

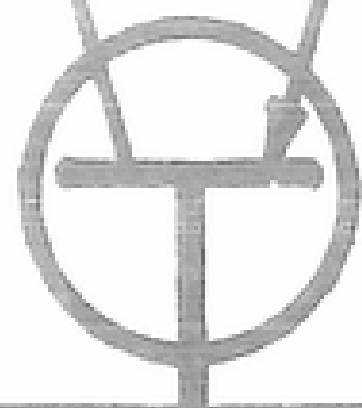
Central Oklahoma Radio Amateurs

COLLECTOR

AND
EMITTER

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AN INFORMATIVE MAGAZINE
PUBLISHED MONTHLY BY AND
FOR OKLAHOMA RADIO
AMATEURS

AND ANYONE INTERESTED IN
LEARNING ABOUT IT

Volume 6

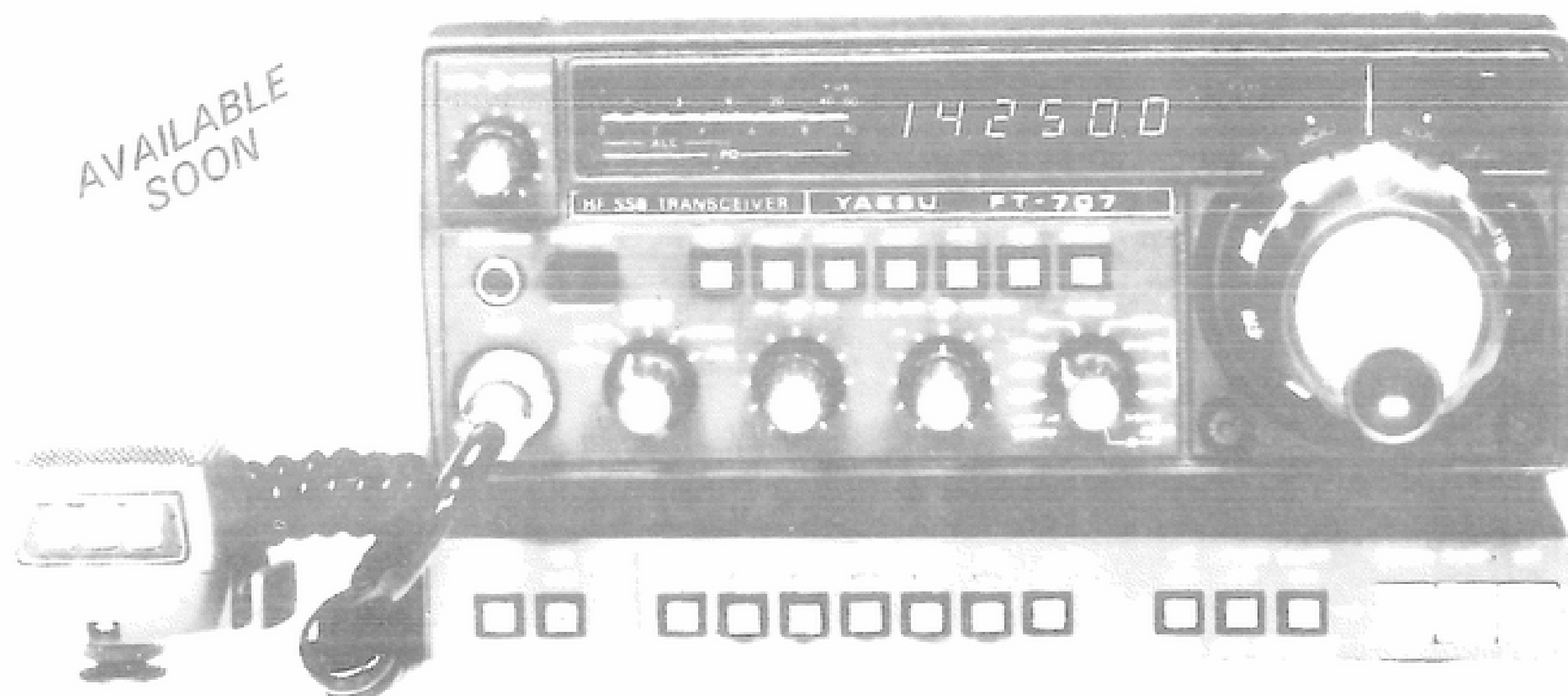
JUNE 1980

Number 65



YOUR COMPLETE AMATEUR RADIO STORE

KRYDER ELECTRONICS



THE NEW YAESU FT-707 "WAYFARER"

The introduction of the "WAYFARER" by Yaesu is the beginning of a new era in compact solid state transceivers. The FT-707 "WAYFARER" offers you a full 100 watts output on 80 thru 10 meters and operates SSB, CW, and AM modes.

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

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- ☐ Built-in calibrator
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Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER



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

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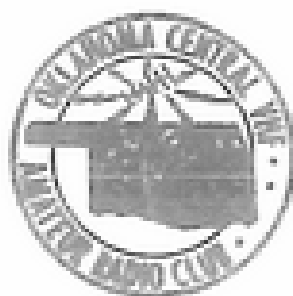
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CLUBS PARTICIPATING IN CORA

1 AERONAUTICAL CENTER ARC MEETS: 8:00 PM First Friday each month Flight Standards Bldg. FAA Aero Center Pr WASCJG Bob Pace 376-3569 VP K5KDR Bill Oliver 329-6333 Se WRSNSV Bob Graham 677-8685 Tr WB5AAY Larry Bugg 789-4180 Ed WB5NSV Bob Graham 677-8685	2 OKLAHOMA CENTRAL VHF CLUB MEETS: 8:00 PM Third Friday each month American Red Cross, 10th & Hudson OKC Pr K5VRL Jim Williams 789-0769 VP K5YAO Clarence Sittel 947-4015 Se K5JB Joe Buswell 732-0676 Tr W5KE Ellard Foster 789-6702 Ed K5JB Joe Buswell 732-0676	3 MID-OKLAHOMA REPEATER, Inc. MEETS: 8:00 PM First Tuesday of month Okla City EOC, 4600 N Eastern Pr KASCM Fred Taylor 528-1537 VP WB5PMZ Bob White 681-9222 Se W5BEQ Jim Buswell 236-0368 Tr K5PER Jim Jones 634-5235 Ed WB5NMK George Lee 946-2754 Dues: Sid Gerber, 829 Bouse MHC 73110
4 OKLA CITY AUTOPATCH ASSOCIATION MEETS: 7:30 PM 3rd Tuesday of month Okla Military Academy, 36th & Grand Pr WASCZN Doc Goodhead 721-8592 VP W5NK Chuck Wilhite 721-4926 Se WD5HXB Karen Recer 751-5378 Tr " " " " Ed K5NK Chuck Wilhite 721-4926	5 OKLAHOMA UNIVERSITY ARC MEETS: 8:00 PM (Sep-May) 2nd Tuesday Room 499, Carson Engineering Center Pr KASDHF James Gardner 321-8779 VP WB5QLF Alan Mornser 325-2194 Se KASCOI Peter Richeson 325-3015 DUES: KB5BF Nathan Kirby 364-7979 Ed KB5BF Nathan Kirby 364-7979	6 ALTUS AREA AMATEUR RADIO ASSOC. MEETS: 7:30 PM 2nd Thursday each month North Main Fire Station (CD) Altus Pr WASCBF Loren Simms 477-0921 VP " " " " S/T W5VXU Mike Schenkle 482-1797 Ed W5VXU Mike Schenkle 482-1797
7 BICENTENIAL ARC (THE 76'ERS) MEETS: 7:00 PM 2nd Tuesday each month Air National Guard, Will Rogers Apt. Pr WD5BMP Joe Couch (Guthrie) 282-4353 VP WD5DYJ Kay Northcutt 842-1086 Se W5BEQ Jim Buswell 236-0368 Tr K5FE Tom Cassidy 751-1194 Ed KASFE Susie Atkinson	9 WHEATSTRAW AMATEUR RADIO CLUB MEETS: 2:30 PM First Sunday of month Location Varies. See club section Pr WB5JNT Ted Vanlangham 262-1675 VP AB5Z Ray Barnes 623-5421 S/T W5PFX Ralph Wilder 623-5421 Ed WB5MTH Virginia Beneda 825-3302	10 CHOCTAW AMATEUR RADIO CLUB MEETS: 7:00 PM 2nd Monday. Choctaw City Hall. Pr AB5H Frank Carter 391-3394 VP WD5EVP Bob Allen Se W5ARV June Allen Tr KA5ALO R. G. Edwards 390-8297 Ed W5ARV June Allen
11 EDMOND AMATEUR RADIO SOCIETY MEETS: 2:00 PM 3rd Sunday. Room 205 Science Bldg. Central State Univ. Pr WD5HXX Ken Stepp VP KB5RR Clarence Dollmeyer S/T W5ERY Allen Watson Ad WD5FHR Dee Hize Ed WD5IDB Howard Wise 341-2510	12 SHAWNEE AMATEUR RADIO CLUB MEETS: 8:00 PM 2nd & 4th Tuesday Shawnee City Hall - EOC Pr WB5OHL John Owens 273-0848 VP WD5FUG Les Stewart 567-3895 S/T WB5TZQ Bill Warren 275-0119 Ed WD5BUQ Jay Tingle 273-3033	13 KAY COUNTY AMATEUR RADIO CLUB MEETS: 7:30 PM 3rd Thursday of month Security Bank Basement, Ponca City Pr WB5DOT Chuck Willis 765-5366 Pr W5ZWH C. L. Hallmark 762-8520 S/T W5TXF Jay Williams 765-9440 Ed WB5DOT Chuck Willis 765-5366
14 AMATEUR TV EXPERIMENTAL SOCIETY MEETS: 7:30 PM 2nd Thursday each month Central State Univ. Edmond Pr W5JGC James Buchanan 495-2777 VP WASHTL Paul Asplin (Bus) 521-2861 S/T W5ANG Mike Woods 528-3699 Ed W5JGC James Buchanan 495-2777	15 SOUTH CANADIAN AMATEUR RADIO SOCIETY MEETS: 9:30 AM 3rd Saturday each month Red Cross Bldg. North Campus Norman Pr KB5DK Laverne Hoag 329-7625 VP W5ABC John Stehr 364-8761 Se KA5GHJ Jerry Howard 364-3518 Ed AFSX Jess McKenzie 329-1543	16 EDMOND AMATEUR RADIO CLUB MEETS: 7:45 PM First Monday of month General Electric, 3228 N Santa Fe OKC Pr K5GBF Harold Plunk VP W5BQX Bob Shaw S/T WB5UIY Stan Van Nort Ed WB5UIY Stan Van Nort
17 TRI-CITY AMATEUR RADIO CLUB MEETS: 7:30 PM First Monday of month. Location varies, see club section. Pr WB5TFX Ben Gard 379-3112 VP WB5YPH Carl Cash 257-2243 S/T KA5FD Nancy Haydon 379-6448 Ed WB5TFY Pat Gard 379-3112	18 GREAT PLAINS AMATEUR RADIO CLUB MEETS: 7:30 PM 1st Tuesday each month Woodward Court House basement. Pr WB5OVT Rod Ford VP WD5DFH Bill Reid Se WD5DFG Donna Reid Tr KA5FKY Gerald Bowman	19 NOTE: CORA meets the fourth Tuesday each month at American Red Cross 10th & Hudson (Back door) 7:30 PM ALL CLUBS should send 3 represent- atives to every meeting.



Red Cross. The Good Neighbor.



Club
NEWS

WILSON
The Elmer C. C. C. Memorial
Station

EDITOR: Joe Buswell, K5JB 732-0676

MINUTES OF MAY MEETING

MEETING WAS CALLED TO ORDER AT 8:03 PM BY PRESIDENT JIM, K5VRL, WITH 18 MEMBERS AND GUESTS PRESENT.

THE PE-75 WAS DISCUSSED. IT WAS MOVED AND PASSED THAT THE CLUB FINANCE REPAIR PARTS TO GET IT IN SHAPE. LIMIT WAS SET AT \$30.00.

CORA REPRESENTATIVES REPORTED ON HAM HOLIDAY 1980 PROGRESS.

JIM, N5BEQ, REPORTED ON SPECIAL OLYMPICS, HOW IT WAS ORGANIZED AND PULLED OFF. HE ADVOCATED AMATEUR RADIO OPERATOR INVOLVEMENT IN ORGANIZATION OF THE GAMES.

PAUL, WA5HTL, FIELD DAY CHAIRMAN, DISCUSSED PREPARATIONS BEING MADE TO HAVE THIS CLUB AND THE AERONAUTICAL CENTER ARC PARTICIPATE JOINTLY IN THE FUN AND GAMES. I VOLUNTEERED TO HELP SECURE THE SITE... MORE ON THAT LATER...

JIM, K5VRL, READ A LETTER OF THANKS FROM OKLAHOMA LUNG ASSOCIATION, DOROTHY HERRING, THANKING THE AMATEUR RADIO OPERATORS FOR THE HELP DURING THE 1980 MOORE WALK.

MEETING WAS AJOURNED AT 9:03 FOR THE SERIOUS BULL SESSIONS. JOE, K5JB

FIELD DAY AND JUNE MEETING

THE JUNE MEETING WILL BE HELD AT THE FIELD DAY SITE AND WILL BE INFORMAL, UNLESS THERE IS SERIOUS BUSINESS TO CONDUCT. THE PLAN IS TO HAVE A PICNIC FRIDAY NITE, JUNE 27, SET UP THE TENTS AND POSITION THE VEHICLES. IT WILL BE IN THE VICINITY OF NORTHWEST 16 TH STREET WHERE IT RUNS INTO THE EAST SIDE OF LAKE OVERHOLSER. ONE KNOWLEGIBLE FELLOW SAID IT WAS 16TH AND EAGLE LANE ROAD. ACCORDING TO THE RULES, THE ANTENNAS AND EQUIPMENT CAN'T BE SET UP UNTIL SATURDAY MORNING. AT THAT TIME, SERIOUS BUSINESS STARTS. THE EVENT RUNS ON INTO SUNDAY. CHECK WITH PAUL, WA5HTL, FOR SCHEDULING TO OPERATE, OR COME ON OUT.

BOB, W5HXL, ACTUALLY SECURED THE SITE, I VOLUNTEERED FOR THE JOB BECAUSE I THOUGHT IT WOULD BE AN EASY ONE. IN THE PAST, WHENEVER I DID IT, IT WAS EASY. I USED TO CALL RAY LONG, W5TY, WHO WAS CITY CLERK, AND KNEW EVERYBODY IN CITY HALL, AND HE TOOK CARE OF THE DETAILS QUICK AS A WINK. WELL, NOT BEING ONE TO DISPUTE SUCCESS, I ASKED RAY, WHO IS NOW RETIRED, OR SHOULD I SAY, OPERATING HIS RADIO FULL TIME, WHO I SHOULD CONTACT AT CITY HALL. I CONTACTED A SUBSTITUTE BECAUSE THE RECOMMENDED PERSON WAS ON VACATION. BEING SOMEWHAT A BUREAUCRAT MYSELF, I SHOULD HAVE THIS AS BEING MY FIRST MISTAKE. THIS PERSON EXPLAINED VERY SWEETLY WHO I SHOULD CALL NEXT AND WHAT THE PROPER PROCEDURES WOULD PROBABLY BE. THE NEXT PERSON I CONTACTED VERY NICELY EXPLAINED ABOUT THE INSURANCE AND FEE REQUIREMENTS. I PROBED FOR SOME CLUES ON AN ALTERNATE ROUTE, AND WITHOUT MAKING ANY PROMISES, THANKED THIS PERSON FOR THE HELP. ONE MORE CALL AND I ALMOST MADE IT. THE NEXT OFFICE CONTACTED SAID "NO SWEAT" ALL I HAD TO DO WAS GO DOWN TO CITY HALL, ROOM SO AND SO IN BUILDING SUCH AND SUCH AND GET A PARKING PERMIT APPLICATION. ONCE IT WAS FILED, IT WOULD BE SURELY ACTED ON IN ABOUT FOUR WORKING DAYS...SUCH A WORTHY CAUSE YOU KNOW.

NO SWEAT...ALL I HAVE TO DO IS TAKE OFF WORK ABOUT HALF A DAY, GO AROUND SHAKE SOME HANDS, OR PUT ON THE SMILE AND BAT THE OLD BABY HAZEL EYES BIT, AS APPROPRIATE, AND THE APPLICATION WOULD HAVE BEEN SECURELY ESTABLISHED IN SOMEONES IN BASKET. WELL BEING A PROFESSION-

AL BUREAUCRAT, I KIND OF HATE TO DO IT AS A HOBBY UNLESS I HAVE TO. I CALLED CHARLIE, WA5JGU, FOR CONSULTATION. ON HIS SUGGESTION, I CALLED BOB, W5HXL, AHA! THE KNIGHT IN SHINING ARMOR! BOB WENT OUT AND SHOOK SOME HANDS, OR WHATEVER HE HAD TO DO, AND SECURED THE PLACE. I KNOW THE DETAILS BUT I'M NOT GOING TO TELL ANYBODY. HOW AM I GOING TO BE SECURE IN MY JOB IF I TELL EVERYBODY EVERYTHING I KNOW...RIGHT BOB? JOE, K5JB

CORRECTION TO THE BATTERY TESTER ARTICLE

JUST TO PROVE THAT I READ MY OWN STUFF, I'LL PASS ALONG A CORRECTION TO THE ARTICLE ON PAGE 32 OF MAY C&E. THE FORMULA FOR CALCULATING THE REFERENCE VOLTAGE OF THE LM 3914 DOT/BAR DISPLAY DRIVER SHOULD BE:

$$V_{REF} = 1.28 \left(1 - \frac{R_2}{R_1} \right) + R_2 \times 80 \mu A$$

I FORGOT TO ADD THE MARKS I COULDN'T ADD WITH THE TYPEWRITER. K5JB

A VERTICAL "ZEPP" FOR 450

MOST OF MY 450 MHZ OPERATION INVOLVES REMOTE CONTROL WITHIN THE CONFINES OF MY HOUSE, OR AT THE MOST, OUT IN THE YARD. FOR THIS PURPOSE, A DUMMY LOAD OR A 6 1/2 INCH WHIP CONNECTED TO THE DUPLEXER HAS BEEN SATISFACTORY. RECENTLY, I HAVE GONE POWER CRAZY. WHERE 80 MW OR SO HAS BEEN SATISFACTORY IN THE PAST, I HAVE DECIDED I CAN'T LIVE WITHOUT RUNNING MY LITTLE 13 WATT MOTOROLA GAIN BLOCK. SEE N5MS ARTICLE ELSEWHERE IN THIS ISSUE. (NEXT MO.)

NATURALLY IF ONE IS GOING TO RUN A WHOLE THIRTEEN WATTS, HE WOULDN'T WANT TO RUN IT INTO A DUMMY LOAD. ONLY PROBLEM WITH THE 6 1/2 INCH WHIP STUCK IN THE DUPLEXER IS THE SAME PROBLEM AS STICKING A 19 1/2 INCH WHIP IN THE BACK OF A TWO METER RIG. IT IS A CRAPPY WAY TO RUN A RADIO. RF GETS INTO EVERYTHING AND IT IS A TERRIBLE ANTENNA.

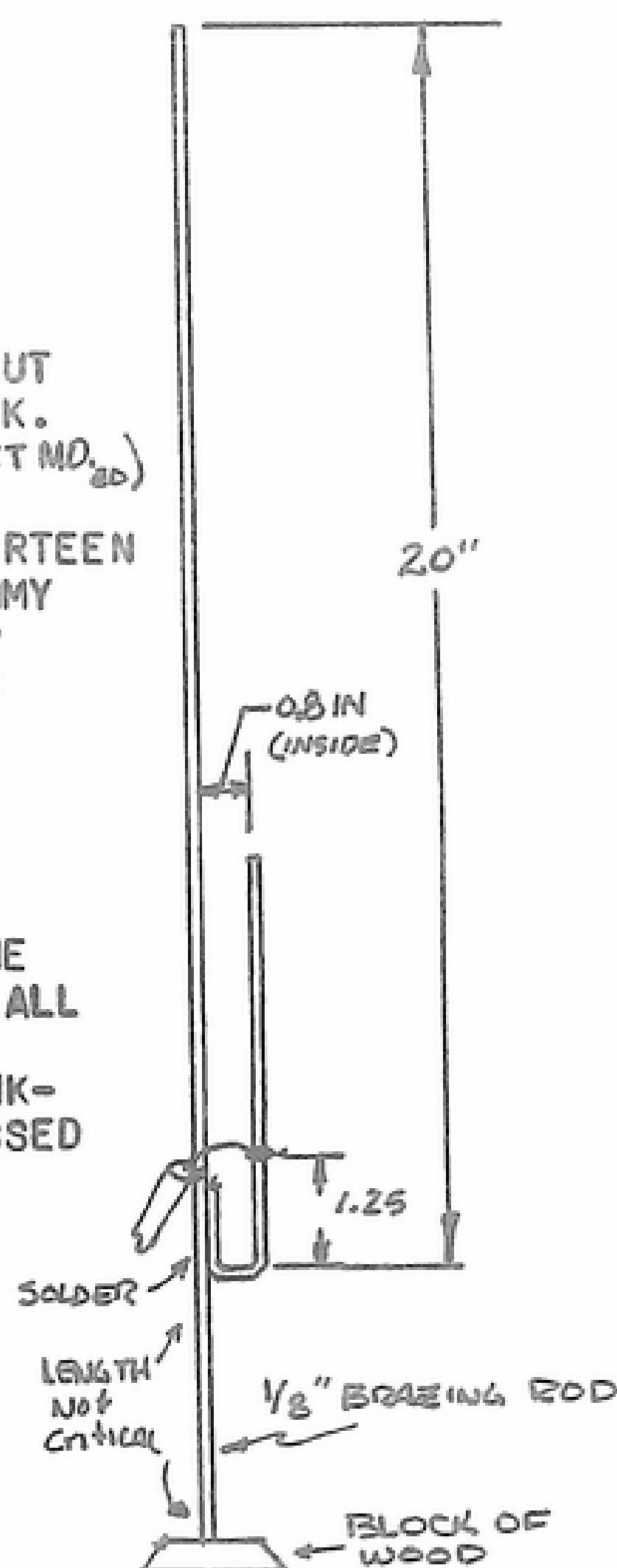
WELL ONE EVENING WHILE LOOSELY COUPLED TO THE 2 M RIG LISTENING TO THE WISE OLD OWLS, AND ALL LIKE THAT, MY IDLE HANDS BEGAN FOOLING WITH SOME BRAZING ROD AND MY IDLE HEAD BEGAN THINKING ABOUT ANTENNAS. I HAD LONG SINCE DISMISSED THE IDEA OF BUILDING A GROUND PLANE FOR TWO REASONS. ONE, THE RADIALS CAN POKE ONE IN THE EYE, AND TWO, WHO WOULD CARE. I KNOW ONE OR TWO PEOPLE WHO WOULD THINK I WAS PRETTY CLEVER IF I CAME UP WITH A COMPACT ANTENNA THAT DIDN'T HAVE A BUNCH OF RF RUNNING DOWN AND UP THE OUTSIDE OF THE COAX FEEDLINE. THE COAXIAL DECOUPLING SLEEVE WAS DISMISSED FOR MECHANICAL REASONS. I HAD ALREADY TRIED IT AND COULDN'T GET A DECENT MATCH WITH MATERIALS I HAD ON HAND.

A LITTLE DOODLING WITH THE CALCULATOR SHOWED THAT FOR THE IDEA I HAD IN MIND, THE CHARACTERISTIC IMPEDANCE OF A SHORTED QUARTER WAVE TRANSFORMER USED TO SUPPORT A HALF WAVE LENGTH ANTENNA AND PERFORM IMPEDANCE MATCHING BETWEEN A 50 OHM COAX AND 1 TO 5 THOUSAND OHM LOAD, I WASN'T TOO SURE...WOULDN'T BE TOO IMPORTANT. I AM SURE EVERYONE KNOWS THAT THE IMPEDANCE OF A TWO WIRE TRANSMISSION LINE IS APPROXIMATELY:

$$Z_0 \approx 276 \log \frac{B}{A}$$

WHERE A IS RADIUS OF CONDUCTORS AND B IS CENTER TO CENTER DISTANCE.

A CLOSE APPROXIMATION OF THE IMPEDANCE AT A POINT 0 FROM THE SHORTED



END OF A QUARTER WAVE LENGTH TRANSMISSION LINE IS:

$$Z = \frac{4 \sin^2 \theta Z_0 Q}{\pi}$$

WHERE Z_0 IS CHARACTERISTIC IMPEDANCE OF THE LINE AND Q IS THE SERIES Q OF THE LOADED CIRCUIT.

I WAS UNABLE TO DETERMINE THE Q UNTIL I HAD BUILT THE ANTENNA AND WORKED BACKWARD. TESTING SOME VALUES SHOWED THAT THE THING WOULD PROBABLY WORK BUT THE REAL QUESTION WAS HOW WELL I COULD CANCEL CURRENT ON THE FEEDLINE. WITH A TOUCH OF THEORY, AND A BIT OF INTUITION, I SET OUT WITH WIRE CUTTERS AND SOLDERING IRON AND BUILT AN ANTENNA LIKE THE ONE ON THE LAST PAGE.

THE TAP POINT FOR THE COAX WAS FOUND EXPERIMENTALLY BUT WAS WITHIN 1/8 INCH OF THE CALCULATED POINT...LUCK. THERE APPEARED TO BE NO SIGNIFICANT CURRENT ON THE OUTSIDE OF THE FEEDLINE...MORE LUCK. THE PORTION OF THE ROD BELOW THE HAIRPIN HAD NO CURRENT ON IT AND ITS LENGTH WAS THEREFORE NOT CRITICAL...EVEN MORE LUCK. TO TOP IT ALL OFF, I GAVE THE FIRST ANTENNA AWAY AND MADE ANOTHER FROM MY NOTES AND IT WORKED JUST LIKE THE FIRST ONE.

THERE IS NO REASON THE SAME DESIGN WOULDN'T WORK FINE ON TWO METERS EXCEPT IT WOULD HAVE TO BE MADE OF STIFFER MATERIALS TO KEEP THE Z_0 OF THE STUB CONSTANT. IT WOULD BE A LITTLE MORE DIFFICULT TO PUT IT ON THE TOP SHELF OF THE BOOKCASE BECAUSE IT WOULD BE AT LEAST 58 INCHES TALL.

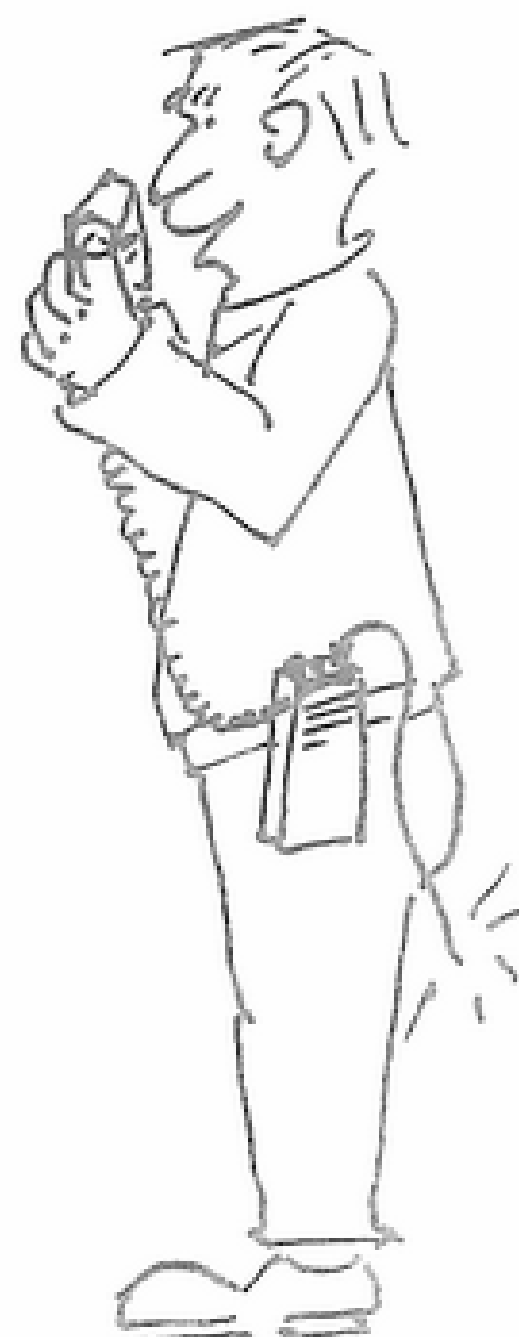
BY THE WAY, IF THE NAME ZEPP THROWS YA, TRY VERTICAL J, OR J-POLE, THE NAME GIVEN TO THIS DESIGN BY 6 METER OPERATORS A FEW YEARS AGO.
JOE, K5JB

A VERTICAL "ZILCH" ANTENNA FOR TWO METERS

THIS ANTENNA IS GUARANTEED TO BE, IN FACT, DESIGNED TO BE ONLY A LITTLE BIT BETTER THAN A RUBBER DUCKIE PLASTERED AGAINST A RIB CAGE WHILE A HAND HELD RADIO IS HITCHED UP TO A BELT. THE DESIGN IS BASED ON A RIDICULOUS DESIGN BY MOTOROLA CALLED A "DRIBBLE" AND INTENDED FOR LORD KNOWS WHAT, MAYBE SO THE JOLLY GREEN GIANT CAN OPERATE FROM A VOLKSWAGEN.

THE PROBLEM THAT NEED SOLVING WAS OPERATING FROM A MOTORCYCLE WITH THE RADIO ON THE BELT AND ANTENNA SNUGLY HELD UP AGAINST THE SIDE BY LAYERS OF PROTECTIVE CLOTHING. THE ANTENNA WAS SO BADLY DETUNED THAT NOT ONLY WAS THERE NO RADIATION, THERE WAS HARDLY ANY RECEPTION. MY REASONING WAS THAT IF THE ANTENNA WAS ALLOWED TO FLAP FREE, THE RADIO WOULD WORK BETTER.

ON THE YAESU FT-207R, THE ANTENNA WAS CONNECTED WITH A BNC CONNECTOR. ONLY PROBLEM TO SOLVE WAS HOW TO KEEP THE TRAILING WIRE ANTENNA FROM PULLING THE CENTER PIN OF THE BNC CONNECTOR OUT. THE SOLUTION WAS AT HAND WHEN MIKE, N5MS, PRODUCED SOME SMALL DIAMETER 75 OHM TEFLON COAX. I CONNECTED SOME OF IT TO A BNC CONNECTOR, SOLDERING THE SHIELD TO THE CONNECTOR OUTER SHELL. ABOUT TWO INCHES FROM THE CONNECTOR I CAREFULLY REMOVED 1/4 INCH OF OUTER JACKET AND SHIELD. STRENGTH WAS RESTORED BY FITTING SOME SHRINK TUBING OVER THE EXCISED SECTION. THE LENGTH OF THE ANTENNA WAS PRUNED WHILE DRAPING FROM A BIRD WATT-METER. LENGTH OF THE REMAINING COAX AND SHIELD WAS 16 INCHES AT ZERO REFLECTED POWER. IT SOLVED THE MOTORCYCLE MOBILE PROBLEM. JOE, K5JB



FINE BUSINESS OLD MAN...
RIG HERE IS A SUPER-WHITE-
FIEBLE OPERATING INTO AN
INVERTED I.

EASY TO BUILD AMPLIFIERS

LAZYNESS IS THE MOTHER OF INVENTION. IF THERE IS AN EASIER WAY TO DO SOMETHING I'M ALL FOR IT. NEXT TO POWER SUPPLIES, I GUESS RF POWER AMPLIFIERS ARE THE MOST OFTEN HOME CONSTRUCTED RADIO RELATED EQUIPMENT. THE REASON, I THINK IS THAT BOTH ITEMS RESPOND WELL TO BRUTE FORCE DESIGN TECHNIQUES.

NOW THERE ARE SOME ELEGANT DESIGNS AVAILABLE FOR RF POWER AMPLIFIERS THAT ARE PRETTY HARD TO BEAT. N5MS WILL GIVE A DETAILED REPORT ON ONE WE HAVE BEEN BUILDING FOR THE 450 MHZ BAND USING A MOTOROLA MHW 710 POWER AMPLIFIER MODULE. ONE THAT CAUGHT MY EYE AT THE MOTOROLA BOOTH AT DAYTON HAMVENTION WAS DESCRIBED IN ENGINEERING BULLETIN EB-92, 25 WATT ADD-ON AMPLIFIER FOR HAND HELD VHF RADIOS.

WHEN ASSEMBLED, THIS LITTLE DICKINS IS ONLY 1 3/4 BY 3 INCHES, EXCLUSIVE OF THE HEAT SINK. IT INCLUDES AUTOMATIC RELAY SWITCHING CIRCUIT SINCE CB'ERS HAVEN'T FIGURED HOW TO PROSTITUTE THE DESIGN AND THE FCC HASN'T MADE THAT FEATURE ILLEGAL ON TWO METERS.

THE BASIC AMPLIFIER TAKES ABOUT 170 MW TO DEVELOP 25 WATTS OUT. THE BULLETIN THEREFORE DESCRIBES ATTENUATOR PROVISIONS SO THE TYPICAL HAND HELD RADIO WON'T BLOW THE THING OUT. CIRCUIT COMPONENTS WERE SELECTED TO GIVE IT BEST OPERATION IN THE RANGE OF 144 TO 148 MHZ SO THERE IS NO PROBLEM WITH TRYING TO ADAPT A DESIGN FOR HIGH BAND COMMERCIAL USE TO THE 2 METER BAND.

THE COMPLETED AMPLIFIER DRAWS ABOUT 4.5 TO 5 AMPS FROM A 13.6 VOLT SUPPLY WHILE PRODUCING 25 WATTS OUT. THIS MEANS THAT THE HEAT SINK WILL HAVE TO DISSIPATE 43 WATTS, WHICH IS A LOT OF HEAT. THE LITTLE BITTY THING WILL HAVE TO BE ATTACHED TO A GREAT BIG HEAT SINK IF THE OPERATOR INTENDS TO CLAMP DOWN ON THE MIKE SWITCH VERY LONG AT A TIME. THIS SHOULDN'T BE TOO MUCH OF A PROBLEM BECAUSE MOST WALKIE TALKIE OWNERS EVENTUALLY LEARN HOW TO ABBREVIATE THEIR JAWBONING BECAUSE OF THE LIMITED BATTERY CAPACITY THEY HAVE ANYWAY.

ANOTHER NEAT THING ABOUT THIS GIZMO IS THAT ALL THE PARTS ARE AVAILABLE FROM A SINGLE SOURCE. THE BULLETIN LISTS THE SOURCE AS COMMUNICATIONS CONCEPTS, 2648 N ARAGON AVE., KETTERING OHIO 45420. I HAVE NO IDEA WHAT THE COST MIGHT BE BUT I JUST MIGHT WRITE 'EM AND FIND OUT. IF ONE WANTS A COPY OF THE BULLETIN IT CAN BE OBTAINED FROM MOTOROLA SEMICONDUCTOR PRODUCTS, P.O. BOX 20912, PHOENIX AZ 85036.

PUT ONE TOGETHER AND WRITE IT UP FOR C&E. JOE, K5JB

A ZAPPER ZAPPER

ANOTHER MOTOROLA DATA SHEET GOODIE...POWER SURGE SUPPRESSOR FOR EQUIPMENT INSTALLED IN AUTOMOBILE ENVIRONMENT. READING THE DATA SHEET FOR MR 2525 POWER SURGE SUPPRESSOR SCARED THE HECK OUT OF ME, ALMOST. I KNEW THERE WOULD BE A TRANSIENT OR TWO WITH ALL THE HIGH CURRENT EQUIPMENT AND INDUCTIVE KICKS IN AN AUTOMOBILE ELECTRICAL SYSTEM BUT I DIDN'T KNOW HOW BAD THEY COULD BE.

FOR EXAMPLE, ON THE BATTERY LINE, IT IS NORMAL TO HAVE PLUS AND MINUS TRANSIENTS OF 200 VOLTS FOR A FEW MICROSECONDS. NOT MUCH OF A PROBLEM, BUT A LOAD DUMP, CAUSED BY MOMENTARY LOSS OF BATTERY CONNECTION, CAN CAUSE A TRANSIENT OF PLUS 80 TO 120 VOLTS FOR 200 TO 500 MILLISECONDS. THIS IS SERIOUS STUFF. ON THE IGNITION LINE AND ACCESSORY LINE, THERE CAN BE INDUCTIVE KICKS OF -300 VOLTS FOR A FEW MILLISECOND, PLUS OR MINUS 200 VOLTS FOR A FEW MICROSECONDS AND, OF COURSE, THE LOAD DUMP.

THE MR 2525 IS A HEFTY DIODE DESIGNED TO CLAMP ANY NEGATIVE VOLTAGES TO LESS THAN ONE VOLT AND AVALANCHE AT 24 VOLTS, OR SO AND ABSORB HIGH POSITIVE VOLTAGES. IT WOULD BE GOOD INSURANCE. JOE, K5JB

DAYTON DATELINE-FLYING OFF THE HANDLE TO MECCA

I have had a couple of people ask me what I was going to say about Dayton. Quite frankly, I just don't know what to say. Not that there would not be a few surprized souls in the audience if I ever turned up speechless. What can you say about the greatest radio flea market in the world? What can you say about 18,000 milling hams collecting for swapping, meetings and jawboning? It is truly difficult to describe much less explain the rush you feel when approaching the flea market early in the morning and immediately began to see bargains jumping out, begging you to buy them and take them home and make them a part of your family. Sigh. It's finally over for this year, but thank God, Dayton is just like Halley's Comet. It always comes back.

These fellows with the Dayton Amateur Radio Association (DARA) are to be commended. Lord knows they certainly never intended to create this monster over 25 years ago when somebody stood up at a meeting and said, "Hey, let's have a hamfest!" Historically, I can say that the creation of this behemoth must have been a function of many factors. Dayton is convenient from many of the major population centers such as Chicago and New York. It really is not that much of a drive. In addition, the presence of Wright-Patterson Air Force Base and several electronic manufacturers meant that a lot of exotic goodies turned up on the surplus market which eventually filtered down to the flea market. The boys at DARA learned how to organize the crowds and still give you the individual treatment. This is a well run hamfest. The DARA boys also gave the crowd what they wanted. Good programs, good manufacturer's exhibits and a flea market that was allowed to grow unrestricted. In addition, these guys seem to turn all of the money that they can into prizes for the crowds. This is in contrast to other groups (such as a hamfest located in Southwest Oklahoma) who take your money, give you 50 feet of coax and finance their club activities on the profit from the fest. One thing I have always admired about Ham Holiday is that the hamfest committee meets on Saturday night to see how much money they have and then plow every excess nickel into additional prizes. I tell you folks, it keeps them coming back for more next year.

I must say that the flea market is my favorite. I don't think that in five years I have ever attended a forum or program at Dayton. I get good reviews from friends who stop in to see what's going on, but most of my time is in the flea market and commercial exhibits.

In previous years, I found my way to Dayton by a variety of methods. The early trips were courtesy of Christian Airlines (Joe K5HMD). I never spend so much time in a small airplane until this and my proclivity for air travel is well know. I usually fortify myself with my basic Dramamine cocktail (two dramamine and a glass of milk). The first year, we went VFR in a small Grumman Tiger. Joe got his instrument rating the next year and of course, we had to go IFR. The weather cooperated by giving us enough hard rain to peel the decals off the airplane. (Gulp, bartender, another round please, make that a double). Next year, Joe got his multi engine rating, so logically, we had to take a twin. Joe had nothing to show for the next year, so he didn't want to go. I packratted up with Dennis WB5ISN in his parents Winebago styled chariot. I flew back commercial to make some business committments on Monday. This year, K5JB and I consulted about the trip a couple of months early and finally made arrangements to fly out of Tulsa on a red eye special set to arrive in Dayton at 2 O'clock Friday morning. As the old saying goes, a funny thing happened on the way to Dayton. Ron WA5EAI had never been to Dayton and suddenly got the fever. His gracious YL gave her blessing and after a quick huddle between JB and myself, it was decided that, weather permitting, we would take my 172 XP and fill the back seat with Ron and some cookies and coffee his wife had made. Now, I was not necessarily opposed to this frolic, especially I had just gotten the ol' pilot's ticket, but I would never have considered it without JB's expert

help. Especially, since the weather was not looking so hot.

We made a quick check of the sky Thursday morning and determined that there was nothing insurmountable if we flew up toward Enid, around Wichita and then turned east toward Dayton. We kicked the tire and lit the fire (an old pilot's expression I picked up from an old pilot). On our way to Stillwater, JB spotted a hole in the clouds big enough to climb through and we went on top of the cloud layer. Several hours later, we landed in Emporia, Kansas for a quick fuel and defuel stop and visited the local flight service station. Didn't appear to be any problem to Dayton. After leaving Emporia, we did some sharp pencil calculations on the fuel and determined that our extra fuel stop would not be necessary as long as our 20 knot tailwind held up all the way to Dayton (It did).

JB figured that we would be able to talk to Hoss WA5ZAI somewhere in Indiana and he had Ron fire up the Yaseau and give him a call. Hoss was caravanning in from Nebraska with two friends and we heard him loud and clear. We then got with Keith WA5ZWJ, a friend of Hoss's in Dayton who offered to drive out to Cox Airport and pick us up. We turned final and almost as soon as we were on the ground, transportation was available as we taxied up to the Sohio Aviation FBO.

Keith drove us over to the Red Door lounge to wait for Hoss (the name as well as the evening is still quite a blur) and we took on additional food and fuel and sweated out Hoss' arrival. Meanwhile, I visited with Bill and a few other friends of Hoss that I had met in previous years. Hoss now lives in Nebraska, but his daughter and son-in-law still live in Dayton and graciously consented to an invasion of their house by five tired hams. Jim WB5YWO had reserved three rooms for use at Dayton, but they would not be available until Friday (Jim had been all lathered up to go this year, but had to cancel at the last minute when his wife decided to have a baby. I also lost my photographer when Jim cancelled so if you miss the pictures of Dayton this year, blame him).

We were up bright and early the next morning and got tooled up to head up to the HARA Arena. Hoss had to go over to the AFB so he let us have his car. A quick stop for breakfast and after aborting a planned trip downtown, out to the site. This year, the powers that be in DARA expanded the flea market to begin on Friday at noon. This, of course, means that people will begin lining up for the flea market on Friday morning very very very early. Sure as the world, this convention is going to expand to take over all day Friday and then start oozing into Thursday.

We invaded the flea market and Ron's eyes started getting wider. Whatsthematter Haven't you ever seen 40 acres of ham goodies before. JB didn't have his ticket since it was still with Hoss, So, I went in and slipped him mine through the fence. He got a ticket for his very own when Hoss showed up an hour later. JB and I went about two rows and found a fellow selling those Motorola MHW 710 UHF gain blocks that take 80 milliwatts in and pump out about 10-13 watts of UHF goo. Motorola uses them in the Mocom 35 radios, but the ATV boys get excited about using them to build nifty little amplifiers. I bought a couple and Joe got one, then I went back and got another one later (More on these later). I did some more nosing around and found a fellow selling exciters out of some General Electric Master Exec transmitters. These little goodies are spec at 200 milliwatts and are excellent for driving the Motorola gain blocks. What a stroke. I just had to have a couple and JB and Dennis WB5ISN each bought one.

Stan WB5UIY, Dennis WB5ISN, Howard W5UVI, Wendall WB5ISO, Bob WA5BQX and Joe WA5FLT had all puttered up in another motor home and stopped by the motel and tied down the motel reservations. I don't envy them the 17 hour trip. Back at the motel, I began to unload the goodies and after reading through some literature, I faded fast. Whew. Must be getting old.

Back in the flea market the next day, we began working in earnest. Here were a couple of manuals that I needed. Wow, one fellow had Micor UHF and VHF receivers. They didn't have any audio boards with them, but Dennis and I did some dickering with the guy and Dennis got a UHF duplexer and I got the receivers. Don't know how long it will take me, but if I can find some audio boards, 28/88 in Norman should have some new ears soon, I hope. I also found some little transistors that are frequently used in frequency counter front ends (as well as the VCO in my aircraft radios) for just 3 for a dollar. These goodies have frequency limits past the Gigahertz range (that's a lot of gigahertz per buck). NE555's with house numbers were going for 3 or 4 for a dollar. I bought several dozen.

This year I intended to seriously investigate the possibility of getting a Printed Circuit lab set up at the house for various projects. I had had access to a well equipped lab at one time, but this had become difficult to arrange anymore. I went to Dayton determined to duplicate some of my previous boards at home. I found an ideal system in Excel. They use the AZ positive photo resist which I am convinced is the easiest. I bought a supply of chemicals. A report on this later.

I just about wore out the flea market on Saturday and Sunday. With all the walking I did, still there were a few nooks and crannies I didn't see. I looked all over for K8UTY who I had phoned Wednesday before leaving to make sure he would be there. Didn't see him anywhere and he is hard to miss. I took some time out on Sunday and scoured the commercial exhibits. Most of the big boys were there. Collins was showing off their new KWM-380 and offering a few of their items for sale at discount. Ahem. You could buy one of their \$1.00 microphones for just a paltry \$57.00. The famed Collins crystal pack was discounted to just \$450.00 instead of their regular price of \$910.00. A KWM-2 carrying case was just \$120.00 instead of \$327.00. I guess even Tiffany has to have a sale sometimes.

73 Magazine was noticeable by their absence. Someone told me that Wayne had mentioned that he would not be there this year. Data Signal was also nowhere to be found. Don't know whether they were chased off or just forgot. Just as well. I have had a considerable amount of difficulty in dealing with them and had to write an exorbitant number of letters to them, ham radio magazine, 73, and QST to get an order out of them. I later talked to some other people who had them mislead them about price and equipment availability. I know of a fellow who says he has had something on order from them for many months.

Everybody and their dog had 2 gigahertz downconverters. Some were fairly sophisticated with RF amplifiers and exotic front ends. Further on, in the Let's Rush the Sattelite Common Carriers Department, Avcomm of Virginia had a fully operational earth terminal and I sat and watched cartoons from outer space from RCA Satcom F1. AD & M were advertising their new 11 foot satellite antenna which would fill your back yard with some fancy aluminum construction for a mere \$2800.00 or so. Batteries not included.

Micro Control Specialties in Maryland was showing their new microprocessor based repeater controller. This goodie was 6502 based and featured just about everything you could want in a repeater. Autopatch, forward and reverse, auto-dial (which uses a single digit to dial police and fire authorities), touch tone pad testers and fluent Morse code messages are only just a few of the surprises. You have to have a road map to read the front panel.

We waited until the final prize drawing, then hiked out to the airport for the trip back. The haze was pretty bad and there were a few low clouds. We didn't have smooth sailing until we got to Farmington. Dennis and the guys had left early sunday morning in the motorhome and we passed them over Tulsa and sent some light signals back and forth. Whatatrip!

Micheal Salem N5MS

PC CARD DEPARTMENT (PIZZAZZ CIRCUIT BOARDS)

For some time, I have been looking for a way to make printed circuit cards at home. I'll admit that laziness is part of my motivating factor. For awhile in my life shortly after I graduated, I earned extra money laying out PC cards for a local manufacturer. They had no objections to my diddling with a few of mine own projects and this continued until they changed hands. I was out in the streets. So I thought that the time was now ripe to investigate establishing a setup at home.

I have invested in a few of the niceties needed over the last year or so. I got a new Dremel and drill press and set out to find some minature bits. I still don't have a shear to cut the board and if someone out there has one or a method for cutting board, I'd appreciate it if you let me know. I like nice even cuts, not jagged edges.

I grew up using the positive photo resist technique. This means that dark spaces on the photomaster represent copper which should stay on the board. I was especially impressed with the AZ Photo positive resist. It is very similiar to enamel or nail polish, yet washes off in the developer as easy as you please after exposure to ultraviolet light. Resolution is generally excellent and I frequently do layouts at 2 to 1, then reduce them 50% photographically with no problem with even the smallest of detail.

One problem is that the layouts must be photographically reduced. This is really not as difficult as it seems. Any printer or photographic shop can do it. I had a group of four layouts reduced by Jim Greenshields (of Greenshield's Printing fame) WD5HPU and they came out great. The cost is quite reasonable if you wait until you have enough for a single 8 x 10 picture. (Don't know if Jim wanted the plug, but I appreciate his taking the time to make the positives.)

I have been eyeing the photo method advanced by Excel Circuits Company for several years at Dayton. They use a positive method, but I was never impressed with their board quality. I took a closer look this year and found that they were using exactly the same chemicals and method I had learned. I bought 15 to 20 dollars worth of chemicals including their tin plate and then stopped to argue with one of the guys behind the counter who claimed that it was very difficult to put the positive resist on the boards. This is probably because they sell photosensitized board. He may have a point. The resist is very expensive (over \$100 a gallon) and can not be contaminated, and must be uniformly applied and dried. Certainly nothing magic about that. I have been sensitizing board like this for years.

Back at home, I mixed up the chemical and took my new positives (ala Greenshield) and set up a couple of UV bulbs in a flourescent fixture and began experimenting. Hum, this is not working out just right. The etch process was very slow and I was having trouble washing all the resist off in the developer. The results, with one exception (a K5JB battery tester board featured in last months C & E) were generally poor. I had also used an entire package of etch for just a few boards.

The next night, I studied the situation. I decided to increase the exposure time to about 20 minutes on a side and heat the etch to speed up that process to eliminate pin holes. The results were incredible. The exposure was just right and the boards were coming clean in the developer in just a few minutes. I would put them in the developer for a few minutes, take them out and wash them in cold water and put them back in the developer. The etch was ammonia persulfate and my previous experience with this stuff taught me that it had to be well vented unless you wanted to bleach your eyebrows. Not so with the crystalline white powder Excel provides. No odor at all. The previous chemicals I had been using was mixed up in liquid form from two solutions. Lots of trouble.

The etch was in plastic containers and I abandoned any thought of putting it over a fire and I didn't want to transfer the solution to another container. On a hunch, I put the container in the microwave oven and zapped it for 60-90 seconds. This warmed it up just enough to peel the copper off the board in about 5 minutes. It worked great. With the single package of etch, I was able to etch more than 180 square inches of board, just about a double sided 8 x 10 one ounce copper card. The A-B mixture ammonia persulfate I had used previously could do a little more than that, but it was a small trade off not to stink up the house with ammonia.

Be careful with the etch in the microwave. Don't let the solution boil and it might not be a bad idea to cover the solution with a paper towel to keep any fumes from attacking the stainless steel. Also, wipe the oven down after each session. Can't be too cautious.

Excel is located at 4412 Fernlee, Royal Oak, Michigan 48073. One advantage of dealing with them is that they will sell you nice bite size quantities of the chemicals instead of the industrial amounts you might have to purchase from AZ. Excel also says that the photoresist developer will eventually oxidize away after a couple of weeks. This not true if you keep it in an air tight container filled all the way to the top. Decrease the exposure to carbon dioxide as much as you can. It is nothing more than a caustic potassium hydroxid solution. This stuff is just like a soap. It washes the exposed resist right off the board. The tin plate is the simplest stuff to use I have ever seen. Wipe the board after etching with denatured alcohol or similiar organic solvent. Then lightly rub it with a scotch brite abrasive pad or brillo then drop it in the tin solution for about 30 seconds. Works great.

Incidentally, some companies recommend that you use a Krylon spray on your cards after they have been assembled and tested. Don't do this if you intend to pot the board in a polyester resin (like the K5JB battery tester for example). The difference in the refractive indexes of the Krylon and the Polyester resin will mean that light will reflect at a much greater Brewster's angle and all you'll see from certain angles will be the uneven coating of the Krylon Spray. Makes the circuit look very tacky. I learned from experience.

Micheal Salem N5MS

MURPHY'S LAWS AND COROLLARIES

I totally sympathize with Jack Bickham's article last month in C & E regarding various laws and theorem concerning amateur radio. I especially appreciate his describing my predicament when using the autopatch. I might also add to his comments the law of Selective Adhesion:

No one will phone or call on the radio until the second person has begun a difficult soldering task or begins holding two objects together with glue between them.

This law also applies in the same proportion when the scheduled activity has to do with any bodily or personal function. The speed of the call is directly related to the distance from the telephone or radio.

I have others, but I also quote from a more reliable source, an article by D. L. Klipstein in the August 1967 issue of the EEE, Volume 15, No. 8:

All warranty and guarantee clauses become void upon payment of the invoice.

The necessity of making a major design change increases as the fabrication of the system approaches completion.

Dimensions will always be expressed in the least usable units. Velocity, for example, will be expressed in furlongs per fortnight.

An important Instruction Manual or Operating Manual will have been discarded by the Receiving Department. (They are also rarely available in the Flea Market. M.S.)

Original Drawings will be mangled by the copying machine.

These are all general engineering principles. The following are applicable to both mathematics and physics:

In any given miscalculation, the fault will never be placed if more than one person is involved.

Any error that can creep in, will. It will be in the direction that will do the most damage to the calculation.

All constants are variables.

In any given computation, the figure that is most obviously correct will be the source of the error.

Decimal points will always be misplaced.

In a complex calculation, one factor from the numerator will always move into the denominator (or vice versa).

Out of the realm of theory, we move into additional principles espoused in practice. This is where I generally get into trouble:

Any wire cut to length will be too short.

Identical units tested under identical conditions will not be identical in the field.

The availability of a component will be inversely proportional to the need of the component.

If a project requires n components, there will be $n-1$ units in stock.

If a particular resistance is needed, that value will not be available. Further, it cannot be developed with any available series or parallel combination.

A device selected at random from a group of components having 99% reliability, will be a member of the 1% group. (This is directly proportional to the obscurity and difficulty in removing the component. M.S.)

Interchangeable parts won't.

If a prototype functions perfectly, subsequent productions won't.

A motor will rotate in the wrong direction.

Components that must not and cannot be assembled improperly will be.

A dc meter will be used on an overly sensitive range and will be wired in backwards.

The most delicate component will drop.

If a circuit cannot fail, it will.

A fail-safe circuit will destroy others.

An instantaneous power-supply crowbar circuit will operate too late.

A transistor protected by a fast-acting fuse will protect the fuse by blowing first.

A self-starting oscillator won't.

A crystal oscillator will oscillate at the wrong frequency--if it works.

A pnp transistor will be an npn. (The need for a pnp transistor will be inversely proportional to its availability in the junk box. M.S.)

If an obviously defective component is replaced in an instrument with an intermittent fault, the fault will reappear after the instrument is returned to service.

After the last of 16 mounting screws has been removed from an access cover, it will be discovered that the wrong access cover has been removed.

After an access cover has been secured by 16 hold-down screws, it will be discovered that the gasket has been omitted.

Hermetic seals will leak.

After a project has been fully assembled, extra components will be found on the bench.

A failure in a component will not appear until the unit has passed Final Inspection.

A zero-temperature-coefficient capacitor used in a critical circuit will have a TC of $-750 \text{ pp./}^{\circ}\text{C}$.

Any safety factor set as a result of practical experience will be exceeded.

Manufacturers spec sheet will be incorrect by a factor of 0.5 or 2.0, depending on which multiplier gives the most optimistic value. For salesmen's claims these factors are modified to 0.1 or 10.0. (These same factors are applicable to any manufacturers specification that has been reprinted, especially Radio Shack bubble packs. M.S.)

Micheal Salem N5MS

CLUB NEWS

NEW MEMBERS: Two new members were voted in at the May meeting. Phil Davis, WA5REL of Dibble and Clarence Dollmeyer, KB5RR of Edmond. We welcome these new members.

TWO-METER COMMITTEES: At a recent Executive Committee meeting, Reuben Castleberry, WD5FKF agreed to take on the responsibility as Coordinator of the two meter repeaters. It will be his job to see that the machines are properly maintained and work with the technical committee. Dennis Orcutt, WB5ISN, has been appointed the new head of the technical committee for the two meter repeaters with Phil Davis, WA5REL working with him. These two gentlemen are well qualified to keep the repeaters running and we are fortunate to have them on the job. Reuben will need lots of help and will be asking for volunteer help at times. It is his plan to get the emergency power plant set up in case it is ever needed.

JUNE MEETING: We have in excess of 150 members of the club, and normally, we will have from 20 to 30 show up for our regular monthly meetings. This is a very poor showing. We need your input at these meetings. As part of our input to the C & E this month, we have published the proposed constitution which the Executive Committee has worked on for some time. This constitution will be voted on at the regular June meeting, so if you don't like something in the proposal, be sure to come to the meeting and express your opinion. If you don't like it and don't come to the meeting, don't be voicing your disapproval on the air. K5NK

I HEARD: GEP has a mean watchdog.....FKF considers cw as being malicious interference.....OZE is getting too old to enjoy nude pictures.....ETB really lost his sh, er pants over an antenna deal.....FXP has warned everyone over 6'4" to be aware of him.....GFI's partial ties up his tongue when trying to talk.....EYV and his bojive.....CZN sniffs under his armpits when he needs to clear his nose.....GEP is a crack shot when it comes to shooting owls off her antenna.....BEP what have you not.....UKP considers himself to be an oldtimer.....M can actually light a cigar with one hand and hold a rope with the other hand.....GE considers FXP a vacuum head.....HXR doesn't know anyone that would let him take a nude picture of them.....ETB works on his antennas in the full moon.....TKG got a new two meter rig.....WM didn't know what the beeper was on the weather net.....TKG got a new two-meter radio.....FKF thinks repeaters should be modified so they will operate duplex.....EYV making rhubarb wine.....TKG got a new two meter radio.....CZN gets galled armpits.....FXP is a connoisseur of all liquors.....CXW calling himself on the night owl net.....EYV is planning on building a new outhouse over his septic tank, saves plumbing that way.....JGU is a real hot-rod in his new rabbit.....IH claims to be the first one to carry his coffee cup with him every place he goes.....FXP cold-nosed CZN.....JGU is a fan of Hotlips.....GEZ claiming that NK's chin whiskers affects his ssb signal.....SW has a slider on his 120.....M had trouble getting UPS to ship his TR-7.....YLZ talking about a case of vanaerial disease.....INZ likes to live dangerously around PZW, didn't tighten the nuts tight on his beam when he put it up.....and a whole lot more. K5NK

MONKEY CLUB NEWS: All Monkey Club members be sure to remember our first annual meeting at the Ham Holiday Convention in July. The main item of discussion will be to consider the input frequency of our proposed repeater. We plan to discuss the output frequency at the 1981 Ham Holiday. K5NK, Sec.

FOR SALE: Drake TR-4C, a.c. power supply, MS-4 speaker, D-104 mike. \$425.00. Call Tom, KF5E, 751-1194.

FOR SALE: Yaesu FT-101B with accessories, manual and box. New PA's installed by factory. Perfect condition. Heathkit HD 1410 Electronic Keyer. \$600. Call Mark, WB5SIA, 789-7267.

FOR SALE: Wilson WR500 Rotor, \$100. 60 foot Rohn, 25G Tower with guywires and hardware. \$300. Hornet TB 750 triband beam. \$75. Call Greg, WD5INZ, 789-7267.



The following is the proposed constitution prepared by the executive committee and which was presented at the May meeting of the Oklahoma City Autopatch Association, Inc. meeting. After being published in the Collector and Emitter, the proposed constitution will be voted upon at the regular June meeting of the club.

PROPOSED
OKLAHOMA CITY AUTOPATCH ASSOCIATION, INC.
CONSTITUTION

ARTICLE I

NAME AND PURPOSE

- Sec. 1 - The name of this Organization shall be the Oklahoma City Autopatch Association, Inc., hereinafter called OCAPA.
- Sec. 2 - The purpose of this club is to promote interest in the fields of communications, electronics and the amateur radio service.

ARTICLE II

MEMBERSHIP

- Sec. 1 - All persons interested in amateur radio and electronics are eligible for membership in OCAPA.
- Sec. 2 - Application for membership shall be payment of membership fees accompanied by application form to the Treasurer. Application to be considered by the executive committee and, upon approval, presented to the club for approval by a majority of the members present at the next duly constituted meeting.
- Sec. 3 - A member's spouse and/or dependents under the age of 18, residing in the same household, having an amateur license will automatically become a member of OCAPA with full membership privileges upon registration with the Treasurer.
- Sec. 4 - Membership will be renewed on an annual basis by payment of dues to the Treasurer on or before the last day of the month of expiration.
- Sec. 5 - Violation of OCAPA rules or sections of this constitution by a club member shall result in an investigation by the executive committee, and upon their recommendation, possible expulsion from the club--depending on a 2/3 majority vote of members present at a subsequent duly constituted meeting.

ARTICLE III

DEFINITIONS

- Sec. 1 - The term "member", where used in this constitution shall mean a holder of a current F.C.C. issued amateur radio license, technician class or higher, with dues paid to the Treasurer.
- Sec. 1.1 - The term "associate member" shall mean a non-holder of a F.C.C. amateur radio license, technician class or higher, and complies with Article II, Section 2 of this constitution. Associate members are non-voting.



- Sec. 1.2 - Dues for members are \$25.00 per year. Dues for associate members are \$10.00 per year. Current associate members will become members for one full year from the date of receipt of technician class or higher license and payment of \$15.00.
- Sec. 2 - The term "bylaw" as used in this constitution refers to bylaws, if any, adopted by OCAPA as herein set forth and amended as hereinafter provided.
- Sec. 3 - The term "duly constituted meeting" shall be a regular club business meeting held at a reasonable hour and place as set forth in the bylaws.
- Sec. 4 - The term "executive committee meeting" shall be a meeting at which a majority of the executive committee members are present.

ARTICLE IV

GOVERNMENT

- Sec. 1 - The officers of this club shall consist of: (1) President; (2) Vice-President; (3) Secretary; and (4) Treasurer.
- Sec. 2 - Duties of Officers
- Sec. 2.1 - President--It shall be the duty of the President to preside at all meetings of the club. He shall appoint any officers pro tempore or committees that may be necessary. The President shall act as chairman of the executive committee and shall be an ex-officio member of all committees. The President's responsibilities include stimulating overall functioning of club officers and committees as he deems necessary to assure club activity preparations are completed as scheduled.
- Sec. 2.2 - Vice-President--The Vice-President shall take over the duties of the President in the President's absence. He shall have all the authority of the President when acting in the presidential capacity. He shall be responsible for an inventory for all club equipment and be responsible for public relations, news and input to C & E.
- Sec. 2.3 - Secretary--The Secretary shall keep a permanent file of all club correspondence and minutes of all meetings. He shall handle special correspondence to members. He shall arrange for addressing copies of all published material to each member.
- Sec. 2.4 - Treasurer--The Treasurer shall receive and disburse all funds and keep an accurate record of such, shall be personally responsible for all funds and shall give an accounting of the disposition of all funds at each meeting of the organization. He shall keep the membership list up to date and issue membership cards once per year.
- Sec. 3 - Executive Committee
- Sec. 3.1 - There shall be an executive committee which shall be the planning body of OCAPA and shall make recommendations on its management of its affairs, and shall consist of the elected officers of the club, the most recent past president of the club, the station license trustee and the following appointees: (1) a chairman of



each technical committee for each amateur band, for which we have equipment operating, (2) a chairman of the CORA representatives, (3) chairmen of standing committees appointed by the President, and (4) the Technical Committee Coordinator.

- Sec. 3.2 - The executive committee shall meet at the request of the President to plan activities of the club and conduct club business and shall be responsible for appointing the technical committee staff and the Technical Committee Coordinator.
- Sec. 4 - Trustee--The trustee, appointed by the executive committee and serving at their pleasure, shall be responsible for obtaining and maintaining an amateur radio station license. He shall confer with the executive committee in matters concerning rules governing station operation. He must be the holder of an amateur operator's license and, in accordance with the regulations of the Federal Communications Commission, will automatically relinquish his trusteeship in the event his license expires, is revoked or suspended by the Commission, or should he leave the club. The trustee shall be a member of the executive committee.
- Sec. 5 - Technical Committee Coordinator--The technical committee coordinator, appointed by the executive committee and serving at their pleasure, and shall then be a voting member of the executive committee. He shall coordinate all maintenance and routine operation of the repeaters.

ARTICLE V

REMOVAL FROM OFFICE

- Sec. 1 - Any officer of OCAPA may be removed from office by a two-thirds (2/3) majority vote of members present at a duly constituted meeting, provided that members receive twenty-eight (28) days prior notice of said proposal.

ARTICLE VI

MANAGEMENT

- Sec. 1 - The management of OCAPA shall be vested in the Executive Committee which shall have full power to handle all matters as provided for in this Constitution.
- Sec. 2 - All expenditures, except those for normal operating expenses, must be approved by a majority of the members present at the next duly constituted meeting. Emergency purchases may be approved by the full executive committee.
- Sec. 3 - All new business not submitted to the executive committee shall not become effective until approved by the executive committee.

ARTICLE VII

ELECTIONS

- Sec. 1 - The elected offices shall be filled by ballot during the month of August and assumed at the September meeting.



- Sec. 2 - The nominating committee shall be appointed by the President. Nominations will be presented to the club at the July meeting; however, nominations from the floor must be acknowledged.
- Sec. 3 - Voting shall be by secret ballot of members present at the announced election meeting. Nominees receiving the majority of votes shall be the elected officers.
- Sec. 4 - The tenure of elected office shall be one (1) year.
- Sec. 5 - Any officer vacancy occurring after the regular election shall be filled by an appointment by the President and approved by the executive committee.
- Sec. 6 - In the event of the inability of the President to properly discharge his duties, the order of succession shall be Vice-President, Secretary, and then Treasurer.
- Sec. 7 - No officer may serve in any one office for more than two (2) consecutive terms.

ARTICLE VIII

MEETINGS

- Sec. 1 - Meetings shall be held once per calendar month.
- Sec. 2 - Special meetings shall be called by the President or by a majority of the executive committee. Appropriate notice of the special meeting will be given to the club membership.

ARTICLE IX

CONSTITUTION

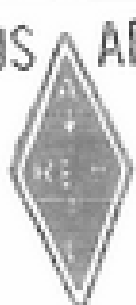
- Sec. 1 - This constitution becomes effective when approved by the executive committee and two-thirds (2/3) of the members present at a duly constituted meeting.
- Sec. 2 - This constitution may be amended when approved by the executive committee and two-thirds (2/3) of the members present at a regular meeting, provided that members receive twenty-eight (28) days prior notice of said amendment.

ARTICLE X

BY-LAWS

- Sec. 1 - Bylaws become effective when approved by the executive committee and two-thirds (2/3) of the members present at a regular meeting.
- Sec. 2 - Bylaws may be amended when approved by the executive committee and two-thirds (2/3) of the members present at a regular meeting, provided that members receive twenty-eight (28) days prior notice of said amendment.

Chuck Wilhite, K5NK
Vice-President, OCAPA



The Altus Area Amateur Radio Association held its monthly meeting at the North Main Fire Station on 8 May at 7:30 PM. There were 23 in attendance, WB5LAF, WB5KRH, W5KI, W5VXU, WA5CBF, WA5ZAR, WB5MJS, WB5PUF and friend, KA5CES, WA4RCS/5, N5AIP, WB5LTU, WD5BBV and wife Mary, KA5RDB, WD5ISO, WB5AFY, W3TDV/5, with wife and two granddaughters, and Greg Ross.

During the roundtable of introductions it was brought out that Major Bailey, KA5CES, is a new Extra Class, having attained that rating in just about one year after his Novice.

The Club Secretary, W5VXU, gave the financial report with the Club having some \$280.50 in the bank.

President Loren, WA5CBF, gave several reports on the past activities of the last month. Information packets were handed to those present, containing copies of letters and reports. This included copy of a letter from Ron Bourbeau, The Coax Connection, the Vernon TX, Club's newsletter and a copy of the ARRL Radio News.

Dwight, WB5KRH, Jackson County Emergency Coordinator, reported on the work completed on WR5ANX (146.190 - 146.790) repeater. Dwight spent one weekend working on the machine a few weeks ago. The emergency power batteries were replaced with new ones thanks to Dan Osborn, WB5AFY. Dwight also spoke on the work done on the possibility of linking UH repeater located at Cement OK. Most of the work is being done in Oklahoma City by Bill Skipper, KB5BS, and Bob Pace, WA5CJG. Dwight donated 8 UHF transmitter and receiver strips for this project. This linking UHF repeater would be connecting the Southwestern corner of the state (WR5ANX) to the Oklahoma City area. Bill Skipper conducted a path test on UHF between Cement and both Altus and Oklahoma City. Work is now being conducted on the control boards.

Bob, N5AIP, next reported on the progress of the Field Day. We are going to conduct this year's FD at the Altus City Park in the Southwest corner, on June 28 and 29. All interested amateurs are invited to participate in the fun.

Mike, W5VXU, reported on the fun several area amateurs are having on 146.520. A few hams have constructed direction finding loops and several practice hunts have been conducted. Those participating were WD5ISO, W5VXU, KA5CES and WA5CBF.

Loren reported on the work done on making up a list of the coming programs for the Club meetings from June to December. If you want to put on a program for the Club, please contact Loren for information and support.

Mike spoke on the Air Force MARS program at Altus AFB indicating that there is a need for increased participation since that program is being supported by only one other amateur in this area. A committee was appointed unofficially to look into this consisting of W5VXU, WB5MJS and WA4RCS.

Loren brought up the question of the Club's participation in a Mother's Day message center. There were no volunteers except for Mike, W5VXU. Tentatively he plans to set up a site in the City Park this Sunday.

The group took a short 10 minute break for coffee and donuts while the film projector was set up.

The program for the night was a film entitled, "The Power Game", a 28 minute, color film. It concerned three different sources of power besides oil, nuclear coal and solar.

The winners of the prize drawing were Greg Ross, an RCA tube manual and Dan Osborn, a wall plug.

The meeting ended at 9:30 PM and the next meeting is scheduled for 12 June. A special prize will be given for the person bringing the most people to that meeting.

There was an impromptu "fox hunt" on 5a Simplex following the Club meeting participated in by WD5ISO, W5VXU, WA5CBF & N5AIP. It lasted until 10:30 PM.

ADDED SHORT NOTE: Congratulations are in order to Bob Henry, WB5VUM and XYL. They are the proud parents of a 8 lbs, 10 ozs girl harmonic.

(Ed.: The loop they used can be found on page 330 of the '78 ARRL Handbook)

* * * * *

FOR SALE: 15 meter Swiss quad in original box. Less than one month old. \$45.00. Call Bob, N5PC, (Ponca City) 762-4426.

The last calls assigned as of April 1 were:

District	Group A	Group B	Group C	Group D
5	KG5V	KB5UQ	N5CAS	KA5IHO



MINUTES

The May meeting was called to order by Prez Joe WD5BMP at 7:16 pm after his errand-of-mercy detour to pick up the Activities Manager, Paul WA5HTL, to attend the meeting, on the 13th at the Air National Guard Center with 44 members and guests present conducting the business for the club

After self-introductions the April minutes were approved as published in the May Collector and Emitter.

The Treasury report in the absence of Tom KF5E was given as possible by Mark WD5DYI.

Old Business/Committee Reports: HH80 needs volunteers to work the registration desk 6-10 pm Fri, 8 am-10pm Sat and 8 or 9-noon Sun, 25-26 & 27 Jul 80: Paul WA5HTL volunteered to Head the committee to fill these times - should you wish to help, tell Paul when;

Repeater: Don reported that he, Coy N50K and Charlie WA4PLG installed the new antennae with a North-South pattern to find an East-West pattern after the next wind;

ARES: path test to Cement 27 April was successfull, next meeting 19 May will include Traffic Training and Bill KB5BS reminded us that volunteers are still needed for communications 6, 7 & 8 Jun at the Lake Draper Motocross - should you wish to help, tell Pat N5PS when;

Field Day: to be held 28 & 29 Jun at Woodson Park, SW 29 and I-240, class 2A (Club, 2 transmitters), Chairman Dick WB5TMW identified the various committee heads and their chores, distributed written records of same who still need volunteers:

CW tent Ken K5UAB	Logs & dupes Clara
Phone tent Don AE5N	WD5KFT
Novice tent Dennis KA5GTM	Food Kay WD5DYJ
Electrical Jim WB5VCB	Frequencies Bill KB5BS
Tables/chairs/pens/paper Bill KA5AFD;	
Technical Bob W5VZU, Coy N50K, Publicity Jim WB5VCB and Dick WB5TMW	

Special Olympics: need volunteers for Thursday afternoon and evening 15 May; Don AE5N, Dick WB5TMW, Mark WD5DYI and Kay WD5DYJ donated portable radios for use during the event. (they came in extremely handy.)

Bill KB5BS moved, Paul WA5HTL seconded and it was passed that the club treasury provide up to \$50.00 for meat for 1 meal at Field day.

There being no further old business, committee reports, nor New Business, the meeting was adjourned at 8:15 for 18 minutes of refreshments.

The group reconvened to hear Abe Crook W7LLP give a demonstration of both analog and digital slow-scan TV including a 2:30 PM sample from the rear of the room off cassette and a recording of the Explorer spacecraft fly-by of the planet Mars.

The club adjourned to the aftermeeting at 9:13 pm. Next meeting same time-same place, 10 Jun 80, CU .

Jim N5BEQ
Secretary

PS: The club officers wish to take this opportunity to remind everyone reading this that no one is limited from providing any submittals for the club's page(s) in this magazine. It is, after all, what you make it, it's YOUR magazine, what's holding you back?

Anything worth thinking is worth saying, and anything worth saying is worth writing down for publication. Where's yours?

Last month we had one page and that was 80% minutes of the meeting. How much do we have this month?

GREAT PLAINS A.R.C.

W5HGH Repeater 146.13/73
EDITOR: Gordon Richmond, WD5DFF

The G.P.A.R.C. held its monthly meeting in the Woodward County Courthouse on the 6th of May, with 22 members and guests present. It was motioned and passed that we would handle the communications for the Gage, Okla. Marathon, on the 24th of May. Field Day was dicussed and the equipment and location was approved.

A dicussion was held about doing a vidio tape of our E.O.C. and Radar, along with a simulated weather watch being put on by the members or putting together a slide program for showing to different organizations or schools in the area.

The net report of the North West Okla. Service Net, held on the W5HGH repeater, for the month of April with 15 sessions held with 206 check-ins and 13 R. traffic handled. This is really a great report, we just seem to be doing better every month, lets keep it up.

A simulated weather watch was held on the 22nd of Apr., WA5UTO Steve called the session at 0300z. All reporting stations were asked to give their weather conditions and the capabilities of their stations, ie stationary and/or mobile, 2 mtrs. and U.F. facilities. 17 Amature Radio Stations checked-in, covering 5 counties in N.W. Okla. and one county in Kan. Our Radar and communication equipment in the E.O.C. was also reported in as operational and that communications was also possible with the law enforcement in the area. Almost all stations reported that they had several modes of communications available.

WA5OUV O.C. at Logan is capable of 2mtr. into a number of NW Okla, the Panhandle, and into Tex. and Kan. repeaters. He is also active on weather nets on U.F. and also receives the Amarillo weather on T.V.

WD5DFH Bill reports capable of 2mtrs. through 20 or more NW Okla. counties and South central to central Kan. He also has 6mtrs. and U.F. and teletype.

WB5DGT Harry reported that he has 2mtr. communications, that are almost unbelievable but true, with all of the West 1/2 of Okla. and into Kan. and Tex. and has U.F. also.

A weather watch was called at 0305z on the 24th of Apr. when K5JJC Austin in Shattuck reported pea sized hail and 30 to 35 mph. winds. WA5UTO Steve was net control at base in Mooreland, and the following stations checked-in WA5OUV O.C. at Logan, base, WD5DFH Bill mobile north of Mooreland, WB5EOD Orin mobile SW of Woodward, W4ZSL Wes mobile SSW of Woodward, WA5VQQ Doyle at radar, WB5EGZ Doug at the radar west of Woodward, WB5ECP Doc at base in Woodward, WB5DGT Harry at base in Vici, KA5BCO Bill mobile N of Woodward, KA5FKV Gerald mobile W of Mooreland, WB0PGD Ron SW of Mooreland mobile, WD5DFF Gordon at base in Mrlnd., WA5UTO turned net control to DFF and contacted KA5AAE Jim north of Rosston, WD5CSW Ray in Laverne, and K0DSM Frank in Coldwater, Kan. on the 147.72/12 repeater and returned as net control. The mobile stations tracked some thunder storms through the area with visual spotting and with verification from the radar crew. There were amatures from 5 counties in NW Okla. and Comanche county Kan. reporting. Most all stations reporting in from base were available for mobile spotting if the need arose. K5JJC secured his station at Shattuck when wind, lightning and marble sized hail developed. After the storm passed he reported back in with 2" of rain and a good covering of hail on the ground. But no more storms of any significance developed and the alert was terminated at 0515z, covering a time of 2hrs. and 10 min.

Work of the G.P.A.R.C. Byron, Okla. repeater has almost been completed and is in operation on 147.90/30 with the antenna on a 30ft. pole at this time. WD5GJN Rex and KB0HH Gary have been doing the work on the machine. We now are looking for a tower to put it on. Nice work Rex and Gary.

A peculiar kind of flu bug has been making the rounds - WB0PGD Ron got it first and passed it on to WD5DFH Bill whom still cant talk, confirred it to KA5FKV Gerald, whom has about got it whipped. It seems to affect their ability to communicate in a normal voice, I surely hope that it slows down -- but just think of everybody operating C W 2mtr. mobile???

G.P.A.R.C. cont.

K5YZK Jim a new arrival in Woodward, attended the club meeting and joined the club. He will be an asset to the club, welcome aboard - Jim.

WA5OUV O.C. is putting together a new Heath Kit weather monitoring station. This is a sophisticated piece of equipment. Good luck O.C.

WD5BOZ Ricky has a new Kenwood H T - he took it to Enid at Tri-State, he said it was quite an ego builder, all the kids were really impressed.

WB5OVT Rod at Gage has had a father and a father-in-law both in the hospital at the same time, said things were quite hectic around there. Good luck Rod and we hope that you can get "Murphy" a ride out of town!!!

KA5BCO Bill- we had to ask him his name when we saw him; he had just shaved a six months growth of beard off and also had a haircut. He will be taking over as Wed. net control on the net.

W5ZUS Cal attended the club meeting with some brochures on some new I-Coms. It looks as if there will be some new 2mtr. SSB mbls around here soon.

WB5LCM Phil is remodeling his house in Shattuck, letting his tower down a little abruptly, and reminding us that he's getting married soon.

WA5UTO Steve putting up another section on his Rohn tower, up to 90 plus feet now, with a new KLM 2mtr beam on top.

WD5DFH Bill has received his Mars call and has a radio to get on the right frequencies with, and an antenna up that works.

WA5YQQ Doyle busy with his job and thanking the G.P.A.R.C. for the Happy Birthday traffic to his XYL, he almost forgot about the birthday!!

W5HGH Lee showing up at the club meeting in their new Citation, a pretty and shiny two-tone blue, with his 2mtr installed already.

WB5EGZ Doug IDing that he is mobile and monitoring and forgetting to turn his volume up. Honest Doug we do answer you.

KA5FKV Gerald getting into the swing of 2mtrs, and concocting all sorts of antennas???

WB5ECP Doc on the radio a Sunday morning from the new golf course.

WB5EDD Orin having trouble checking into a 40mtr net because the local broadcasting station has more power???

WB5VHQ Ronnie out helping LCM taking down his tower and digging out the anchors and pulling the guard posts.

W5OJ Guido taking his dog out for some exercise and enjoying visiting at the hamburger fry.

WA5PLW Wendle still looking for that errant pair of pliers that caused the burn on the palm of his hand. Seriously tho, he threw them when working on a radio. The pliers had poor insulation on them and his other hand came in contact with a ground causing a severe burn to him.

KA5DUO Leo working hard trying to keep the fishermen happy at Canton. He also went to Tulsa for his general, just missed by one. Keep trying.

WB0PGD Ron has been busy getting his road fixed and getting his water line buried to his house at his new location.

WB0QGW Carla finishing her night classes and getting ready for summer vacation???

W4ZSL Wes busy with his new job and trying out the repeater coverage.

The GPARC held a hamburger fry at Boiling Springs Park Sun. afternoon the 27th of Apr. There were 33 members, guest, and harmonics present. We had set the date at our Apr. 1st club meeting and during the usual hub-bub of the club meeting arrangements were made for the location, and what each one wanted or needed to bring. It dawned Sat. morning and on us, that we had forgotten to designate someone to get the hamburgers and the buns. WD5DFH and WD5DFG Bill and Donna made a mad dash to the packing plant and performed that very important duty. We were sitting on pins and needles about the weather, it had been rainy and cloudy all the previous week and Sun. morning it was still cloudy and unsettled. But as the day wore on it became better and turned into a wonderful afternoon and evening.

Horse shoe stakes were set up and shoes began clanging against the pegs or falling short or rolling merrily on by their destined points. Food began piling up on the tables, the charcoal burner began smoking profusely and the tall tales and information swap swelled around us. The hamburgers and cheeseburgers were beginning to come off the grill and it seemed as if the members and guests would never get full; but sure enough the hamburgers started stacking up on the platter and the cooks took after the pile. After everyone had refused thirds, fourths, and more there was still enough food left to feed a small army. Many thanks to all the XYL!S for their culinary arts. As the evening wore on and the amateurs were dispersing and going home, one thing was missing-- the 2mtr. activity was almost nil- everyone was still too full.

73s CUL de WD5DFH

MORI

MINUTES

The May meeting was called to order on the 6th at the EOC at 8 pm with 56 members and guests present transacting the business for 309 paid members, Prez Fred presiding, no foolin.'

The minutes of the April meeting were approved as published in the May Collector and Emitter.

The treasury was reported in absentia by Fred KA5CXW with a reminder that we as a club reap the benefit of 2/5ths of the tower insurance for a pitifully small sum which is now due!

Committee Reports: Executive: Merwin K5ELL, Mark WB5SLA and Ken K5VVZ will manage installing the new 07/67 machine on site; the spare DB-224 antenna from the old 34/94 machine is for sale, reduced from \$200 to \$50.00; the old .94 transmitter and power supply are for sale, reduced to \$25; the 7/8ths-inch heliax from the original .94 site is available to anyone for the taking, especially good for lawn sprinkling; any desired use of the .1 repeater for a link must contact Joe K5JB.

CORA: for details of the April meeting, see minutes elsewhere in this issue, otherwise it was announced that HH80 would have Dale Clift WA3NLO representing the ARRL and Ray Wangler W5EDZ, West Gulf Division Director; preliminary schedule of programs was announced; with a reminder that next year's Ham Holiday will have the same club-

PRIZES: committees, Chuck K5NK requested help in mailing invitations to dealers to appear and volunteers to manage door prizes during HH80; raffle tickets are available for the TR7625 to be given away.

ARES: Bill Skipper KB5BS, County Emergency Coordinator announced that the 450-path test from Oklahoma City to Altus and back on 27 April was successful and there will be traffic training as part of the ARES meeting 19 May at the Red Cross Center downtown OKC.

There being no further business the meeting adjourned for refreshments at 6:37 pm.

The club reconvened at 9:01 pm for the Heathkit Computer Program with Tim Hinojosa and Bill Skipper from the local store. They were followed by the ARRL film "The World of Amateur Radio," new this year, featuring Roy Neal K6DUE, Arthur Godfrey K4LIB, King Hussein of Jordan JY1, and Stu Gilliam WD6FBU among the notables. The film was presented by Leonard Hollar WA5FSN, Section Communications Manager, who announced it will also be presented at HH80. It's a well-done film and all are encouraged to see it, produced by Dave Bell W6AQ.

The Special Olympics Communications Committee still lacked operators for Thursday afternoon and evening, 15 May.

There being no further business to come before the club the members and guests adjourned to the aftermeeting at 10:00 pm.

Next meeting Tuesday, 3 June 80, 7:00 pm, Furr's Cafeteria, French Market Mall, NW 63rd and May Avenue, till ? . CU .

Jim N5BEQ
Secretary

4 SAIL: FORE SAIL: FOR SALE... 2 amp-12 volt Power Supply w/banana--screw jacks \$125.00 .. comes attached to a Drake TR-22 2M FM transceiver w/ built-in batteries, portable antenna, .67, .76, .82, .85, .94 and .12 pairs. 10 watt amplifier \$30.00. 405)236-0368 Jim N5BEQ



EDITOR: Bob Graham, WB5NSV 677-8685

MINUTES OF THE APRIL MEETING OF THE ACARC

The meeting was called to order at 8:02 PM by president Bob Pace, WA5CJG. There were 48 members and guests present. Following the usual round of self-introductions, President Pace made several announcements, and asked for committee reports; a summary follows.

Bob announced that the July club meeting will be held 11 July, instead of the first Friday of the month. This is due to the 4th of July holiday.

CORA report; It was reported that the Ham Holiday preparations are coming along quite well. It should be a great event.

Repeater report; Bob reported that the stand-pipe on the repeater site building is still rubbing. Will attempt to repair ourselves.

Station report; The switch for the Drake linear has been received and the unit is now fully operational.

Computer report; Some difficulty has been experienced with the printer mechanism, parts are on order for repair.

Ivan Miller told of Harry Schoenhal (sorry about the spelling) helping several people around town install towers, beams, etc. Thanks to Harry.

Field Day; Bob announced that time is getting short, and we need to get going. Paul Asplin is heading this committee as a result of this meeting, and can use what ever help he can get.

Programs; Bob asked for help in finding programs, and will appreciate anyone knowing of a topic of interest please contact, WA5CJG.

The program of the evening was presented by Holly Holcomb, N5ABL. Holly presented an excellent program on basic electrical wiring, and much discussion was generated. Thanks Holly for an excellent job.

73, Bob Graham, WB5NSV

RANDOM WORDS FROM THE PRESIDENT:

the may meeting of ACARC was well attended and the program was a good one it was presented by Holly N5ABL. Thanks a lot Holly for a fine program, hope you will do it again for us... Our Field Day efforts will be headed by Paul WA5HTL, so every body that is going to help with field day get in touch with Paul, and give him your thoughts.

Ham Com along with the West Gulf Div. convention of the ARRL is coming up June 6, 7, & 8. I hope to see a number of you down there, I know there will be a lot of goodies maybe even some 2 Ghz items. (Be sure to put ACARC on your reg. form.)

I have been listening to 2 meters a lot in the past two weeks and it sounds to me like the band is getting pretty good so get out your side band rigs and tune them up cause were gona have a good year. Six meters too..

Ham Holiday 1980 is just around the corner so every boby make your plans now to attend, and be sure to bring the better half with you, we have a good program planned for them...

73, BOB, WA5CJG.



WHEN DID CRYSTALS HIT RADIO?

No, this doesn't pertain to rectifying crystals but to those quartz plates used for frequency control. It all started about 1881, when the piezo-electric effect was first noticed by two Frenchmen. A German, Wilhelm godfrey Hankel, came up with a name for the action. He took it from the Greek word "piezein" meaning "to press." Persons who know Greek say it should be pronounced "P-ed-zo." A chap by the name of Walter G. Cady started sniffing around with quartz crystals for frequency control in 1917 but it was 1925 before he published his findings. He didn't start any wild rush to crystal control, for crystals were both hard to buy and very expensive when you could locate one. By 1932 prices were on their way down. Within a few years nearly every amateur used a crystal-controlled transmitter.

W5JJ

FOR SALE; 72-ohm transmitting-type twin-lead, clear plastic insulation, will cheerfully carry the rf output of a cornfed California kilowatt! As rare as virgins in a hippy commune, but here is a plentiful supply. Just the thing for those operators whose superstitions forbid feeding balanced antennas with unbalanced feedlines! \$10.00 a hundred feet. W5JJ, 5824 N.W. 58 St., Warr Acres. Phone 789-3788.

AMSAT-OSCAR PHASE III

I JUST HEARD THE BAD NEWS ABOUT OSCAR 9. A ROCKET MOTOR FAILED AND THE BIRD WAS DESTROYED. THIS WAS NOT ONLY BAD NEWS BECAUSE OF THE HEARTBREAK OF THOSE WHO WORKED SO HARD ON IT AND DISAPPOINTMENT OF THOSE WHO WERE GEARED UP TO PLAY WITH IT BUT IT IS SPECIALLY BAD NEWS BECAUSE AMATEURS AREN'T ABLE TO FAIL ON THESE KINDS OF PROJECTS AND WALK OFF WITH A SHRUG OF THE SHOULDERS. AN AMATEUR WORKS AGAINST UNFAVORABLE ODDS THAT A PROFESSIONAL DOESN'T FACE. IF HE SUCCEEDS IN AN EXPERIMENT IT'S CONSIDERED EXTRAORDINARY. IF HE FAILS IT WAS EXPECTED. IT IS ASSUMED THAT A PROFESSIONAL IS TAKING A CALCULATED RISK, BUT, AN AMATEUR IS EXPERIMENTING WITH SOMETHING HE KNOWS NOTHING ABOUT.

THIS IS CERTAINLY NOT TRUE ABOUT AMSAT AND THE AMATEURS WHO WERE WORKING ON THE PROJECT, BUT IN THE SPACE HARDWARE COMMUNITY AND AMONG THE UNWASHED MASSES, I HOPE THE FAILURE IS NOT CONSIDERED A FOLLY.

OF PARTICULAR CONCERN TO ME IS THE RECENT NEWS THAT PERRY KLEIN, W3PK AMSAT'S PRESIDENT AND GENERAL MANAGER, HAD NOTIFIED THE BOARD OF DIRECTORS THAT HE INTENDED TO RESIGN. DR. KLEIN WAS AMSAT AND UNDER HIS GUIDANCE THERE WAS DEVELOPED AN EXTREMELY SUCCESSFUL ORGANIZATION OF WHICH ALL AMATEURS COULD BE PROUD. OF COURSE, AMSAT IS A SOLID ORGANIZATION AND IT IS NOT GOING TO FOLD WITHOUT DR. KLEIN, BUT IT SURE WOULD HAVE BEEN A LOT EASIER IF PHASE 3 HAD BEEN A SUCCESS.

I, FOR ONE, AM IN FAVOR OF RENEWED SUPPORT FOR AMSAT, AND ENCOURAGEMENT TO GET STARTED ON A NEW BIRD. I HOPE THOSE WHO BOUGHT SOLAR PANELS, AND OTHERWISE SUPPORTED THE PROJECT FEEL THE SAME WAY I DO AND A VOTE OF CONFIDENCE BE GIVEN TO AMSAT TO TRY AGAIN. JOE, K5JB

AMCARE

I talked to Mike Mc Elroy, WA5PDH, who is the communications supervisor at AMCARE. He answered my questions and provided some very useful information. The following article is based on my telephone interview with him. Mike gave me permission to publish it in C&E.

Mike said that everyone who answers the emergency phone at the Oklahoma City area AMCARE is a trained medical technician. When you are at the scene of an accident with injury, call AMCARE first. The technician will call the police, fire, etc., on one of their direct line telephones. Most important, the medical technician will provide you with first aid instructions. A 2-meter equipped amateur at the scene of an injury or sudden illness that is away from a telephone is in a fantastic position to help the victim(s).

Stop at the scene of an accident if you can safely do so. Determine what the injury situation is as best you can, and report these facts to the AMCARE technician. Give the location accurately. Mike said that AMCARE answers the Coronary Care Mobile Unit phone (236-0191) and dispatches the nearest of three units.

Mike also told me that a person calling an ambulance in an effort to get help to some sick or injured person is protected by the Good Samaritan Act. The person calling is not liable for the cost of the ambulance trip, neither is the victim until the latter is transported. The victim may refuse to be transported even after the ambulance arrives upon the scene, and he or she will not be billed for the trip.

AMCARE callers are asked for a call-back phone number to help identify the caller, reduce hoax calls and to provide a means for getting additional information if needed. The amateur on the scene with a 2-meter rig can't be called by phone, so he must be as accurate and complete as possible. You will be identified sufficiently by saying that you are a radio amateur and by giving your call letters. Mike is sending a memo to the AMCARE dispatchers, explaining our service and establishing our identity.

I'm sure we all join in thanking Mike for providing this information. In return, we should be able to use AMCARE facilities to a greater extent, while helping to hold their costs down. He said to call him at 525-8991 to arrange a club program (any club) on any of AMCARE's activities. How about a joint meeting in one of the larger meeting halls for such a program?

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

The above article on AMCARE is a service of the 34/94 Samaritan Monitoring System.

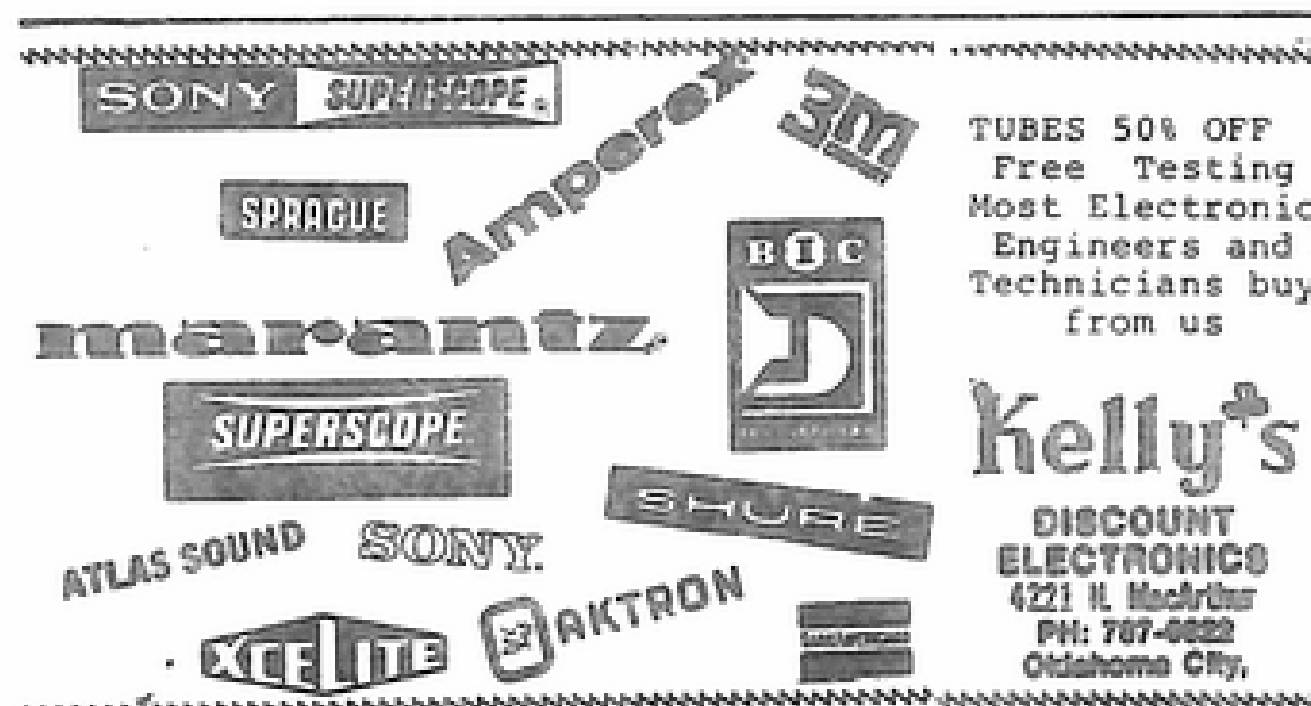
AMATEUR 2 METER "SAMARITANS"

"SAMARITAN": One ready and generous in helping those in distress. We will monitor the 34/94 repeater each week during the hour noted in the latest published chart, so that any call for help will not go unnoticed. For additions, deletions, or changes, contact:

Bill, WA5RAQ, 632-4375

TIME SLOT changes since the last published chart in May C&E, page 13: none

Suggestions or rescue stories, hair-raising adventure stories or even routine emergency events taking place on local 2-meter FM will be considered for publication in the SAMARITAN column.

 <p>Kelly's DISCOUNT ELECTRONICS 4221 N. MacArthur PH: 767-6622 Oklahoma City.</p>	<p>WORLD WIDE ELECTRONICS J. C. BIDDY</p> <p>(405) 525-9897 1715 N.W. 16TH</p> <p>OKLAHOMA CITY, OKLA. 73106</p>
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THE AMERICAN RADIO RELAY LEAGUE, INC.

LEADERSHIP OFFICIAL

AMATEUR RADIO EMERGENCY SERVICE

The meeting started at 7:05PM at the Red Cross with 30 members attending. Charlie WA5JGU gave a report on the communications taking place on the evening of the 10th. Pat N5PS said we still need operators for the June 1st. Motor-X, this is your chance to get in on some real fast and exciting action. Contact Pat or myself. We did not get a report of the Special Olympics, I hope it went ok.

Leanord WA5FSN presented a detailed program on the in's and out's of net procedures and phone traffic handling. Many Questions were brought up from simple check in's to the widely misunderstood word count. Howard WD5IDB followed up the program with another fine program on CW procedures, He will be starting a class in Edmond On the 1st. of June. He also is very interested in getting more novices on the air. If your a new novice and alittle nervice about working cw, contact Howard Wise he'll be glade to give you a helping hand.

After the programs we discussed setting up a statewide Weather information network, Many ideas were brought up on Freqs. and relays It was a general agreement that the 146.16/76 and 146.25/85 repeaters were the one's to use. After discussing it throughely we decided on the 146.25/85 repeater since it is going to be our link to Altas Ok., But after several days of after-thought I decided that the weather information will be on the 146.16/76 repeater until the 85 repeater can install a backup power supply. this will be the main freq. until we have a need to use a repeater closer to a perticular storm system. As of May 22 Server Thunder storm Warnings and Tornado Watchs will be cause anouhgt to activate the weather information at the N.O.A.A. If you would like more information write to me at my new adderrass or call, I'll try to answer any questions.

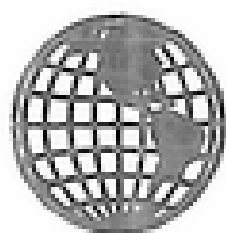
I would like to thank Bryan DeHart N5BEV for striving forward and making himself available to the C.D., ARES is becoming well known to the county C.D. and Sheriffs Dept. THANKS Bryan.

NEW ADD. 6341 NW 63rd. apt#155 OKC. OK 73132 Phome:722-5452

Bill KB5BS

For Sale Swan ss 200a HF transceiver with PS 20 power supply and 610X crystal control unit containing 7 amateur and 3 AF MARS crystals . \$750 .00 . Harry Watts, WB5DGT, Vici OK

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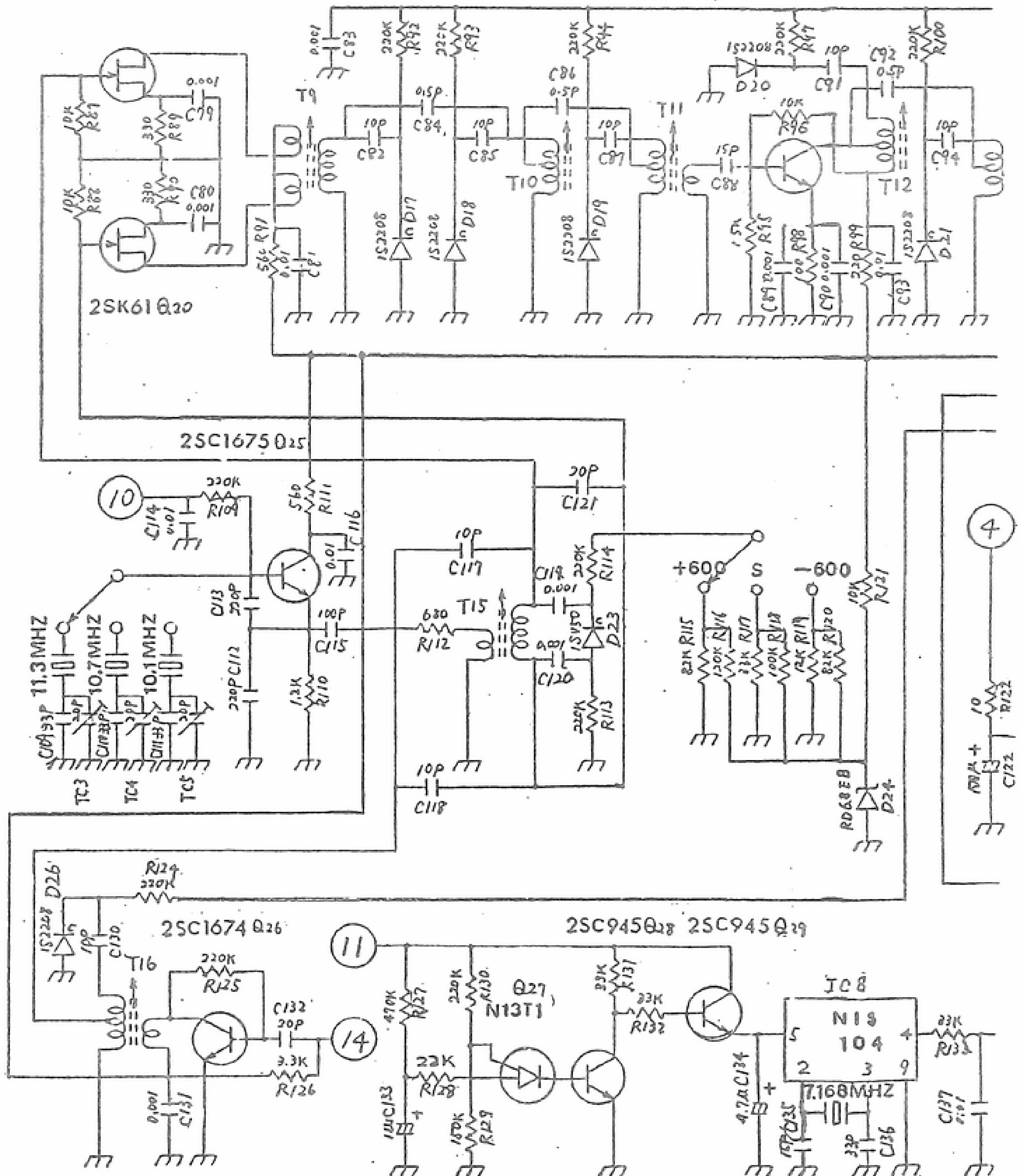
Call 947-6646

"What 'titz, p.3"

Just in case you haven't heard (how'd tat happen?) we had a winner!! But don't blame me if he also wins the TR7625!! He owns one of the radios depicted schematically below so only had to compare his schematic to it - they matched. So, when you see Art WLGOM at HH80 that's why.

2SK61014

2SC2026 Q21



(continued)

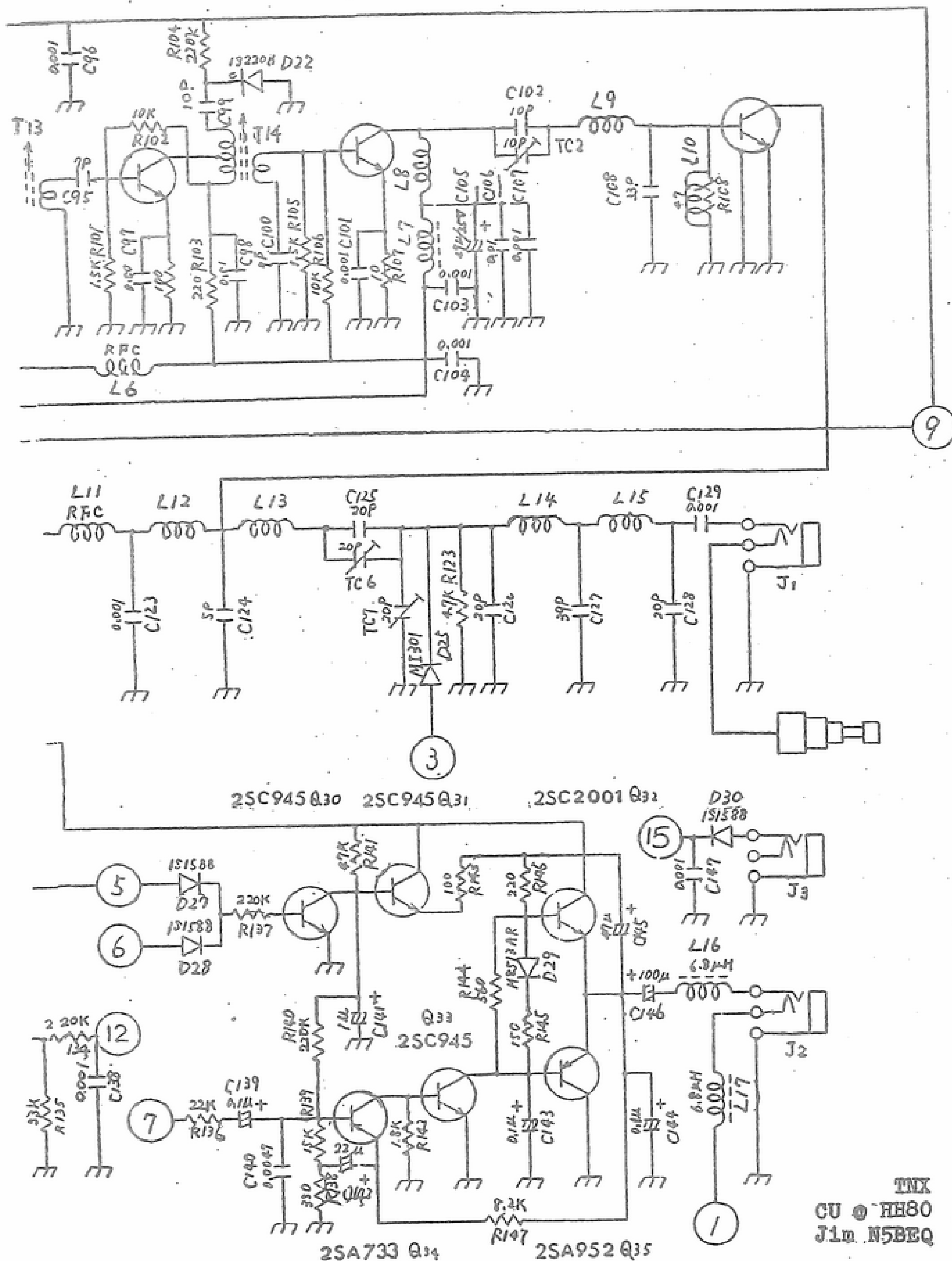
"What 't'iz, page 4"

This schematic is provided for S-1 owners who lack one.

25C2026022

25C2026 023

25C 2221 Q24



TNX
CU @ HH80
J1m N5BEQ

Special Olympics 1980, a Report

'It's the bottom of the 9th, your team's at bat and behind 11 - 8; the bases are loaded, tying run on first; the count is 3 and 2 with 2 outs; their manager heads to the mound, the sky clouds over ... the clouds BURST and drop 8" of rain on you in 4 hours. How do you feel?

Well, that's probably pretty close to how the sponsors, coaches, coordinating committee and communications amateurs all felt by 10 o'clock Thursday morning 15 May especially after such a beautiful Wednesday the day before. Activities were operating so smoothly that the hams felt they may never be needed. And they weren't, for anything major didn't develop.

As Oscar Staudt WB5GCX put it, "It was the first meeting, event or function I have attended in many years that when I finally left I felt really good inside." At that, Oscar drove down to Edmond from Guthrie to work the Olympics for 11 hours straight.

From perennial Dale Diehl K5WUF whom I met for the first time ever at the state games in 79, "(I'll remember) the 'Sly Red Fox' (in costume) removing his head piece when he spotted a handheld rig to say 'I'm WD5FMI from Muskogee and sure enjoy coming here every year to help out'...(and) not seen or heard: any anger, harsh words or cheating."

After driving up fairly early from Meeker and working(?) (This is work?) the games all Wednesday afternoon, Donna Bickel KA5GEP said "When I saw the excitement in the eyes of the children and heard their happy voices, it just warmed my heart. It is really very hard to put in writing..." and echoed all the others: "put me down for next year!"

David (Fergy) Ferguson K5SXJ from Mustang said "It's an education, I wouldn't have missed it for anything, put me down for next time." Fergy made the trek from Mustang to Edmond overcast and early to ford the rain and work the swimming events at the Fieldhouse pool.

As of presstime we've not received reports from Bob McCoy N5BUJ who ran his legs off Wednesday eve. sticking with Ms. Terry Kerr, Executive Director of the State Special Olympics Committee during the Carnival, nor from Bryan DeHart N5BEV who performed yeoman duty using his van for transportation during the rain Thursday morning.

Should you wish to avail yourself of such a rewarding experience next year (if we're not rained out again) mark your calendar for the Spring semester-Summer session break at Central State University approximately (probably) 13, 14 & 15 May, 1981.

I was threatened, under pain of retribution, if I did not include the following quote from Oscar WB5GCX: "I am very thankful that people like Hobe Burgan WB5JLN and Jim Buswell N5BEQ are willing to take on the responsibility of organizing and coordinating amateur radio assistance in such a worthwhile event."

Other special thanks are due to Dick Baker WB5TMW, Mark Northcutt WD5DYI, Kay Northcutt WD5DYJ and Don Duck AE5N for donating the use of their handhelds during the events.

Thanks also to Jim Jones K5PER, Art Roberts W1GOM, Ralph Bartow WD5IRB, Ken Stepp WD5HXK, Bill Boland KA5ESA, Connie Boland KA5ERZ, Jerry Wetmore KA5DCM, Chuck Wilhite K5NK, Bill McMullin WD5EXY, Sid Gerber W5K0Z, Gerald Hensley K8AFP, Lee Lash W5VZY and Joe Couch WD5BMP for offering to help out tho they weren't needed with the rain-out.

Finally, Extra special thanx to Howard Wise WD5IDB for efforts 'above-and-beyond' to the tune of \$12.00 cash. For details, ask Howard. Such as, wasn't that really "Below and beyond?"

And a cup of coffee to Bill Demand K5SKA for his many assisting telephone calls.

See you all next year and thank you more than I can say.
Jim N5BEQ



WHEATSTRAW ARC ®
01-61

EDITOR: Virginia Beneda, 825-3302

Kingfisher hosted the May 4th meeting, after the usual business was over WA5FSN showed a very interesting film. The film presented the joy, beneficial uses, and pleasures of ham radio operations. It is such a privilage to earn a licence and become a ham, let us all protect it. WA5GHK Joe, demonstrated a analyzer that was very interesting, It was sharp and neat, could do just about anything but bake hot biscuits and serve cold drinks. The electronic field is wide open, looks like there is no limit.

The next wheatstraw meeting will be at Watonga, at the Watonga State Bank, in the community room. Coming in at the southwest corner of town go east on highway 33 to the Country Fare and Noble, turn north one and one half blocks drive into parking lot, and enter at south side. Coming in from the east you will be on 33 highway so turn same street.

Wheatstraw ARC has a open informal net each wednesday night at 9:00 anyone is welcome to check in on the net.

I would to give one of my own personal service projects that i would like for CORA to check into. The C.P. telethon on channel 5 each year. They have so many towns calling in individual pledges. Some local person in Oklahoma City could check with the telephone co. If they charge for the calls I see no reason why all of the communications covering the whole state could not be handled on two meters and a said H.F. frequency. Just think how much more money such organizations would recieve. I feel sure each individual who took a part in such servicies would enjoy it.

Field day is coming up and all the final plans have not been made. Check in on the net for all info. I have been neglecting the informal 9:00 evening nets and sure others have too.

WB5WTN Virginia, ask for a volenteer to write the letter this month, so I am trying to help her out. I do not know of any one who could replace her. She has allways done such of a outstanding job. Just over look my mistakes and drive safely so I can have a QSO and EYEBALL with you at the ham holiday coming up.

73 WA5PEK, Ralph

Ralph

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The ATV meetings will return to the regular schedule of 2nd Thursday of each month. The June meeting will be on 12 June 1980 at 7:30 in the Communications Building at Central State University in Edmond, Okla.

There has been a further delay in the shipment of the repeater. The new shipping date is 30 May 1980.

The transmitting antenna has been received so we now have both antennas. Preparations for installing the antennas are continuing. As soon as the mounting brackets are completed, a few minor items are obtained, and the weather is suitable, we will be ready to start the antenna installation. Hopefully, the antennas will be up in a few days and ready for the ATV repeater when it arrives.

ATV Activity. Several stations are frequently on in Oklahoma City. Some stations in Shawnee are operating on low power. One of the Shawnee stations was able to see a signal from K5SUD in Del City. K5CZN in Oklahoma City has contacted WB5RRR in Enid. A signal from a station in Tulsa has been received in Oklahoma City.

Several ATV stations in Oklahoma City and surrounding areas are in various stages of construction. Some of these should be on in the near future.

W5JGC

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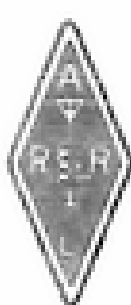
CHOCTAW ARC



EDITOR: June Allen, N5ARV

The Choctaw Amateur Radio Club met at 6:30 P.M. at the Midwest City Regional Park for a Cook Out. The weather was real nice, we had a fine turn out and the food was delicious. Everyone just ate and ate and ate. We had two (2) fantastic cooks, WB5OHK and KA5ALO. Sure hope the Okie Chefs are around Field Day! WD5EVP has confirmed a site for Field Day and AB5H will complete details for the Big Event at our next meeting. All members are urged to attend the meeting which will be held at the Choctaw City Hall to help finalize plans. Barbara please remind AB5H of the Coffee Pot.

N5ARV



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OFFICE OF THE
SECTION COMMUNICATIONS-MANAGER

LEONARD HOLLAR WA5FSN

QST—
OFFICIAL ORGAN

We had an interesting meeting with the Oklahoma County A.R.E.S Group. Message Preparation and Phone and C.W. Net operations being the subject of discussion, as well as other ARES business.

We do feel that a few things should have been stressed more. Accuracy of Transmission: of all parts of the Message, specially the Address and Text. I know of an instance where 'BY' was changed to 'MY', completely changing the meaning of the text. I would encourage that a full name be used in the signature. In times of Emergency, C.D. and Red Cross Traffic must be signed in full and Title, if available, for the message to carry any weight at the destination.

"Operation SkyWarn" is very much alive and healthy, though I feel that we still have much to do to enlarge the scope of this F.B. operation. We urge all of you look into this operation and give it all the help you can.

The various programs scheduled for "Ham Holiday 80" promise to be of interest to all of us. A wide variety of subjects will be covered. C.U. There??

Oklahoma Traffic Nets for April

Net	Sessions	QNT	QTC	WX
O.P.E.N.	4	208	5	
O.F.O.N.	22	412	112	
S.T.N.	26	499	98	
O.T.W.N.	26	459	301	313
O.A.N.	30	190	43	
O.L.Z.	30	211	84	
Night Owl	30	498	32	
Arbuckle	3	40		
N.W. Okla.	15	204	11	
Wheat Straw	5	76		
Grady/Caddo	4	41	1	

As you can see, We can always use more help on some or all of these Nets. Participation by all is appreciated.

EDMOND AMATEUR RADIO SOCIETY

☆☆☆☆
147.72/147.12

APRIL MEETING: Convened at Bob Shaw's shack, WA5BQX, at 1830 on Friday 18 April to witness a demonstration of operation on OSCAR. Your scribe was engaged in driving from Tulsa to Springfield, MO about that time so you will have to settle for hearsay evidence on this one. One observer said Bob was as busy as a one armed paper hanger trying to keep transceiver, VFO, and antenna controls lined up and tracking; but it seems all 12 in attendance had an enjoyable time of it. Thanks Bob! with contributions like this, EARS has just got to be a success.

MAY MEETING: Back to our regular meeting place and time for May -- this time with member Art Roberts, W1GOM, giving us a presentation on Cardio Pulmonary Resuscitation. This guy Art really has it made -- my hat is off to anyone who can bring his wife and his girlfriend Annie to the same party. Back on a serious note, Art gave a very professional presentation and held the attention of everyone. I do believe he motivated several people to take the full CPR course. Thanks Art -- you done good!



NOVICE CLASS: Let's go one more time on this. EARS will sponsor a NOVICE CLASS which will start on Monday evening 2 June at 7:00 p.m. and continue for 12 weeks thereafter. The meeting place will be Room 102 of the Communications Building on the Central State Campus. (Near center of campus -- roof is full of antennas). The material to be used will be the ARRL "Tune The World" book and beginners code tape, plus the new NOVICE License Question and Answer Book. The club will levy a \$10.00 charge for the above materials (\$9.00) and miscellaneous costs (\$1.00). Persons who have the above materials, or are sharing same will be assessed only \$1.00 to cover miscellaneous expenses.

So do a friend a good turn. Tell him about the class and bring him out to meet EARS members and his fellow classmates. Do you know a Boy Scout who needs radio merit badge? This is made to order for it. Remember, there are very few gifts you can give which will provide the recipient with a lifetime of enjoyment.

We won't be starting code work until the second session (9 June) and can probably accept new enrollees as late as the third session (16 June) without too much trouble. Ya'all come now!





PROFILES: Sorry no profiles this month. Your scribe has been too busy to make any up and you fellows haven't sent me any so guess you will have to do without.

REPEATER NEWS: Did you ever spend an evening listening to our trusty repeater trustee and his helper repair the repeater and tune up the patch? It hardly compares with an "Evening At The Pops", but it is great to realize that some of our fellows will put in that much effort in a labor of love to allow EARS to have such a fine machine. By the time you read this our 72/12 repeater will have a new Motorola decoder which will eliminate most of the delay we have been experiencing with the patch. Also, we are now linked to the N5BUJ shack and patched to a dedicated phone line instead of being on Martin's private phone. That has eliminated most of the white noise. The machine really sounds great.

You have all probably heard that we have a new battery for emergency service thanks to BRIAN, N5BEV and Sears. That's great -- keep those Die-Hards in mind when you need a battery folks.

Now comes a new contribution. It seems that Dennis Orraut, WB5ISN, has donated 250' of Heliac to the club. Assuming Martin is able to get some residual moisture out of it, we will be able to embark on a program designed to take our receive antenna to approximately 400 ft. and locate the transmit antenna at the 270' level. That should make a great machine even greater. Dennis, I don't know you but I would to meet you to shake your hand and express our appreciation for your help. (KB5RR)

HEARD AROUND THE TOWN: The new equipment list took a big jump this past month with WA5ZLW, WD5HXX, and KB5RR all showing up with Kenwood TR2400's. Sure is a great machine -- fantastic audio -- Bill Wright hit the Edmond repeater with ease from front door at Will Rogers Airport using a cartop 1/4 wave.

KB5RR has a new home brew mini-quad which exhibits a fair SWR but so far shows no front to back ratio at all. Oh well - back to the drawing board.

The home brew air variable project at WA5ZLW is making slow but steady progress (yeah steady-slow maybe but steady, never).

Al Boord is back on board after going several rounds with his doctor and Edmond Memorial Hospital, and some time in intensive care. We were worried about him for awhile but then we heard that he wanted his talkie at the hospital so we figured he must be getting better. Good to here that you are up and around again Al.

The Bryant Square Operation went off smoothly thanks to WD5HXX, WD5FHR, WA5BQX, WA5ZGN, WD5IDB & KB5RR with assists from WA5ZLW and WA5GOI.



NEXT MEETING: Well Dee, WD5FHR, has come up with another potential winner for the June meeting. The program will be a presentation on antennas by Ben Allen, K5IRO, who is considered something of an expert on the subject.

THE TALE OF THE GOOD SAMARITAN

Once upon a time (isn't that the way all good tales start?) there was a poor unsuspecting EARS member happily tooling his way along Edmond streets on his way to a mission of service and goodwill. Now it happens that this tooling along, as it were, was occurring on the Thursday evening of the great rains, and our happy EARS member received a call suggesting that there were citizens in need on one of Edmond's rain soaked streets. Specifically, they were stuck in the mud which once passed for someone's frontyard. When our Good Samaritan arrived he found that they were not only stuck, they were down to the axles. This called for some more hardware so our Good Samaritan got on his handie little talkie and started looking for a stout chain. So far luck was with him. A fellow EARS member had such a chain and a third EARS member was available to deliver same. About this time Murphy struck his first blow -- said third party couldn't find our Good Samaritan. All this time the evening was deteriorating reapidly and both spirits and tempers began to suffer. However, the chain was duly delivered and our Good Samaritan proceeded to hook on to those in need and endeavor to extricate them from what had once been a nice lawn. In the meantime, our third party hustled on home to keep from getting a rolling pin alongside his head. Now Murphy applied his talents with a vengeance. The harder our Good Samaritan pulled, the deeper he and the needy ones became mired until finally with clutch smoking and composure almost stretched to the limit, our Good Samaritan ran out of gas. So our, by then, be-draggled and thoroughly soaked Samaritan took off for the house on shanks-mare after letting our nameless third party know (by talkie) what had happened. This brought said third party on the run to pick up the Samaritan and procede to acquire some gasoline. When they returned a wrecker had been summoned to the scene and about to extricate the needy ones from the lawn. Then much discussion ensued as to whether to dig out the Samaritan's pick-up or let the wrecker do it. The wrecker won out and before long a single deal had been struck to pull both vehicles out of the mud and before you could say "well I'll be !*?*", the Samaritan's pick-up and the needy one's auto were both back on the street. Whereupon the needy ones piled in their car and fled the scene, leaving the Samaritan and our third party to pay for the wrecker. Sure is hard to be a Good Samaritan these days. Who is the Samaritan? Who is the third party? Darned if I know, but that is the way the story was told to me.

THATS ALL FOLKS SK EARS DE KB5RR CL

The South Canadian Amateur Radio Society

EDITOR: Jess McKenzie, AF5X

329-1543

SCARS Field Day Plans Shaping Up

For Field Day -- otherwise known locally as the "Day of the Great Downpour," the South Canadian Amateur Radio Society will set up on the OU North Campus near the Red Cross building. The OU club will be an active partner.

Rosters for four operating positions are on display at the club station now. There are to be two phone positions, one CW station, and a novice/tech position. Rigs appear to be available. Among the items needed are a 15/40 novice dipole, lots of coax, extension cords, and ground rods and straps. This list will probably grow to 1,475 items later!

Reason for the sign-up rosters for the operating positions is to allow us to set up only as much equipment as we can operate. If members sign up to operate all the available space, another station will be added. Conversely, if we get into mid-June and show great glaring gaps on the signup rosters for what is planned, one station set-up may be eliminated to simplify setup and tear-down. So if you think you may operate with us, DO sign up for the hours you think you might take part.

AN ACTIVE AUDIO FILTER THAT REALLY WORKS (EQUIPMENT REVIEW)

Having been through home-brew (to NASA plans), MFJ and Autek audio filters, the undersigned approached the Datong FL1 filter with skepticism. Of the others, the Autek had been by far the best, quite useful in some situations. But it hadn't quite met the goal of really helping to pull the weak one out of the QRM, and was passed on to a pal who has had good results with it. Nevertheless, on-air comments of several DXers indicated real pleasure with the Datong, and hope doth spring eternal.

The "frequency-agile filter" by Datong goes for over \$200 now, so it is not an item you buy and casually discard. I am happy to report that initial uses indicate that it will be a permanent and most useful addition to the shack. It's a beautiful little piece of equipment, 8x3x5.5 inches, and can be run off a 9 v. battery or a good small supply with low ripple. When OFF or in STANDBY, signals go straight from speaker output to speaker, and a panel volume control lets you adjust things so there is no change when flicking it off or on. The two glass/epoxy circuit boards inside the ivory-colored cabinet are sturdy and as beautiful as any I've ever seen.

In effect, the Datong is an analogue computer programmed to generate the response of a critically coupled pair of tuned circuits. Bandwidth can be varied without affecting the passband gain, and the center frequency can be varied without affecting the bandwidth. Simultaneous bandpass and bandreject signals are generated, and switching determines which comes through.

In the AUTO mode, the Datong continuously sweeps from 280-3000Hz. If it "captures" a whistle, tuner-up or whatever in the passband, the sound is automatically cancelled. Imagine listening to a pileup and never again having to hear a tuner-up! The only way you know there's one there is that the "cancel" light glows on the Datong. So much for that kind of malicious QRM.

In the peak position, the filter is far more effective than any I have encountered for bringing a weak one out of the hash. Ringing is at a minimum in the peak/man mode even when the filter is being worked hard. These factors, along with switchable AFC, make it startlingly good on CW as well.

With its own 2 watt power amplifier, the Datong will drive a moose of a speaker if you're of a mind. The way the dollar has been going, it's a unit (British-made) that is likely to see further price increases. I'm glad I didn't wait.

-- WB5TZZ

FOR SALE -- 2-meter Tempo CL 146, 12 position, fully crystallized for local repeaters, Oklahoma City area. \$75. WB5QNK, Carl, 360-1819, Norman.



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President, A.R.N.S.

DUCKY DUCTING

There is no wind, the mild hazy sunny morning looks like there is an inversion. Two meter repeater frequencies are hopping with squelch tails and strange ID's. Everybody suddenly becomes a repeater DX hound - trying to see how many squelch tails can be counted. Since there is little more than bedlam, I switch to 52/52. Nothing! I'm sure I am putting out something, but no response.

Seems like 52/52 and other simplex frequencies would be good places to DX on. With low power and unfantastic antennas, we might work 100 miles with no repeaters. I am curious about what can be done on direct - somebody else please get on 52/52 next inversion. We could even use our rubber duckies for some interesting contacts and call it DUCKY DUCTING.

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

Do you need crystals? FM-25 holders, plug-in, four-stage tripler (X12) for transmit on 146.22, 147.72 and 147.81 MHz, fit Drake TR-22, Wilson Mk II & IV and Hy-Gain among others. Receive crystals for 10.7 MHz. mixers, single-stage tripler (plus 10.7 X 3) for 146.82 and 147.12 MHz fit Drake and Hy-Gain; and three-stage tripler (plus 10.7 X 9) for 147.21 to fit Wilsons, \$3.50 each, total \$21.00. 405)236-0368 Jim N5BEQ. Fundamentals are 12.185, 12.31, 12.3175, 45.3733, 45.4733 and 15.1677 MHz. respectively. Also fundamentals of 8.13667, 8.13833, 8.14667, 8.153, 8.1633, 12.161667 and 12.245 MHz in FM-25 plug-ins, also Jim.

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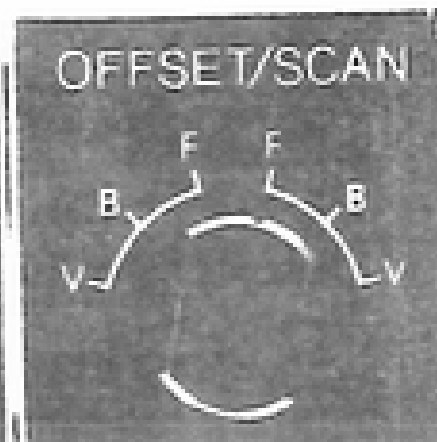
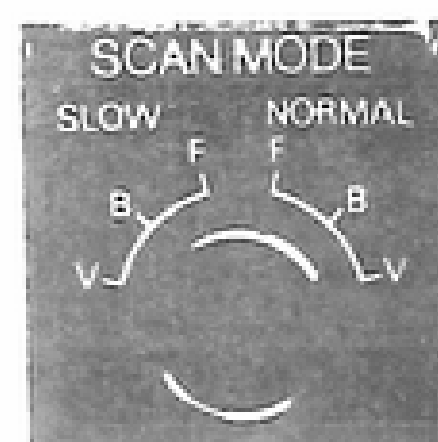
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Central Oklahoma Radio Amateurs

C.O.R.A. met for its regular monthly meeting on Tuesday, April 22, 1980, with 20 representatives and guests in attendance. After all general business matters were completed, reports on Ham Holiday were given. ALL LOOKS GOOD!!!

Remember, Ham Holiday is only two months away. Pre-register now--the form is available in this issue. We want to see you there. Everyone is working hard to provide an interesting and fun schedule of events. PLEASE NOTE: Although the flyers/registration forms do not state this, A FANTASTIC PROGRAM IS IN STORE FOR THE LADIES THIS YEAR. WE REGRET AND APOLOGIZE FOR THE DELETION OF THIS INFORMATION ON OUR FORMS. SO, PASS THE WORD--FUN, FUN, FUN FOR THE LADIES.

Kay, WD5DYJ, CORA SEC'Y.

MORI DINNER MEETING

**JUNE 3 FURR'S
FRENCH MKT
LADIES INVITED**

FIELD DAY '80

ATTENTION ALL '76ers

FIELD DAY '80

As we all know, Field Day 1980 is the last weekend in June. It is another known fact that ham radio operators need nourishment! I have been tagged as chairperson for the food and drinks, and I NEED HELP!!! The club will furnish the meat for charcoal hamburgers, but I need volunteers for all the fixins; buns, lettuce, tomatoes, pickles, onions, mustard, mayonnaise, chips, ice, ice chests, charcoal grills, etc. PLEASE NOTE: As in the past, we'll rely on everyone to bring cookies, cakes, beans, and/or anything else that sounds good to you. PLEASE, PLEASE, PLEASE CALL ME. I HAVE A LIST OF EVERYTHING I'LL NEED AND WILL BE ABLE TO GIVE EXACT QUANTITIES WHEN YOU CALL. MY PHONE IS 842-1086, after 5:30.

THANKS, KAY, WD5DYJ

FOR SALE-ICOM-THE PREMIUM NAME IN 2 METER FM GEAR-THE IC-21, WITH A MOSFET FRONT END AND 5 HELICAL FILTERS FOR VERY LOW "INTERMOD"-MODULAR CONSTRUCTION-SELECTABLE 1 OR 10 WATT OUTPUT WITH THE FINAL AMPLIFIER TUNEABLE FROM FRONT PANEL-VARIABLE MIKE GAIN-DISCRIMINATOR METER-RECEIVER INCREMENTAL TUNING-SWR METER-ETC. 24 CHANNEL CAPABILITY FROM 144 TO 148 MHz WITH CRYSTALS ALREADY INSTALLED FOR 146.01/61 04/64 07/67 13/73 16/76 22/82 25/85 28/88 34/94 37/97 46/46 52/52 58/58 144.48/48 144.60/60 145.20/20 145.32/32 AND STILL ROOM FOR 6 MORE PAIR. PLUS THE ICOM DV-21 (A PERFECT COMPANION FOR THE IC-21-AND IT CAN ALSO BE USED ON SOME OTHER ICOM MODELS), A PHASE LOCKED DIGITAL VFO THAT WILL SCAN THE ENTIRE 146 TO 148 REPEATER BAND IN 10 KHz STEPS (WITH OR WITHOUT 5 KHz OFFSET) STOPPING AT YOUR CHOICE OF EITHER EMPTY CHANNELS OR BUSY ONES. COMPLETELY SEPERATE SELECTION OF TRANSMIT AND RECEIVE FREQUENCIES BY JUST TOUCHING THE KEYS. LARGE LEDs DISPLAYS BOTH TRANSMIT AND RECEIVE FREQUENCIES. ALSO THERE ARE 2 PROGRAMABLE MEMORIES. BOTH UNITS HAVE COMPLETE AC POWER SUPPLIES BUILT IN AND DC POWER CORDS TO OPERATE ON 12 VOLTS-WITH MANUALS-IF YOU REALLY WANT A GOOD RIG, YOU SHOULD SEE THIS.--ALL THE ABOVE FOR \$300 JOE-WB5TDW 685-4814 AFTER 6PM.

See individual club sections for times, places & details.

JUNE HAM HAPPENINGS						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
WHEATSTRAW 1	EDMOND CLUB TRI-CITY 2	MORI GREAT PLAINS 3	4	5	ACARC 6	DALLAS HAM COMM: 7
CU @ DALLAS HAM COMM 8	CHOCTAW A.F. MARS 9	76ers O.V. SHAWNEE 10	11	ALTUS 12	13	14
EARS FATHERS' DAY 15	ARES 16	AUTOPATCH 17	18	ATVES KAY COUNTY 19	VHF 20	SCARS EDIT C+E 21
try a cw net today 22	23	CORA SHAWNEE 24	25	26	GL on Field Day → 27	ALL CORA MAILS C+E 28
try a phone net today 29	30	" HAVE YOU PRE-REGISTERED FOR HAM HOLIDAY '80 ? " }				---

CORA (EVERYONE) MAILS THE HAM HOLIDAY ISSUE ON FIELD DAY - 28 JUNE - NEED 30 PEOPLE JE WASHAF

Can you wear SOFT CONTACT LENSES?

This summer enjoy the freedom from eyeglasses that comfortable, soft contact lenses provide.

Find out if you can wear soft contact lenses. Just drop by for a *free computer analysis* using our System 6600 Autorefractor.

If the signs are right, we'll place soft contact lenses on your eyes and make a further evaluation. Bring your written prescription if you wish. Patient normally gets lenses *IMMEDIATELY!*

Fee #1
Soft Lenses (Spherical) ... **\$139.95**
(Price does not include professional services of an examining optometrist or physician)

Fee #2
Disinfection System **30.00**
(Includes case and supplies)

Fee #3
Vision Exam **20.00**
(If patient has no written prescription)

Result
Grand Total **\$189.95**
(Bring written prescription - save fee #3)

"Doc" WA5CZN
840-1234
NO APPOINTMENT NECESSARY

Dr. Robert Goodhead
Optometrist, Inc.
2821 N.W. 57th St.



AND
**ARRL
STATE
CONVENTION**

LINCOLN PLAZA FORUM
4345 NORTH LINCOLN BLVD OKC

JULY 25-26-27

DEALER - EQUIPMENT DISPLAY
SEE THE LATEST EQUIPMENT AND MEET THE DEALERS

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

DOOR AWARDS GALORE

QCWA BREAKFAST~EYEBALL QSO'S
COME PREPARED TO SEE YOUR OLD & NEW FRIENDS

SUNDAY BANQUET & AWARDS DRAWING
GOOD FOOD - GOOD AWARDS

10,000 SQ FT FLEA MARKET

Free table to pre-registered
Hams. (Not commercial)

You must register. Pre-register \$5.00 for each person 12 years or older.
(\$6.00 at door) You must wear issued badge for entry to any function or
area. Children under 12 must be accompanied by a parent.

PRE REGISTRATION AWARD - ICOM 260

GRAND AWARD - YAESU FT 707

**LADIES
FULL-TIME
PROGRAMS**

PRE-REGISTRATION FOR OKLAHOMA HAM HOLIDAY '80 & STATE ARRL CONVENTION

Must be received by July 18, 1980 to be eligible for Icom 260. Tickets
will be held at registration desk. Send s.a.s.e. if confirmation wanted.

Name _____ Call _____
Street _____
City _____ State _____ ZIP _____
Others _____
Others _____

_____ Total pre-registrations	@ \$5.00	_____
_____ Sunday Banquet tickets	@ \$8.25	_____
_____ QCWA Breakfast tickets	@ \$6.00	_____
_____ (Tax and tip included.)	Total	_____

Reserve me a free Flea Market table (Must be claimed by 10:00 am) ☐
Check or money order only TO: CORA, P.O. Box 20118, Okla City OK 73120