

Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER

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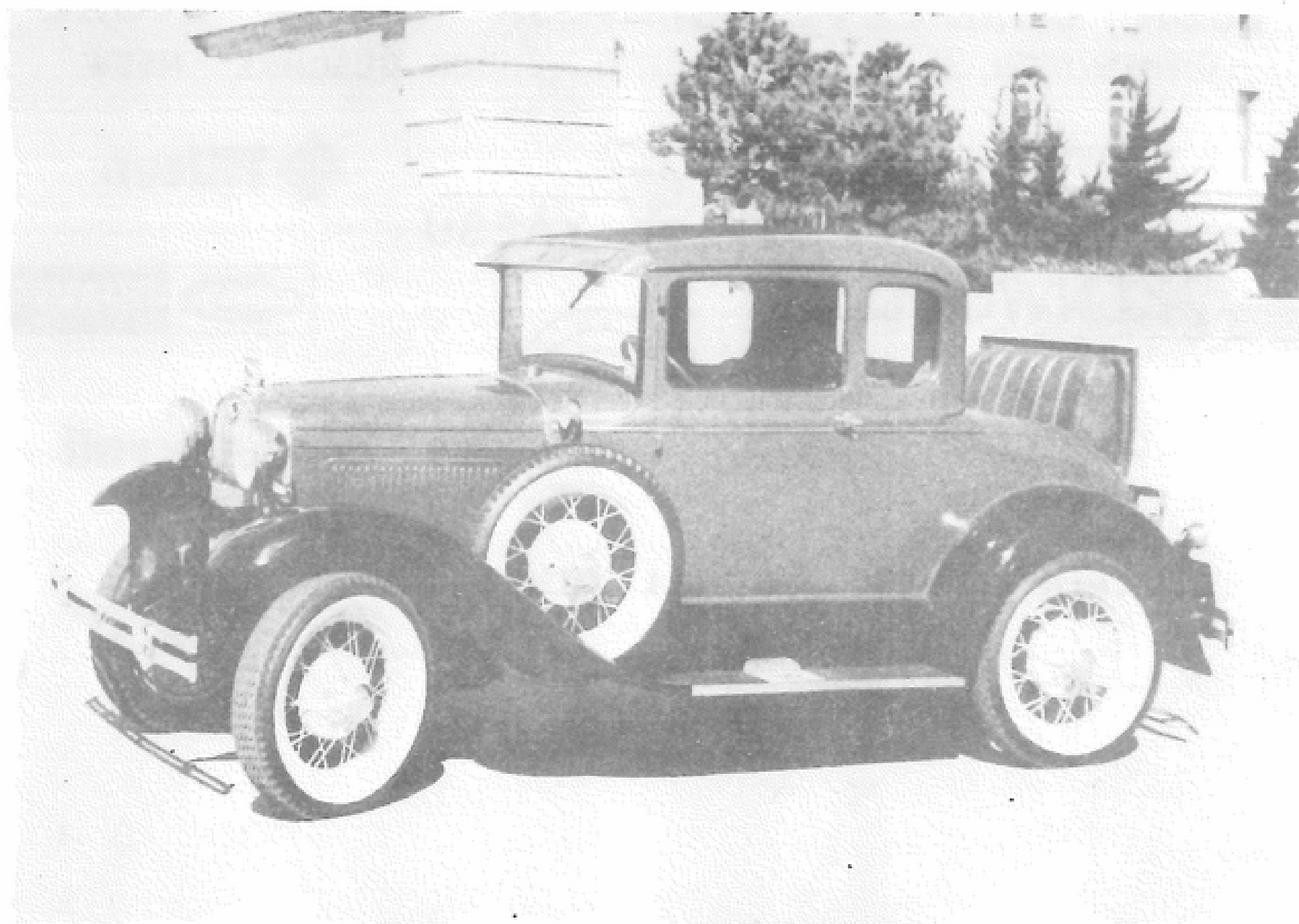
AN INFORMATIVE MAGAZINE
PUBLISHED MONTHLY BY AND
FOR OKLAHOMA RADIO
AMATEURS

AND ANYONE INTERESTED IN
LEARNING ABOUT IT

Volume 5

MAY 1979

Number 52



FORD'S 50TH ANNIVERSARY

WHAT A TRIBUTE TO HENRY FORD'S INGENUITY THAT FIFTY YEARS AFTER THE INTRODUCTION OF THE MODEL A FORD CAR, THERE ARE STILL 330,000 OF THESE VEHICLES IN USE, RUNNING. ALTHOUGH THE MODEL A IS NOT THE MOST EXOTIC OF VINTAGE CARS, THE RELIABILITY OF THIS GREAT CAR IS REMARKABLE. THE MODEL A FORD CLUB OF NORTH AMERICA WAS FOUNDED IN 1957 AND HAS GROWN TO 13,000 MEMBERS.

I FOUND MY TIRED AND WORN "A" IN EASTERN KANSAS, A FUGITIVE FROM A FARMER'S BARN. I MADE A DEAL AFTER SEVERAL TIMES CORRESPONDING BY MAIL AND ON JANUARY 1, 1970 BROUGHT HER HOME ON A BORROWED TRAILER.

I STARTED ALMOST IMMEDIATELY ON GROUND UP RESTORATION OF THIS "OLD GAL"...APOLOGIES TO ERA. SEVEN AND A HALF YEARS AND MANY HOURS OF LABOR AND TENDER LOVING CARE, PARTS HUNTING AND SOME GREAT HELP FROM OTHERS, I HAVE A BEAUTIFUL MODEL A, A GREAT LADY FROM ANOTHER ERA. HELEN, MY "YL" WAS "CAR WIDOW" FOR SOME TIME, AS YOU MIGHT GUESS. JIM, K5VRL

KRYDER ELECTRONICS

YOUR COMPLETE AMATEUR RADIO STORE

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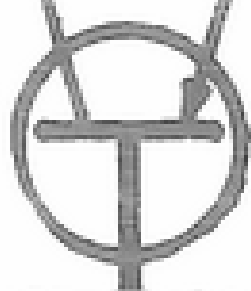
TUESDAY & FRIDAY 10-9
WEDNESDAY, THURSDAY & SATURDAY 10-5
CLOSED SUNDAY & MONDAY

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FT. WAYNE, INDIANA & PHOENIX, ARIZONA

Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER



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

President	Mark Northcutt	WD5DYI	842-1086
Vice President	Chuck Wilhite	K5NK	721-4926
Secretary	Jim Buswell	KA5EET	
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	N5WM	OKCAP Henry Isreal	N5IH 722-3848
ALTUS Mike Schenkle	K5VXU	MORI George Lee	WB5NMK 946-2754
OUARC Nathan Kirby	KB5BF 364-7979	CARC Richard Edwards	KA5ALO 390-8297
WARC Virginia Beneda	WB5MTH 825-3302	TECHNICAL WRITER Mike Salem,	N5MS

PARTICIPATING CLUBS FOR CORA COLLECTOR & EMITTER:

AERONAUTICAL CENTER AMATEUR RADIO CLUB
Postal Station 18, Okla 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	K5KOR	329-6333
Sec	Bob Graham	WB5NSV	677-8685
Treas	Sam Gover	WA5WHO	

MID-OKLAHOMA REPEATER
MEETS: 8:00 PM First Tuesday of Month.
Okla 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 Schenkle	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

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

Pres	Ken Ford	WB5KHU	528-8770
V-P	Al Prince	WB5KCU	
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 Borgan	WB5MLN	751-1646

M E M B E R



Amateur Radio News Service

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	

Vol. 5 MAY 1979 No. 52



Club
NEWS

W5LOW
The Elmer Gooder Memorial
Station

MINUTES OF CLUB MEETING

MEETING WAS CALLED TO ORDER AT 8:00 PM, IN THE ABSENCE OF WB5KHU AND WB5KCU, BY JIM, K5VRL WITH 24 MEMBERS AND GUESTS PRESENT. AFTER SELF INTRODUCTIONS, ELLARD, W5KE, GAVE TREASURER'S REPORT AND PAUL, WA5HTL, REPORTED ON PREPARATIONS BEING MADE FOR FIELD DAY. PAUL ALSO BROUGHT UP DISCUSSIONS REGARDING A STATE FAIR BOOTH. SOME VOLUNTEERS WERE ACCEPTED. DETAILS WOULD BE WORKED OUT BY PAUL.

ELLARD, W5KE, SUGGESTED THAT IN A DISASTER OF THE MAGNITUDE OF WICHITA FALLS TORNADO, A COMPUTER HOBBIEIST MIGHT BE ABLE TO CATALOG NAMES TO SPEED UP REPLIES TO HEALTH AND WELFARE INQUIRES.

JIM, K5VRL, ANNOUNCED THAT JACK GANT, W5GM, WEST GULF DIVISION DIRECTOR IS GOING TO HOST AN ARRL FORUM AT THE NEXT AERONAUTICAL CENTER CLUB MEETING. THE MEETING WILL BE HELD IN THE AUDITORIUM TO PROVIDE AMPLE ROOM.

TOM, W5OZE, DEMONSTRATED HOW "TALKING BOOKS" ARE PICKED UP ON A 67KHZ SUBCARRIER FROM A COMMERCIAL FM BROADCAST STATION. HE ALSO SHOWED HOW MAGAZINES ARE DISTRIBUTED ON 8 1/3 RPM FLEXIBLE RECORDS AND TAPE CASSETES. HE PLAYED A PORTION OF A NEWSWEEK MAGAZINE ON 8 1/3 RPM DISC AND THE SOUND WAS REMARKABLY CLEAR. TOM COULDN'T PASS UP THE CHANCE TO SHOW OFF SOME OF HIS OLD "BIG BAND" RECORDINGS. HE CAPPED HIS PROGRAM WITH A DEMONSTRATION OF BRAILLE WRITING. PAPER IS PUNCHED FROM THE REVERSE SIDE FROM WHICH IT IS READ. THE WRITING HAS TO BE DONE IN REVERSE!

MEETING WAS AJOURNED AT 8:55 FOR COFFEE AND DONUTS. JOE, K5JB, SEC.

POSTSCRIPT TO COVER PICTURE

NOT ONLY IS JIM WILLIAMS, K5VRL, A CRAFTSMAN OF RADIO, HE IS A CRAFTSMAN OF AUTOMOBILES AS A CAREFUL INSPECTION OF HIS 1931 MODEL A COUPE WILL PROVE.

WHEN ASKED THE OBVIOUS QUESTION, HE ANSWERED, "NO-THERE ARE NO RADIOS IN IT YET, THOUGH THERE MAY BE SOME INSTALLED IF I GO ON TOUR WITH IT." JIM IS PARTICULARLY INTERESTED IN FINDING RADIO EQUIPMENT SIMILAR IN AGE TO THE MODEL A WHICH MIGHT BE AVAILABLE. LET HIM KNOW IF YOU KNOW OF ANY.

THE TOURING JIM REFERS TO ARE MEETINGS OF THE MODEL A CLUB THAT ARE HELD IN INTERESTING PLACES SUCH AS VAIL COLORADO, NASHVILLE TENN., AND THIS YEAR AT KEYSTONE COLORADO. THERE ARE USUALLY AT LEAST 200 MODEL A'S DRIVEN FROM ALL OVER THE COUNTRY TO THESE FUNCTIONS. NOT ONLY IS THE MODEL A RELIABLE FOR SUCH TRAVEL, UPKEEP IS PRETTY REASONABLE. FOR AN EXAMPLE, COMPLETE EXHAUST SYSTEM INCLUDING CLAMPS COST LESS THAN \$20.00. CARBURETOR REPAIR KIT COSTS \$5.00. WATER PUMP COSTS \$16.00. COMPLETE OVERHAUL ENGINE GASKET SET COSTS \$10.00. BRAKE SHOE LINING SET IS LESS THAN \$12.00. WHITE WALL TIRES ARE \$40.00 EACH, TUBES ARE \$5.95. A COMPLETE WIRING HARNESS IS LESS THAN \$12.00. ONCE A GOOD JOB OF RESTORATION IS COMPLETED, A MODEL A CAN BE KEPT UP PRETTY REASONABLY. OF COURSE, THE OWNER GETS DEEPLY INVOLVED IN TURNING THE NUTS AND BOLTS HIMSELF, THEREBY ASSURING THE QUALITY OF WORKMANSHIP GOING INTO MAINTENANCE OF HIS VEHICLE. JIM'S MODEL A WILL PROBABLY BE LIKE NEW WHEN MY 1977 CHROME AND PLASTIC BELCHFIRE HAS SETTLED INTO A RUSTHEAP... JOE, K5JB

FOR SALE: 18AVT MULTIBAND VERTICAL ANTENNA FOR 10 THROUGH 80. ALMOST NEW. \$50.00. DALE, W5KYL, 478-1411.

FOR SALE: ICOM 202 PORTABLE 2M SSB TRANSCEIVER, 3 WATTS. 144-144.2, 145.1-145.3. ALMOST BRAND NEW. CURTIS, KA5AJR, 787-3690.

Central Oklahoma Radio Amateurs

IS YOUR CALLSIGN ON THIS LIST?

WB5DKG	*WB5TFY*
WD5HBX	*WD5GVT*
WD5DYJ	* K5YVL*
WD5FIJ	*WB5WVB*
* N5ARV*	*WB5WVD*
WB5WTN	*WB5WYJ*
* N5AWI*	*WA5SBP*
WA5UUC	*WA5LZD*
* K5POX*	*WA5LVG*
WB5PPS	*WB5ELG*
WB5NKD	*WB5CTR*
WB5YHG	*WB5SIP*
WB5UCM	*KA5BJS*
KA5DAO	*WD5KFT*

And Many More I Do Not Know About

WHAT DO ALL THESE AMATEURS HAVE IN COMMON?

Not very much, right? Almost. But here's an idea that might just change all that. All these callsigns belong to YL's in this area, a growing number in the Oklahoma amateur radio "family". As an example, one particular CORA member club has 13% of its roster comprised of YL's. It is time the YL's in Oklahoma are heard from.

Quite a few ladies have their licenses because another member of their family is licensed. In this case, amateur radio is a way to stay in touch. Unfortunately, the ladies' local operating time is limited to this function. YL's often don't like to initiate conversations with unknown OM's. Because of this, ladies who haven't lost interest already merely listen to the men's gab, never realizing there are others out there just like them.

Here's the idea: Through a preliminary arrangement with the Bi-Centennial Amateur Radio Club (The '76ers), the ladies are offered the 16/76 repeater as a meeting place to possibly form a "YL Net" on two meter FM. The organizational night will be on Thursday night, May 10th, at 8 p.m. In order to get something started, the frequency, date, and time are for organizational purposes--not a final, set decision. These decisions will be made by the ladies. All licensed YL's regardless of club affiliation are welcome.

Keep in mind this is an idea at this point. Actual organization of a net, if any, will be up to the ladies. Through an introductory round-table, time and nights per week, frequency, net control stations, etc., can be settled. Also, keep in mind the first meetings may be rather light in attendance until the word gets around.

All in all, the YL net can serve to bring the ladies together on common ground. They won't feel compelled to talk resistors, Ringos, or RST's if they don't want to. They also will not feel like an outsider included as a matter of manners. Through self-organization, the net may be tailor-made for the group.

I'm sure quite a few OM's will be listening on that night, so ladies, show them what you can do! Remember: 16/76, 8 p.m., Thursday, May 10th. Good Luck!

EMERGENCY OPERATING IS NOT IDEA BUT FACT

The devastation left behind a giant tornado is frightening in itself. I had the opportunity to go to Wichita Falls two days after the twisters hit Vernon, Lawton and Wichita Falls. I was to go on business on Friday, but since my wife has relatives in the area, we left on Thursday night. Needless to say, the two meter and HF rig, plus the handhelds were packed for the trip.

When we got into 34/94 repeater range, I checked into the net, which was still in operation from two days before. I was ready to stay up all night and help if I could. Net Control shuttled me off to the 75/15 machine and told me to check in with that information. I gave Net Control the phone number where I could be reached in Holliday, 8 miles Southwest. Incidentally, by Thursday phone service for the most part was OK for in-town calls in the unaffected area. The long distance trunk lines in and out of Wichita Falls were obviously overloaded.

About fifteen minutes after we destinated, I got a telephone call from the 75/15 Net Control asking if I could help Mark Brown, WD5EUC, in Wichita Falls. He was operating on the 3935 Southwest Traffic Net, swamped with health and welfare traffic. He looked awfully tired when he answered the door.

Traffic slacked by about 1 a.m., so my help was minimal compared to the operating time of the Wichita Falls' amateurs. The 7 p.m. curfew in the affected area, plus the city-wide 9 p.m. curfew, slowed 2 meter operation by Thursday night, with the VHF nets closing around 10 p.m.

Friday morning I began business with the rest of the TV crew, video taping damage for a national insurance company. Each vehicle into the affected area had to have a Civil Defense Disaster Area Permit stuck to the windshield. These stickers were checked by National Guard, Air Force, Army, Police and amateur radio operators posted at each street leading into the damage area.

The time spent on business kept me from volunteering myself and my talkie, but I listened throughout the day. The 34/94 repeater seemed to be handling civic requirements and logistics. The Net Control station was located at Wichita Falls' Emergency Operations Center and was under the supervision and at the disposal of the city government--primarily the Police Department. The Civil Defense and Red Cross command posts, plus the coordination of the servicemen, were all helped through amateur radio. This was a very efficient operation.

There was a large group of amateurs from Dallas-Ft. Worth who arrived in Wichita Falls to help. I'm not sure, but I believe they were the Dallas-Ft. Worth RACES group. They brought in a portable repeater to share the load. It was a strange, reverse-split frequency pair that apparently was used to coordinate the other two repeaters and the Dallas volunteers. Its input was 146.775 and output was at 146.175. The 75/15 repeater seemed to handle the health and welfare traffic in the metro area.

For the small amount of time I was in the Wichita Falls area, the amateur radio operators were an invaluable source of communication. At one point, Mark Brown, WD5EUC, was the sole link between Shepard Air Force Base and Fort Sill. He also ran phone patches for most of the city officials to Austin and elsewhere. Many other operators did equal service.

There has been some local criticism of the way the Wichita Falls hams handled traffic on the HF bands. For the most part, this criticism is correct. But--put yourself in their shoes. Could you do any better under the circumstances? There weren't enough amateurs, Red Cross or Civil Defense personnel to check each health and welfare message in person. The telephone was used with fairly good results. If the phone did not answer, it was reported back as such. True, this doesn't answer the question, and this was their major problem. Also, the lack of HF frequency coordination and how many stations to operate was a breakdown. Unfortunately, we all learn from mistakes. Each problem is different, and we can be sure they are self-critical in Wichita Falls.

Vernon, Lawton and a number of other towns had their share of trouble. The Lawton amateurs had their act together because they practice net procedure and traffic handling once a week.

The point in this writing is to describe a brief visit to one town in trouble. The damage is unbelievable. The funnel was up to a mile wide and stayed on the ground ten miles. It is gut-wrenching to actually see so much destruction in every direction you look. Think of the families this one storm touched.

Also, it brings to mind: What would I do if this happened to my town? The basic purpose of having that operator's license in your pocket is public service--helping your fellow man. Always keep that in mind while you're ragchewing or chasing DX. That quality will be called upon someday where you live. What kind of plans can you make to help when you are needed?

WE'RE NOT JUST HAM HOLIDAY

"Ham Holiday 1979" preparations are progressing toward another great hamfest and A.R.R.L. State Convention. But CORA is more than this. CORA projects should be underway the year 'round. If you or your club have a suggestion, bring it to a CORA meeting.

Plans are underway to promote amateur radio at the Oklahoma State Fair as a CORA project. This will spread the work, talent and ideas among all CORA member clubs. Volunteer your services to your club's "state fair" chairman.

Mark, WD5DYI

Eico 753 transceiver with power supply and manuals. 200 watts
SSB/cw on 80, 40, and 20 meters. Complete & works real well.
\$135.00 total. Bill, N5WM, 842-0092, OKC.



MINUTES



The March meeting was called to order by President Mark WD5DYI at 1931 S on the 27th with 22 members and guests present.

Minutes of the February CORA and Ham Holiday committee meetings were approved as published in April Collector and Emmitter. Treasurer's report was approved as read.

Announcements: Bob WB5NSV stated the computer is on-line doing a "great, outstanding" job.

The Aeronautical Center and Central Clubs will probably combine efforts for Field Day while the Bicentennial and Edmond Clubs will do their own.

Jack Gant, West Gulf Coast ARRL Director will chair an ARRL forum for ACARC's program, 4 May 1979.

CORA has been requested to sponsor a booth at the Oklahoma State Fair 21-30 Sep 79 and each club is asked its reaction by next meeting.

Nathan KB5BF offered to chair and coordinate the Programs committee for HH79.

Chuck K5NK and Joe WA5ZNF attended the Shawnee Amateur Radio Club regarding CORA membership. The Shawnee club will have voted 3 Apr 79 on whether to join CORA.

Howard WD5IDB announced that his Edmond Amateur Radio Society (EARS) voted at its latest meeting to join CORA. Chuck K5NK moved and Larry WD5NYX seconded to accept the Edmond Club into CORA. The motion carried unanimously.

CORA authorizes Joe WA5ZNF as Managing Editor of The Collector and Emmitter to spend approximately \$96 for our own collator to assemble the C & E since the current one will soon become unavailable.

Old Business: HH79 Committees: Prizes: GRAND: 5-band HF Kenwood TS-120S/ Power Supply/Speaker; Pre-registration: a 2-Meter rig, undecided as yet; too many more smaller prizes to list, such as touch-tone encoder mikes, mobile/magnetic antennas, stationary beams, etc.

Ladies: Schedule as published in April 79 C & E.

Registration: Awaiting receipts.

Publicity: Mailing news releases to magazines, newspapers, area clubs in bordering states, seeking Gubernatorial proclamation and appearance.

Programs: ATV, Narrow Band, Traffic Nets, Wind/Solar power, Computers applied to Amateur Radio, DF hunt, Air Force MARS, The World Above 1 Gigahertz, etc.

New Business: Chuck K5NK moved and Bob WB5NSV seconded that each member club sponsor its own Field Day Activities in 1980 and beyond. Motion carried unanimously.

Nathan KB5BF, for personal reasons, resigned his position as CORA Secretary effective immediately. With the reluctant consent of the Board, all members being present, the resignation was most regretfully accepted and Nathan was offered CORA's best wishes in future endeavors.

In resigning, Nathan nominated Jim KA5EET to replace him and Paul WA5HTL moved the nominations cease and the nominee be elected by acclamation. The motion carried unanimously.

There being no further New Business or Announcements the meeting was adjourned at 2132 S.

Respectfully submitted,

Jim KA5EET
Secretary

CORA Collector & Emmitter

May 1979





MINUTES OF THE APRIL MEETING OF THE ACARC
 THE MEETING WAS CALLED TO ORDER AT 8:00 PM BY PRESIDENT BOB PACE, W5CUG. THERE WERE 58 MEMBERS AND GUESTS PRESENT. FOLLOWING THE USUAL ROUND OF SELF-INTRODUCTIONS, BOB GAVE A REPORT ON THE STATUS OF THE W5AYM REPEATER. HE HAS ADDED A SELECTIVE PREAMP TO THE RECEIVER, ACHIEVING 15 DB GAIN!

THE CORA REPORT WAS PRESENTED BY BOB GRAHAM, W5NSV WHO REQUESTED THAT A REPRESENTATIVE BE APPOINTED OR ELECTED FOR A COMMITTEE TO PUT UP A BOOTH AT THE OKLAHOMA STATE FAIR. BOB PACE ASKED FOR VOLUNTEERS AND RECEIVED JIM BUSHWELL, K5FT.

BOB ASKED THAT WE ALL START THINKING OF THE UPCOMING FIELD DAY EXERCISE, AND ASKED FOR HELP WITH THE FIELD DAY COMMITTEE. HE GOT NO VOLUNTEERS. BOB ALSO ASKED FOR HELP CONCERNING THE REPAIR OF OUR DIESEL GENERATOR, WHICH WILL BE KEPT AT THE RED CROSS.

IVAN MILLER ANNOUNCED THAT ELMER FIELDS IS IN BAPTIST HOSPITAL. WE WISH HIM WELL.

PRESIDENT PACE ANNOUNCED THAT FOR THE JUNE MEETING JACK GANT, W5GM, THE ARRL WEST GULF DIRECTOR, WILL CONDUCT AN ARRL FORUM. THIS FORUM WILL BE HELD IN THE AUDITORIUM IN THE HEADQUARTERS BLDG. ALL MEMBERS AND GUEST AND INTERESTED PERSONS ARE ENCOURAGED TO ATTEND.

HOWARD RIDGEWAY, W5RS, REPORTED THAT WAYNE HOGAN, W5AOR, IS NOW A SILENT KEY.

PRESIDENT PACE ANNOUNCED THE DONATION OF A FULL SET OF AMECO CODE PRACTICE RECORDS TO THE CLUB BY KENNETH ERWIN. THESE ARE ON HAND IN THE CLUB STATION FOR THE USE OF ALL MEMBERS.

BOB ALSO ANNOUNCED THAT WE EXPECT TO PURCHASE A VIDEO TERMINAL FOR THE CLUB'S COMPUTER.

FOLLOWING THESE ANNOUNCEMENTS BOB INTRODUCED LEON MILLER, FROM THE LOCAL HEATHKIT STORE, WHO PUT ON A FINE PROGRAM AND SET UP A SIDEWALK SALE AT THE HEATHKIT STORE. DATE TO BE ANNOUNCED.

THE MEETING WAS ADJOURNED AT 9:20 PM, FOR COFFEE AND CONJITS.

BOB GRAHAM, W5NSV, SECRETARY

FOR SALE: Microphones, low-impedance and high-impedance. Many small items needed by builders. Lots of coax connectors, BNC, UHF, and N types. Home-built RF preamplifier, 3 MHz to 30 Mhz, transistorized of course! 100 kHz crystal oscillator. Meters of many types and ranges. W5JJ, 5824 N. W. 58 St., 789-3788.

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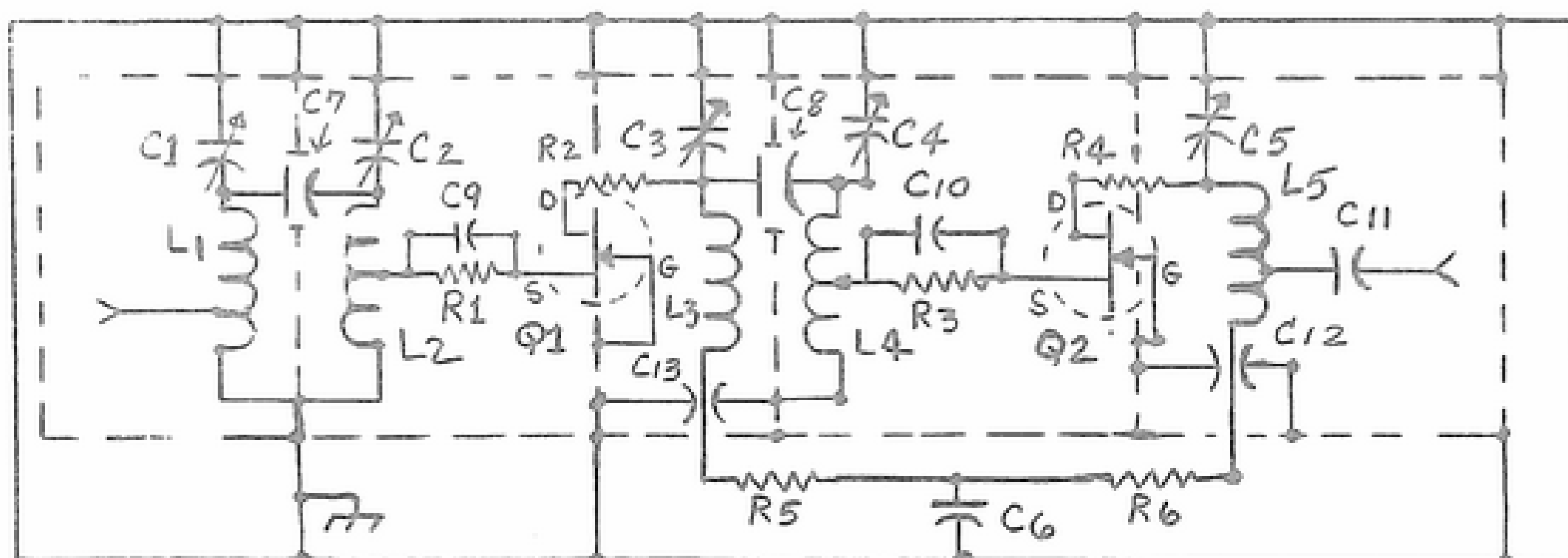
W5PAA

ANOTHER 2 METER PRE-AMP:

The amplifier shown in fig. 1 was built and installed on the 25/85 repeater. This amplifier had a gain of 20 db on the bench, with a noise figure of less than 1.5db. Before installing the amplifier at the repeater I measured the system sensitivity, then we installed the amplifier in the system and re-measured the system, and found we had gained 15db in system performance.

The amplifier makes use of a number of HI "Q" tuned circuits, and a pair of 2N4416 "J" FET's, connected in grounded gate configuration. The amplifier is built on double sided P.C. board with lots of inter shielding and a bottom plate, also made from the same type of P.C. board. THE amplifier is mounted on the back of the repeater receiver and the output of the duplexer connects to the amp. using RG 214 coax. Shielding is very, very important...!

FIG. 1.



Parts list...

C1,2,3,4,5 -- 1.5 to 10 pf
glass cap.'s

C6 -- .001 standoff cap.

C7,8 -- 2 pf npo tublar

C9,10 -- .001 disc. (short leads)

C11 -- .001 disc.

C12,13 -- .001 feed throughs

R1,3 -- 220 $\frac{1}{4}$ W.

R2,4 -- 10 $\frac{1}{4}$ W.

R5,6 -- 270 $\frac{1}{4}$ W.

Q1,2 -- 2N4416
OR EQ.

L1,5 -- $3\frac{1}{2}$ turns # 16 tinned
wire $\frac{1}{2}$ in. I.D. $\frac{3}{4}$ in.
long tapped at $\frac{3}{4}$ T.
from gnd. & C12...

L2,4 -- $3\frac{1}{4}$ turns # 16 tinned
 $\frac{1}{2}$ in. $\frac{3}{4}$ in. long tap.
at $1\frac{1}{2}$ turns from top.

L3 -- $3\frac{1}{2}$ turns # 16 tinned
 $\frac{1}{2}$ in. I.D. $\frac{3}{4}$ in. long..

Note: all dotted lines are double sided p.c. board
used as shields...

73, BOB, WA5CJG.

Old and not so old ARRL Handbooks for sale. W5JJ, 5824 N. W. 58 St.,
Warr Acres, Ok, 73122. Ph. 405-789-3788.

SONY SUPERSCOPE

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RSGB TELEVISION INTERFERENCE MANUAL, 2nd EDITION

A manual for TVI cures in Great Britain differs a bit from one written for this country. That does not mean you'd not get many highly useful ideas from this RSGB manual. Because of the fact that British regulations relating to TVI are very much more harsh than ours, the British have developed techniques to chase down and cure cases that we might regard as baffling or even hopeless.

I'll not give the usual type of review, the one that lists topics and chapter headings. Instead, I'll just say this manual delves deeply into just about every type of TVI you'd encounter.....even in your wildest nightmare! And it gives you cures. Some are simple, some are not.

Some cures relate to filter construction.....and that construction involves a bit of theory and a small chunk of math.....not enough to frighten even the most timid.

Although you'd find much to interest you and much to enlighten you, you'd also wade through a bit that would better have been left out. Such items, for instance, as reducing local HF oscillator radiation from a National HRO receiver!

Nevertheless, it's a good buy. The publishers of Ham Radio Magazine sell RSGB publications in this country. At one pound and 35 pence, I'd not make any wild guess at what it would cost here.....the current rate of exchange varies by the microsecond!

W5JJ

LET'S PUNCTURE A MYTH

Among the many slow-dying myths about rf transmission lines is the one that holds the VSWR can be measured accurately only at certain points along the transmission line. Curiously, this is espoused even by persons whose general knowledge would lead one to believe them better informed.

If you're one who likes to know, as contrasted to one who likes to spout what he thinks he knows, it's easy to ascertain whether the belief is founded upon fact or superstition. Of course, there are many who don't want to be confused by facts.....they'd rather cherish their superstitions. Those persons should stop reading at this point.

Gather a few objects and artifacts, such as two 52-ohm line terminations, a coaxial T connector, two very short lengths of transmission line to link the T with the terminations, and three lengths of 52-ohm transmission line. Make these somewhere around $3/8$ -wave, $1/4$ -wave, and $1/8$ -wave, remembering to take into consideration both the velocity factor of the transmission line and the frequency of the rf power source. Now get hold of a good forward-and-reflected power meter or other reliable means of measuring VSWR. I've done this only with Bird, Collins, or Drake meters and can't say what you'll see if you use one of the two-for-a-nickel, five-for-a-dime CB types!

Measure the VSWR with, in turn, each of the three transmission lines terminated in the 26 ohms of load. You'll observe a VSWR of 2:1 in each instance. Try other lengths, if you're hard to convince.

Now you're prepared to discuss the subject intelligently.....quite unlike those who argue only from the basis of what they think ought to happen under such circumstances!

W5JJ



NORMAN HOLDS (FIRST ANNUAL?) QSO PARTY

With a week-long city celebration marking Norman's 90th birthday from April 16 to 22, members of the South Canadian Amateur Radio Society spontaneously held an all-bands QSO party.

Norman hams worked from their home stations, each operator using his/her own call. Modes included SSB, CW, RTTY and even some 2M FM. The call was "CQ Norman Oklahoma Birthday Party," and responding stations were told a bit about the Oklahoma land run of 1889 and Norman.

Responses were lively because the Norman operators offered a special QSL card. Since the whole farrago had been dreamed up on the spur of the moment by WB5TZZ, it fell to him to design the special card. He was greatly aided by W5OU, who made the mistake of encouraging him. The card, brown on tan to resemble an old-time photo, features the official celebration logo, a brief paragraph of Norman history, and the usual confirmation block.

Stations were told to QSL, with an SASE, to the Norman op's call c/o Box 73 in Norman. That box belongs to W5OU, who as additional penance had to sort out the cards as they came in. Each operator was supplied enough cards to answer the QSLs addressed to him at Box 73.

Some Norman amateurs really went after it and some, of course, thought the whole thing was something that must have sprung from the brain of a Mortimer Snerd. No attempt was made to make the event competitive, and brief ragchews were often the order of the day. However, WB5TZZ and a few others were somewhat surprised to find modest pileups at times as distant amateurs sought the commemorative card, and that speeded contacts along. Response from the hinterlands was astonishingly favorable, with some operators saying they congratulated Norman amateurs for their idea as well as offering central Oklahoma a happy birthday.

Local officials were enthusiastic, and a bit of favorable publicity for amateur radio resulted in the local newspaper.

At press time the final totals were unknown, but casual comments indicated most states worked, plus perhaps 25-30 DX countries. DX cards will go out via the Bureau, except for a couple of foreign amateurs who said they wanted to send IRCs to avoid delay.

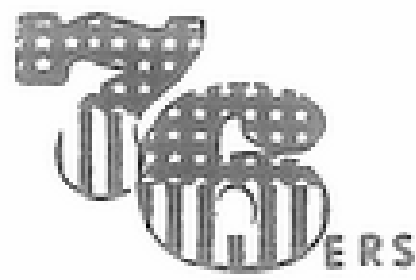
Card cost, which WB5TZZ picked up in fond hopes of sharing the joy with everyone else who worked the party, was modest. Some of us had a whopping good time. High points included working a man in New Jersey who was almost as old as Norman (88) and a 16-year-old making his first phone contact after passing his General. W5OU suggested that it was the "First Annual Norman QSO Party." Who knows?

Jack, WB5TZZ

INSTRUMENT CALIBRATION

Did you know there's an outfit in OKC that will repair or will calibrate electronic test equipment? This is not a free adv., but if you have a 'scope, freqmeter, etc., that needs a bit of expert attention, call 525-2253. That's Central Instrument Lab. There are branches in Tulsa, (836-1534) and in Richardson, TX, (234-2862). They claim they'll do the job for less than what HP or Tektronix would charge you. They'll even pick up the item and deliver it back to you!

W5JJ



BICENTENNIAL AMATEUR RADIO CLUB

"To Promote Radio Communications"

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We're On The Air

Like never before, since we just finished installation of the brand-new Wacom duplexer on the club's 146.16/76 autopatch repeater!!! All this activity happened right after the cutoff date for last month's C&E, so I'm proud to announce that our 76'ers repeater system is receiving great acclaim from all over central (and not-so-central) Oklahoma. I worked Winston, WD5ETB in Cement, OK through the system and reported to him that his signal was noisy, but quite Q5. Then he told me he was not on his beam antenna -- he was 80% quieting on an AR-2 Ringo, mounted on his roof!!! Cement is about 70 miles from OKC.

Virginia, WB5WTN is about 70 miles out, also. She's at Hitchcock just north of Watonga. In the pre-duplexer days, her fixed station would only rarely key-up the machine -- now, she's full quieting from out there.

Two more of our members, Leon (N5AZP) and his YF (wife) Mary (WD5FIJ) live at Jacktown, near Shawnee. They told me that they could rarely hear the repeater before the duplexer -- now they are full quieting all the time.

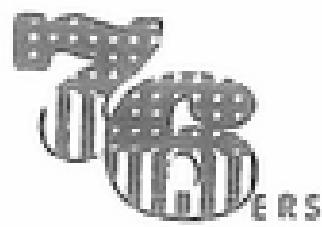
So, the list goes on and on. But, as it does, here come the freeloaders -- no, not too many yet, but we have already picked up a few regular users of the system who aren't members of the club, contribute nothing in time or effort, and certainly make no offer of repeater support. The Autopatch Association has been angered by some who make regular use of their equipment and I believe you'll find some comments to that effect elsewhere in this issue. In response to my "Bootlegger of the Month" column, several of their members I believe are starting a "Freeloader of the Month" feature.

Seriously, we are a very viable and extremely friendly organization. We advertise our autopatch repeater in the back of the Callbook each year and invite all traveling amateurs to make use of our facility when they come through Oklahoma City. We also welcome visitors to use our system -- and come check us out as a club. We are not a limited-membership organization, so when non-members use our autopatch every working day and tie up our repeater talking with other non-members almost every afternoon, I think the time to state our club policy is here again:

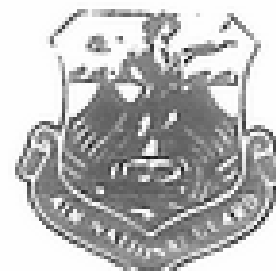
The annual dues for The Bicentennial Amateur Radio Club are two dollars per year. These are the lowest club dues in the state. We welcome travelers and all local visitors to use our repeater and its autopatch facility when necessary. However: For those persons who make use of the system on a regular basis, we ask for a ten dollar repeater support fee donation per year, per family (as a YL incentive).

Well, I guess that's enough said about freeloading -- for this month, at least. Hey! If you haven't come to a '76ers meeting yet, come on out and see what you may think of us. We meet at 7pm on the 2nd Tuesday of each month at Will Rogers ANG Base (next to the airport), off South Meridian here in OKC.

Bill Riddles, N5WM
BCARC Club Editor
CORA Collector & Emitter



THE BICENTENNIAL AMATEUR RADIO CLUB



FROM YOUR CLUB EDITOR

Well, I suppose you can tell that I finally cleaned and aligned this typewriter. I even splurged and put a new ribbon on it, too -- that's the best \$3 I ever spent. Since I pulled such complicated maintenance myself, please don't call me an appliance operator (besides, maintenance of old typewriters doesn't require a federal license).

First this month, I want to respond to that note which Bill (WA5RAQ) sent me. He wanted to know how many members we had in the club, broken down by sex -- I just let that inquiry pass me by -- until he asked if I caught the double-meaning in that question. If we do have any members in our club who will admit to being broken down by sex, then they haven't notified me (badly strained maybe, but broken down, no).

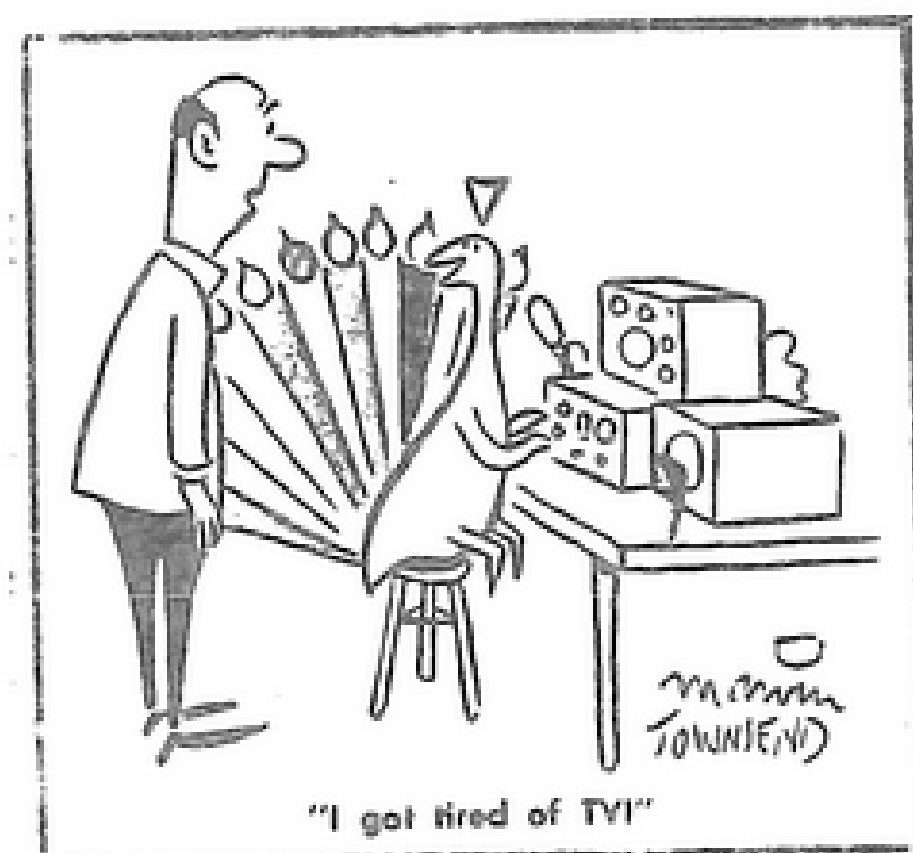
I would like to give you folks the latest report, straight from our accurate club treasurer Don (AE5N). In the February C&E, I reported 96 members and then in the March issue promised an up-to-date census this time. As of our April meeting, we now have 126 total members, 15 of whom are licensed YL's.

I read that excellent book review which Bill (WA5RAQ) did in last month's C&E and just wanted to thank him for writing it. I'm hoping to get him to do a review of the new book I'm writing right now. It's a technical publication which I am composing under a pen name. I call it "Don't Touch the Antenna" by R.F. Burns.

This weather is really something great, isn't it? It's so much fun to be outside working on antenna systems, mobile activities, etc., that I have to really try hard to produce a column that you folks will read. This should serve as my lead-in for this month's cartoon.

Perhaps you have been wondering what became of our old pal the NBC Peacock after the network no longer used him just before many of their programs began. Well, now you know the inside story. I guess N6BC would be a rather appropriate call sign for him, perhaps.

I want to dedicate this month's cartoon to our Club President, Mark (WD5DYI) and one of our members, Jerry (N5ABF). They both work for KTVY channel 4, our NBC affiliate and one of the most highly-respected television broadcast facilities in the world. Their former radio facility, WKY, was the first radio station on the air west of the Mississippi (originally call sign 5XT) and the TV station is the oldest in the state and was the first to produce color television locally in the world. Oklahoma City can be truly proud of her broadcast communications heritage. On the eve of the thirtieth anniversary of the founding of this pioneer television facility, I just want to express my pride as a lifetime Oklahoma Cityian.



Our BOOTLEGGERS OF THE MONTH column must be serving its purpose. My thanks to our C&E editor Joe (WA5ZNF) for permitting me to run it -- and my thanks to all the fellow amateurs who view this problem in a similar manner as I do. I stated last month that I was finding it increasingly more difficult to find one of these clowns each month upon whom to bestow that dubious distinction. Well, I'm pleased to report that I really couldn't find one for this issue. I'm sure we'll find one once in awhile, but I'm glad we present such a forboding image to these creeps. I see too many good people work very hard to learn what is required to obtain a license -- and too many others trying to help them through hard work, too.

On the previous page, I mentioned that we now have 126 total members, 15 of whom are licensed YL's. Let's take a few lines to welcome some of our newest members to the club: Leon and Dale (WB5WTR and WA5RER) from the Heathkit store, Mac and his YF Judy (K2GKK and KA5BJS), Syrena (KA5DWC), C&E Editor Joe (WA5ZNF), Dave (WB7ODC), Maurice (K5AJW), David (KA5CWT), and Clara (WD5KFT). If I failed to say welcome to anyone else who recently joined, please let me know and I'll correct it.

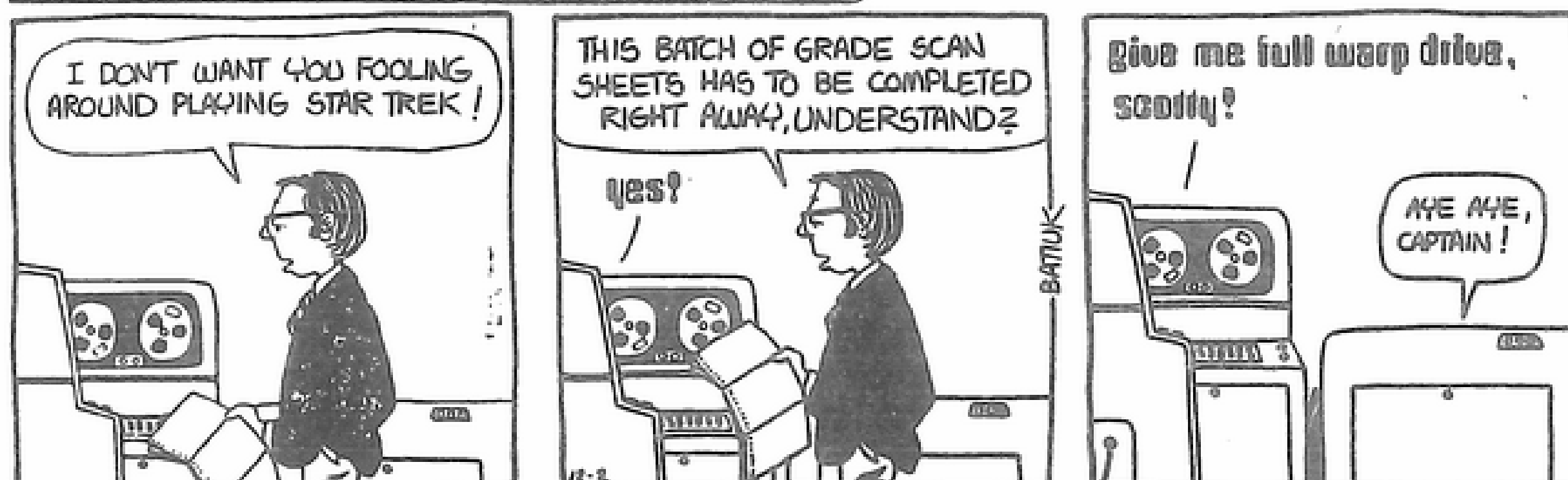
A YL NET IS PLANNED FOR OUR REPEATER: And why not??? With 15 licensed YL's in our club alone, a motion to examine the feasibility of such a net was made and seconded at the last meeting. Voting showed unanimous approval for the idea. Our club president Mark (WD5DYI) has an article concerning this proposal elsewhere in this issue — look for it in the CORA comments area, I believe.

QUITO, ECUADOR PATH OPEN TO OKC ON SIX METERS: Congratulations to Johnny at Calumet, OK (K5GBN) and Curtis (KA5DHF) here in OKC for working the W4 station who is /HC1 in Quito on 6 meter SSB. This was not just a once-in-a-lifetime contact. Several other local operators have worked him recently. He's been heard quite strongly on no less than four occasions in the last month. Johnny bagged him a few weeks ago, and Curtis picked him up on Easter Sunday at about 19:30Z, along with several other stations right here in this area. See, Curtis, I told you that six meters can be hours of static, interrupted by minutes of sheer delight!!!

Let me adapt from that Western Drilling Equipment commercial just a bit and say: IF YOU DON'T HAVE A SIX METER RIG, GET ONE — It's an incredible and very little-used amateur band compared with the others. Spring and early Summer are just super on six — and the sunspot cycle will make it even better for the next couple of years. The Quito station is reported to be running less than ten watts of power. Sam (K5SW) at Muskogee was heard working a KZ5 Canal Zone station just two days after Easter. That report came to me from Steve (WB5CTS) here in OKC. He said he could hear Sam best with his beam pointed south! Backscatter propagation is better indicative of F-layer skip than E-layer. If that's true, the six meter band could just be a world-wide DX band as it was in the late 1950's (and all the forecasters predict that it will be).

One final comment on six meters and the Ecuadorian station. Steve (WB5CTS) told me that he had gone to his family's cabin on Grand Lake for Easter weekend. He had his little Icom 6 meter SSB walkie-talkie with him. For more than an hour, he listened to the Quito operator working stations all over five land. With that self-contained antenna and a couple of watts RF, he couldn't get back to the guy at all (hee hee hee). What say, Steve — 'you shoulda seen the one that got away,' huh? Two days later, he bought a 200 watt SSB transceiver on six meters to take up there with him. He's an old Star Trek fan, so I'd like to dedicate this specially added cartoon to him and that one who got away:

FUNKY WINKERBEAN



THE '76ers SPRING SEMESTER OF AMATEUR RADIO CLASSES HAVE COME TO A CLOSE: Let's congratulate all of our members who attended our free classes every Thursday evening again this semester. At the April testing session, many of our people were fortunate enough to change their class of licenses. I don't have a complete list of upgrades. I believe recording Secretary Joe (WD5BMP) will list them in the club's minutes. He upgraded to Advanced Class, himself, along with Jack (WB5VAE) and Mark (WD5DYI). Mark's YF Kay (WD5DYJ) passed her General Class and Judy (KA5BJS) and Jim (KA5EET) upgraded to Technician. Throughout the club, there were several more. I will try to get a more complete list for next issue.

I neglected to mention Tom (N5AOZ) in the last issue. He drove down to Dallas early in March and passed his Extra Class exam. He has been licensed less than one year and really is a super operator on all bands (except six meters, and I'm trying to help change that). Tom has been a personal friend of mine for fifteen years. We were in the same highschool class some years ago. Congrats, Thomas!!!

— And congratulations also to Mac (K2GKK) for passing his Extra Class exam at the April session. He's one of our school's instructors and one heckuva fine lecturer. In fact, rumor has it that he brushes his teeth with gunpowder so he can SHOOT OFF HIS MOUTH! He is Extra Class licensee number thirteen from our club school — and that number couldn't happen to a nicer guy!!! (Hang in there, Yank).

We have in excess of fifteen Advanced Class licensees through our school and the first dozen Extra Class licensees are: Ken (K5GI), Bill (WB5NXO), Don (AE5N), Jim (WB5VCB), David (K5PL), Larry (W5PYP), Smitty (AC5C), Larry (W5ZCG), Ken (K5UAB), Sam (WA5RPP), Tom (N5AOZ), and yours truly, Bill (N5WM).

One final comment before I close the column this month. I was talking with Doc (WA5CZN) just about tax time a couple of weeks ago. We were discussing the merits of investments for long-term gain. He said he would be happy with an investment gain of 3 decibels. OK, Doc, I bet you would be!

OKLAHOMA CITY'S FIRST REGULAR SATURDAY FLEA MARKET IS PLANNED FOR THE AMATEUR RADIO COMMUNITY HERE ON THE SECOND SATURDAY OF EACH MONTH IN THE PARKING LOT BEHIND THE HEATHKIT ELECTRONICS CENTER. The parking lot is not a closed one, so come set up your equipment as early as you desire. The address is 2727 NW Expressway and our first free amateur radio flea market will be held on Saturday, May 12th, from appx 8am until whenever in the afternoon. Make plans to come out! (Details to follow on the local repeaters).

seven three

Bill Riddles N5WM
'76ers Club Editor

TALLY-HO --- THE FOX!!! -- OR IS IT "THE RABBIT"?

After the February meeting of THE 76'ers, at which Bill (KB5BS) gave a very interesting lecture on direction finding, a few members planned a transmitter hunt.

On February 25th, Don (AE5N) and his family playing the part of the "rabbit" left home at 1:30 pm to hide. Half an hour later, the "hunters", Bill (KB5BS), Pat (N5PS), and Jack Conley (having only 1 car equipped with a directional antenna) took off in hot pursuit with Don (K5UKP) and Jim (KA5EET) close behind as observers.

With his equipment getting an east-southeast reading, Bill headed east on SW 29th Street. As he progressed, the reading indicated south so he turned on Brock Drive and went past Brock Park. Near the south end of the park, Jim spotted Don's car and we stopped, but Bill drove on past, only to return in a few minutes.

Bill and I attempted to hide at that time, but only for a short while. About 15 minutes later, Bill and Don both found us. We were a block from my house so we stopped there and my wife Bea made some coffee and tea. We all had a nice visit and planned the next hunt.

On March 3rd, my wife and I left the house to hide -- but there were more hunters this time. Bill (KB5BS) had his friend Bob Disbrow in his car, Don (AE5N) had his family with him, Charlie (WA4PLG) was with his wife Brenda, and Ben (WB5TFX) was by himself.

MORE NEXT PAGE.....

After Don got his antenna working, the hunt was on. Charlie had to go by his house to pick up his wife, so this gave him a time disadvantage. Don was still having antenna trouble. We thought we were well hidden, but Bill took just nine minutes to find us. Charlie took 19 minutes and Don just a little longer. There were a couple of smaller hunts on the way back across town. Don later found his problem --- a shorted PL-259 on his feedline.

At the conclusion of the activities, some headed for the coffee shop. Bea and I went to the grocery store. We hope to get more people interested so we can have larger hunts and end up at a park for a good picnic and get-together. After all, "rabbit chasing" is something the whole family can enjoy.

So come on! Let's get some antennas built and have fun this summer. Be listening on the club's 16/76 repeater (and MORI's 07/67 machine, too) for information about the next hunt. **EVERYONE** is very welcome to participate.

73

Don, K5UKP

SILENT KEY

IT IS WITH SORROW THAT WE RECOGNIZE THE PASSING OF WAYNE HOGAN, W5A0B, A FRIEND AND NEIGHBOR TO MANY OF US. WAYNE DIED APRIL 3 AFTER A LONG ILLNESS.

BORN JULY 7, 1924 IN SOUTHWESTERN OKLAHOMA, WAYNE LIVED MOST OF HIS LIFE IN OKLAHOMA CITY. HE GRADUATED FROM THE UNIVERSITY OF OKLAHOMA AND WORKED FOR THE OU HEALTH SCIENCES CENTER. BECAUSE OF HIS ENERGY HE WAS KNOWN BY MOST OF THE AREA RADIO AMATEURS. DURING HIS AMATEUR CAREER, HE WAS ACTIVE IN MANY ASPECTS OF THE HOBBY. HE HELD SEVERAL ARRL POSITIONS, WAS ACTIVE IN NAVY MARS AND WAS AN INVETERATE EXPERIMENTER AND HOME BUILDER.

THE INITIAL REPEATER INSTALLATIONS IN OKLAHOMA CITY WERE A DIRECT RESULT OF THE CONSTRUCTION WORK BY WAYNE. THE CONTROL CIRCUITS ON THE 34/94, 07/67 AND 449.1/444.1 REPEATERS WERE CONSTRUCTED BY WAYNE AND THEIR RELIABILITY ARE A TESTIMONY TO THE CARE WITH WHICH WAYNE TACKLED AND COMPLETED PROJECTS.

MANY OF US WILL MISS THE RAIDS ON WAYNE'S HAM SHACK FOR PARTS AND TECHNICAL CONSULTATION OVER MANY CUPS OF COFFEE. C&E EDITORS

FCC Says No To New License

WASHINGTON (AP) — The government has decided not to create at this time a new no-code "communicator class" amateur radio license that many CBers and other radio enthusiasts had hoped would ease their way into ham radio.

The Federal Communications Commission proposed in 1974 creation of the new amateur class which would not require any knowledge of International

Morse Code, one of the requirements for ham licenses now.

But in voting last month not to act on the proposal now, the FCC emphasized it did not agree with the majority of comments that the communicator class privileges would be "out of proportion" to its qualification requirements.

Instead, it said, much of its research appears out of date since the Amateur Radio Service

had grown by about 50 percent and the Citizens Band Radio Service by 1,400 percent since the new class first was proposed.

The commission agreed to reopen the matter later this year for a more up-to-date review and solicit comments from interested parties on the need or desirability of a new class.

The FCC had considered allocating frequencies between 220

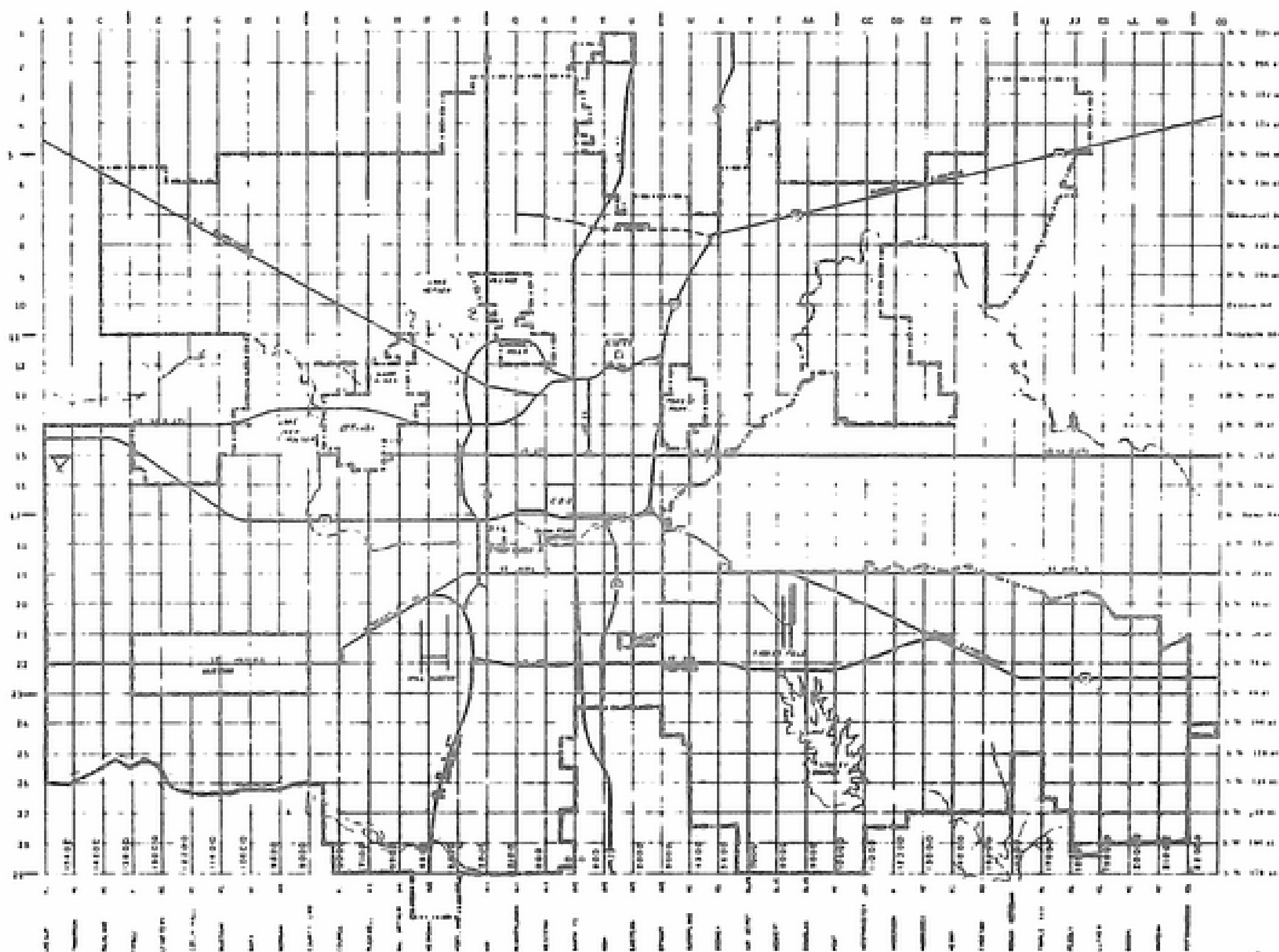
and 225 megahertz and between 420 and 450 megahertz for the new class.

The FCC also had considered permitting use of up to 50 watts of power, compared to the 4-watt CB limit or the 1,000-watt ham radio ceiling.

Like the current five classes of amateur licenses, a communicator license would have required some knowledge of radio electronics and operating procedures.

The Sunday Oklahoman
22 April 1979
reprinted with permission

CORA Collector & Emitter



OKLAHOMA CITY, OKLA.

courtesy of KWTU Channel 9

Here is a grid map of Oklahoma City which I thought might come in handy for those readers who still may not have one. This copy came to me from Charlie, WA4PLG who had produced a batch of larger ones for distribution at the last meeting of the '76ers. This size was a test-copy which he made up and, strangely enough, it's just the right size to fit this edition of the C&E.

I know this smaller size is a bit hard to read, but considering the very frightening tornado activity which we had near here so recently, this little copy just might save a few lives. If you need a larger copy, contact the Autopatch Association, KWTU, or any active amateur radio club in the metroplex.

Besides, with a little folding, this one is wallet-sized. Thanks again to Charlie, WA4PLG for working up that reduction.

Bill Riddles, N5WM

FOR SALE: Tempo-one HF rig. New finals, excellent condition, one owner. With AC & DC power supplies. \$395.00 Carl, WB5QNK, 329-6333

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CALL CHANGES

N5ALG now owned by Robert Fields Jr. previously known as WD5CSG
N5AKL now owned by Freddie Demerson previously known as WD5IDA

AWARDS

As most of our members know there has been a non-published award given out each month to the "freeloader of the month". After much prodding and pushing the award will be public from this point on. Let us first though review the meaning of the word freeloader as we mean it. Freeloader defined; any person living in an area that uses a repeater and refuses to join the organization and help pay the upkeep and power bills.

There is one problem with giving the award this month, that is there were many people nominated for the dubious award. After taking polls I could not come up with a winner, so instead of giving everyone the winners name, I will list all the finalists. They are as follows:

W5JCW
WD5FEI
WD5BKT

It is hoped that one of two things happen next month. That is either we have a winner outright or that we don't even have some one nominated.

PEOPLE TO CONTACT

FOR INPUT TO THE C&E.....	KAREN (WD5HBX)	751-5378
TO PAY DUES OR JOIN THE AUTOPATCH ASSN.....	HOBE (WB5MLN)	751-1646
FOR DONATIONS TO THE BUILDING.....	FRANK (N5FM)	751-3577
FOR MEETING PROGRAMS.....	SULLY (WB5YLZ)	721-1078

NEWS

The Autopatch Assn. will no longer hold only a flea market every other month. There will still be the flea market held, but we will hold it at the back of our regular meeting room. There will be a regular business meeting every month, and following this meeting the flea market will be conducted. So, be sure to mark your calendar for each month, for you would not want to miss a single meeting!!!

FOR SALE

KENWOOD TS 820 D : IN MINT CONDITION. CONTACT HENRY N5IH (722-3848)

30 ft. FREE-STANDING BREAKOVER TOWER. CONTACT HENRY N5IH (722-3848)

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FOR SALE: TS-820 - \$900. Used 2 weeks. AT-200 - \$140. SM-220 - \$290.
SP-520 - \$20. Midland 13-500 2 meter w/12 ch. xtal - \$140. DSI Freq.
Counter - 550 MHz - \$80. All like new, Call N5MF @ 495-4964
ask for Mark.

SELL or TRADE: HQ-129X General coverage (BC-10 meters) Tube-type
receiver. Mint electrically and mechanically. \$90.00 or trade??
Jess, W5SQJ, Norman. 321-7302



GENERAL THOUGHTS

After visiting at some length with members of our own organization, and the resident of another repeater group, I have decided that we are all in agreement on at least one major topic. That is, the use of our machines by FREE LOADERS!!!! There are a large number of people using not only our machines but others, that refuse to help pay the cost of upkeep and power bills. Some actually think that if they belong to one group, and therefor a member of CORA, this entitles them to use any and all repeaters they wish. Of course this is anything but the truth. Each one of us, as autopatch members, have a roster. This makes it the responsibility of each and every one of us to ask these people to help pay the bills if they are going to use our machine. If we don't this makes gumps of all of us that do pay our dues and the upkeep of the machines. If you have not already done so, clip your copy of the autopatch roster from the January issue of the C&E Updates in the membership of OCAPA are as follows:

THOSE WISHING NOT TO BE ASSOCIATED WITH THE AUTOPATCH ASSOCIATION

WD5BKT	CHUCK HOLBROOK	3101 DOGWOOD DR.	EDMOND	73034	3414824
KB5DI	LU FISHER	8316 NW 114 th	OKC,OK	73132	
WD5FEI	MARTIN VINSON		OKC,OK		
K5GBF	HAROLD PLUNK	2801 CAMELOT	OKC,OK	73120	7514677
WB5HZO	JOHN WORTHAN	1130 KENDALE AVE.	YUKON	73099	3546097
W5JZO	FRED SEALS	1005 WALNUT RD.	NORMAN	73069	3211522
WB5NCU	TOM RHODES	5012 NW 62nd	OKC,OK	73112	7213557
WB5OUF	STEPHEN ROBINSON	777 SE 15 th #425	EDMOND	73034	3418322
WB5QMB	CURTIS MCGATH	1703 PAMELA CIRCLE	NORMAN	73071	
WB5THS	JOHN PRATHER	6721 NW 30 th	BETHANY	73008	7890565
W5VCL	NEAL MYERS	707 S 3rd	YUKON	73099	3543233
WB5WXC	BILL SHERER	4105 NW 62nd	OKC,OK	73112	9421617
WB5ZLU	BOBBY STUBBS	713 SW 24	OKC,OK	73109	632184

NEW MEMBERS

WD5FKF	RUBEN CASTLEBERRY	10204 S SHARTEL DR.	OKC,OK	73139	6911070	12/79
WA5HTL	PAUL ASPLIN	6902 NW 57 th	BETHANY	73008		4/80
KA5EET	JIM BUSWELL	4716 NW 12 th	OKC,OK	73127	9471180	4/80
WB5ISO	WENDELL COCHRAN	4308 NW 26 th	OKC,OK	73107	9439308	12/79
WD5BKU	BILL JOHNSON	4205 NW 33rd	OKC,OK	73112	9467753	11/79
KA5DAO	MARY LESTER	3001 QUAIL CREEK RD.	OKC,OK	73120		1/80
KA5DBY	BETTY BRADLEY	12401 BLUE SAGE RD.	OKC,OK	73120	7550872	1/80
KA5DDE	MIKE CREWS	5709 NW 115 th	OKC,OK	73132	7221376	2/80
KA5DBZ	MARY LOU MANKIN	3004 THORNBRIDGE	OKC,OK	73120	7552121	2/80
KA5CAY	RON McCALIP	Rt 6 Box 474	SHAWNEE	74801	2735974	1/80
WD5JFJ	BILL McKELVIE	5908 N STERLING DR.	OKC,OK	73122	7215705	1/80
WD5HPR	DON McDOWD	305 WEST PRATT DR.	MWC	73110	7326749	7/79
WA4PLG	CHARLES KENAMER	600 SW 52nd	OKC,OK	73109	6324653	1/80
N5AWE	EARL GREGG	1732 NW 35 th	OKC,OK	73118	5252870	1/80
N5WM	BILL RIDDLES	2647 NW 55 th Pl	OKC,OK	73112	8420092	2/80
W5UGM	JERRY RADER	3121 NW 68 th	OKC,OK	73116	8439236	2/80
K5PJU	BOB WILLIAMS	13 EASY STREET	EDMOND	73034	3415529	2/80
WD5FKE	JACK STEWART	1020 SW 26	OKC,OK	73109	6347583	2/80
K5IGB	RON TUCKER	6926 UMBRIAN RD. # 128	OKC,OK	73132	7224307	2/80
WD5FUG	LESLIE STEWART	Rt 1 Box 12A	PRAGUE	74864	5673895	2/80
WA6NXS	DICK MILLER	1005 NW 23rd	MOORE	73160	7947983	8/79
WB5ZOJ	PAUL PEARL	825 BRIAR LANE RD.	DEL C	73115	6726482	10/79
KA5AQY	ED KIDD	10824 GREYSTONE	OKC,OK	73120	7515094	3/80
KA5AJR	CURTIS TINDALL	7628 NW 10 th #3	OKC,OK	73126	7873690	4/80
WD5CCX	BILL MAYNOR	2717 NW 110	OKC,OK	73120	7551122	4/80

NEW ASSOCIATES

	A.E. FARRELL	4324 SE 16	DEL C	73115	6776587	12/79
	GLEN SCOTT	3301 ALEXANDER LANE	BETHANY	73008		2/80
KA5ADE	BURL A. KEETON	7144 WOODRIDGE	OKC,OK	73132	7224781	2/80
KA5DAU	JENNA KIDD	10824 GREYSTONE	OKC,OK	73120	7515094	3/80



MEETING HIGHLIGHTS

The April meeting of the Oklahoma City Autopatch Association was held April 17th at the Oklahoma Military Academy with approximately 34 people in attendance. The program was enjoyed by all, and presented by Mrs. Carol Suttles, Science Demonstrator for Southwestern Bell Telephone Company. Mrs. Suttles presented some historical information on the development of the telephone and the principles of the telephone's operation.

The topic that caught everyone's attention, however, was the new options that should be available to all of Oklahoma in the next five to seven years. The heart of the options, which are currently in operation in parts of Oklahoma City and some other Oklahoma towns, is a microprocessor chip. The chips, one for each telephone number, are located at the main switching offices.

Options being utilized now include call forwarding, call cut in, (hearing a tone to advise you that you have another call), being able to instruct the telephone not to ring, and automatic call back (where the telephone will redial a number for you when you get a busy signal).

Future options will be numerous and diversified including being able to program thirty numbers which are often called into your microprocessor chip.

Mrs. Suttles told us that she would have a new program in September, so be sure to mark your calendar Sully! Our thanks to Mrs. Suttles and Southwestern Bell for a most entertaining and informative evening. We'll be looking forward to seeing the new presentation Bell develops.

WEATHER HIGHLIGHTS

Now that the first weather net has come and gone, so has a lot of worries that some have had. There are several comments that I would like to make about it. The first of course, is that all of us should be very thankful that the storms that plagued residents to the south of us stayed to the south. That is not to say we are glad they were hit, but..... The next thing I would like to say is, that most everyone that took part in the net conducted themselves in a professional manner. There were only a couple of exceptions to this statement, and I am sure that it was only because of the first net jitters.

Thanks to each and every one of you for your help and strong self control, and a special great big thanks for the card!

Henry (N5IH)

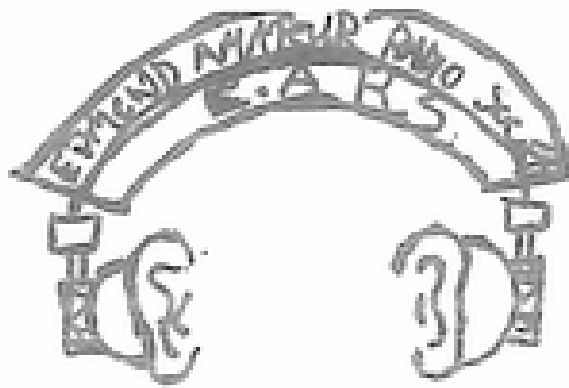
FROM HR REPORTS

A HIT-AND-RUN KILLER was caught in Miami last month by two determined local Amateurs and a friend. WA4VIS and KA4GTX were nearly hit by a Thunderbird, which then hit and killed a pedestrian. They gave chase at high speed, advising Miami police on WR4BAZ's autopatch. During the pursuit the repeater timed out, confusing police communications, but W4WJ, who was listening called the police himself and re-established communications.

THE FLEEING DRIVER finally pulled up to his own home where, directed by WA4VIS and KA4GTX, police arrested him.

OPERATING ABUSES by foreign-licensed U.S. citizens operating from shipboard, particularly in the caribbean, are causing concern in the Latin-American Amateur community. A net that meets daily on 7268 kHz from 11 to 13 Z, VP5SI (an American with a salvage tug business) NCS, is causing much of the concern. Non-Amateur yachters are counseled as to how and where to get a "quickie" Amateur license so they can join the group, whose operations seem to include a lot of business-type conversations and phone patches.

THOUGH MUCH of this activity is not only inappropriate to the Amateur bands but a violation of international regulations, not much can be done about it unless the governments of the offending licensees want to do it. In the meantime, however, U.S. Amateurs should be doubly cautious about the kind of traffic they accept from foreign-licensed maritime mobiles.



EDMOND AMATEUR RADIO SOCIETY, INC.

Founded in 1959. American Radio Relay League affiliated. Incorporated in 1962.

The April scheduled meeting was canceled and held on the Sunday following Easter.

Club Highlights of April Meeting

1. C.O.R.A. minutes were read by Howard (WD5IDB).
2. Field Day committee was selected.
3. Operation class was discussed.
4. Site was selected for Field Day.
5. Plans to recharter the E.A.R.S. certificate was discussed.
6. Deadline on dues of members were discussed.

The members selected (railroaded) Dee (WD5FHR) to chair the field day committee. Dee graciously conceded to do this for the club. The type of equipment to be used during field day and the selection of a site was discussed. The following equipment was volunteered: 1 cw rig, 1 phone rig, 1 QRP rig, 3 towers and 3 antennas. Several members volunteered to work on field day committee.

The club scrapbook and certificate record book has been misplaced. Anyone knowing the location of these items, please contact one of the club officers. Also, anyone who now holds an E.A.R.S. certificate, please contact the club president.

Future meeting dates were selected and are as follows: May 12, May 27 and June 9 (field day prep). Remember Field Day, June 23 - 24. Come out and have fun and participate in field day--See you then.

73, E.A.R.S.

Spaulding 60' self-supporting galvanized triangular tower with tilt-over base-plate, thrust plate and rotor plate, \$200.00, excellent condition. Leon, WB5WTR, 848-7595 or 949-2050.

The following people volunteered to assist in the collection of money donated by the residents of Oklahoma City, M.W.C., Del City, and Edmond, Oklahoma for the American Cancer Society. I want to thank them for their help.

K5YXF - Tom Bond & his Pooch	WA5JGU - Charlie
K5HQP - Marvin	W5KE - Ellard
K5HFN - Fred	AB5U - Al
K5AJW - Maurice	W5OZE - Tom
KA5EET - Jim	KA5DGY - Hugh
KA5CXW - Fred	Suzy Atkinson
WB5CNM - Randy	Helen Williams
WD5BXT - Brenda	

The refreshments at the bank where we delivered the money, excellent.

K5VRL, JIM

FOR SALE : Heath SB-220 Linear Amplifier, \$440.00; Hammarlund SP-600 receiver, general coverage, \$150.00; 30-foot-tall tower with steel guys, rotor plate and top light, \$65.00 - Call Art W5PTM 732-8401, area code 405.

For Sale : Clegg Venus 6-meter SSB/AM/CW with AC power supply, \$185.00 Charlie WA5JGU.

For Sale : Hammarlund HQ-170, 160-10 meters, \$125.00; Johnson Viking Ranger (CW works), \$60.00; Globe model 90, \$60.00, all as is. Arlie WB5NKC, 681-0534 area code 405.

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

At The Beautiful

LINCOLN PLAZA FORUM
OKLA CITY JULY 27-28-29

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

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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 HF 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 _____

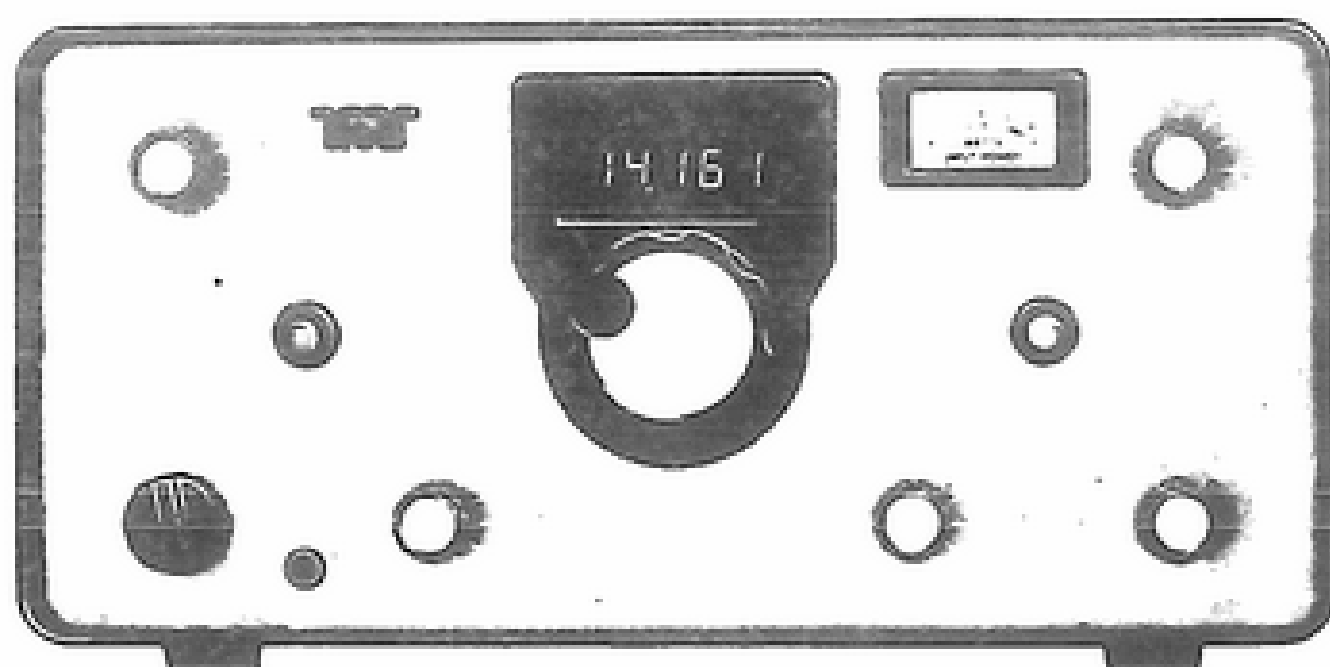
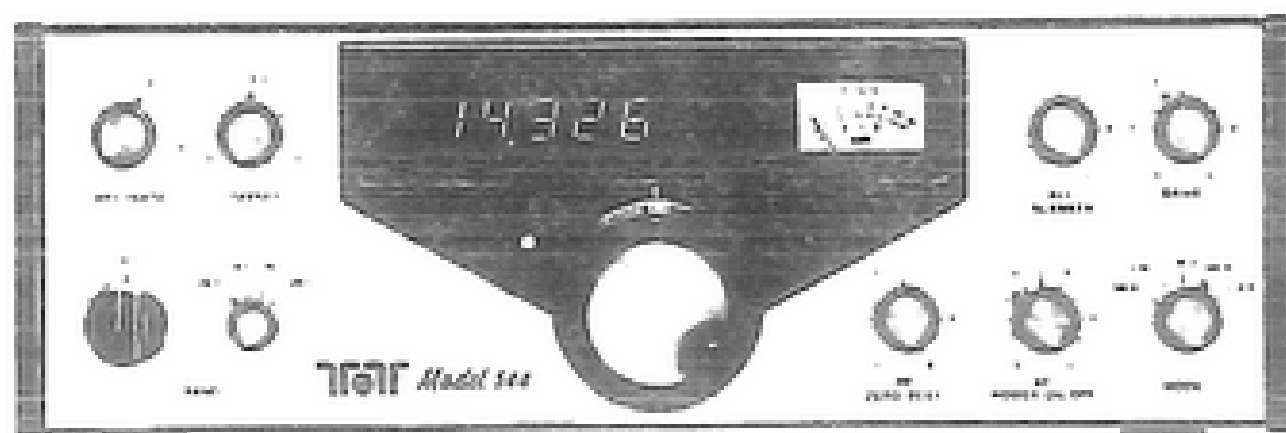
_____ QCWA Breakfast Tickets @ \$5.10 _____

_____ Sunday Banquet Tickets @ \$7.25 _____

Tax and tip included.

Reserve me a table for Flea Market (NON Commercial)

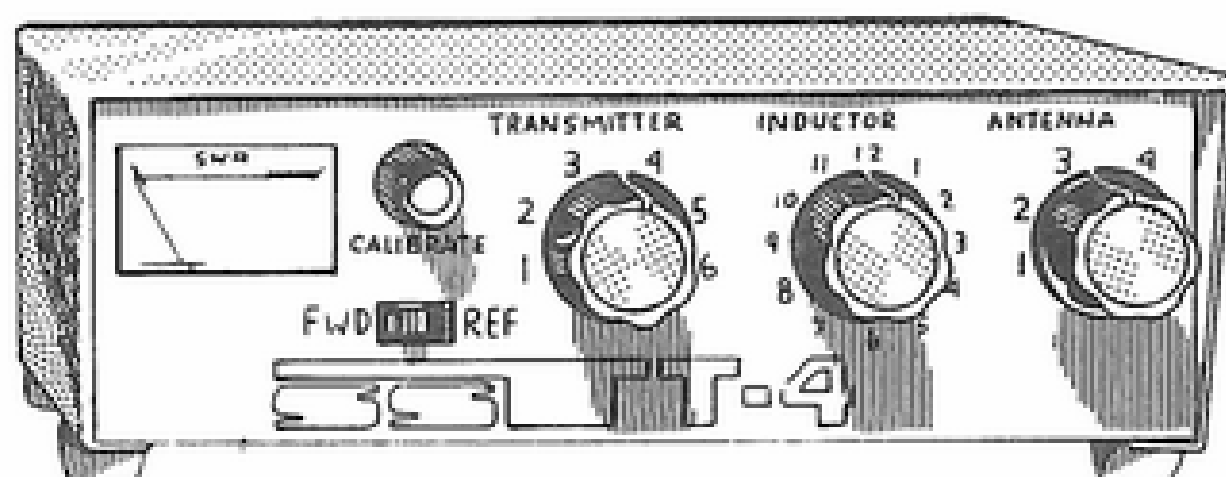
GET THE BEST QUOTE FIRST



TEN-TEC TRANSCEIVERS & ACCESSORIES

545 160-10m OMNI 200w Xcvr . . .	\$ 899.00
546 As above, w/Digital readout . . .	1069.00
645 OMNI Keyer	85.00
248 OMNI Noise Blanker	49.00
252M 18A, 110 vac power supply . . .	119.00
252M/E 18A, 110/230v supply . . .	126.00
540 80-10m 200w Xcvr	699.00
544 As above, w/Digital readout . . .	869.00
252M 18A 110 vac power supply . . .	119.00
262M As above, w/VOX	145.00
252M/E 18A 110/230v supply . . .	126.00
262M/E As above, w/VOX	152.00
207 Ammeter	14.00
240 160m converter	110.00
241 Xtal oscillator	35.00
242 External VFO	179.00
244 Digital display	197.00
245 150 Hz CW filter	25.00
249 Noise blanker	29.00
Ten meter Xtal each	5.00
1102 Snap-up legs pair	1.00
570 Century 21 70w CW Xcvr	299.00
574 Century 21/Digital	399.00
670 Century 21 Keyer	29.00
276 Century 21 Calibrator	29.00
274 Century Digital Mod Kit	90.00
247 Antenna Tuner	69.00
277 Antenna Tuner/SWR Bridge	85.00
509 Argonaut 80-10cm 5w Xcvr . . .	369.00
206 A Crystal calibrator	29.00
208 External CW filter	29.00
210 AC power supply	34.00
210/E 110/220 vac ps	39.00
215P Microphone w/plug	29.50
KR1A Dual paddle assembly	35.00
KR2A Single paddle assembly	17.00
KR5A Single paddle keyer, DC	39.50
KR20A Single paddle keyer, AC/DC . .	69.50
KR50 Dual paddle Ultramatic, AC/DC .	110.00

SST T-4 ULTRA TUNER DELUXE



Matches any coax fed antenna or random wire. Works with any transceiver. Great for mobile, portable, or home operation. Antenna switch selects between two coax fed antennas, random wire, or tuner bypass. Attractive bronze finished enclosure with exclusive SST Styling. Compact size: 9" x 2-1/2" x 5".

Features:

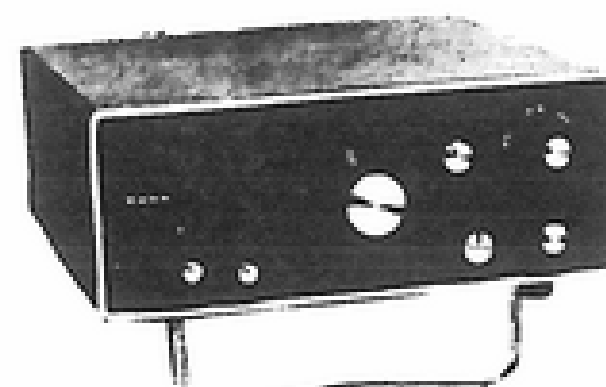
- 300 watts output capability.
- All bands—1.8-30 MHz.
- SWR meter built in.
- Antenna switch on back panel.
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- 208 pf 1000 v. capacitors for flexible, reliable operation.

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**YAESU FT 901 DM
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IN STOCK!

Swan 100 MX, P.S. and Ant.

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A SPECIAL THANKS TO GORDON JONES, W5OU - FORMER W5TC TRUSTEE

As I have said several times in this column, the OU Amateur Radio Club is in a state of rebuilding. This program of rebuilding has been going on for two years. For a short period of time before that the club was totally inactive. During this period of inactivity, Gordon was one of the few Extra Class amateurs around the Norman area. He is a former club member on campus and was the one who was instrumental in building the present Heathkit SB-102 Transceiver used by club members. Anyway, during this dark hour for the club when it was not meeting the W5TC license expired. When Gordon discovered this (he had already graduated from OU) he wrote letters to the FCC and whatever else it took to save the call from passing into oblivion. He became trustee during a dark hour for the club. He was instrumental in saving the call W5TC that has been with the club for 48 years. I know the club certainly appreciates the efforts of Gordon and owes him a special thanks. Since graduating from OU, Gordon has become Cleveland County Surveyor, an elected official. He and his "rhombic" farm live East of Norman. Gordon is well known on both HF and VHF bands.

W5TC NEEDS A TOWER AND AN SWR/WATTMETER

John Stehr is looking for a tower to place on the Carson Engineering Center that will hold the club's tri-bander. The recent appropriation by the Student Association included a HAM III rotator but not a tower. The tri-bander is assembled and laying on the roof ready to be installed. If one of our readers would like to donate a thirty or forty foot steel tower that would forever be a sentinel above the OU campus please contact the W5TC trustee (days) 321-5210 or (nights) 364-8761. The only stipulation is that it cannot be painted in Aggie colors of Orange and White or is it Orange and Black. Maybe Mike Salem can come up with a good Aggie tower joke. An SWR/WATTMETER to match the Collins 75A-4 and KWS-1 combination is also needed. I hope to report next month on who makes the donation, as long it's not an Aggie tower.

STUDENTS - CHANGE YOUR ADDRESS NOW FOR THE SUMMER

Those of you who are going home for the summer, to a job somewhere, or to some exotic land somewhere, please let your club editor know where you will be. This is so you can continue to receive your Collector and Emitter during the summer. Make it a point to call me now (days) 734-5885 or (nights) 364-7979 and let me have your address. Good luck on finals but don't forget to change your address so you can continue to receive your Collector and Emitter.

UPGRADES

Mark Protiva from Norman received Novice KA5ELO
Susan Hill from Altus received Novice KA5ELN
Shadi Dabit from Saudi Arabia received Novice KA5EOW

James Gardner, our president, upgraded to Technician KA5DHF

RUS CABLE WA6TLK TO BE PROMOTED TO 2nd LIEUTENANT IN USAF

Master Sergeant Ruston Eable, an OU club member stationed at Tinker has been selected to attend Officer Training School at Lackland Air Force Base, Texas. After 12 weeks he will have his gold bars pinned on and then it's off to Tyndall AFB, Florida. After learning about exotic Air Force weaponry such as the pink water balloon, Rus will travel to McChord AFB in the state of Washington. This will be his assignment for three years. Rus was substitute editor for this column and chief club photographer. His photo of OU club members assisting at OU football games was featured in the December issue. Rus was a real asset to the club; his spirit of helpfulness to the students, his optimism, and his keen sense of humor will be missed.

Nathan Kirby, KB5BF



ORDER PLACED ON NEW RADIO EQUIPMENT FOR W5TC

On April 16 the OU Purchasing Department place the order for a new Kenwood station for W5TC. Long's Electronics in Birmingham won the bid. The order was the direct result of an OU Student Association resolution approved by the Congress on February 14, 1979. This order is a milestone for the OUARC because it is not only the largest appropriation ever received in the club's 48 year history, but it edges W5TC closer to the goal of becoming a first-rate club station. On this order is included:

- one Kenwood TS-820S, 10 - 160 meter transceiver with digital display
- one Kenwood YG-88C, 500 Hz CW filter
- one Kenwood VFO-820, Variable Frequency Oscillator
- one Kenwood SP-820, external speaker for the TS-820
- one Kenwood AT-200, antenna tuner, SWR/wattmeter, coax switch
- two Kenwood MC-50, desk microphones (one to go on Heathkit rig)
- one Kenwood SM-220, station monitor
- one Kenwood BS-8, pan adapter for the SM-220
- one CDE HAM III rotator

The delivery should be by May 4, 1979. After delivery and checkout by John Stehr, N5ABC, the trustee for W5TC, the equipment will be ready for use by club members. The club's voted upon policy of nobody using any equipment until he is checked out on it's operation will be important for all of us to remember. At least, the Kenwood station will be fully operational when many of you return this fall. In order to justify the confidence the Congress has displayed in us we must take as much traffic as possible this fall, but what a pleasurable way to pass traffic!

WR5AFW and W5TC TRUSTEES LEAD THE WAY IN UPDATING STATIONS

W5TC

TRUSTEE - John Stehr, N5ABC

John, like Mike, holds an Extra Class license. He is a 2nd Class Radiotelephone license holder. He works for T. D. 's Communications on Motorola Two-Way Communications Systems. Dean Waddell, N5AMV own TD's and works with John on the W5TC (and WR5AFW) equipment. John has lead the way in selecting the Kenwood equipment for W5TC. Since assuming his duties as trustee a few months ago John has been instrumental in:

- Restoring the Heathkit Transceiver
- Restoring the Collins KWS-1
- Restoring the Collins 75A-4
- Installing the Mosley Vertical

In addition to repairing equipment, John has spent many hours with students from the campus and the Postal Technical Institute checking them out on operation of the W5TC station. I know the club members appreciate John's efforts to help these students, many of them only recently licensed. Although Dean likes to stay in the background I know the club really appreciates his efforts working on the equipment.

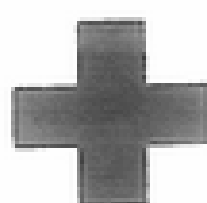
WR5AFW

TRUSTEE - Michael Salem, N5MS

Mike is also the well known and popular Technical Editor for the C & E. He is an Attorney, has a EE degree also from OU, and a 1st Class Radiotelephone license. Has lead the way for the OUARC to update it's machine by purchasing this year:

- GE Progress Line repeater
- An autopatch
- Phelps - Dodge Duplexer
- The Salem - Ryan Microprocessor (at least the parts for it)

John Stehr N5ABC and Dean Waddell N5AMV have rejuvenated the "prog" and have it percolating along at more than twice the power of the present machine. When the whole works is installed on top of the highest building on campus a tremendous boost in coverage should be noticed. This should aid both routine and emergency communications in Cleveland County. The guidance Mike has provided the club in the club's purchasing the best possible equipment for the available money is appreciated by all of us. Indeed, much progress has been made this 78-79 school year.



THE AMERICAN NATIONAL RED CROSS

WESTERN OKLAHOMA DIVISION
323 N. W. TENTH STREET
OKLAHOMA CITY, OKLAHOMA 73103
PHONE (405) 232-7121



TORNADO STRIKES

TORNADO - - Vernon and Wichita Falls, Texas, and Lawton, Oklahoma. Several dead and injured with wide spread destruction. Other towns in Oklahoma sustain damage; Davidson, Faxon, Chatanooga, Marlow, Waurika, Pruitt City, Pumpkin Center and Prague. Still other communities are threatened. Such were the reports coming into the Red Cross Chapter in Oklahoma City on April 10, 1979, and the primary source of transmitting the information was the Amateur Radio system.

Within minutes after the strikes in Lawton and Wichita Falls, the telephones in the Red Cross office in Oklahoma City and Lawton became jammed with in-coming calls from relatives wishing information concerning loved ones in the affected areas. The Amateur Radio network that normally develops following such an occurrence HAD TO WORK- - AND IT DID!!

The Lawton Red Cross officials found their phones jammed - - - Wichita Falls phones were knocked out. The Red Cross Communications Chairman in Oklahoma City, Charlie Green WA5JGU, opened the radio room in the Red Cross Chapter in Oklahoma City using the club call W5LOW. The station was provided several years ago by the Oklahoma Central Amateur Radio Club.

The Lawton Amateur Radio Club opened their station that is situated in the Red Cross Chapter in Lawton.

Then things began to happen - - -

First reports indicated a need for additional Red Cross vans and supplies, volunteers and staff ~~were~~ needed in Lawton. Shelters were needed. A survey of the damaged areas was started, frequencies on 80 - 40 and 2 meters were utilized. The communications link had been established via amateur radio - - usually the only way possible.

W5LOW remained on the air throughout the night and did not shut down until late the following night. Amateurs were scheduled by shifts to work the station to keep it in operation. Amateurs in the Lawton area did the same thing, with many "Hams" operating from their home stations in and around the damaged areas.

The amateurs kept W5LOW in operation for several days following the storms, handling welfare inquiries, thereby relieving the anxiety of relatives and friends.

Public service is only one aspect of amateur radio. However, we in Red Cross consider it the most vital, as amateurs come to the aid of their fellow man.

THANKS again for another job well done.

Jack W. Muse, WB5ZKZ
Director
Disaster Services
Western Oklahoma-Texas
Panhandle Division
American Red Cross



THE AMERICAN RADIO RELAY LEAGUE, INC.

OFFICE OF THE SECTION COMMUNICATIONS MANAGER

I have been both criticized and praised for a letter from this office in December 1979, regarding the "00" program.

I still feel that an O.O. is not a 'policeman', that is not the concept that is spelled out in their instructions. As I stated before, I have heard some (and still hear them) things that I do not like on our bands. I still maintain that too much "lingo" has crept in and is being heard. I suggest that each of you read the meaning of "Q" signals, also I do not find any other way to say "73" but that. No plural or any other connotation. It is up to the older amateurs to lead the way, not join the mob.

Perhaps, we need a real hard look at ourselves and our operating practices. Particularly, in the realm of repeater operation. In monitoring, I hear "too" much that could easily be called commercial traffic some of which is being handled under the guise of "public service" operating. I am also aware of some strictly illegal operations on little used VHF frequencies, these will be taken care of in due time.

Enough of that; the net managers of the Night Owl Net and other local nets will soon be asked for a list of regular operators so that the new "local net certificates" may be issued. Also, it would be advantageous, if all "local" nets being operated on our area repeaters were registered in the net directory. Qualifications for the certificates will be issued shortly.

Again, I must ask all of you to cooperate with our S.E.C and support "Operation Skywarn". It works in Tulsa and it can be made to work state-wide. Enid is laying the groundwork now with Vance AFB and the EBS system. NEW SUBJECT

I feel that there is not enough, nor proper words available to me, that can be said about the work of our Oklahoma amateurs during the week of April 8-14, 1979.

The speed with which the nets were formed and placed into operation speaks well for one of the main purposes of our traffic nets, that of training operators to act in an emergency in a business like manner.

The alacrity with which our operators reported in and went to work, speaks well of the willingness of our people to operate in the "public interest and necessity" and help their fellow man.

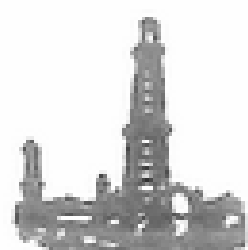
I feel that only the volunteer services of the Red Cross and amateur radio will you find this willingness to serve and put in the long, sometimes grueling hours that are needed to get the job done.

I do not have, nor will there ever be a complete list of all who operated faithfully, therefore, it is impossible for me to thank each and every one personally. By the same token, it is hard to single out anyone for special mention. Our S.E.C. is compiling a report to ARRL headquarters, and I am sure, will find a place to make special note of those who so richly deserve special mention.

Again, my heartfelt thanks to all for a job well done.

Leonard Hollar, WAFFSN
SCM, Oklahoma

6-meter SSB station for sale: Swan 250 transceiver with mobile power supply. Excellent condx. \$295.00. Contact Leon, WB5WTR, at 848-7595 (b) or 949-2050 (h).



MID-OKLAHOMA REPEATER INC.

Might as well type this up while it is still fresh on my mind -- No comments! I can think of enough of them, especially when I goof something up. Pre-meeting activities were hot air sessions between members swapping yarns. Don't know of any fish stories, but I wonder if any distances were exaggerated?

Some of the sick are still ailing, sad to say - hope they can be back with us soon. One important thing, never give up hope. Doctors state that the attitude of the patient, and positive will to recover, have a great deal to do with a patient's getting back into circulation. Was sorry to see Chuck's back giving him fits. A person never knows what misery back ailments can cause, until he gets them. I read an article about the star of "Fantasy Island", whose back was hurt in a movie mishap, has lived with pain a good many years - but keeps going anyway. "True Grit", maybe?

Another pre-meeting session between Sid, W5K0Z, the president and others, concerned some by-laws changes. More about these later.

The meeting was called to order by the V-P, Bill, N5AH, at 8:00 PM at Chuck's request because of that bad back. It can sure pick some inconvenient times to pop out - according to Chuck.

Self-introductions were made and business was discussed - the financial report was read by Jim, K5PER, and accepted. The disposition of some old equipment was discussed, and it was decided to auction it off at the next meeting - with the possible exception of a rack. Does not seem to be any takers for 50¢ per pound. Questions, see JIM.

HAM HOLIDAY & ARRL State Convention business was discussed, and progress noted about the prizes (MORI's responsibility). Seemed satisfactory to everyone - the boys on the committee have been working. Not like some government committees! Maybe the government committees get extra pay when not working. Hi.

An invitation from ACARC & OCVHFC to join in a field day operation was presented. However, MORI is unofficially represented at these events already, since most MORI members already belong to one of the other groups. It was decided not to participate, officially. Field Day will be held June 24. I missed out on the location, most members know it already, or can find out, if interested.

Seems like Ken would like to turn the care of 07/67 over to someone else - need someone not afraid of height and young enough to handle it. Just any of us old geezers won't do. Age has its compensations, you're not apt to be volunteered or railroaded, as some of the younger technical people.

There was a discussion of a booth at the Fair, in conjunction with other clubs. Results will depend on availability of operators and solution of some other problems - Charlie, WA5JGU, might be more knowledgeable on the subject.

Jim, W5PER, gave an AMSAT report about hams cooperating together, details to be worked out later. For more details contact Jim.

Motion was made and seconded to allocate \$12 each month for door prizes.

There was a break for refreshments, then we went back for a program, which was a slide & tape presentation on the artifacts from King Tut's Tomb. It was presented by Fred, K5HFN. Very interesting. Those ancient artisans could produce just about anything our modern age could come

*** M.O.R.I., cont'd.....

up with, maybe better. And that, without our so-called sophisticated equipment. Thanks, Fred, for that program. I have, personally, read a little about those things and seen some pictures - but nothing that would equal your presentation. Anyone wanting to know about covering long distances in a limited time, ought to ask Fred - sort of wearing, isn't it, Fred?

Sid was distributing MORI bumper stickers for a price of "Anything under \$1.00". An offer of 1¢ was not accepted, Hi. However for a price of \$.00 I believe you could have one.

Now, there was an offer on a rotator for a Ringo Ranger antenna, and another about a back-wave amplifier, and a couple of other deals in last month's CORA C & E.

Anyone been in the stockyards, or a cow-chip throwing contest?

Meeting was adjourned at 9:45 PM.

George, WB5NMK

RAMBLINGS FROM THE PRESIDENT:

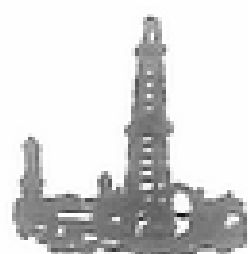
MORI lost one of its long time members and one of its founding fathers when Wayne Hogan, WA5AOB passed away recently. Wayne was one of the men responsible for getting MORI off the ground and our repeaters started. He was the original trustee of WA5YTI and held this position more than once. He resigned as trustee of our 34-94 repeater late last year due to poor health. Wayne helped many an amateur throughout the state and many people are indebted to him for his hard work. Wayne will be missed, but his memory will live on.

We are indebted to Fred, K5HFN for the fine program presented at the last meeting. It was a very interesting program on King Tut. Thanks Fred.

Jerry, W5MCJ, one of our two program chairmen, has a very interesting program lined up for us at the May meeting. Leon Miller, WB5WTR, the manager of the local Heath store will be our guest and present the program.

It was recently decided to have a drawing for door prizes at our future meetings. We are indebted to Chuck, N5SW, owner of Kryder Electronics, for his donation of some nice door prizes. These will be given out at the next few meetings. Be present at our meeting in May and maybe you will be the lucky winner of one of the prizes to be given away. K5NK

I HEARD: SJV likes fish but no snails or worms please.....VZU's best antenna ever was a doghouse.....UKP's converted CB antenna does a lousy job on two meters.. NYX has a new daughter.....SJX drools over old horror movies but keeps the sound turned down.....GVH timed the repeater out two times in a row.....FKF is still swapping gear trying to find the ultimate.....AJR finally got his .67 crystal on frequency.....America's ugliest person talking to America's ugliest ham.....FKF actually talking on Drake gear.....UKP Okie Dokie.....FRQ's bad ignition noise.....WM asking SW for his best price.....DYJ had her windshield wiper blades stolen.....GKK celebrating old home week.....VVZ having trouble buying a pair of shoes.....CZN has some new leather.....FXP calling the Rooster Net.....TYX looking for net controls.....Roberta talking to Wilamena.....KZV has a shrunken head.....ODC is an expert on TV antennas.....AH has the janitor happy.....GKK shouting for joy after passing his extra.....EET enjoying his new privileges.....FKG making excuses for not showing up with the pizza.....NKC making like a vet on a dog.....INZ working on a hot date.....TMW out playing cops and robbers.....CZN playing the part of ROHO.....PZW thinking of getting his extra after finding out cw is fun.....DYJ laying claim to DYI's 820 now that she is a general..... Great King Kong saying hello to Good Luck.....and a whole lot more. K5NK



MID-OKLAHOMA REPEATER INC.

The Metropolitan Oklahoma City area is blessed with many fine amateur radio clubs and repeaters. All the repeaters in town are sponsored and financed by individual clubs. It costs a great deal of money to erect these repeaters and to maintain them, keeping them on the air. This money of course comes from club dues or from repeater dues, which ever be the case. Club dues vary some among the local groups, but for the most part range from \$12 to \$25 annually. Some clubs might have membership dues and then additional dues for the use of their repeater. By and large most repeaters are open, meaning they are open for everyone's use. Those that are closed repeaters request you be a member of their club to use their repeater and especially the auto-patch.

At the present time there are 10 clubs in the state which are affiliated with CORA. CORA is responsible primarily for publishing the Collector and Emitter and carrying out plans for our local Ham Holiday. Each of the clubs affiliated with CORA send three representatives to CORA meetings and the officers of CORA are usually elected from these representatives.

As a member of any club affiliated with CORA, one is automatically a member of CORA. For each member of a club, that club's treasurer sends to CORA 15 cents per month for their membership in CORA and that member receives the Collector and Emitter. Several are members of more than one club affiliated with CORA.

Many amateurs are under the impression that by being a member of any club associated with CORA, this makes them a member of all clubs which are affiliated with CORA and gives them privileges of all facilities of those clubs. This is not true. No club receives funds from CORA nor does any club share club dues with another club.

As an example, say one desires to become a member of MORI. Our club dues are \$12.00 annually. Upon payment of one's \$12.00, he becomes a member of MORI and at the same time becomes a member of CORA. Our club treasurer sends \$1.80 per year to CORA for membership in CORA. This individual then receives a copy of the Collector & Emitter each month. This \$1.80 comes out of the \$12.00 club membership. This then gives a person the right to use our .67 and .94 repeaters as well as the UHF repeater. So, he became a member of MORI and also CORA by paying his membership fee, but he did not become a member of any other club at the same time.

Let's say this same person desires to join another club and we will use the Bicentennial Amateur Radio Club as our example. This club sponsors and maintains the 146.76 repeater. For membership in the club, the fee is \$2.00 annually. Of this, \$1.80 is sent to CORA, leaving 20 cents for the club treasury. It's pretty hard to maintain a repeater at 20 cents per member, so the club asks that if you desire to use their repeater, you pay an additional \$10.00 annually. This is only fair. For those who do not want to use the repeater, only a membership fee is charged.

So, the question is this. Why should I, or Tom, Dick or Harry, shell out our hard earned 12 bucks a year to join a club and help support the repeaters, when many folks do not and they use the repeaters and auto-patch consistently? It doesn't make good sense for me to support you, or you support someone else. If you are going to consistently use a repeater, why not join the club and help share the cost of maintaining that repeater. There is little difference in this and me buying a new radio and then letting everyone use it but me.

The officers of MORI and trustees of their repeaters are not going to run anyone off the repeaters as long as proper practices are being used. There is little doubt that our 07-67 is the most active repeater in town and everyone is welcome to use it. But, doesn't it make good sense that if that is your favorite repeater and you use it all the time, that you should help the rest of us pay for your fun? K5NK

Complete Collins "S" Line for sale: 32S1 transmitter with 516F2 power supply, 75S2 receiver (the model with the auxiliary crystal deck) with many extra crystals, 500 Hz mechanical filter, spinner knob, all manuals, and 312B3 speaker. Both units recently tubed and aligned and are in excellent condition \$950.00 Bill, N5WM, 842-0092, OKC.

ATTENTION AREA AMATEURS
THE OKLAHOMA SPECIAL OLYMPICS FOR RETARDED
CHILDREN NEEDS YOUR HELP!!!
THE STATE OLYMPIC COMPETITION TAKES PLACE ON
MAY 16, 17, & 18 AT THE CENTRAL STATE UNIVERSITY
CAMPUS.
AMATEURS WHO HAVE HAND HELDS & PORTABLES WILL
BE OPERATING ON 146.52 MHz RELAYING SCORES,
TIMES, & OTHER PERTINENT INFORMATION FROM SEVERAL
FIELD LOCATIONS TO THE SCORERS BOOTH. MOST OF
THIS ACTIVITY WILL BE DURING THE DAY.
ALL AMATEURS WHO ARE ABLE TO HELP OUT IN THIS VERY
WORTHWHILE PUBLIC SERVICE, SHOULD CONTACT WB5MLN-
HOBE BURGAN. 751-1646 or 755-3339
YOUR PARTICIPATION IN THIS VERY SPECIAL EVENT
WILL BE QUITE REWARDING.

FOR SALE: Radio Shack TRC-47 sideband on 10 meters, covers 28.645 to 28.775. Contact Henry, N5IH, 722- 3848.

FOR SALE: Used 30 ft tower, brand unknown. Consists of 2 10' bottom sections & 1 10' top section. Asking \$70, negotiable. Phone Kenny Hutchison, WB5RXZ at 364-3001.

Get on 10 meters the easy way. Converted 40 channel, digital readout, AC/DC, base or mobile, cover 25.510 to 28.950. \$175. Bob, WB50BV, phone 495-0030.

FOR SALE: Drake T4X & AC4 Power Supply - Gary, WD0RIS, 364-4976

THE BEARCAT NIFTY 250 OR A BAT RECEIVER FOR ALL REASONS

Our story opens as we joined our caped crime fighters in their secret Batcave deep below Gotham's soil. Robin is bent over a Bat Receiver carefully monitoring a radio conversation between the Joker and his evil henchmen when suddenly the Joker cleverly QSY's to another frequency before continuing with the most dastardly portion of his diabolical plot.

"Holy Synthesizer," exclaims the juvenile crime fighter, "The Joker has moved to another frequency. How will we ever find it in time to hear what his diabolical plot for the destruction of Gotham is, Batman?"

"Patience, Boy Wonder. You forget that we have recently acquired a new Bat Receiver manufactured by the Electra Company called a Bearcat 250. It covers virtually all the frequencies used by such diabolical criminals as the Joker and can scan 50 channels at a time. Not only does it cover High Band (148-174 Mhz), Low Ban (32-50 Mhz), and UHF (450-470 Mhz), but it also covers the Ham Band (146-148 Mhz), UHF Government Band (420-450 Mhz) and the UHF "T" Band (470-512 Mhz). In addition, Robin, with a little work in the Bat Laboratory, I have discovered a way to make the receiver cover an additional 21 Mhz below each of these bands with a decrease in sensitivity."

"Holy Crystals, Batman, How will we ever know what frequency the Joker moved to?" replied the young caped crusader. "There must be a million different choices he could have made!"

"Relax, Robin. The Nifty 250 also features a search and (in our case) destroy and store feature as a part of its microprocessor controlled design. The radio will search any particular segment of the band and store up to 64 different frequencies in its special memory that it hears during its searching. You can select a scan/search speed of either 5 or 15 channels per second and it has a built in crystal controlled LED Display clock which displays hours, minutes, and seconds. If power should be interrupted, there is no problem, the frequencies stored in the 50 channels are not erased unless you tell the scanner to drop the frequencies from its Bat memory. And once we find the Joker's new secret frequency, we can have the 250 keep track of the number of times the Joker transmits up to a total count of 99 for each of the 50 channels. If you want to listen to something else while monitoring the Joker, just push the Priority button and put the Joker's secret frequency in channel 1. The 250 will check the Joker's frequency every second to see if there is any activity and stay there when there is. And if we have to, Robin, we just load the 250 into the Batmobile and operate it off 12 volts while speeding to the Joker's lair. And in case, you have to leave the Bat console while monitoring the Joker, you can program the Nifty 250 to start a tape recorder so we won't miss any part of the Joker's diabolical plot. Where are you going, Boy Wonder?"

"Better start that auxiliary output and get the tape recorder going, Batman, so we can get it all on tape. I've got to go to the Batroom," grinned the Boy Wonder, speeding down the bat corridor.

Yes, Boys and Girls, Batman is right. The Bearcat 250 Five Band Scanning Receiver is a Bat Receiver for all reasons. The 50 channels can be called out in banks of 10 so that you can scan 10, 20, 30, 40, or 50 channels at a time. This allows you to place certain frequencies in each bank and scan only those that interest you. For example, I have amateur frequencies in the first 10, city government in the second 10, county government in the third 10, Federal and new media in the fourth 10, and more newsmedia and miscellaneous out of town frequencies including the NOAA weather in the last group of 10 channels.

The Bearcat 250 improves on the previous Bearcat 210 which was a keyboard programmable synthesized scanner with search capability and a maximum channel scanning capacity of 10 channels. WA5JXX has had one of these for some time and I have had the opportunity to examine it and compare it with a

250 that I have had access to for the last month or so. The 250 is clearly a superior radio with improved reception and fewer "Birdies," and many additional features which Batman noted above.

To trace the origins of the frequency synthesized scanning receiver, you must look to the Bearcat 101, the first of the new breed of such animals. This was a 16 channel scanner which covered many of the same frequencies as the 210 and 250. It was not keyboard programmable and each frequency had to be entered in the radio by binary entry. There were 16 switches across the front of the receiver and each frequency was represented by a particular arrangement of the switches which were then entered into the receiver. The 101 had no search capabilities and had a few bad habits such as skipping over channels depending upon the way the channels were placed in the radio. I had one for several years and found it to be fairly reliable until I had a synthesizer chip go out. The receiver featured the Nitron technology which meant that no battery was required internally to hold memory when the power was disconnected. Synthesizer noise was also a mild problem which could almost cover up the incoming signal, especially on the UHF bands. Because the 101 required some high voltages for programming, it could not be taken mobile without a 110 V inverter. Still, the 101 was quite an achievement for the crystalless society and thousands of Bearcat 101's are still around.

The 210 represented the same type of quantum jump for scanners when it was first introduced. For the first time, the scanner could be programmed from a keyboard on the front and frequencies changed at will. The scanner also had a search mode which would allow the radio to be set at a certain frequency and made to scan a particular band segment looking for unusual transmissions. This was ill conceived, because the scanner would stop on the first frequency that it heard something on and this generally was a birdy: generated internally by the synthesizer. This was unique, although unintended, this was the first receiver to find its own birdies. The 210 featured an IF frequency of 10.7 Mhz. The 210 also had a tone detector to detect the idle tone for the Bell Improved Mobile Telephone Service (IMTS) so that the scanner would not stop on these frequencies unless there was a conversation going on. Roger found that he had to adjust his for the proper frequency when he received it.

The same improvements were realized in the 250. The channel capacity was expanded to 50, the IF frequency was changed to 10.85 with low injection which seemed to improve the Birdy situation remarkably. The clock was a nice touch which improves the usefulness of the scanner. The COR circuit will start and stop a tape recorder and will sink a maximum of 500 ma. (so even the Boy Wonder can absent himself as long as necessary). The channels can be programmed in no particular order. The Bearcat features special autotuning which apparently tracks each frequency no matter what order.

IF Selectivity is claimed to be -60 db @ + 25 Khz, but there is one statistic that doesn't seem to fit that claim as will be shown later.

The Bearcat 250 appears to also differ from the 210 in that it tunes in 25 khz steps from 420 to 470 Mhz and in 12.5 Khz steps from 470 to 512 Mhz whereas the 210 seems to cover the entire band in 12.5 Khz steps. This may be due to different technology used in the 250 as opposed to the 210. The 210 requires an internal battery to hold a charge on each of its memory elements so that this programming will not be lost when power goes down. The 250 has none of these additions, and also doesn't have the IMTS idle tone detector. In the search mode, birdies can be locked out by letting the scanner run through a search sequence without the antenna. The birdies are stored first and the machine will not stop on them the next time through.

Yet for all its exotica, the entire story is not being told about the Bearcat 250. There are a few more goodies that you can do with the 250 and a few additional

frequencies that you can receive that they do not point out in the instruction book. The receiver (this includes the 210 and 101) can be used as a signal generator for aligning radios. In addition, by just the use of a little mathematics, the Bearcat 250 can be used to eavesdrop on frequencies below its normal range.

Signal Generator

The Bearcat 250 has low injection with an IF frequency of 10.85 Mhz. This means that the local oscillator is operating at a frequency 10.85 Mhz below the indicated frequency. To use the Bearcat as a signal generator, just add 10.85 Mhz to the frequency you want to generate and program the radio for that frequency. For example, say you want to generate 146.88 to check your HT. Add 10.85 Mhz to 146.88 and get 157.73 Mhz. Program 157,73 on the Bearcat and, Voila! you have a signal on 146.88 for the thrill and enlightenment of your HT. The limitations of this method are obvious. The Bearcat will not program outside the ranges given by Batman. Therefore, the upper 10.85 Mhz of the Low Band, High Band, and UHF are unreachable by the Bearcat. But you will be able to go 10.85 Mhz below each of the lower band limits.

I have used this signal to beat against my Model 80 signal generator to set it on frequency when aligning a HT-200 UHF receiver. Since my signal source is not calibrated as to frequency, but only as to amplitude, this is a considerable convenience. The HT-200 was picking up some birdies and even though it showed a sensitivity of .5 uV on a certain frequency, I did not know whether or not it was the right frequency. By setting the receiver to the signal from the Bearcat then zero beating it against the Model 80, I was certain that I was tuning the radio up on the proper frequency and not just some sensitive Birdy.

COR Circuitry

The output circuitry for the Auxiliary Function is shown below:

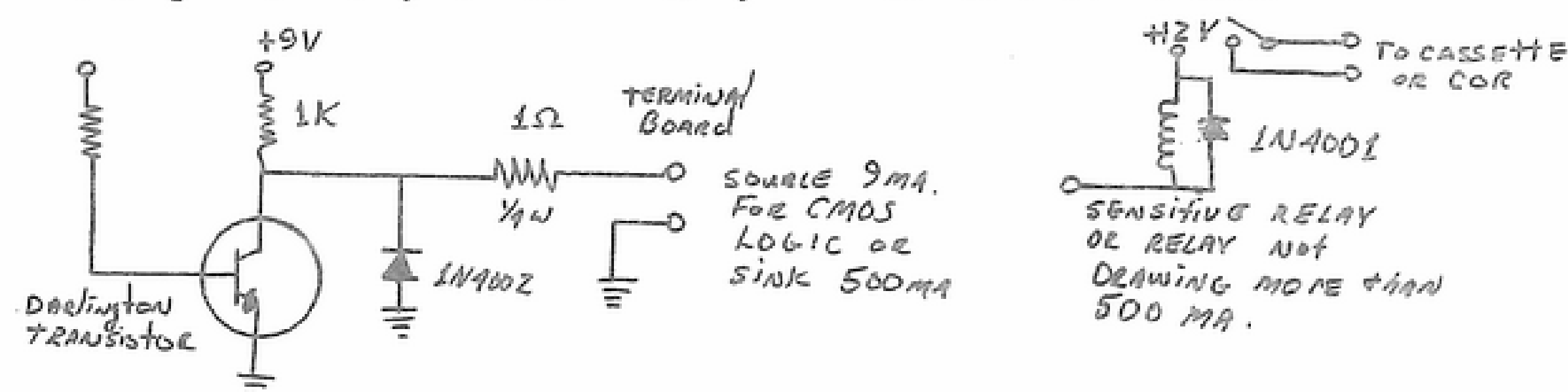


Figure 1. Bearcat 250 Auxiliary Circuit and Hookups

As can be seen, the circuit will be able to source 9 ma. because of the 9 volts present on the 1K resistor and by Ohm's law, we know that a maximum of 9 ma. can flow through the resistor, assuming the the V_{ce} of the Darlington transistor is very low. The 1 ohm resistor is use to limit current through the transistor and the diode protects from someone putting reverse voltage across the junction of the transistor and sending it to never never land. A few suggested auxiliary circuits are suggested which can be used to advantage by the transistors ability to sink almost 500 ma.

Receiving Frequencies below the Lower Limit of the 250

I generally confirmed the receiver sensitivity specifications for all bands with the signal generator. This auto track tuning apparently really works. None of the values were very far off. The squelch sensitivity was generally as specified. Another check with the generator was to check the sensitivity of the receiver on the image of the 250 input frequency. For Example, if the Bearcat was tuned to 146.88 Mhz, the image frequency would be two times

the IF frequency lower than the input frequency or 146.88 Mhz - 10.85 - 10.85 = 125.18 Mhz. This would be as shown below:

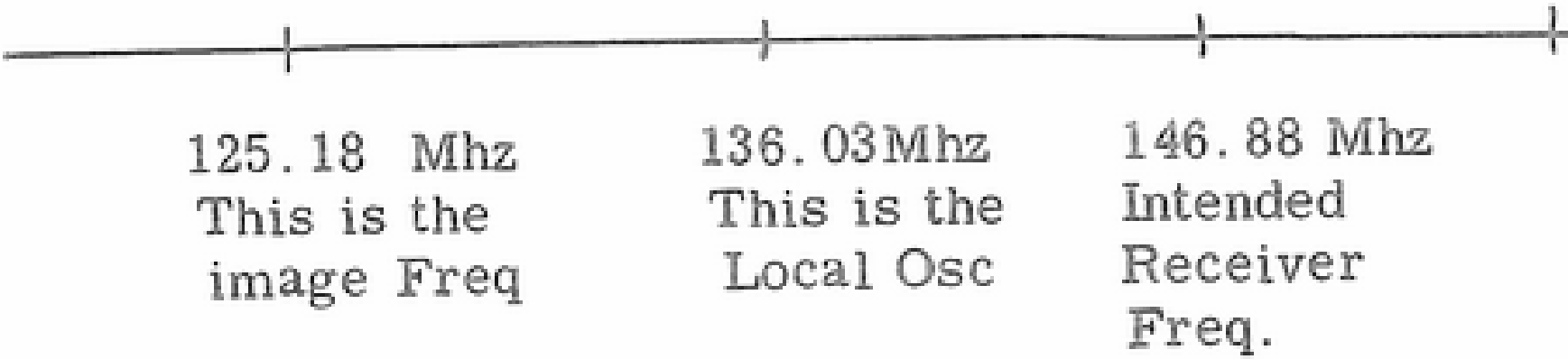


Figure 2. Image Frequency Chart

The local oscillator is working at 136.03 Mhz and mixing with the 146.88 Mhz input signal to produce an IF frequency of 10.85 Mhz. From the chart above, it can be seen that if 125.18 Mhz mixes with 136.03 Mhz, it can also produce an image input which also results in a frequency of 10.85 Mhz IF. The image rejection in the Bearcat is not that good, but this can be used to our advantage. The receiver sensitivity for various images as indicated below is given:

<u>Indicated Frequency</u>		<u>Image Frequency</u>	<u>Sensitivity</u>
32.000	Mhz	10.30 Mhz	.001 Volts
40.000	Mhz	18.30	700 uV
50.000	Mhz	28.30	50 uV
146.000	Mhz	124.30	20 uV
147.000	Mhz	125.30	20 uV
148.000	Mhz	126.30	20 uV
149.000	Mhz	127.30	20 uV
155.000	Mhz	133.30	20 uV
160.000	Mhz	138.30	20 uV
170.000	Mhz	148.30	15 uV
420.000	Mhz	398.30	4.0 uV
425.000	Mhz	403.30	4.0 uV
445.000	Mhz	423.30	4.0 uV

Figure 3. Image sensitivity for the Bearcat 250.

As can be seen from the chart, the image sensitivity is not very good at UHF. The specified sensitivity is .8 uV in the 420 - 512 Mhz band and using the formula $Db = 20 \log_{10} A/B$ yields about a 14 db image rejection. For the Highband 146.00 - 174 Mhz band, the rejection goes up to a semirespectable 34 db for a sensitivity of .4 uV specified. In any case, this poor sensitivity is to our advantage when listening out of the band. The low band doesn't appear to be very useful for listening out of the range on the image, but you might try to see if you can hear your 15 or 20 meter signals, but don't connect it directly to the radio. On the UHF Band, it means that the 406-420 Mhz government band is open for listening with a not impossible sensitivity. Of course, from the chart you can listen as low as 398.3 Mhz, but I am not really sure what there is to listen to down there.

Does it work? Holy Image Rejection, Yes! You can experiment with this image rejection by listening to your favorite strong repeater on UHF and tuning 21.70 Mhz above the normal frequency. You will hear a difference if your are far enough away, but for a relatively strong signal, you won't notice any difference, even if you are on highband.

It occurs to me that if one could get inside the radio, with a little study or the eventual release of schematics from Bearcat that one could teach the radio to go virtually anywhere you want it to. It is also possible that by

manipulating the keyboard and activating certain buttons at the same time, it might be possible to hit the processor chip in a particular fashion to activate some of the other frequencies. I haven't had much time to experiment with this entirely, but whatever I discover will be in the next issue of C & E.

What leads me to believe that this is possible is the fact that Bearcat has come out with two new scanners, the 220 and 211, one of which (the 220) covers the 118-136 aircraft band, but scans only 20 channels. The 211 is a low cost version of the 250 which scans the same frequencies, but only has 18 channels. Of course, the 220 has a different detector (I suppose) to cover the aircraft band, but it also covers all the same frequencies that the Bearcat 250 covers. I know that this can be done by just changing the mixer oscillator frequencies for the synthesizer, but I like mysteries and it seems to me that there is one here.

In any case, the Bearcat is a nifty 250 and one of the most modern scanning receivers available. And for the price of the scanner, you also get a signal generator (calibrated frequency output) and expanded receive coverage using the image technique (one time where image reception might be desirable) outlined and you have quite a package. One heck of a Bat Receiver, eh, Batman and Boy Wonder?

Micheal Salem N5MS

THE BUSINESS OF AMATEUR RADIO IS NOT YOUR BUSINESS DEPARTMENT

It is with much reluctance that I mention that some of the conversation that I have heard on a couple of the repeaters is not encouraging. During the time that I had the Bearcat 250, I was able to monitor quite a number of repeaters simultaneously. On more than a couple of occasions, I heard phone calls to businesses, conversations about buying and selling merchandise, and outright discussions regarding one's profession in a very obvious manner. Now, I must admit that I am not sure where to draw the line between pecuniary and nonpecuniary gain for the individual amateur radio operator, but I know darn well that I don't intend or want the FCC to begin to make that distinction for us. I used to think that it was OK to call and order a Pizza for pickup until recent rumblings in QST and other publications call that practice into question. It seems to me that the mere fact that you have called a business phone does not invalidate the call as a commercial venture, and your pizza order, regardless of whether the person selling the pizza has an amateur license or not, when made on the phone is not for anyone's particular pecuniary interest. But if that same call were made over amateur radio entirely to a person who worked at a pizza place, I could see some problem. But what if you and a couple of amateur friends were meeting for lunch and you were running late. Is it permissible for you to ask them to order a hamburger for you so that it will be there when you get there? I dunno. Someone will benefit commercially from such an order, but is amateur radio directly involved?

I know that this is a lot of trouble to go to just because I can't order a lousy pizza on the autopatch, but I can see where it can be subject to abuse. This is clearly different from several recent obvious discussions I have heard about buying and selling guns on one repeater (and it appeared that the deal was cinched over the air complete with discussion of price and statements such as "I know that I can't discuss this over the air, but . . .") and trading and selling ones' transceiver. My goodness, when the discussion gets this close, tell the other fellow that you'll call him on the telephone. Generally on VHF, it is never a toll call and this way we can avoid the near occasion of sin. I need to watch it myself and if anybody is interested we can start a brief discussion next time about what is and is not permissible and what guidelines we can follow to keep us out of trouble.

Micheal Salem N5MS

UPCOMING DAYTON DELIGHTS

I received my brochure from the Dayton Amateur Radio Association for the Dayton Hamvention '79 and the lineup looks good. The theme this year (I guess really, they mean every year) is "International Friendship via Amateur Radio." And that is just about the size of it. The Dayton Hamvention has truly become an international amateur radio event. There were over 20,000 hams present last year and the crowd is expected to be even bigger this year. I understand that a large contingent from Oklahoma City have planned to be there with various methods of travel arranged. The prizes are as usually fantastic and range from a TS-820 (you might remember that Jim Shideler WB5YWO won the grand prize last year) to a Drake UV-3, Robot SSTV Converter and Camera, Yaesu Ft-127, Kenwood 7625 and on and on. The program will include topics such as Directional Couplers, Microprocessors in Amateur Radio, ATV, WARC, Antennas, State of the Art, DX, FM, Space Communications, Weather Satellites, VHF/UHF/EME, and an FCC Forum as well as FCC licensing Examinations.

Of course, all this is secondary to the horsetrading that goes on outside the HARA Arena in that Mecca known as the Flea Market. I have stood in wonder of the amazement of it all as horsetrader meets horsetrader. The emphasis is on amateur radio and no one will go away broken hearted. Bundles of goodies have been carefully packed for the annual trek and even larger bundles of cash have been carefully saved by all attendees to prime the pump of amateur radio commerce. I am sure that the City of Dayton and the State of Ohio will be there with their outstretched State and City Sales Tax hand.

The list of commercial exhibitors is endless and includes just about everyone with an amateur product for sale. All the others will be in the flea market. I fully expect that there will be many private entrepreneurs marketing special projects and boards in the flea market as there has been in years past. For a complete report, watch this space in next month's C & E.

Micheal Salem N5MS

A HOOKER HOLIDAY

I know a Hookerite. Lest you hasten to think that I have been frequenting one of the local el cheapo hotels making friends with the sidewalk submarines, I must clarify the previous remark. Oklahoma is rich in heritage and part of that heritage includes the various and varied names of its towns. One of those is a small town in the Panhandle known as Hooker. A brief pause for all the side comments and smirks is inserted here. In any case, a friend of mine named Alan Ray is from Hooker and he has just recently passed his private pilot license. Alan and his father have an airplane which Alan's father and brother fixed up and got flying. While Alan was working on his license, he wanted to ferry the plane down here so he could practice. And so it all came together on a clear Sunday morning when Alan, Joe K5JB, Glenn WD5FVI, and myself piled into a Cessna 182 to zap up to Hooker to pick up the airplane. Alan and Glenn were going to fly back the 172 and Joe and I would beat them back in the 182. I was invited along not out of necessity (not having a license to fly these contraptions like Glenn or Joe), but courtesy and I gratefully accepted and began planning the radio contingent to take along (Humm, a couple of Handie Talkies ought to do the trick, VHF and UHF). It was a beautifyl day for flying and I grought along a newspaper to stave off boredom. The four of us lifted off in the 182 and sped westward. I fiddled with a couple of the repeaters after we leveled off, then turned to the comic section. It was interesting to find that snow had fallen between us and Hooker and I watched the pattern on the ground with much interest. From our height advantage, I could see the entire area where snow had fallen and no place else. It didn't appear to be that big of an area and I never realized how locally the snow could

be. Looks just like it fell out of one cloud. Sightseeing from the airplane is always interesting. The irrigation ponds and areas are quite interesting. This generally takes a circular shape to match the irrigation machinery. I keyed a couple of repeaters, even though we were nearing the panhandle. I never remember hearing I.D.'s or if I did hear them, I don't remember them now. I made a couple of calls on several frequencies, but drew no answers. Well, maybe everybody listens to 52 to keep the congestion low. I flipped over and snapped out a couple of calls, but no dice. I later discovered that my 52 receive was inoperative while working on another project. Darn, I hate to open that HT when that happens. There appeared to be absolutely nothing on UHF, so I just brought the radio along for ballast.

The trip took just about two hours in the snappy 182. JB put it on the numbers and we taxied up and met Alan's brother, Steven, who was there to meet us. We found out that Steven's wife had fixed a terrific Sunday dinner for all of us, so I decided that my diet didn't count that day (I'll lose twice as much the next week) and dug in. I did manage a little moderation with regard to the mashed potatoes and gravy, but did pig out on the pie and salad. My conscious was assuaged a little knowing that I didn't eat enough to put the plane above gross for the return trip (At least, JB didn't ask me to step on the scales after eating). We finished the pie, then drove over to Alan's father's house and looked at a nifty new 172 that they were working on. The wings had been removed for repair and I got a chance to look inside and see that the only thing that holds the airplane in the air is some thin aluminum stretched over more thin aluminum. I must take this into consideration when flying private plane. Could be worse, Glenn's Tripacer is held in the air by fabric.

A quick trip back to the airport and JB and I climbed into the 182, yelled contact, clear prop or something and took off. JB nosed the plane up and we were pretty high by the time we reached the end of the 3500 foot strip. Not difficult to climb when you only have two people and a partial load of fuel. We looked down to see Glenn practicing a landing in the 172. He later said that the difference in flying a floater like the 172 and his Tripacer was the difference in flying a leaf and a rock.

The flight back was uneventful and messed with the radios again and found that I could key the 444.2 Mhz repeater quite some distance out. I called Dennis WB5ISN to give him a progress report on the signal strength of the system.

I had avoided my usual Dramamine cocktail because of the unusually clear and pretty weather. It was just fine except while approaching Expressway at low altitude, but the old stomach did fine and I had no reason to think that this was something I couldn't stomach. The thought of the delicious meal I had just eaten did cross my mind, but I just pretended to be hungry so I wouldn't think the unthinkable.

Glenn and Alan were some distance behind us. I do remember one reason I was allowed to go along. Glenn and Alan were going into Westheimer Field in Norman, so I drove both of them up to Expressway, then we dropped Glenn's car at Westheimer so they would have some way of getting back to the house after bringing the plane in. I forgot to ask Alan for my "I've been to Hooker," button. Well, maybe I'll get a chance to go back when the other plane is ready.

Micheal Salem N5MS

FOR SALE: I don't give up easy. I have a Black and White Concord VTR-800 Video Tape recorder and I counted almost 20 hours of tape with the machine. This includes manuals and schematics. \$200.00 or trade. Micheal Salem N5MS. Phone 321-5453 or 360-1302.

WAYNE HOGAN - A Friend In Deeds

Amateur Radio in Oklahoma City lost an unusual and close friend this last month with the death of B. Wayne Hogan WA5OAB. Wayne was the first trustee of WA5YTI, Oklahoma City's first amateur repeater located at 93rd and Sunnyslane. Wayne spent many hours working, learning and getting involved with amateur radio and the public service provided by the repeater. His involvement with Mid-Oklahoma Repeater was an example to all amateurs of how to start a club and keep it growing. Wayne and the group of hardy souls who first put WA5YTI on the air were true pioneers in what has become one of the most important and useful aspects of amateur radio. Personally, I might say that Wayne taught me a lot about how a trustee should act and run the repeater. Being a trustee was more than mere technical expertise. It involves an understanding of human nature and a Dale Carnegie course in dealing with the varied and different users. I know that I join many other Oklahoma City amateurs who mourn his passing. He and his wife, Norma, used to travel to Norman and park in my front yard on game days for OU Football games and I always looked forward to seeing him. This past year he was unable to do so because of the effects of his illness. He gave unselfishly of his time and he will be missed. All of us will be less without Wayne, but a lot better for having known him.

Micheal Salem N5MS

WB5POW CONDITION IMPROVING

In the February 1979 issue of C & E, I reported that Larry Stewart WB5POW had been seriously injured in a plane crash January 18, 1979 at Tinker Field. His condition at that time was considered critical and he remained in the Intensive Care Unit at University Hospital for several weeks. I am glad to report that since that time, his condition has improved slowly, but surely. Larry remained unconscious for many weeks with a broken back, a broken right leg and severe head trauma. He was removed from the intensive care section, but remained unconscious after the respirator and other life support systems were removed. Finally, the brain swelling and other problems appeared to be subsiding and he eventually spoke to one of the nurses. WB5ISN was at the hospital one day and Larry began talking to him and over Dennis' HT to a variety of different people. I was in Kansas City at the time and mentioned in a previous issue how excited we were at his improvement. We stopped by on our way back to Norman and I later saw him that week and he spoke to me. Larry was moved about the first of March to Hillcrest Rehabilitation Center in Tulsa and I have had the opportunity to go see him a couple of times since then. He is able to talk clearly and has had the cast removed from his leg (a compound fracture, it may be necessary to recast it). His back is improving slowly since the surgery to fuse the broken area and his awareness has been returning since brain surgery to remove a blood clot. He is presently undergoing therapy and although he has not been able to stand, he is getting up in a wheel-chair and moving around. He has regained part of the function of his upper body and there appears to be little signs of paralysis. The improvement has been slow, but relatively steady. He has been regaining his normal feistiness. I understand that one of the nurses made the mistake of leaving the telephone within his reach and he decided to place a few calls to friends around the country. To me, these are all good signs. Larry would appreciate hearing from you and you can write him in care of the Hillcrest Rehabilitation Center. They have been moving him from room to room, but his room at presstime is 226. He can't accept phone calls since he doesn't have the phone within reach and so must wait until someone is in the room to answer the phone. I know he would appreciate hearing from you.

Micheal Salem N5MS

SHRUG IT OFF

EVER FEEL LIKE YOU'VE BEEN SNOOKERED? EVER BEEN SHORT SHEETED? LIKE THE TIME I TOOK A DODGE DART BACK TO THE DEALER COMPLAINING OF BRAKES GRABBING AND THE THING SWERVING IN RANDOM DIRECTIONS. THE DEALER SAID "THAT'S WHY THEY CALL IT A DART".

THIS MONTHS FICKLE FINGER CAME AS A REPLY THAT JIM, KASEET, RECEIVED FROM REGENCY WHEN HE ASKED WHY THE READOUT ON HIS 'TOUCH' SCANNER SOMETIMES BORE NO SIMILARITY TO THE FREQUENCY IT WAS RECEIVING. REPRINTED BELOW IS THE REPLY. TRANSLATED IT SAYS "DON'T SWEAT IT. IT JUST DOES THAT SOMETIMES".



Regency ELECTRONICS, INC.

7707 RECORDS STREET • INDIANAPOLIS, INDIANA 46226 • TEL (317) 545-4281

April 18, 1979

Jim Buswell
4716 NW 12
Oklahoma City, OK 73127

Dear Mr. Buswell:

The Regency ACT-T-16K is suppose to resume whatever it was doing at the time it was turned off. Due to variations in processors which we seem to be unable to pin down exactly, this does not always occur. Apparently you have one of the processors that does not resume what it was doing when turned on. What this adds up to is that the action you describe is normal for your particular processor.

Sincerely,

Wayne Ayers

Wayne Ayers
Sales Engineer

WA/kn

A politician and minister always argued as to whose job was most important. The politician contended his was because he took care of people while they were still alive. The minister said his was most important because he took care of them after they died.

One day the minister awoke to find a dead donkey on his front lawn. He called the politician to ask that it be removed immediately.

The politician said, "I can't imagine why you would call me. Isn't it part of your job to bury the dead?"

"Yes", agreed the minister. "It is, however, also part of my job to notify the next of kin."

For Sale : TRC-47 SSB CB transceiver converted to 10 meters. Has three crystals which give 28.550 to 28.690 MHz. Room for three more crystals. Have worked Asia, ZL's and Germany mobile on it, \$95.00, Frank, N5FM, 751-3577.

MOTOROLA SHORTS

My Passion is Motorola Radios. I have a couple and wish I had more. These include a variety of types, models, power levels, and frequency bands. I have had my hands in PT's, MT's, HT's (100's, 220's, and 200's). Part of the problem of dealing with Motorola radios is finding the proper replacement parts and obtaining when repairing these goodies. I have an old and very rare Motorola Parts and Data Handbook which Motorola sent me when I first requested to be placed on their mailing list many moons ago. It soon became out of date and lacked much essential information on some of the newer equipment. However, it was not entirely trustworthy. I once ordered a couple of charging sleeves for HT-220's and received the Mobile Charger for a Handie Talkie. What compounded the problem was the fact that I ordered two sleeves and got two mobile chargers. This represented almost \$300.00 worth of merchandise that I had no use for. It takes Motorola a while to process return parts and they usually request that you pay for the stuff and they refund the money later. I have played this game before with a manual and never saw my money even though I sent the manual only after I had an authorization to do so. I quickly repackaged the mobile chargers and sent off a quick note to the local district office and requested return of the material. A week or two later, I received a return authorization and quickly dropped the goodies back in the mail for the return trip to Schaumburg, Illinois. Over a month later, I received word that my account had been credited and I didn't have to pay for it. I don't know if I got into any trouble, but it all seem to work out. I checked my parts and data handbook and found that they listed the wrong number for the sleeves.

I just recently found out the Motorola had a new Communications Parts and Data Handbook coming out, so I packed a check for \$14.95 with an application form and ordered one as quickly as I could. This book had coverage of the old favorites including the HT-220, HT-200 as well as such new goodies as the MT-500, MX300, Micor, Mitrek, Mocom, and a variety of new pagers. The book arrived in a couple of weeks and I thumbed through it. Pretty nifty and in a nice new silver hardcover binding. Part numbers are prominently displayed and they had nice coverage on the new equipment. For those who need this kind of information, the book is great to have. The part number is RAX-4001A and you can order it from your local Motorola friend or you might write Motorola, Communications and Electronics Inc., 1313 East Algonquin Road, Schaumburg, Illinois 60196. Send it to the attention of "Merchandising."

I got a notice from the merchandising department the other day in which they indicated that although Motorola lists only 30,000 parts in their price list, they actually have over 100,000 parts in stock, many of which are unlisted in the parts and data books, manuals for service, and price list. This complete list was available only in microfiche and if you had a reader (or if you didn't, they would be willing to sell you one at a considerable price) you could have all this important data at your fingertips (microscopically, that is). I have a small microfiche reader and decided to request a set of the data sheets from the local office in Dallas. These could be very useful in determining the availability of manuals and many SP products that are not listed by price or availability in the regular catalogs. If you have a hankering to get your hands on this kind of information, contact the Dallas office of Motorola.

While working on a Motorola HT-220 UHF radio the other day, I couldn't get it on frequency. No matter what I did, the radio appeared to be about 125 KHz off frequency low. I would have suspected the crystal, but it was an International and I had 5 of the same frequency and each one of them appeared to just about the same amount off frequency. I took one of the crystals and put it in another radio and it worked perfectly. Perplexed, I set the radio aside and took up the schematic and parts layout for some close study. The radio had worked before with some other crystals and I couldn't figure out why the parameters had

changed in such an unusual manner. I fiddled with a few of the capacitors, but nothing seemed to help much. The receiver was still 125 KHz low and wouldn't budge. It was time to get out the magnifying glass and do some careful studying of the PC Board. A close examination of the receiver crystal socket revealed that the land between the crystal and the resistor R3 had peeled up disconnecting the resistor from across the crystal. The circuit looks like that below:

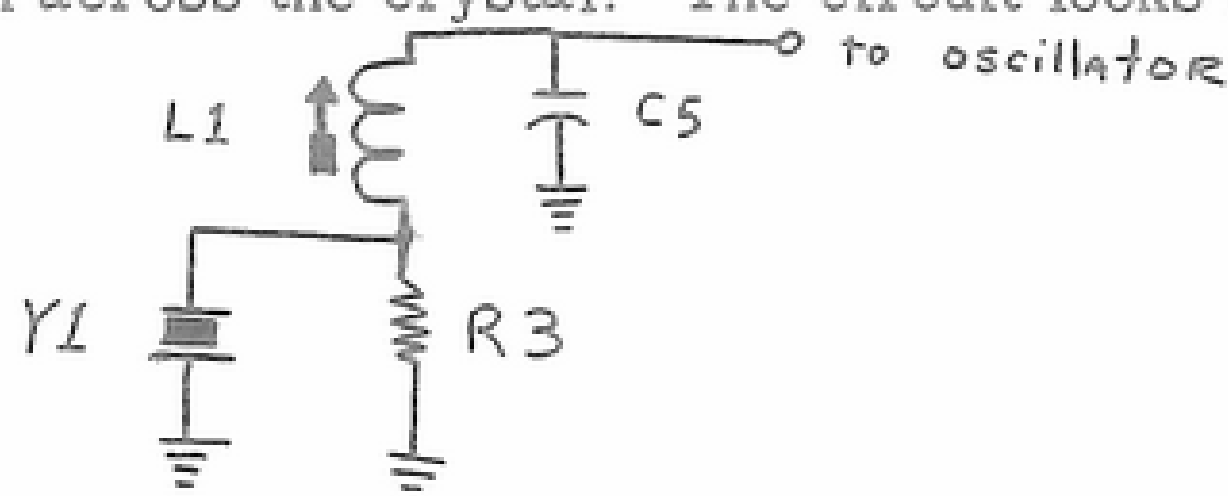


Figure 1. Receiver Oscillator for HT-220

The frequency of the receiver is adjusted by setting L1. Part of the symptoms was that the crystal didn't appear to oscillate over the entire range of the coil like it usually does. Rather, it appeared to fall in and out of oscillation as the slug was tuned through the coil. Power output appeared to vary considerably as the slug was tuned, another uncharacteristic symptom. R3 is used to lower the Q of the crystal so that it will oscillate more readily under many different conditions. This broadbands the output and also moves the frequency: When it is out of the circuit, the crystal may balk in oscillating. I retacked the resistor into the circuit by using the lead of the crystal and the problem went away and tuneup went back to normal.

Remember that a crystal is a high Q circuit which in the case of an HT-220 must be made to work in a variety of situations. Motorola mounts crystals on the main board (two of them) and also on frequency decks that mount in the sleeve of the radio with runs of wire several inches long. (Motorola compensates for the wire length by using coils with fewer turns for those that mount in the sleeve). It is difficult to predict what the characteristic of the crystal will be in these wide variety of circumstances. What is simpler to do is to design the oscillator to work into a crystal impedance of 1000 ohms which is the impedance of the resistor R3. The crystal is series resonant which, when paralleled with the 1k resistor, demonstrates more constant characteristics in these variety of circuits.


So the next time you have a problem getting an HT on frequency and you appear to be off frequency by 100 KHz or so, check to see if the land between the resistor R3 (or R4, or whatever the parallel resistor might be designated) has broken or see if the resistor has cracked.

About a year or so ago, a bunch of the local amateurs got together and bought a number of Motorola HT-220's that were dumped by a northern city. These radios were special modifications with additional filtering and shielding in the receiver oscillators and multipliers to help in reducing intermod. The radios were designated H24FFN-3191D-SP3 and could be identified by the fact that the extra shielding and filtering for the receiver was mounted in the sleeve along with a timer that timed out when the transmit time exceeded 1 minute. I got one of these radios and took a quick nose count to identify those others who wanted a manual for their radio. It totaled 11 and I ordered them from Motorola, and was almost immediately backordered for all of them. By the time they arrived a couple of months ago, everyone who had the radios had disposed of them. There were a few who still had them and I let each of them have a manual, but I still have three of them left. If you have one of these special modification radios and want a brand new Motorola manual for it, give me a call and for a nominal fee, you could be the proud owner of a brand spanking new goodie for your radio. 321-5453 or 360-1302.

Micheal Salem N5MS

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

MAY HAM HAPPENINGS

MAY HAM HAPPENINGS						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		MORI			ACARC	 COFFEES 0930 SAT'S.
	DAILY WARR ACRES RADIOMEN'S COFFEE 0930 EX. SUNDAYS	'76ers		ALTUS - ATV - CARC		EARS. Flea Market in rear of 2737 N.W. EXPWY.
6	7	8	9	10	11	12
MOTHERS' DAY TINKER AFB OPEN HOUSE	M.A.R.S.	AUTOPATCH			(VHF) OCARC	MWC AMATEURS BREAKFAST 0830 EVERY SAT.
13	14	15	16	17	18	19
WHEAT- STRAW			EDIT C&E			
20	21	22	23	24	25	26
EARS.	MEMORIAL DAY	CORA	MORI MAILS C&E			
27	28	29	30	31		

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