeting was to offer areas for improvement, indicate problem areas and offer solutions if possible so that communications in the future might be more productive and efficient.

Chuck Smith, aided by Dwight Dennis, briefed the group of some 15 amateurs on the details of the Vernon operation.

One problem area identified by the attendees was the message priority of traffic entering and leaving the scene. It was decided that for future operations, all outgoing emergency traffic would be considered first priority, incoming emergency traffic would be second priority and outgoing health and welfare traffic would be handled as third priority. No other traffic would be handled until such time as existing communications systems could handle the load.

Another problem which received much attention was the method of identifying incoming workers and volunteers coming into the disaster area. There appears to be no common method used by the various cities and towns and a solution was tabled until such time as proper methods can be obtained from the communities concerned.

During the various detailed discussions it was found that probably the most efficient way to solve a multitude of the problems would be to provide adequate education and public relations where the officials in surrounding towns and cities are made familiar with the many ways in which amateurs can be useful during such emergencies. Once these officials know first hand just what amateur radio can do for them, proper utilization will come easily.

Another problem surfaced when it was learned that the American Red Cross had been having extreme difficulties in reaching any of the three disaster areas and had to rely almost exclusively on commercial telephone facilities for their contacts. These facilities were, due to overload and equipment outage conditions, virtually useless.

Dwight Dennis offered a listing of the various equipments available in the EOC and after indicating that the HF equipment needed some work before it could be considered operational, Bud Smith offered to do the needed alignment work.

The last item on the evening's agenda was when President Norris tasked Dwight Dennis with the compilation of a listing of projects which needed finishing. When this list is completed, various members will be offered the opportunity to volunteer their services.

The meeting was adjourned around 10 PM.

(Editors note: This is last month's news. It was delayed in the mail.)
More on next page.

ALTUS AREA



AMATEUR RADIO ASSOCIATION

The regular monthly meeting of the Altus Area Amateur Radio Association was called to order by Mike, W5VKU, at 8.00 PM. Dave, KØJPK, addressed the membership on the subject of Field Day 1979 and much discussion ensued. Dave reported that Jerry, WB5LTU, would act as host again this year and the field behind his house would be this year's FD site. He further gathered a rather lengthy list of items, equipment, antennae, cable, wire, etc., needed this year and where to find them. It was decided that Dave would chair a committee consisting of himself, Jerry, WB5LTU and Steve, K5KI as well as any interested volunteers to finalize plans and setup of FD activities. Committee meetings will be held June 12th, 14th and 19th with an antenna raising party scheduled for June 23rd.

The next section of this month's meeting was then turned over to Mr. Paul Gaucher from the Altus AFB Communications Squadron, who attended this meeting for the specific purpose of teaching CPR methods to all interested persons. To aide him in these endeavors he brought a couple of adult and a baby dummy which insured much practice by participants. Nearly a dozen club members are now qualified in CPR. The class in fact became so interesting that most of us completely forgot about the usual coffee and gab session.

SHORT SQUIRT: As we understand it from an unimpeachable source, DL's bird seems to be getting his goat.

The following are new members of Oklahoma City Autopatch Assoc.:

K5TY	E. Ray Long	til 5/80	WB5WXC	Bill Sherer	til 2/80
WD5KFT	Clara Storm	" "	WB6QLL/5	Foy W. Pulliam	5/80
K4GVI/5	John H. Marshal	" "	WB5BQX	Robert R. Shaw	" "

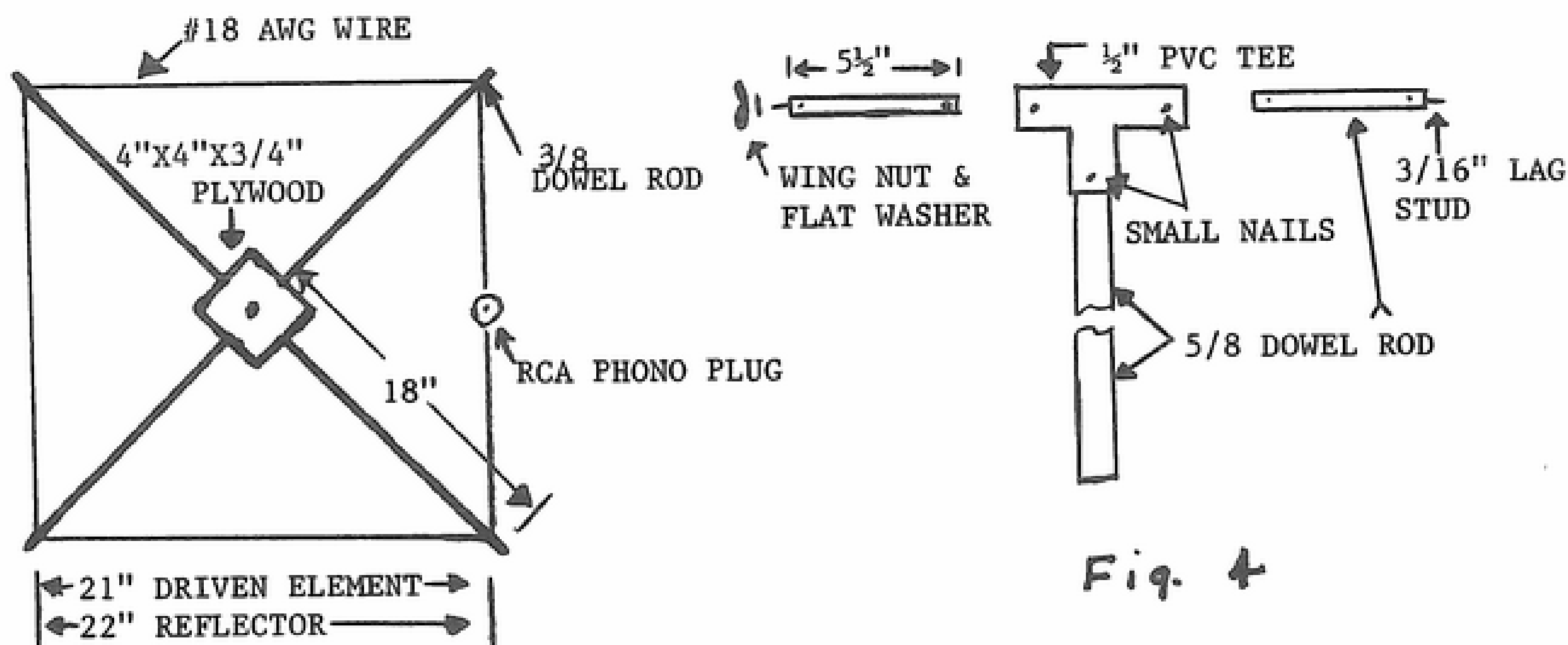


Fig. 4

MATERIALS:

4- 3' X 3/8 DOWEL ROD
1- 3' X 5/8 DOWEL ROD
2- 4" X 4" X 3/4" plates
1- 1/2" ID PVC PIPE TEE

2- 3/16" LAD STUDS
2- 3/16" WING NUTS
2- 3/16" FLAT WASHERS
8- FEET OF #18 AWG
STRANDED WIRE



BICENTENNIAL AMATEUR RADIO CLUB

"To Promote Radio Communications"

Sponsored by Oklahoma Air National Guard
Will Rogers World Airport

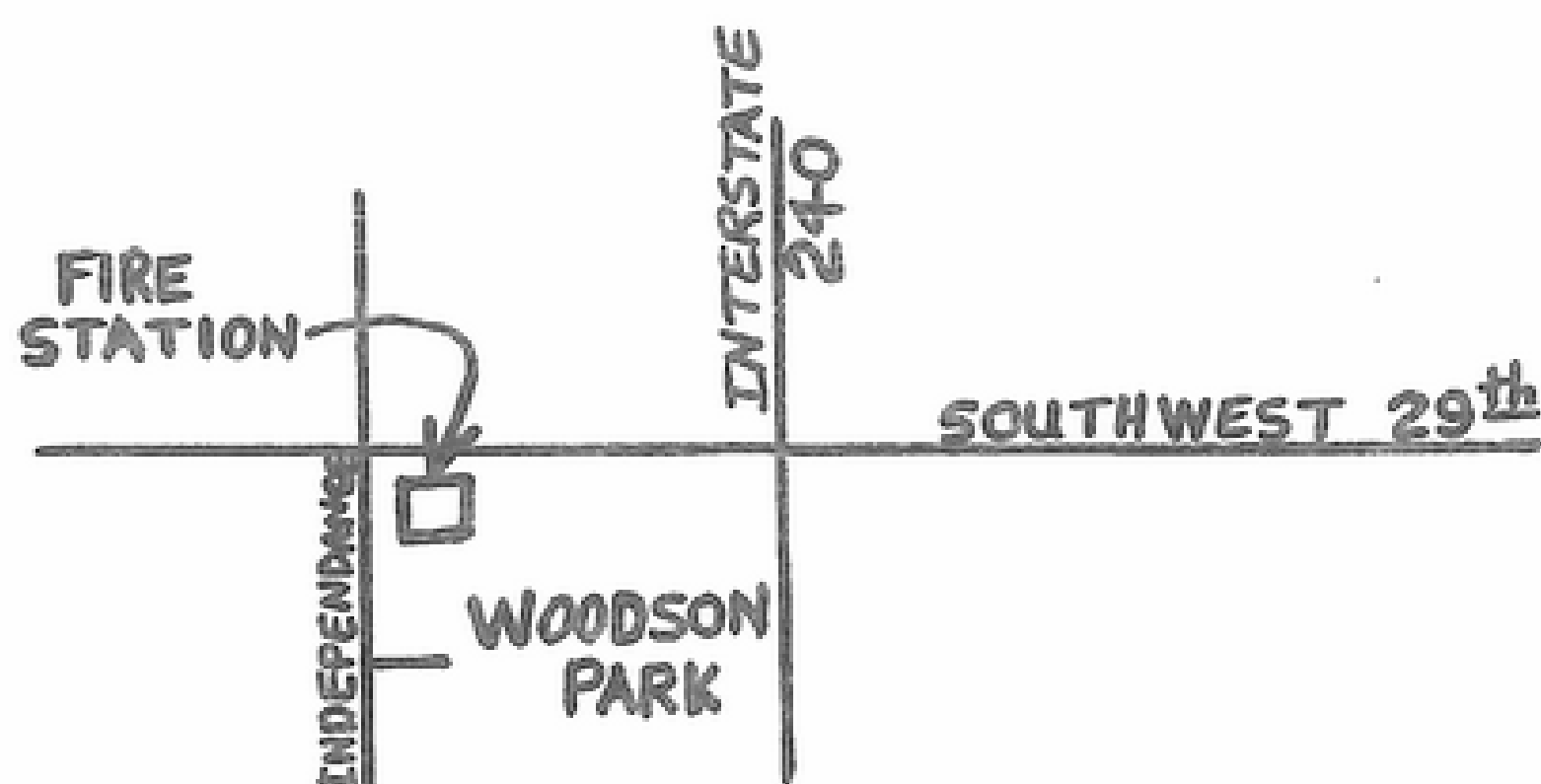


FIELD DAY 1979

June 23, 24

The Bicentennial Amateur Radio Club will operate during field day from our usual site - Woodson Park on southwest 29th street in Oklahoma City. (see map for location) Anyone interested in operating or participating in any way is urged to come out. You do not need to be a member of the seventy-sixers to join us. If you would be interested in helping set-up on Friday evening, contact Dick Baker, WB5TMW. We will be operating class 2A again this year and we expect to have a great time and make a lot of contacts. See you there!

Exit on SW 29th from interstate 240, then drive one block west to the fire station, turn left at the fire station and left again at the first opportunity.



MINUTES

Meeting called to order at 7:00 p.m., self introductions were made. There were 45 members and 5 guests present. Mark, WD5DYI gave CORA report, Don, AE5N, reported that our repeater is now hooked to the hospital emergency power. Jim, KA5EET, reported on CORA'S effort to have a fair booth.

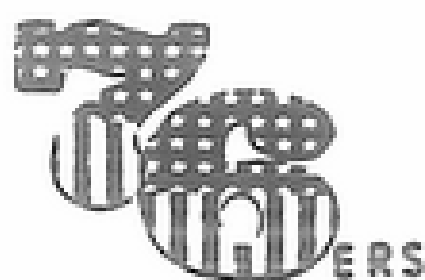
There was discussion on last month article in C & E about freeloaders. Our club policy was discussed and it was stated that our repeater policy has not changed, our repeater is an open machine and all amateurs are welcome.

Dick, WB5TMW, reported on field day plans. Dick also suggested that we install a system to link the NOA weather service to the repeater, Don and Charley are working on it. C. Y. Chandler, WB5TKG, was appointed to CORA emergency committee. Coy Day, N5OK, told about a group working with the weather service during last months storm.

Remember the swap second Saturday of every month, behind the Heathkit store.

Sec.
Joe WD5BMP

FOR SALE: Kenwood TR7400A 2 meter transceiver, 5/25 watts out.
4 months old. \$320 with standard mike--\$350 with touch-tone mike.
WA5RXA, Paul, 4pm-9pm 942-5785



BICENTENNIAL AMATEUR RADIO CLUB

"To Promote Radio Communications"

Sponsored by Oklahoma Air National Guard
Will Rogers World Airport



FROM THE PRESIDENT

Field Day 1979 has its timely appearance this month. For the 76ers, this means an all-out push to unite our brainpower with manpower (excuse me, PERSONpower). This will be an effort to compete and just plain have fun. There is nothing to compare with the fellowship of Field Day.

The event also couldn't come at a better time for our club. The 76ers growth rate in the last two years has really been phenomenal. The diversity of our membership, our training classes, our repeater, and our interests are the main reasons for this. Unfortunately, with this growth comes growing pains.

We have often been involved with particulars and sometimes tend to lose sight of what a good thing we have. Last month's issue of Collector and Emitter struck controversy and some hard feelings. Other problems have also come up which have caused some discontent. We cannot decide as a club upon individual rights or morality, just as we cannot get into politics or religion. We cannot do the FCC's job. These sorts of thing are simply out of place.

The Bicentennial Amateur Radio Club is open to all persons interested in amateur radio. We are not a repeater club, but a club which happens to have a repeater. We are also committed to an extensive training program for unlicensed as well as licensed amateurs. The club considers all types of activities and interests important to the growth of itself and its members. Please, let us not lose sight of these qualities.

Mark Northcutt, WD5DYI

I would like to welcome new and renewing members of the Bicentennial Amateur Radio Club on behalf of the club.

W5OZE	WD5BKT	KA5DWC	KA5BJS	K2GKK
KA5CWT	WD5KFT	W5TY	W5MCM	K5AJW
WA5GVH	WB5DXZ	W5TJL	KA5DWK*	WB5RXX*
W5KBZ*	WA6NXS*	KA5CXW*	K5YGM	

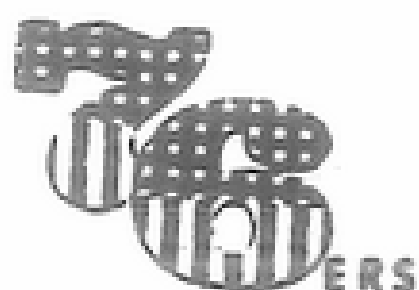
Susie Atkinson No Call (YET!!)

I was going to publish membership statics, but I ran into a small problem. While reaching across the table for the club roster, I didn't get a hold of the box firmly and they ended up on the floor. So in the mean time I have a very large mess to clean up and I will try again next month. If a * is by your call sign please get in touch with me by phone or at the next club meeting. The star means that I need your telephone number or to know if you are an ARRL member. Requirements to join our club are as follows, taken from the Constitution Article I. "All persons interested in radio communications (without pecuniary interests) shall be eligible for membership. (Membership shall be by application and election as directed in the By-Laws.)". Club dues are \$2.00 per yr. voluntary repeater support of \$10.00 per year. Don, AE5N

Swan 250 6-meter SSB/CW/AM transceiver with matching 117XC power supply/spkr. Complete with manual, optional crystal calibrator, and mike. Recently re-tubed and aligned — appx 100 watts RF output, full coverage 50-54MHz. \$295 complete. Bill Riddles, N5WM, 842-0092, OKC.

FOR SALE: Swan 240 transceiver \$130.00, AC supply \$80.00 or both for \$195.00. Works fine. Dale, K5WUF, 943-5438.

FOR SALE: Icom IC-22S two meter transceiver with VIP Engineering switch installed to give all repeater and simplex channels in the 146 - 148 mhz. band. \$225 Charlie WA4PLG 632-4653



BICENTENNIAL AMATEUR RADIO CLUB

"To Promote Radio Communications"

Sponsored by Oklahoma Air National Guard
Will Rogers World Airport



TO: The Bicentennial Amateur Radio Club
May 8, 1979

FROM: Charlie Kennamer
WA4PLG

I regret that I will not be able to attend the club meeting this month and next month since my wife Brenda and I are taking a prepared childbirth class on Tuesday evenings. I submit the following for consideration in my absence.

With all respect for our club editor, Bill Riddles, I must disagree with the article on repeater freeloading in the recent issue of Collector & Emitter. Although I am certain that Bill felt he was accurately stating club sentiment on the use of the repeater, I believe the club should discuss this matter and arrive at a consensus of opinion. As most of you know, the repeater was donated to the Bicentennial Amateur Radio Club by the former Oklahoma City Repeater Club with only one general condition: That the repeater and autopatch would remain open to all users if at all possible. I personally agree with this open repeater philosophy and I feel the article in Collector and Emitter suggests a somewhat different idea. I don't feel that a person should feel any guilt for using an open repeater, except as imposed by his own conscience. If we are not careful, we could cause a person to feel guilty for using our repeater and therefore we might not be considered an "extremely friendly organization".

I urge the club to discuss this issue and bring it to a club vote if that is what is necessary. Should it be decided that we wish to convey a different attitude regarding the use of our repeater, then I hope we will clarify our position in the next issue of Collector and Emitter.

I sincerely hope that no one, especially our editor, will take offense at these comments for that is certainly not intended.

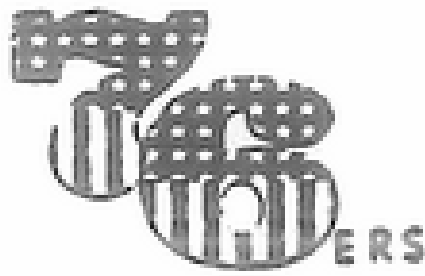
The subject of repeater support was discussed at the May meeting of the 76ers and there was an agreement that the 16/76 repeater and autopatch should remain open for use by any properly licensed amateur.

Computer System
\$8997⁰⁰

Small Business Applications

- General ledger
- Accounts payable/receivable
- Payroll and Inventory
- Custom programming

MICROLITHICS Inc.
2918 N. MacArthur Call 947-5846



BICENTENNIAL AMATEUR RADIO CLUB

"To Promote Radio Communications"

Sponsored by Oklahoma Air National Guard
Will Rogers World Airport



THE YL NET is getting off to a good start with seven check-ins for each of the first two meetings. Clara, WD5KFT and Kay, WD5DYJ have served as net control operators so far with the following list of check-ins:

KA5BJS	Judy	WB5TFY	Pat
WD5HXM	Jerry	N5AVC	Susan
N5BAX	Mary Lou	N5AWI	Lesta
N5BOG	Mary		

This is a very informal net and it meets on Thursday evenings at 9:00 PM on the 16/76 repeater. Lets hear some more of you YL's on the net and cause it to be a tremendous success.

Coy, N5OK reports that there is a lot of DX activity on the low bands these days.

K5VT, Vince Thompson (formerly from Oklahoma City with the call K5KEZ) has been operating on a DXpedition in SV5 land.

K4YT has been operating from Dahomey, Africa under the call TY9ER.

LU3ZY has been active from the South Sandwich Islands 40 and 15 meter CW.

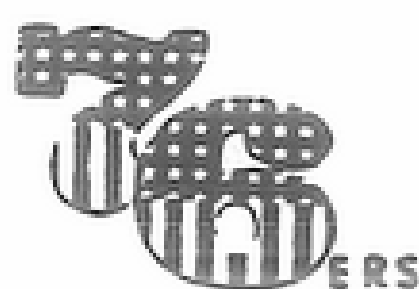
and -

There is a rumor that SM0AGD, Eric will be operating from Laos for a couple of weeks beginning May 28.

Don K5UKP, Jim KA5EET, Charlie WA4PLG, Dick WB5TMW, Bill KB5BS, and a couple of others that I cannot recall right now have been trying to get some kind of transmitter hunt going in the area. We have had three or four hunts already in the last few months. Participation has not been as high as we had hoped. Mostly because most folks just did not know when or where. Well I hope this article will put an end to that problem. Starting in June we will have a hidden transmitter hunt on the second Sunday of each month. We will start from Woodson Park, 29th and South Independence at 2:00pm. This is also our Field Day site, a map showing how to get there is in this issue. The winner will be the first person (car load) to find the rabbit, with the fastest time and the least number of miles driven. Now do not be affraid to load up the kids and wife, they can be very helpful. If you do not beleive me just ask me or Dick WB5TMW. The hunts will be on 146.52MHz so those who are crystal bound can join in on the fun. We will try to end up the hunt at one of the local parks for a picnic, so pack up the family, frizbee, softball, bats or whatever and lets go have some fun. Before I forget if you do not wish to get hooked on DFing stay home. Don AE5N

I HEARD:
.....
.....
.....TDW wore "Shawnee's Best Flour" shorts as a boy.....
.....

Chuck, K5NK



BICENTENNIAL AMATEUR RADIO CLUB

"To Promote Radio Communications"

Sponsored by Oklahoma Air National Guard
Will Rogers World Airport



DIGITAL LOGIC-A CONTINUING DISCUSSION Part One

This series of articles is aimed at those of us that know little about digital ICs. It is intended to try to explain just what certain types of ICs, commonly called "chips", do. It will be several articles that will appear in the following months.

First a basic explanation of the common terms that are commonly used when working with ICs.

As you might be aware there are many families of ICs. A few are TTL, DTL, ECL, also CMOS, etc.

This series of articles will discuss the Transistor-Transistor-Logic types.

The TTL family is made up mostly by the 7400 series of chips. This means that their Id numbers all begin with 74xxx. For example 7402. The 7400 series of chips require +5 volts Vcc. Also among the Id number may be a L, S, H. These tell that the chip is a low power or high speed chip. However the basic operation remains the same.

Lets start the discussion!

There are two important things to remember when trying to work with digital circuits. 1. There are only two states in digital-ON or OFF.

2. There are set conditions that the chip follows (the logic part).

I will try to explain #2 more as we go.

Lets take the 7404. the 7404 is call a HEX INVERTER. Look at the name. HEX- means that the chip contains six (6) individual inverters.

Inverter- this gives it away. What ever is applied to the input (either a high or low) will be inverted. If a high is applied then a low will be outputted. There are no exceptions. all 7404 chips will work this way. Notice that the chip is either on or off with no in between.

A schematic symbol for a HEX inverter is below in fig. 1. A transistor equivalent is in fig. 2. Notice the little circle on the output of the inverter. This shows the output of the buffer is inverted.

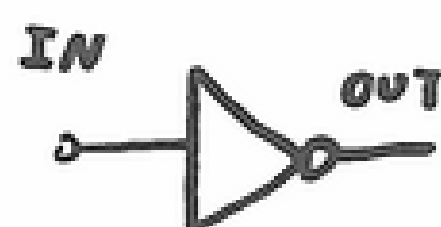


fig.1

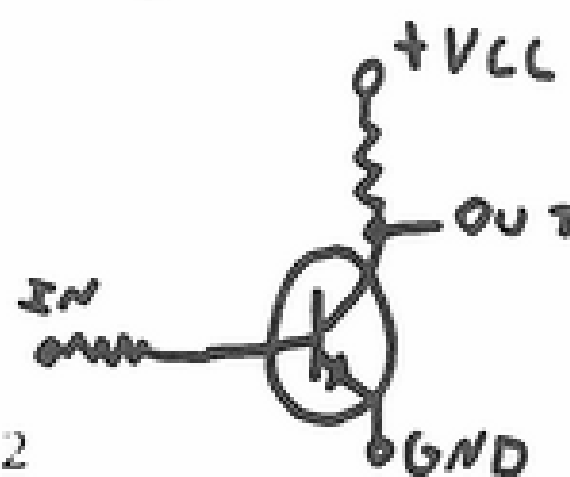


fig.2

Oh, you say. Whats a buffer? A buffer is used in discrete circuits to prevent pulling an oscillator. A buffer in digital circuits is used to prevent loading down of the output of a particular stage.

A 7407 is a HEX BUFFER-hex tells us that there is six of them a buffer tells us what the chip is. A buffer does not invert the input. If the input is high then the the output will be high also. If the input is low the the output will be low also. The symbol for a buffer is in figure 3. Notice the lack of the circle on the output. These two types-buffers and Inverts are the simplest of the 7400 series.

There are other types of inverters and buffers-types that have high voltage outputs and types that have open collector outputs. An open collector output means that the output only pulls down a present voltage or "sinks" the voltage. It does not supply any juice itself. This is the symbol for a buffer.

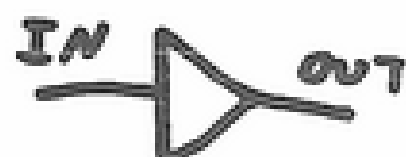


fig.3



BICENTENNIAL AMATEUR RADIO CLUB

"To Promote Radio Communications"

Sponsored by Oklahoma Air National Guard
Will Rogers World Airport



Next month the article will be about Nand gates, OR gates, Nor gates and And gates. Really quite a selection of gates mainly. These are the things that digital logic is really designed for.

To prepare us for them lets talk about the truth. Well about Truth tables. A truth table is a list or table of input conditions and their resulting output conditions. Lets make a truth table for a 7404 which was discussed earlier.

fig 4.

INPUT	OUTPUT
0	1
1	0

fig 5.

INPUT	Output
0	0
1	1

In figure 4 we see a bunch of 1's and 0's. A one symbolizes a logic high or a voltage near 5volts. and a 0 indicates a logic low. Or a voltage near 0volts. Every possible input condition is shown. Either high or low. The output is always the opposite level. In fig 5. every condition is shown also. When the input is low the output is low. Figure five is for a buffer (if you hadn't guessed.) A truth table just shows the input conditions and the outputs. Thats all there is to it.

Next month we will use truth tables alot. --- Lloyd Kirk WB5IUP

The simplest directional antenna is the legendary DF LOOP. That is a fine directional antenna except that is bi-directional! So it gives only a line on which the signal source will lie, not the final direction. Why did you think the DF vans continuously rotate their DF loops?

So let's try to find another antenna with good directional characteristics and without the ambiguity of the DF loop. The cubical quad comes to mind almost instantly since it is nothing more than our DF loop with a reflector added to eliminate the other side of the world. And it works very well! Front-to-back ratios of 20 to 25dB are not at all unusual. It also has a very well defined main lobe so the attenuation technique previously suggested works like a champ! The quad also lends itself very well to minimum cost construction as *FIG 4 demonstrates. Anyone who spends more than \$15 for the materials should find another lumber yard and hardware store! Mounting the antenna on your means of transportation is left to the ingenuity of the builder. One simple method used a single roof-top carrier section. A 2X4 length was clamped/tied/nailed to the cross-member and a 5/8 " hole drilled to accept the 5/8 mast of the quad. This turned out to be force-fit and quite adequately damped the rotation of the antenna while moving from position to position. The support was also adequate to keep the antenna from departing the vehicle for all reasonable speeds (legal).

One more technical note - a phenolic block is not required in the reflector loop and tuning of the loops is unnecessary if the dimensions are met reasonably close.

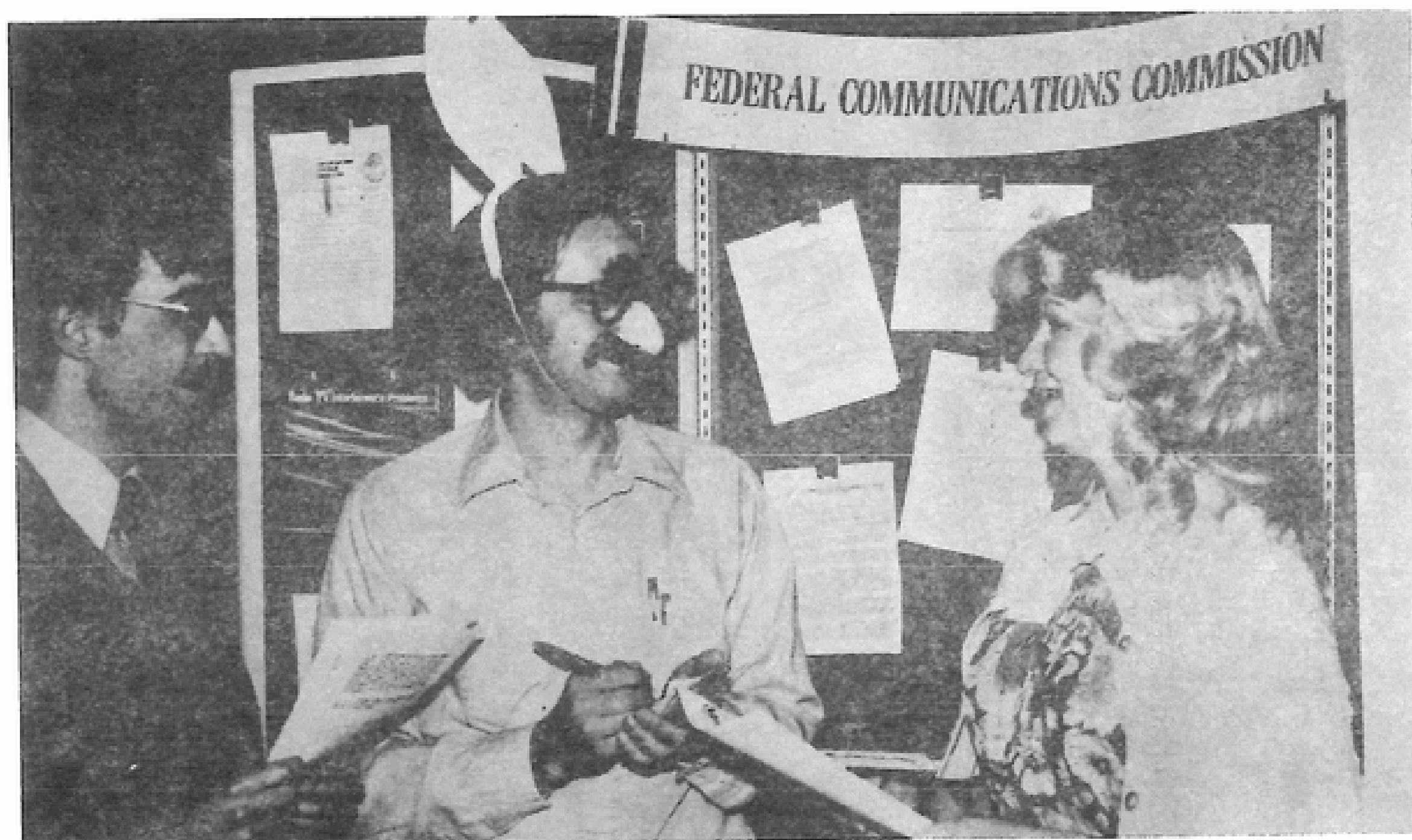
Lest I be given more credit than is my due, I would like to identify the real sources of the information contained in this article. The development of the antenna and the attenuation scheme was done in San Antonio, TX by K 5GIN and KB5BS(now of Oklahoma City). Good luck and good hunting.

Written by Don Graham, WA5TAW, published in April 1978, Collector and Emitter.

* FIGURE 4 IS ON PAGE 7



NO TRIP TO DAYTON IS COMPLETE WITHOUT A STOP BY THE 73 BOOTH AND A VISIT WITH WAYNE GREEN. WAYNE STILL REMEMBERS HIS TRIP TO NORMAN SEVERAL YEARS AGO BEFORE THE DAYTON HAMVENTION TO SPEAK TO THE UNIVERSITY OF OKLAHOMA AMATEUR RADIO CLUB. STANDING WITH WAYNE IS YOUR REPORTER AND STAN, W5UIY. WAYNE WANTED TO KNOW IF I HAD MY EARS ON.



A QUICK STOP BY THE FCC BOOTH AND A DISCUSSION WITH MS. LINDA PLANK OF THE COMMISSIONS WASHINGTON OFFICE. I DON'T REMEMBER THE EXACT QUESTION I WAS ASKING AT THE TIME, BUT IT MUST HAVE RELATED TO MY SPECIAL CALL REQUEST FOR KBUNNY.

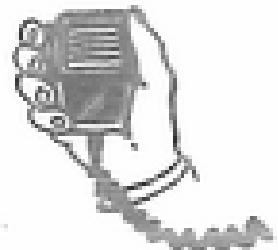
DAYTON PHOTOGRAPHS 1979-THIS YEAR WE BROUGHT THEM BACK ALIVE. THIS IS A C & E EXCLUSIVE PHOTOGRAPHIC SESSION OF THE DAYTON HAMVENTION. FOR THE CREDIT WHERE IS CREDIT IS DUE DEPARTMENT, WE MUST GIVE A TIP OF THE C & E HAT TO JIM SHIDELER WB5YWO FOR THESE SHOTS. JIM AS YOU MAY REMEMBER WAS THE GRAND PRIZE WINNER AT DAYTON LAST YEAR.



GUNNPLEXERS ARE ONE OF THE MOST FASCINATING NEW DEVICES TO HIT THE AMATEUR MARKET. HERE IS BOB RICHARDSON, THE AUTHOR OF THE GUNNPLEXER COOKBOOK, WITH A COMPLETE VIDEO TRANSCEIVER DEMONSTRATION. BOB WAS AT THE G. R. WHITEHOUSE BOOTH, THE EXCLUSIVE DISTRIBUTOR FOR GUNNPLEXERS TO THE AMATEUR MARKET. BEHIND BOB IS A TWO FOOT DISH MADE FROM AN ALUMINUM SNOW SLED. BOO COO (OR IS THAT BEAUCOUP) GAIN AT 10.5 GHZ.



HERE IT IS, LADIES AND GENTLEMEN! THE WORLD FAMOUS DAYTON FLEA MARKET. AND THIS SHOT DOES NOT EVEN DO JUSTICE TO WHAT IS CLASSICALLY KNOWN AS THE GREATEST SHOW ON EARTH. SCAVENGE WITH CARE AND LOTS OF CASH. ALSO KNOWN AS THE DAYTON JUNQUE YARDE.



THE **Z**ANY **N**ews **F**REQUENCY
By JOE, WA5ZNF

027912 037908 078010

A1 JOINER WA5PDQ
1313 W SOUTHEAST
BETHANY OK 73008

DON JONES XXXXXX
3945 E JOHNSON
MIAMI OK 74855

3

HAVE YOU LOOKED AT THE ADDRESS LABEL ON THIS MONTHS ISSUE ? ---
Maybe you had better for it tells a story in addition to telling the post office how to get it to you. BUT, before you get excited upon reading it we would like to point out that this is the first time we have used the membership list that was put into the computer and there are bound to be some mistakes, that's spelled mistakes. If your records or memory do not agree as to your membership expiration date(s) or you think you have paid up a subscription - holler -:

- (1) Club membership -- Contact your club membership person.
- (2) Paid subscriber -- Send \$3.00 check to CORA, Box 15013, OKC 73155.

Now as to what everything except your name and address means:
(1) Take A1 Joiner's label. First forget the number after street address - that is a mail zone code. A1 is current in three clubs (that is according to our records), 027912 = Okla Central VHF, he expires in December 1979. 037912 = MORI, he expires August 1979. 078010 = Bicentennial Club, he is paid up until October 1980. This will remind you to pay your dues and save the club having to notify you or be embarrassed to show up to vote and you aren't a member, etc. That code is also the way CORA will bill each club.

(2) Now take DON JONES. He has a problem. Instead of printing his call sign after his name the computer determined that he had not paid dues to any CORA affiliated club (or he was a paid subscriber-non member) and has printed a string of XXXXXX there. That is the last time he will see those Xes because next month a label will not be printed and he won't receive a C&E. Unless he takes some action.

We expect to go back to the big red X stamped inside on a standard format each month to call it to your attention, also.

PLEASE CONTACT YOUR CLUB(S) IF THERE IS SOME ERROR, let's get it all straight for the next issue. If things are screwed up in this new system - The Buck Stops Here.

Joe, WA5ZNF

P.S. As a courtesy, and a one time test, all labels for this issue do have a call sign listed. However, if no expiration dates are printed on your label you are expired.

Bob, WB5NSV

To help you interpret your mailing label, the following club numbers precede your expiration dates.

01 -- ACARC	07 -- 76'ers
02 -- OCVHF	08 -- Subscriber
03 -- MORI	09 -- Wheatstraw
04 -- OCAPA	10 -- Choctaw
05 -- OU ARC	11 -- EARS
06 -- Altus	12 -- Shawnee

POSTMASTER: Send Form 3579 to:
CORA C&E Box 15013
Oklahoma City OK 73155

(USPS 116-150)

JUNE HAM HAPPENINGS

JUNE HAM HAPPENINGS						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday:
<p>REMEMBER: PRE-REGISTER FOR HAM HOLIDAY 79 by the 20th!</p>					<p>ACARG: ARRL FORUM</p>	<p>COFFEES: RED CROSSES, MWC BIST. WARR ACRES, etc.</p>
3	<p>Oklahoma Tfc. and Weather Net 3900 kHz 2245 Z</p>	<p>MORI</p>	6	<p>146.16/76 MHz 2100 Hrs. YL NET...</p>	8	<p>E.A.R.S. (N.W. Expy 9 Swap)</p>
<p>WATONGA WHEATSTRAW CLUB MTG. 10 DF HUNT OKC</p>	<p>O.T.W.N.</p>	<p>76ers; SHAWNEE 12 A.R.C.</p>	13	<p>Altus, CHOCTAW, A.T.V.; 14 YL NET</p>	15	<p>ATLANTA, GA.: TRI-Cty. FLEA MKT. (see SARG)</p>
<p>... CONVENTION</p>	11	<p>AUTOPATCH</p>	<p>EDIT C & E</p>	<p>9 p.m.: YL NET</p>	<p>OCARC:</p>	<p>FIELD 'DAZE'</p>
17	18	19	20	21	22	23
<p>FIELD 'DAZE'</p>	25	<p>CORA; S.A.R.C.</p>	<p>ALL "C.O.R.A." MAILS C & E</p>	<p>YL NET</p>	29	30
24	25	26	27	28	29	30

See Page 4 and/or club sections for details.

```
rsi rsi rsi rsi rsi rsi rsi rsi rsi rsi rsi rsi rsi rsi rsi rsi rai ra
```

00

4

10

43

•

704

H

40

44

1

00

4

10

45

10

15

00
01

A

100

H

4

1



4

004

A. I.

1000

HAM MAGAZINES LICENSE MANUALS

HAM BOOKS CODE TAPES

COMPUTER BOOKS & MANUALS

LOTS OF "SAM'S" PUBLICATIONS

ELECTRONIC COMPONENTS

MAJOR HAM EQUIPMENT ITEMS

SPECIAL ORDERED WITH DISCOUNT



radio store, inc.

HILLCREST SHOPPING CENTER
2102-4 S.W. 59th 682-2929
OKLAHOMA CITY, OK. 73119

rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei