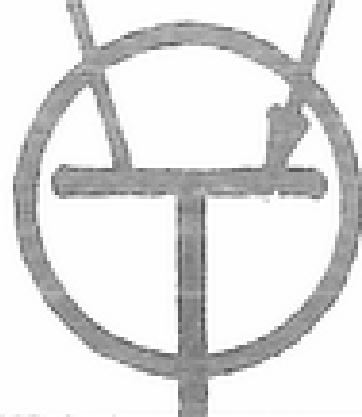


Central Oklahoma Radio Amateurs

COLLECTOR

EMITTER

AND



SINGLE COPY

25¢

SEPTEMBER 1976

Vol 2 No 20

AN INFORMATIVE MAGAZINE
PUBLISHED MONTHLY BY AND
FOR OKLAHOMA RADIO
AMATEURS

AND ANYONE INTERESTED IN
LEARNING ABOUT IT



You can't see the #853 on the ARRL sponsored Bicentennial Worked All States Certificate held by H. O. Townsend, WA5mlt/AA5MLT above, but it attests to the fact that he stood in line that long to WAS during the Bicentennial year. The number of awards has about doubled that now. H. O. worked his last state in late April but it took a while to get the QSLs and get them to ARRL. 45 contacts on 75 and 5 on 20 did it.

Central Oklahoma Radio Amateurs

COLLECTOR AND EMITTER

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AT OKLAHOMA CITY OK

Managing Editor Joe Harding, WA5ZNF 737-1044

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

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PARTICIPATING CLUBS FOR CORA COLLECTOR & EMITTER:

AERONAUTICAL CENTER AMATEUR RADIO CLUB
Postal Station 18, Okla City OK 73169

Meets: 8:00 PM First Friday each month
Flight Standards Bldg, FAA Aero Center
Club Station W5PAA

Pres Al Prince WB5KCU 789-1160
V-P Bill Hulse W5UGZ 376-2125
Sec/Tr Bill Oliver K5KDR 329-6333

MID-OKLAHOMA REPEATOR

Meets: 8:00 PM Tuesday of first full week
in month. Okla City EOC 4600 N Eastern
WR5AJP 34/94 WR5ADF 07/67

Pres H. O. Townsend WA5MLT 329-4426
V-P Chet Hazlewood W5GDL 427-1439
Sec/Tr John Huckaby K5QDR 672-4706
DUES: Sid Gerber, 829 E Bouse MWC 73110

OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB
202 W Boyd, Room 219, Norman OK 73069

Meets: 7:30 PM Alternate Tuesday STUDENT
UNION Rm 161 (W5TC WR5AFW 146.28/88)

Pres Paul Thompson WB5EEY 321-6265
V-P Wayne Smith WB5FEX 325-6391
Sec James Koerner WA5JTJ 634-3713
Treas Mike Salem WA5EPK 321-5453

OKLAHOMA CENTRAL VHF AMATEUR RADIO CLUB
323 NW 10th, Okla City OK 73169

Meets: 8:00 PM third Friday each month.
American Red Cross Bldg 10th & Hudson
Club Station W5LOW

Pres Tom Stinson W5OZE 942-3714
V-P Ken Ford WB5KHU 528-8770
Sec Joe Buswell WA5TRS 732-0676
Treas Ellard Foster W5KE 789-6702

OKLA CITY AUTOPATCH ASSOCIATION

Meets: 7:30 PM 3rd Tuesday, Bi-Monthly,
Oklahoma Military Academy 36th & Grand
WR5ACB 22/82 147.81/21

Pres Frank McCollom WB5JBL 751-3577
V-P Larry Dillard WB5CWB 685-4065
Sec/Tr Jim Denman WB5EOL 681-6048
7705 S Charlotte Dr OKC 73159

EDMOND AMATEUR RADIO CLUB

Meets: 10:00 AM first Saturday of odd
numbered month, 3220 N. Santa Fe (GE)
WR5AHG 147.63/03

Pres Larry Dillard WB5CWB 685-4065
V-P Bart Wortham WA5JUJ 531-9536
Sec/Tr W. H. Thompson W5UVI 348-1475



REPORT OF THE AUGUST MEETING

JUNE 22, 1976 EXECUTIVE COMMITTEE MEETING MET TO REVIEW CHARGES OF CONDUCT AGAINST K5CFM, TONY MERRITT. K5CE, WB5JBL, K5PJU, WB5CWB, and WA5ETV.

ALL CHARGES OF CONDUCT WERE REVIEWED.

1. UNDERMINING RELATIONS OF CLUB WITH KWTU.
2. CAUSING EQUIPMENT TO BE REMOVED FROM KWTU.
3. CONVERTED CLUB EQUIPMENT FOR HIS PERSONAL USE.
4. MALICIOUS INTERFERENCE WITH MEMBERS.
5. MALICIOUS INTERFERENCE WITH REPEATER DURING WEATHER NET.

K5CFM'S RESIGNATION WAS ASKED FOR AND RECEIVED. W5N2S TALKED TO THE POLICE DEPARTMENT ABOUT OUR PARTICIPATION BY USING AN ASSIGNED CALL TO IDENTIFY THE CLUB, RATHER THAN USING INDIVIDUAL CALLS SIMILAR TO REACT. WA5TRS MET WITH INSTRUCTORS AT RED CROSS TO DISCUSS AMATEUR RADIO SCHOOL WHICH WILL BEGIN ON SEPTEMBER 20, 1976. CURRENT LOCATIONS ARE TO BE AT BETHANY, MIDWEST CITY, NORMAN AND WILL ROGERS MORE LOCATIONS SUCH AS YUKON, GUTHRIE AND EDMOND MAY BE USED IF THERE IS SUFFICIENT INTEREST. WA5CZN REPORTED ON OUR PARTICIPATION IN REGISTRATION OF HAM HOLIDAY ATTENDEES. WB5PTQ AND K5URJ HELPED OUT BOTH DAYS. HOBE BURGAN REPORTED THAT CORA HAS WORKED VERY HARD TO PUT ON THE HAM HOLIDAY. AT THIS TIME CORA HAS DECLINED TO SPONSOR FIELD DAY.

K5PJU REPORTED THAT 81-21 IS NOW ON WITH THE QUTOPATCH AND IS EQUAL TO THE 22-82 ON RECEIVE AND TRANSMIT. AUDIO IS NOT UP TO DESIRED LEVEL OR QUALITY, BUT WILL BE CORRECTED SHORTLY.

WB5ISN REPORTED THAT 146.01-61 HAS BEEN CROSSBANDDED WITH THE SIX METER REPEATER. EXPERIMENTATION WITH THE ANTENNAS WILL HAVE TO BE CORRECTED. FUTHER LINKING WILL BE CONSIDERED.

OUT OF TOWN AMATEURS HAVE COMPLAINED ABOUT OUR SHORT SQUELCH TAIL.

WA5ETV REPORTED THAT THE 450 MACHINE HAS PASSED AWAY, BUT THAT HE WILL BE REPAIRING IT SHORTLY AND LINKING 22-82 WITH IT. A GE MASTER PRO RECEIVER HAS BEEN ORDERED.

NO OLD BUSINESS.

JACQUES DELIER OF KWTU HAS WRITTEN A LETTER OF APPRECIATION TO THE AMATEURS CONCERNING THE SEVERE WEATHER NET. HE HOPES THAT OUR PARTICIPATION WILL CONTINUE FOR YEARS TO COME.

WB5MLN HOBE BURGAN REPORTED THAT THE TORNADO AT SHAWNEE WHICH WAS SPOTTED BY WA5ETV WAS PUT ON THE AIR IN 22 SECONDS. AS WE HAVE NOT HAD MUCH SEVERE WEATHER THIS YEAR, SOME PEOPLE ARE A LITTLE TRIGGER HAPPY EVEN WHEN THERE IS NO DANGER PRESENT. THE 10:00 O'CLOCK NEWS DID A SPECIAL ON WA5ETV AND THE SHAWNEE TORNADO.

WB5MLN HOBE AND WB5NYR BOB ARE THE PERATORS AUTHORIZED TO BE AT KWTU. K2GKK MAC IS NET CONTROL AND HANDLES ALL OFF PREMISES TRAFFIC DURING A NET.

WA5CZN WILL SET UP A TOUR OF THE NATIONAL WEATHER BUREAU DURING ONE OF THE CLUB MEETINGS.

WB5ISO SUGGESTED THAT A TONE OR SOMETHING BE PLACED ON THE AIR TO IDENTIFY THAT A NET IS IN PROGRESS. THIS WILL BE LOOKED INTO AND REPORTED ON AT THE NEXT MEETING.

K5URJ MADE A MOTION THAT ANY PERSON HAVING BEEN REMOVED FROM ANY CLUB MUST BE APPROVED BY THE EXECUTIVE COMMITTEE AND A MAJORITY OF

WB5KDC, WB5ADN, WB5ISN NOMINATING COMMITTEE FOR CLUB OFFICERS,
PRESIDENT WA5ETV GARY MCCORMICK, VICE PRESIDENT WA5TKS GUY LIEBMANN
SECRETARY/TREASURER WB5EOL JIM DENMAN.

K5PJU MADE A MOTION THAT THE OFFICERS BE ACCEPTED BY ACCLAMATION. WB5CWB SECOND, MOTION CARRIED. WA5ZNQ ASKED FOR A ROUND OF APPLAUSE FOR THE WORK DONE BY THE PAST OFFICERS.

WA5ETV DISCUSSED HIS PLANS FOR COMMING YEAR. WEATHER NET, PUBLIC RELATIONS ETC.

WB5ISN SUGGESTED A PICNIC FOR THE CLUB TO BE HELD SEPTEMBER 11 AT 5:00P.M. THE PLACE IT IS TO BE HELD IS TROSPER PARK LOCATED AT 29th and EASTERN.

WA5TRS REPORTED THAT ON SEPTEMBER 14, 1976, A MEETING ON THE INTRUDERS WILL BE HELD. THE TELEPHONE COMMITTEE NEEDS TO NOTIFY AMATEURS OF THE TIME AND PLACE.

RESPECTFULLY SUBMITTED.

JIM DENMAN, WB5EOL

TO ALL AUTOPATCH MEMBERS:

AS OUT GOING PRESIDENT AFTER 2 YEARS I WANT TO TAKE THIS OPPORTUNITY TO THANK THOSE OF YOU WHO WERE ALWAYS WILLING WHEN ASKED TO HELP. I REALY DO APPRECIATE IT AND WANT YOU TO KNOW IT. ALSO THE SUPPORT THAT MOST MEMBERS GAVE TO THE PROGRAM THAT I STARTED IN THE BEGINING. I THINK WE ARE A LOT FARTHER DOWN THE ROAD TOWARDS HAVING A CLUB WHICH REPRESENTS ALL THE MEMBERS AND WE NOW HAVE A FULL ACCOUNTABILITY FOR FUNDS AND EQUIPMENT. SO THANKS AGAIN AND LETS ALL GIVE THE NEW OFFICERS THE HELP THEY WILL NEED IN THE COMMING YEAR 73's WB5JBL FRANK

WATCH FOR FRANKS NEW COLUM ON THE HIGH FREOUENCY SPECTRUM

THEY'LL DO IT EVERY TIME - - - - - **By Jimmy Hatlo**



THE OKLAHOMA CW TRAFFIC NET
OLZ NEWSLETTER

AUGUST 12 1976

THE OLZ CW TRAFFIC NET MEETS DAILY ON 3682.5 KHZ AT 7:00 PM. ALL STATIONS ARE INVITED TO CHECK-IN! THE NET HAD 217 CHECK-INS IN JULY AND HANDLED SIXTY ONE MESSAGES.

KIM ELMORE, WB5CLC, FROM TULSA IS OUR NEW NET CONTROL STATION FOR TUESDAY NIGHT. WE WELCOME KIM TO THE NET AND ARE PLEASED TO HAVE A NET CONTROL FROM THAT AREA.

I ENJOYED THE HAM HOLIDAY AND GOT TO EYE-BALL MANY FOLKS THAT WERE ONLY A CALL SIGN PREVIOUSLY.

OUR CHECK-INS FOR JULY WERE AS FOLLOWS:

WSADC . . . REEDY . . .	.13	WB5NKC . . . ARLEY . . .	1
WSBYC . . . ED . . .	7	WB5NKD . . . PAT . . .	.14
WB5EAY . . . FAY . . .	.20	WB5NXO . . . BILL . . .	.31
W5FW . . . DICK . . .	2	WA5OGC . . . OLIVER . . .	.18
WB5HQX . . . MIKE . . .	6	WB5OYU . . . TED . . .	.10
WA5JGU . . . CHAS . . .	.12	WB5PVL . . . PHIL . . .	.17
WB5KGP . . . KEVIN . . .	.26	W5RB . . . GIL . . .	.25
K5JGZ . . . LEE . . .	1	WB5RLR . . . DAVE . . .	1
K5CPZ . . . CAROL . . .	3	WB5KVQ . . . DICK . . .	5
K5ZDB . . . WALT . . .	1	WB5CLC . . . KIM . . .	3

NET STATIONS SHOULD COMPLETE THEIR TUNE UP BEFORE THE NET CONTROL STATION SENDS THE NET CALL-UP AT 7:00 PM. SOME HAVE BEEN A LITTLE CARELESS ABOUT THIS.

OPERATORS WISHING TO OPERATE FASTER THAN THE STATE NET SPEED CAN VOLUNTEER TO THE NET MANAGER FOR AN RN5 LIAISON SPOT. OPERATOR S WISHING TO OPERATE AT A MORE MODERATE SPEED MIGHT TRY THE OAN NET ON 3705 KHZ AT 6:30 PM.

THE OLZ NET CAN HANDLE TRAFFIC FOR THE UNITED STATES, CANADA AND FOREIGN POSSESSIONS OF THE US. MOST OVERSEAS TRAFFIC IS HANDLED THROUGH THE EASTERN AREA AND PACIFIC AREA NETS WHO GENERALLY RE-FILE IT THROUGH MARS.

THANKS TO ALL NET MEMBERS FOR YOUR PARTICIPATION AND COOPERATION. SEVENTY THREE AND GOOD LUCK TO ALL! HAROLD A GILBERTSON W5RB.
OLZ NET MANAGER

GET WELL ROY

Our West Gulf Division Director, Roy Albright, W5EYB, is in the Brooks Army Medical Center, Coronary Care Unit for observation. This was announced on the OPEN net Sunday 8/22/76. No information on his condition was available. The hospital address is Beech Pavilion, Building 2376, Fort Sam Houston, Texas 78234. His home address is 107 Rosemary, San Antonio, Texas 78209. Drop Roy a get well card. Roy our prayers and best wishes for a speedy recovery are with you.

W5HXL

OKLAHOMA CITY POLICE MOVE FAST TO RECOVER AN ATLAS

The evening before HAM HOLIDAY Gordon Short, W5UCJ, of Tulsa, went to dine at a northwest Okla City restaurant and while he was enjoying the meal and the eyeballing some #&*\$\$# stole his Atlas 210 and a SWR bridge from his car. He reported it to the police and in a few hours they asked him to come down and see if he could identify one they had. Sure enough he could. The SWR bridge had a plastic case and one corner was broken off during the rip off and Gordon had the piece in his pocket. It fit perfectly. Positive evidence. Nice work by the Oklahoma City Police Department. TNX.

ITEMS FOR SALE, TRADE OR WHAT HAVE YOU, BY CORA MEMBERS:

SWAN 350 SSB transceiver w/117XC power supply, 14X mobile powersupply all cables, mike & manual. New finals. \$310. Robbie Reid ph 329-0735.

TEMPO VHF talkie, 2 watt, 5 sets crystals, home built charger. Jack Cobb ph 364-2092

IC-21. 14 sets crystals. Wendell Cochran, WB5ISO, ph 943-4308.

HT-220 Dennis Orcutt, WB5ISN. ph 341-4200.

TR-2200 (Jap TR-22) 5 OKC area crystals. Also 5" Heathkit scope. John Prather 8-4:30 ph 236-1313 ext 6037 after 5 ph 789-0565.

HT-200 Motorola crystallised for 449.1/444.1. Bset of the 20. Don, WA5taw ph 733-3044.

Standard W/T fully crystallised w/extras. Sell or trade for low band transceiver. Carl, WB5QNK ph 360-1819.

FOR SALE: TR-22 with 34/94, 76/94, 52/52, 07/67 and 22/82. Mint condition \$175. Also, Heathkit 2'R with 145.1 MHz crystal \$25

Bob W5HXL 942-5375

FOR SALE TR 22 WITH MOBILE MOUNT. XTALS FOR 34/94, 94/94, 22/82, 07/67, 16/76, 52/52. \$175.00 MOTOROLA VHF HT-200 HANDIE-TALKIE WITH BATTERY AND ANTENNA, 34/94, \$125.00. ALSO, UHF HT-200 ON 449.1/444.1 WITH ANTENNA AND BATTERY, \$165.00. WAYNE, WA5A0B 732-1870

FOR SALE OR TRADE IRVING ELECTRONICS TRANSVERTER. GET ON 50 MHz WITH A 14 MHz EXCITER. HAS 6146 IN THE FINAL. PAT AB5JYK 943 3219

INDECAL

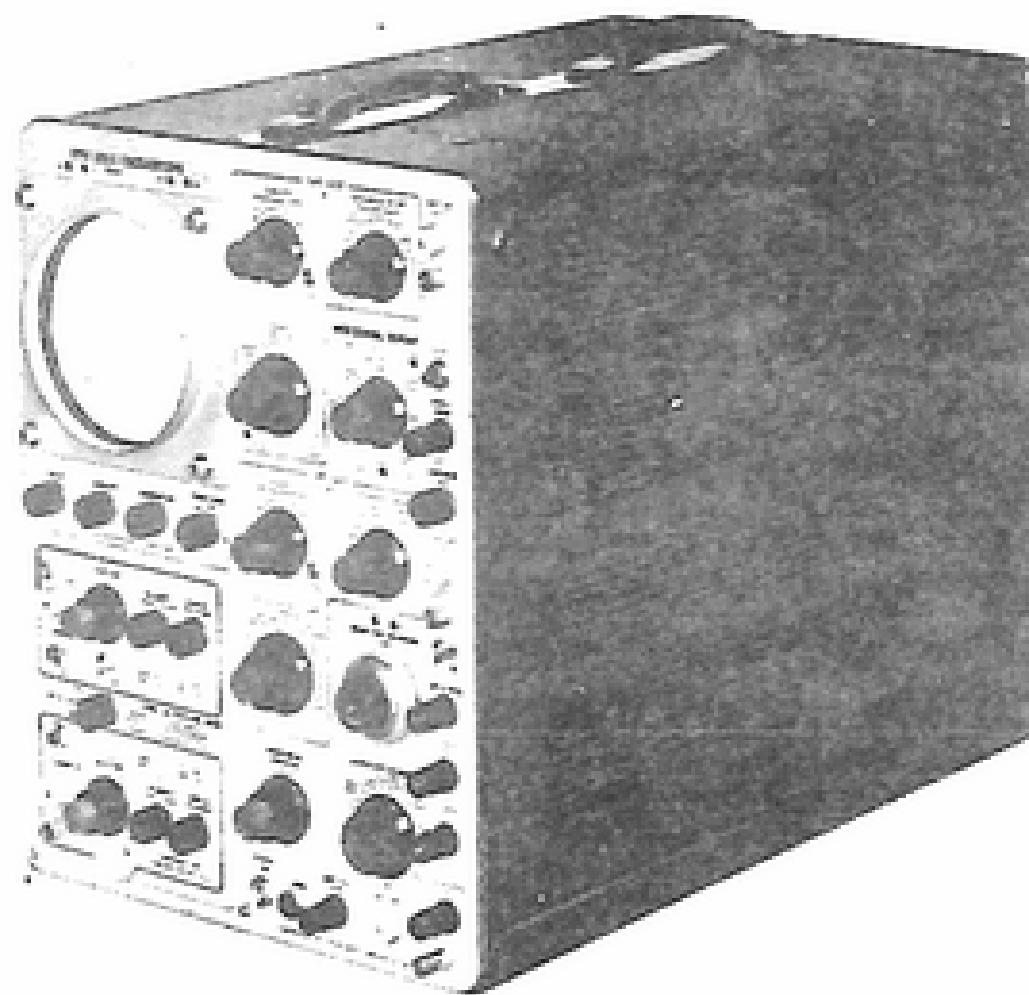
ANNOUNCES THE SALE OF
RECONDITIONED

TEKTRONIX OSCILLOSCOPES
545A 535A 585 w/type 81 adapter

HP200CD SIGNAL GENERATOR

Call James Jones at 947-1951 OKC

INDECAL PROVIDES TEST EQUIPMENT
REPAIR AND CALIBRATION SERVICE





Club NEWS

W5LOV
The Elmer Goodier Memorial
Station

MINUTES OF AUGUST MEETING

THE REGULARLY SCHEDULED MEETING FOR THIS MONTH WAS REPLACED BY A WATERMELON FEED AT WILL ROGERS PARK. THE AERONAUTICAL CENTER CLUB JOINED OUR CLUB IN CONSUMING GREAT QUANTITIES OF THE RED AND GREEN FRUIT AND A GOOD TIME WAS HAD BY ALL. JOE, WA5TRS, SEC'Y

LICENSE CLASSES

A MEETING WAS HELD AUGUST 12 AMONG VOLUNTEERS WHO ARE GOING TO HOLD LICENSE CLASSES THIS FALL. AT THIS TIME, SPECIFIC LOCATIONS AREN'T PINNED DOWN. THERE WILL BE CLASSES FOR NOVICE AND GENERAL AT NORTHWEST AND SOUTHWEST OKLAHOMA CITY, MIDWEST CITY, NORMAN AND YUKON. THE FIRST CLASS WILL BE HELD DURING THE WEEK OF SEPT. 20, THE SPECIFIC NIGHT BEING AT THE CONVENIENCE OF THE INSTRUCTORS.

NOTICES WILL BE PREPARED SHORTLY AND WILL INFORM APPLICANTS THAT THEY SHOULD CONTACT SOMEONE IN THEIR RESPECTIVE PARTS OF TOWN FOR INFORMATION. STUDENTS WILL HAVE TO ENROLL BY TELEPHONE AND WILL HAVE TO PUT UP THE REGULAR \$4.00 GOOD FAITH MONEY WHEN THEY COME TO CLASS. THIS YEAR THE CLASSES WON'T DEVOTE ANY TIME FOR CODE PRACTICE, THOUGH THEY WILL ADVISE ON HOW TO LEARN CODE AND WILL TEACH GOOD OPERATING PRACTICE. PERIODICALLY, THERE WILL BE TESTS GIVEN TO LEARN HOW STUDENTS ARE PROGRESSING.

THE FOLLOWING PEOPLE ARE SERVING AS CONTACTS FOR INFORMATION AND TAKING APPLICANTS FOR CLASSES:

NORTHWEST OKC	FRANK WB5JBL DON WB5NIY	751-3577 787-7174
SOUTHWEST OKC (ANG)	COY K5LMG	691-1194
MIDWEST CITY	FRED K5HFN JOE WA5TRS	737-8784 732-0676
NORMAN	JERRY W5MCJ	329-0262
YUKON	ALAN WB5NER	354-6520

A REVIEW OF THE RESPONSE ABOUT A WEEK BEFORE CLASSES START MIGHT INDICATE NEED FOR ADDITIONAL CLASSES. AT THIS POINT IT LOOKS LIKE WE HAVE A GOOD PROGRAM STARTED. JOE WA5TRS

NEW SUB-HARMONIC

FRED, K5HFN, ANNOUNCED THE ARRIVAL OF A NEW GRANDSON, STEPHEN, BORN AUGUST 16 TO HIS DAUGHTER, DEE. SEVEN POUNDS, FOUR OUNCES, TWENTY TWO INCHES LONG, ALREADY KNOWS 'DI-DAH...A'.

RADIO DIRECTION FINDING - TECHNICAL ASPECTS

THIS ARTICLE IS THE FIRST OF A TWO-PART SERIES ON RADIO DIRECTION FINDING (RDF). THE FIRST PART DISCUSSES SOME DIRECTIONAL ANTENNAS AND THEIR USE. THE SECOND PART, TO BE PUBLISHED NEXT MONTH, WILL DESCRIBE ELECTRONICALLY SWITCHED ANTENNAS AND AUTOMATIC RDF EQUIPMENT. OPERATION OF THE CIRCUIT PUBLISHED IN LAST MONTH'S C & E WILL BE EXPLAINED NEXT MONTH.

AS ANYONE WHO HAS BEEN ON A TRANSMITTER HUNT KNOWS, AND ANYONE WHO HAS THOUGHT ABOUT IT, SUPPOSES, CERTAIN SPECIALIZED EQUIPMENT IS NECESSARY TO LOCATE A SOURCE OF RF ENERGY. THE SIMPLEST IS A FIELD STRENGTH METER, THE MOST SOPHISTICATED IS AN ELECTRONICALLY SWITCHED PHASED ANTENNA ARRAY AND RECEIVER THAT AUTOMATICALLY INDICATES DIRECTION TO THE SIGNAL SOURCE. LAST MONTH'S C & E HAD AN EXAMPLE OF THE LATTER. IT SEEMS APPROPRIATE TO COVER SOME OF THESE SYSTEMS AND SPUR A LITTLE EQUIPMENT BUILDING AND EXPERIMENTATION.

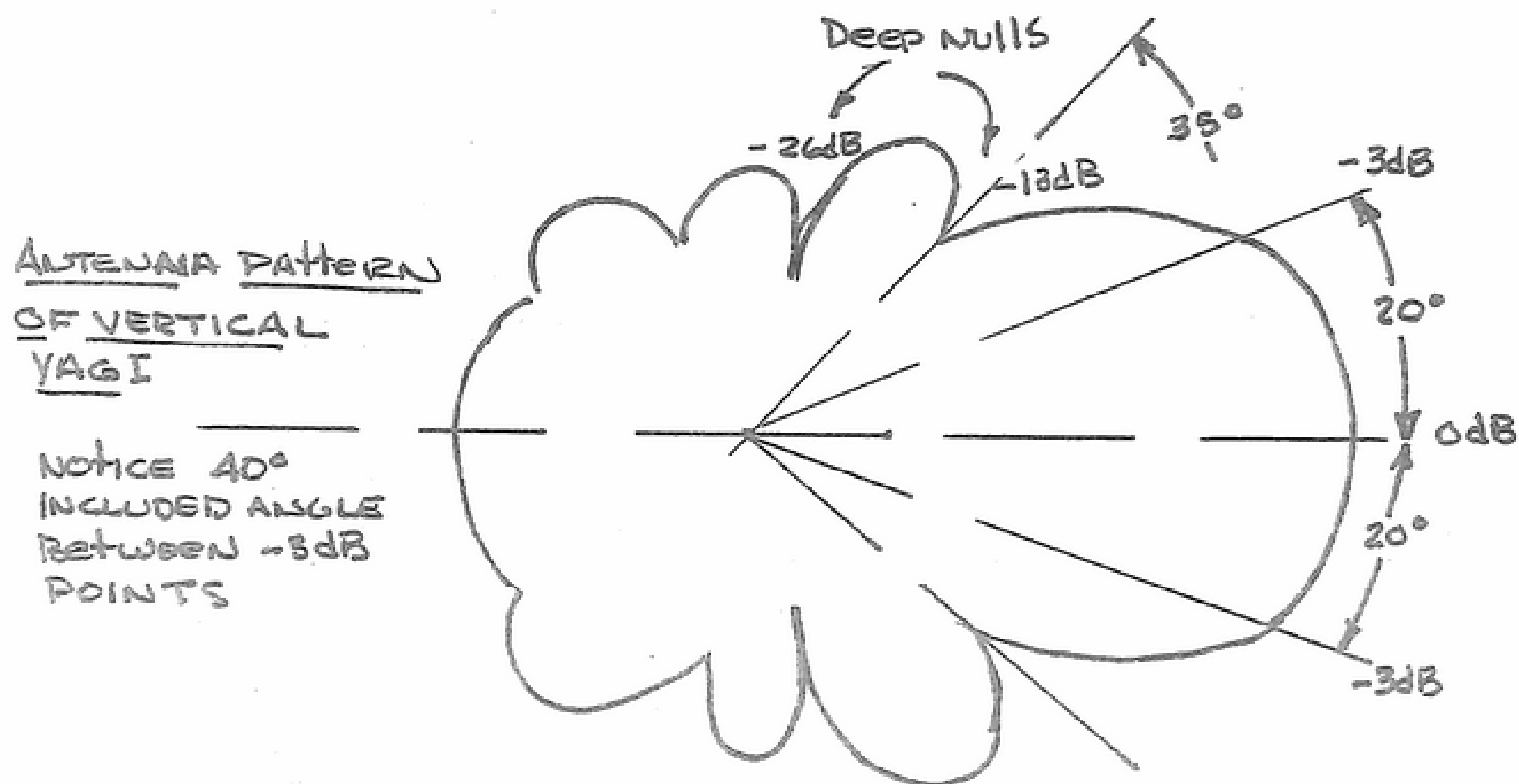


WSLOW
The Elmer Gooder Memorial
Station

LET'S START WITH THE SIMPLEST TOOL OF RDF, THE FIELD STRENGTH METER. THE "S" METER, OR EVEN THE SQUELCH CONTROL ON A RECEIVER, OR YOUR EAR, CAN BE USED TO GAIN SOME KNOWLEDGE OF THE LOCATION OF A SIGNAL SOURCE. FIELD STRENGTH (VOLTAGE PER METER, ETC.) DECREASES AS A STRAIGHT LINE FUNCTION OF THE INCREASE IN DISTANCE FROM A TRANSMITTER. IF THE RDF IS VERY FAR AWAY FROM THE SOURCE, AMPLIFICATION OF THE SIGNAL WILL BE NECESSARY TO GET A USABLE INDICATION OF FIELD STRENGTH. WHEN VERY CLOSE TO THE SIGNAL, A DIODE DETECTOR MAY BE USEFUL, AND PERHAPS EVEN NECESSARY, IF THE SIGNAL IS SO STRONG THAT THE RECEIVER IS OVERLOADED, OR IN THE CASE OF AN FM RECEIVER, SATURATED. I HAVE NOT BUILT A FIELD STRENGTH METER SO I WILL REFER YOU TO THE HANDBOOK FOR THAT PROJECT. A CIRCUIT WHICH CAN BE USED TO AMPLIFY THE RF BEFORE DETECTING (RECTIFYING) IT CAN BE GLEANED FROM THE AMPLIFIED LOOP DESCRIBED BELOW. IT HAS NO VOLTAGE GAIN BUT IF THE PICK-UP ANTENNA IS TUNED TO RESONANCE, THE VOLTAGE ON THE ANTENNA MAY BE GREAT ENOUGH TO OBTAIN A USABLE INDICATION ON A METER.

MEASURING FIELD STRENGTH WILL GIVE SOME USEFUL INFORMATION IN TERMS OF RELATIVE DISTANCE TO THE SIGNAL SOURCE BUT MUCH MORE SATISFACTORY RESULTS CAN BE GAINED BY USING A DIRECTIONAL ANTENNA AND LEARNING THE DIRECTION (AZMUTH) TO THE SOURCE. A DIRECTIONAL BEAM ANTENNA CAN GIVE A VERY ACCURATE AZMUTH IF CALIBRATED AND USED PROPERLY, IF THE SIGNAL SOURCE REMAINS RELATIVELY CONSTANT IN STRENGTH. AT THIS POINT, I WILL LIMIT THE SCOPE OF THIS DISCUSSION TO TWO METER FM APPLICATIONS.

A TYPICAL BEAM ANTENNA, A SINGLE YAGI, VERTICALLY POLARIZED, HAS A PATTERN WHICH HAS A FAIRLY BROAD FRONT LOBE. IT IS NECESSARY TO ROTATE THE ANTENNA SO THAT THE SIGNAL LEVEL DROPS SOME REFERENCE AMOUNT ON EACH SIDE OF THE CENTER OF THE MAIN LOBE. BISECTING THE ANGLE FORMED BY THESE TWO POINTS GIVES DIRECTION TO SOURCE. SEE ILLUSTRATION:



THE NULLS OF THE SIDE OF THE MAIN LOBE MAY BE USED TO FURTHER DETERMINE LOCATION TO THE SIGNAL SOURCE. THESE NULLS ARE FAIRLY SHARP AND IF THE SIGNAL IS SUFFICIENTLY STRONG, A QUICKER MEASUREMENT OF DIRECTION MIGHT BE POSSIBLE USING A NULL AFTER THE GENERAL DIRECTION IS FOUND USING THE MAIN LOBE.

TO BE ANY GOOD FOR DIRECTION FINDING, CERTAIN CALIBRATION MUST FIRST BE DONE ON THE ANTENNA AND DIRECTION INDICATOR SYSTEM.



Club NEWS

WSLOW
The Elmer Goddard Memorial
Station

AT A TIME WHEN ONE OF THE REPEATERS IS GOING HOT AND HEAVY, ROTATE THE ANTENNA AND PLOT A CIRCULAR GRAPH OF "S" METER RESPONSE V.S. ANTENNA DIRECTION. IT WILL PROBABLY BE NECESSARY TO INSERT SOME KIND OF ATTENUATION BETWEEN THE ANTENNA AND RECEIVER. LACKING THAT, PICK ON A WEAK REPEATER OR GET SOMEONE TO WORK WITH YOU ON A DIRECT FREQUENCY. PICK A FRIEND WHO WON'T KEEP YOU GOING IN CIRCLES BY ROTATING HIS ANTENNA AT THE SAME TIME!

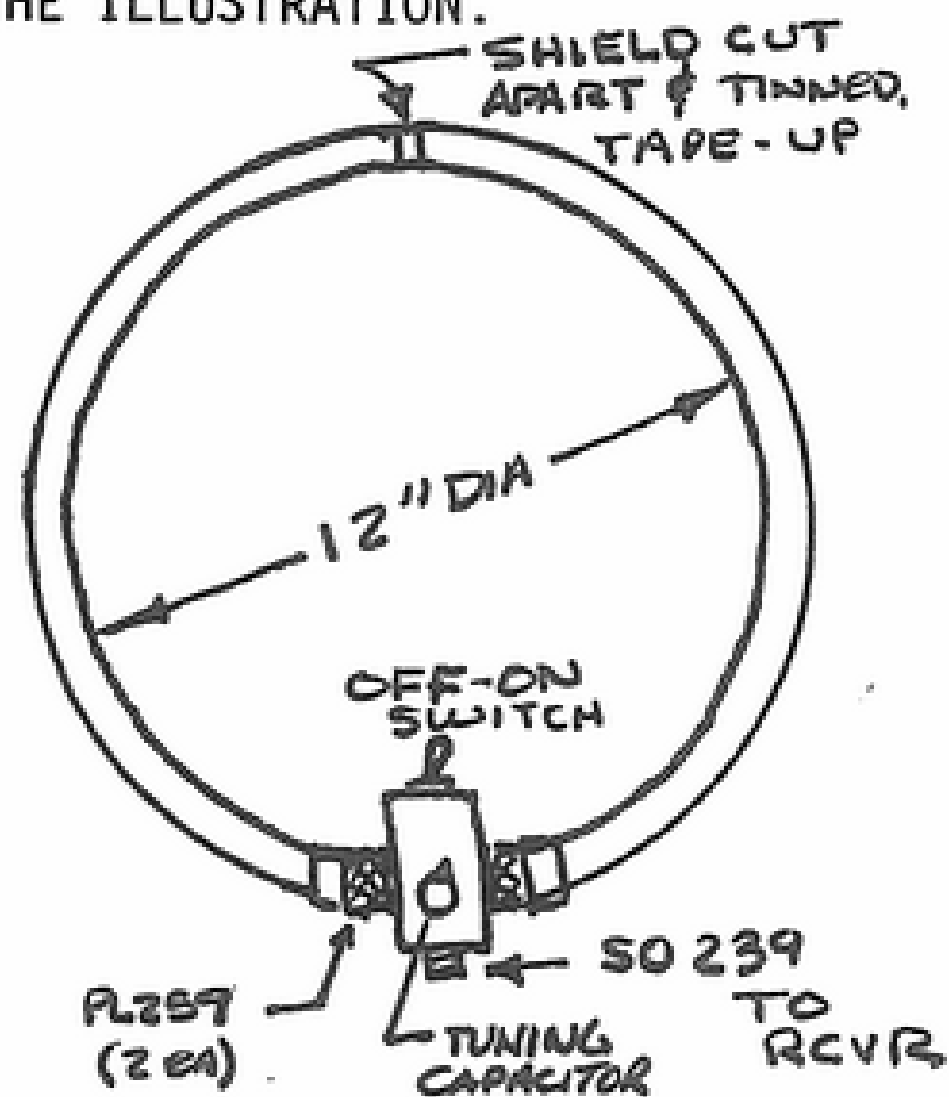
ONCE YOU HAVE PLOTTED THE PATTERN ON ONE SIGNAL, DO IT ON A SECOND SIGNAL IN ANOTHER DIRECTION TO SEE IF THE ANTENNA PATTERN DISTORTS FROM INFLUENCE OF NEARBY OBJECTS. IF THERE IS NEGLIGIBLE DISTORTION, THE PATTERNS SHOULD BE NEARLY THE SAME.

NEXT THING TO DO IS FIND OUT WHERE YOU ARE AND CALIBRATE YOUR DIRECTION INDICATOR. OBTAIN A MAP AND DRAW A LINE FROM YOUR LOCATION TO THE SIGNAL SOURCE(S) YOU USED, AND WITH A PROTRACTOR, MEASURE THE ANGLE FROM NORTH, CLOCKWISE, TO THE LINE YOU DREW. THIS ANGLE SHOULD AGREE WITH YOUR ANTENNA BEARING INDICATOR WHEN THE ANTENNA IS POINTED RIGHT AT THE SIGNAL. IF IT DOESN'T (AND IT PROBABLY WON'T) MAKE A NOTE OF THE CORRECTION FACTOR SUCH AS "ANTENNA IS 15° CLOCKWISE FROM INDICATOR" AND KEEP IT NEAR YOUR INDICATOR.

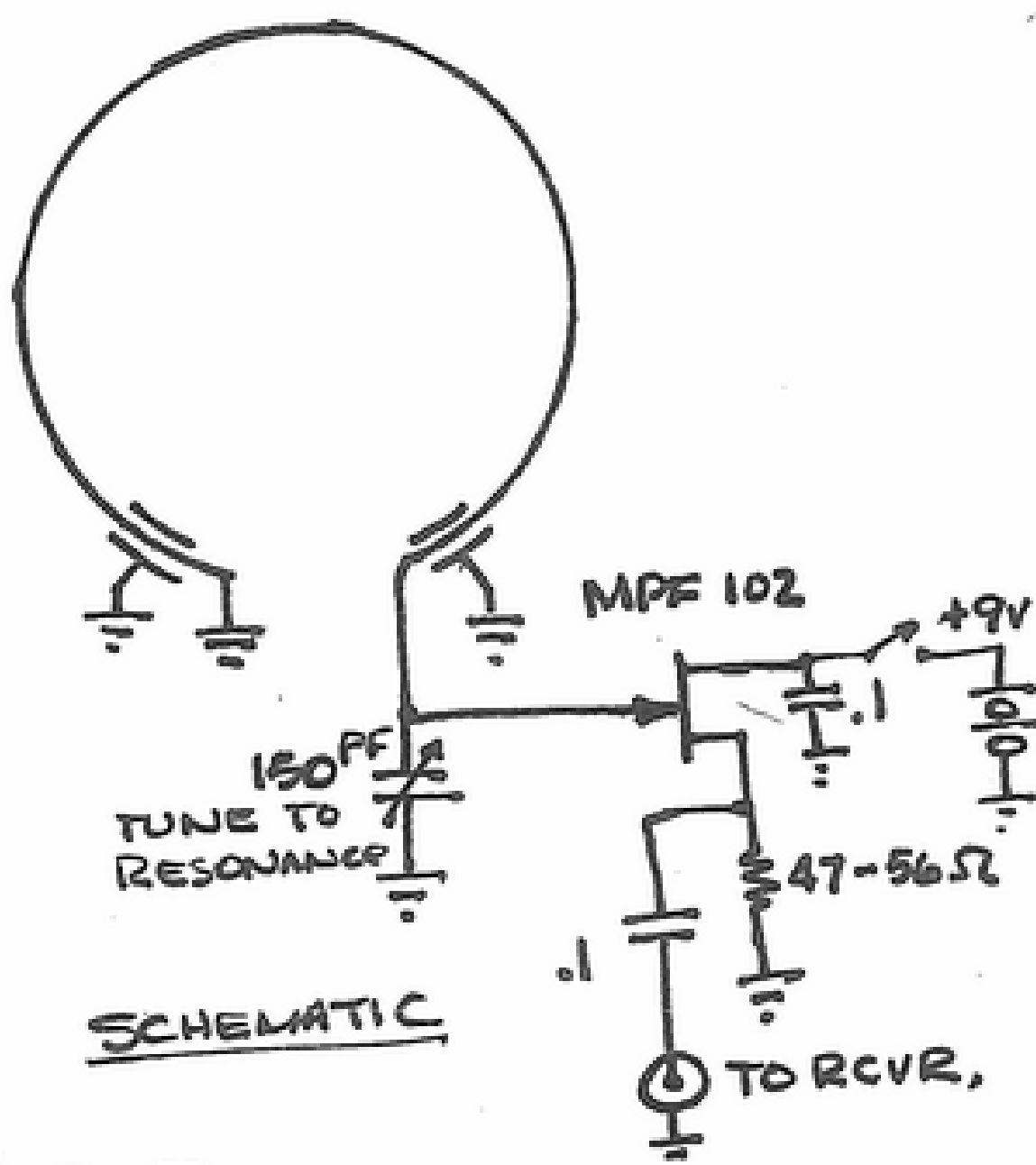
BECAUSE THE BEST INDICATOR MOST OF US HAVE IS ON A HAM-M, OR EQUIVALENT, THERE IS CERTAIN INHERENT INACCURACY CAUSED BY POTENTIOMETER STRIP IRREGULARITY AND POWER LINE VOLTAGE FLUCTUATIONS. IF, AFTER TAKING AZMUTH READING ON AN UNKNOWN SIGNAL, THE ANTENNA IS ROTATED IN THE SAME DIRECTION AND A READING TAKEN ON A REPEATER OR OTHER KNOWN REFERENCE POINT IN THE SAME QUADRANT, AN ACCURACY OF PERHAPS 5° IS POSSIBLE. ALL THIS IS PRETTY ACADEMIC WHEN YOU CONSIDER THAT THE UNKNOWN SIGNAL IS PROBABLY NOT GOING TO BE OF STEADY STRENGTH OR LONG DURATION ALLOWING ACCURATE MEASUREMENT OF AZMUTH. ON A RECENT BANDIT HUT, THE LOCATION WAS NARROWED DOWN TO APPROXIMATELY A ONE BY TWO MILE RECTANGULAR AREA BY TWO OPERATORS TAKING FIXES FROM TWO AND THIRTEEN MILES AWAY, RESPECTIVELY.

ONCE THE BANDIT HUNTER HAS BEEN SUFFICIENTLY PIQUED TO FIND OUT WHERE THE TRANSMITTER IS, HE NEEDS EQUIPMENT TO TAKE PORTABLE AND HERE IS WHERE THE HONORED LOOP COMES INTO PLAY. ALMOST ANYTHING WOULD WORK BETTER THAN A PIECE OF WIRE LYING ON THE DASH, RIGHT DOC? PORTABLE YAGI ANTENNAS WORK FINE BUT ARE A BIT CUMBERSOME. THE LOOP REQUIRES A FAIRLY SUBSTANTIAL SIGNAL TO WORK ON BUT ONCE THE AREA IS NARROWED DOWN, THE LOOP IS AS HANDY AND DURABLE AN ANTENNA AS ONE COULD FIND IN THE TRUNK (OR FOR 2M, IN THE GLOVE COMPARTMENT) OF HIS CAR.

THE LOOP I BUILT FOR USE ON HIGH FREQUENCY BANDS WAS MADE FROM RG-8 COAX AS SHOWN IN THE ILLUSTRATION.



MECHANICAL DETAILS

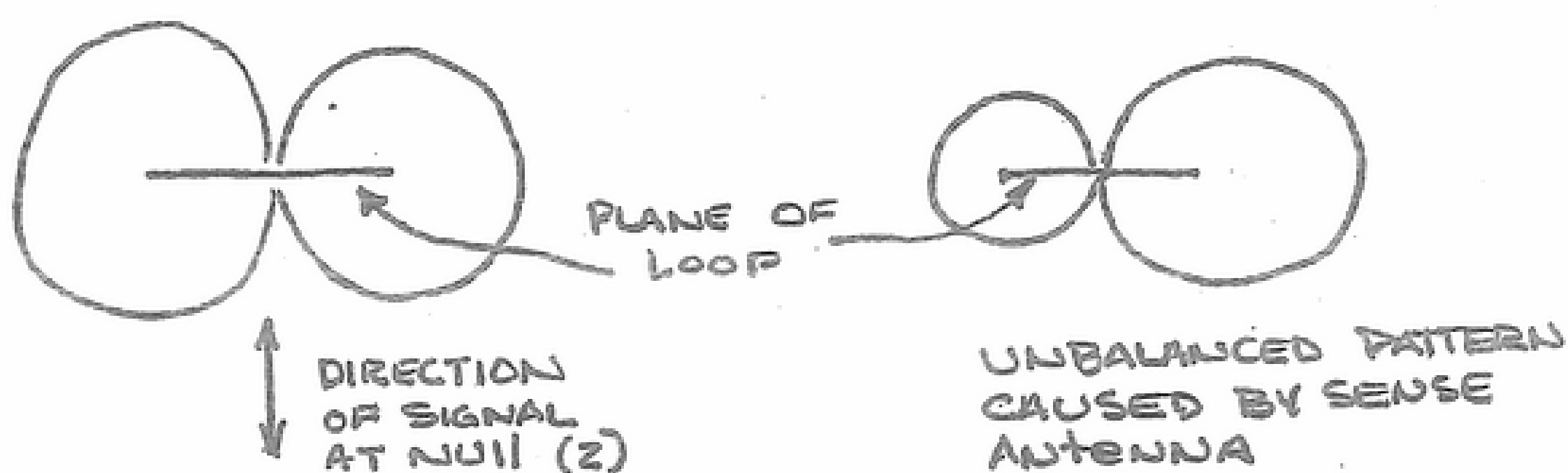


SCHEMATIC

HIGH FREQUENCY LOOP

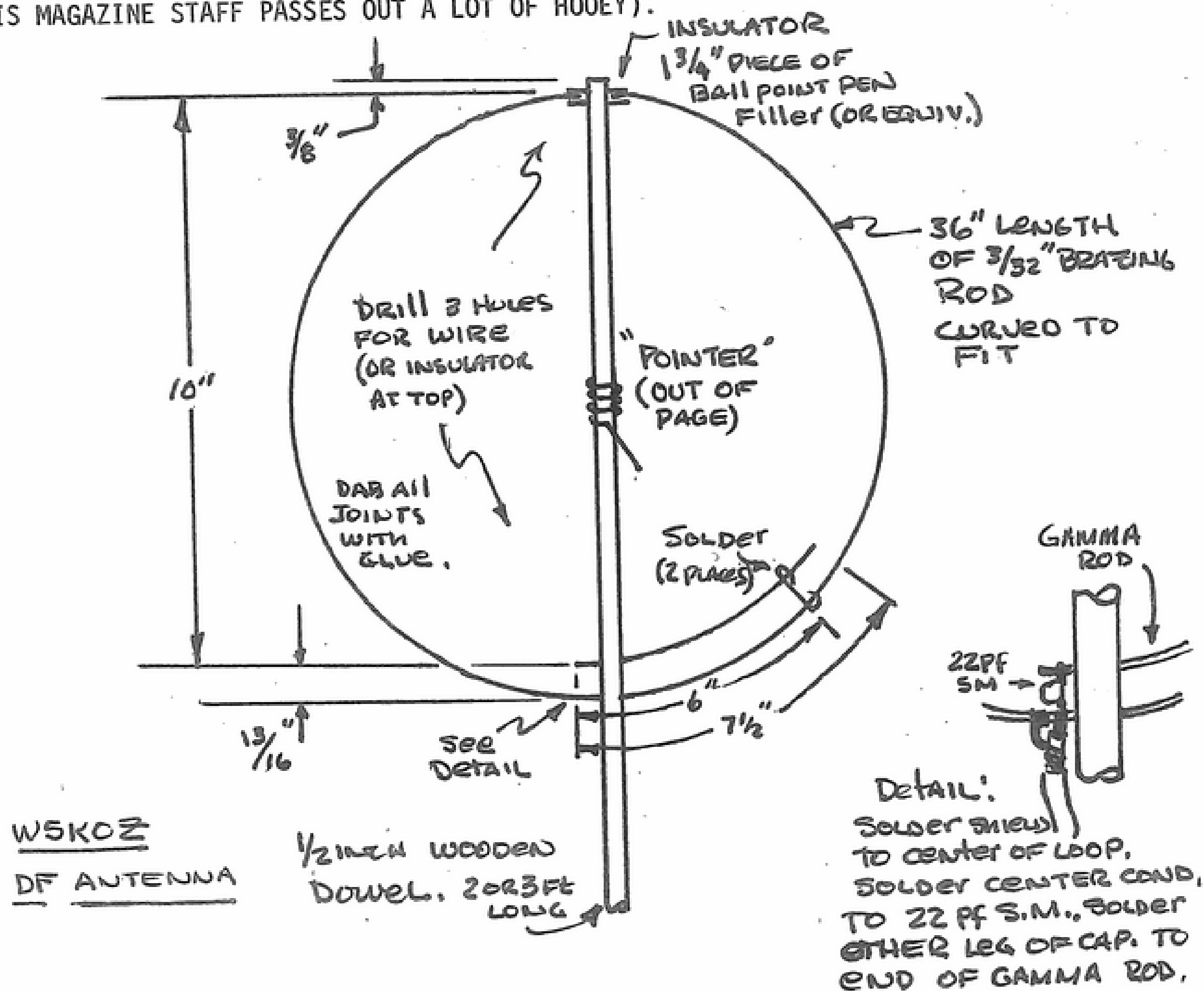
ACTUALLY, THERE ARE FIXED CAPACITORS WHICH ARE SWITCHED IN PARALLEL WITH THE TUNING CAPACITOR TO GIVE BAND SWITCHING. THE LOOP IS RESONANT FROM 3.5 TO ABOUT 22 MHZ. THERE IS NO REASON WHY IT COULDN'T BE SCALED DOWN TO A PRACTICAL SIZE TO WORK ON 2 METERS. I WOULD TRY ABOUT A 6 INCH LOOP AND FIND A CAPACITOR THAT WOULD RESONATE IT. THE FET IS USED TO TRANSFORM THE HIGH IMPEDANCE ON THE HIGH VOLTAGE END OF THE LOOP TO A LOW IMPEDANCE SUITABLE FOR DRIVING A TRANSMISSION LINE. PASSIVE IMPEDANCE TRANSFORMATION NETWORK WOULD PROBABLY WORK JUST AS WELL.

IN PRACTICE, THE LOOP IS HELD ALOFT AND ROTATED UNTIL NULLS IN THE SIGNAL ARE FOUND. NULLS WILL OCCUR BROADSIDE TO THE LOOP. IF THE USER IS IN MOTION, HE CAN MOST QUICKLY FIND THE DIRECTION OF THE SIGNAL BY MOVING AT RIGHT ANGLES TO THE LINE OF THE NULLS AND OBSERVE FOR ROTATION OF THE NULLS. SOME LOOP ANTENNA DESIGNS EMPLOY A SENSE ANTENNA THAT IS SWITCHED INTO THE CIRCUIT TO ENLARGE THE PATTERN OFF OF ONE END OF THE LOOP THUS GIVING THE USER AN INDICATION OF THE ACTUAL DIRECTION OF THE SIGNAL. THE USER ROTATES THE ANTENNA 90° FROM NULL AND SWITCHES IN THE SENSE ANTENNA. HE CAN TELL FROM PREVIOUS EXPERIENCE WITH THE LOOP WHETHER THE SIGNAL SOURCE IS IN FRONT OR BEHIND HIM BY THE INCREASE OR DECREASE IN SIGNAL STRENGTH.

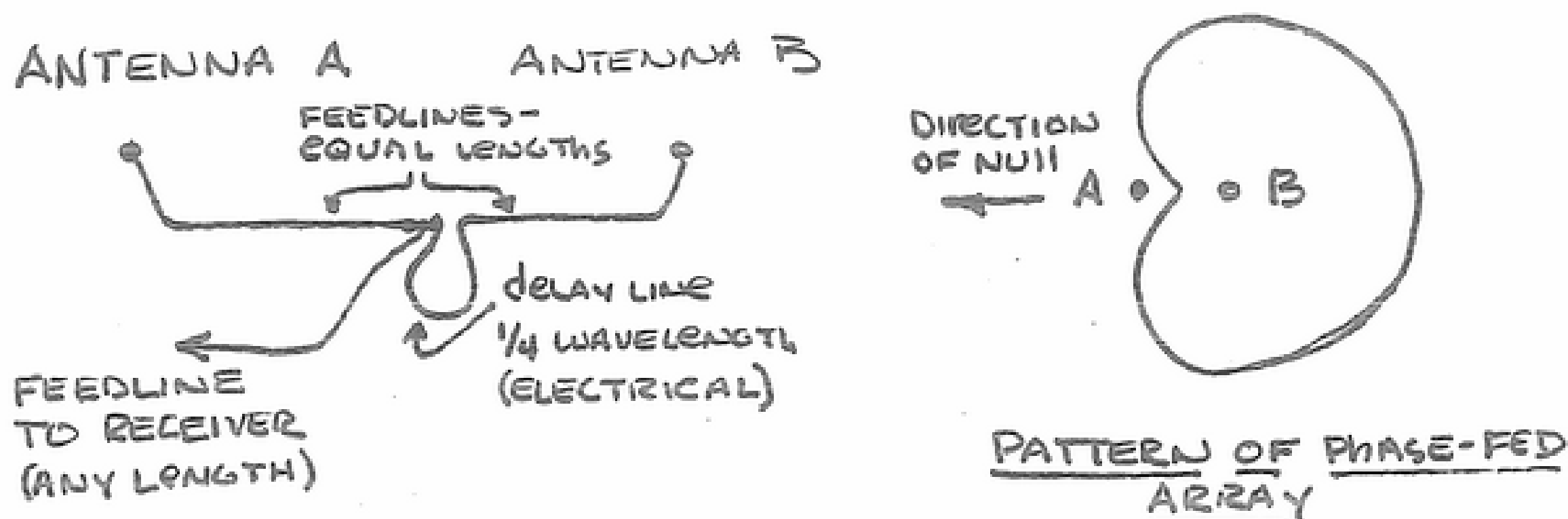


FOR MORE INFORMATION ON LOOP ANTENNAS SEE THE ARRL MOBILE MANUAL.

SID, W5KOZ PROVIDED US WITH AN ANTENNA WHICH IS MUCH LIKE LOOP IN SHAPE BUT IS NOT ELECTRICALLY SHIELDED LIKE THE TYPICAL LOOP. SEE THE ILLUSTRATION. ONE FEATURE OF SID'S LOOP IS THAT IT HAS A SINGLE NULL LIKE THAT OF A CARDOID PATTERN. I DON'T KNOW HOW IT WORKS BUT IT DOES AND IS REPRODUCIBLE. (I BUILT ONE. YOU CAN'T SAY THIS MAGAZINE STAFF PASSES OUT A LOT OF HOOEY).



ANOTHER ANTENNA THAT PRODUCES A SINGLE NULL IS A PHASE FED ARRAY OF TWO ANTENNAS. IF THE TWO ARE SPACED $\frac{1}{2}$ WAVELENGTH APART AND ONE ANTENNA IS FED 90 ELECTRICAL DEGREES OUT OF PHASE WITH THE OTHER, A CARDOID PATTERN IS FORMED. THIS ANTENNA COULD BE A PAIR OF GROUND PLANES OR A PAIR OF DIPOLES ON A MAST. IT IS FAIRLY LARGE FOR 2 METERS, THE DIPOLES BEING ABOUT 38 INCHES LONG AND SPACED 19 INCHES APART. THE FRONT LOBE ON THE CARDOID IS NOT TOO USEFUL BECAUSE THE CHANGE IN SIGNAL STRENGTH BROADSIDE WITH RESPECT TO THE FRONT LOBE IS ONLY -3dB. THE SHARP SLOPE OF THE PATTERN ON THE BACK SIDE, HOWEVER, ALLOWS ACCURATE READING OF SIGNAL DIRECTION.



WITH ANY OF THESE ANTENNAS, THE SUCCESS OF RADIO DIRECTION FINDING DEPENDS ON ANALYZING THE RESULTS AND RECOGNIZING THE AMBIGUOUS RESPONSES FROM REFLECTIONS, VARIATIONS IN SIGNAL STRENGTH AND SIGNALS COMING FROM SOURCES OTHER THAN THE DESIRED TRANSMITTER. NEXT MONTH, I WILL GO INTO A DESCRIPTION OF OPERATION OF THE CIRCUIT THAT WAS PUBLISHED LAST MONTH ON PAGES 29 AND 30 OF C & E AND DESCRIBE THE CIRCUIT AND OPERATION OF THE HAPPY FLYERS RDF UNIT WHICH I BUILT. ANYONE WHO IS INTERESTED IN BUILDING THE HAPPY FLYERS UNIT SHOULD WRITE TO HAPPY FLYERS, 1811 HILLMAN AVE., BELMONT, CA 94002, AND SEND THEM \$10.00 FOR A CIRCUIT BOARD AND CONSTRUCTION AND OPERATION INFORMATION. THE PROFITS FROM SALE OF BOARDS GO TO FINANCE EMERGENCY TRANSMITTER LOCATOR HUNTS AND OTHER WORTHWHILE RDF ACTIVITIES.

ALSO, FOR THOSE OF YOU WHO HAVE HP-25 CALCULATORS, THERE WILL BE A PROGRAM WHICH COMPUTES THE COORDINATES OF THE SOURCE OF A SIGNAL WHEN COORDINATES AND BEAM HEADINGS OF TWO OBSERVATION POINTS ARE KNOWN.

IN THE MEANWHILE IF SOMEONE WILL CONSTRUCT THE CIRCUIT PUBLISHED LAST MONTH AND CONTACT ME, WE CAN GIVE SOME COMPARISONS IN PERFORMANCE BETWEEN IT AND THE HAPPY FLYERS UNIT.

JOE, WA5TRS

RADIO DIRECTION FINDING - SOCIAL ASPECTS

INTRUDERS OR OTHER JAMMERS ON THE TWO METER BAND ARE NOT CREATING THE PROBLEMS IN THIS AREA THAT THEY ARE APPARENTLY CAUSING IN SOME OTHER AREAS OF THE COUNTRY. TRUE, WE HAVE AN OCCASIONAL BUTTON PUSHER, BE IT A CHILD, CRANK OR MORON, AND AN OCCASIONAL (ALLEGED) THIEF WHO THINKS HE HAS A CB RADIO, BUT THESE HAVE BEEN ONLY MINOR NUISANCES, SO FAR.

FOR THIS REASON, WE HAVE NOT ORGANIZED TO DEFEND THE BAND TOO WELL. I PRESENT THESE IDEAS NOT BE ALARM ANYONE BUT TO PROVOKE SOME THOUGHT ON WISE COURSES OF ACTION TO TAKE SHOULD A PROBLEM OCCUR.

TO ME, THE TECHNICAL ASPECT OF DIRECTION FINDING IS INTRIGUING ENOUGH TO DO SOME EXPERIMENTING FOR ITS OWN SAKE. I HAVE THAT ASPECT DOWN PAT. NOW COMES TIME TO THINK ABOUT PROCEDURES WHICH SHOULD BE FOLLOWED BEFORE THE HUNT, DURING THE HUNT AND AFTER THE FOX IS CORNERED.

BEFORE THE HUNT, THERE SHOULD BE A PLAN ESTABLISHED CONTAINING ANSWERS TO THE FOLLOWING:

1. WHO IS GOING TO PARTICIPATE AND WHO IS GOING TO COORDINATE?
2. HOW IS EVERYBODY GOING TO KNOW NOT TO RUN THE INTRUDER OFF WHEN A SEARCH IS UNDERWAY? (IMPOSSIBLE! EVERYBODY IS NOT GOING TO GET THE WORD AND SOME DON'T THINK FAST ENOUGH IF THEY AREN'T TOLD).
3. WHAT IS THE BEST WAY TO KEEP THE INTRUDER TALKING, URGE HIM ON OR IGNORE HIM? (MAY DEPEND ON THE INDIVIDUAL. IF THERE IS NO SEARCH GOING ON OR NO PLAN FOR CONFRONTATION IN EFFECT, THE INDIVIDUAL SHOULDN'T BE ENCOURAGED TO CONTINUE).

DURING THE HUNT:

1. HOW ARE THE HUNTERS GOING TO COMMUNICATE? (I SUGGEST LAND LINE UNTIL THEY GO MOBILE. IF THE PARTICIPANTS ALL HAVE MOBILE EQUIPMENT ON ANOTHER BAND, IT MIGHT BE USEFUL; BUT NOT 2 METERS, UNLESS A VERY CRYPTIC CODE IS USED ON AN OBSCURE FREQUENCY).
2. HOW SHOULD RECORD OF ACTIVITIES BE KEPT? (HOW ABOUT SOMEONE AT A BASE STATION MAKING A LOG AND TAPE RECORDING OF TRANSMISSION. THE HUNTERS SHOULD KEEP NOTE OF OBSERVATIONS AND TRANSMISSION CONTENT IN CASE THEY ARE NEEDED TO GET THE FCC INVOLVED).

AFTER THE FOX IS CORNERED HE SHOULD BE APPROACHED WITH CAUTION. WE DON'T NEED BAD PUBLICITY FROM ACTING LIKE VIGILANTES (WHICH WE ARE) AND NO ONE NEEDS A LEGAL ENTANGLEMENT CAUSED BY A DISTURBING THE PEACE OR TRESPASSING COMPLAINT.

I CONFERRED WITH AN ENGINEER AT THE DALLAS OFFICE OF THE FCC AND HE RECOMMENDED THAT IN ANY CASE, A REPORT OF THE INCIDENT SHOULD BE MADE TO THE FCC. IN A MOMENT OF MIRTH I PREPARED A PROPOSED FORM WHICH MIGHT BE USEFUL, PARTICULARLY IF BEING COMPLETED ON A SUSPECTED INTRUDER'S FRONT PORCH.

I HAD AN OPPORTUNITY TO DISCUSS STOLEN RADIOS WITH DETECTIVES AT THE OKLAHOMA CITY POLICE DEPARTMENT AND THEY SAID THAT THEY WOULD NEED PRETTY GOOD EVIDENCE OF A SUSPECTED STOLEN RADIO BEFORE THEY WOULD INTRUDE ON THE SCENE. BY GUILE OR A LUCKY STROKE OF CANDOR ON THE PART OF THE INTRUDER, THE HUNTERS MAY GET TO LOOK AT THE RADIO. (IT IS POSSIBLE. HE MAY SAY, "I DIDN'T KNOW IT WAS A HAM RADIO. I THOUGHT IT WAS A CB! COME AND LOOK!") IF THEY GET A SERIAL NUMBER, THE POLICE CAN RUN IT THROUGH NCIC (NATIONAL CRIME INFORMATION COMPUTER, I THINK) AND SEE IF IT HAS BEEN REPORTED STOLEN.

WHATEVER MIGHT BE THE RESPONSE OF THE INTRUDER WHEN CONFRONTED WITH A POSITIVE ACCUSATION, YOU CAN BET THAT HE WILL BE IMPRESSED IF HE IS TAGGED QUICKLY BY A COUPLE OF PROFESSIONAL ACTING (AND BIG!) GENTLEMEN AND SEES TWO OR THREE CARS COVERED WITH MYSTERIOUS LOOKING ANTENNAS LURKING OUT FRONT. HE WOULD HAVE TO BE SOME KIND OF CRAZY TO GET BACK ON THE AIR. IN THAT CASE, THE FCC SHOULD GET INVOLVED.

I HAVE HAD A COUPLE OF GOOD OPPORTUNITIES TO LISTEN TO ACTIVE FOX HUNTERS AND ON SEPTEMBER 14 EVERYONE IS GOING TO GET AN OPPORTUNITY TO HEAR AN EXPERT.

HART POSTLETHWAITE, WB6CQW, REPRESENTING WESTERN SHERIFFS ASSOCIATION, WILL BE IN OKLAHOMA CITY AND WILL CONDUCT A SHOW AND TELL BEGINNING AT 7:30PM AT OKLAHOMA MILITARY ACADEMY, 36TH AND GRAND BOULEVARD (MEETING PLACE OF AUTOPATH ASSOCIATION). HE IS NATIONAL WING COMMANDER OF HAPPY FLYERS, A GROUP OF PILOT/HAMS WHO ARE HEAVILY INVOLVED IN SEARCH FOR DOWNED AIRCRAFT. THEIR TECHNIQUES HAVE BEEN SUCCESSFUL IN LOCATING REPEATER JAMMERS AND THE PROGRAM SHOULD BE VERY INTERESTING. SEE YA THERE.
JOE, WA5TRS

CB'ER OR HAM

WHY DO WE AMATEURS BECOME CONFUSED WITH CB'ERS? WELL ONE REASON IS THE POPULARITY OF CB.

THE OTHER REASON, MAYBE, IS THE KIND OF RAG-CHEWING AND CB TYPE LANGUAGE USED BY SOME OPERATORS OVERHEARD BY THE ESTIMATED 30,000 PEOPLE THAT LISTEN TO US EVERY DAY. BESIDES THE LISTENING PUBLIC, THERE ARE A LOT OF AMATEURS WHO DO NOT CARE TO LISTEN TO THAT TYPE OF CONVERSATION. IF THEY DID, THEY WOULD HAVE A CB RADIO.

IF YOU THINK 10-4 SLANG SOUNDS GREAT, THEN TALK TO YOURSELF OR YOUR "GOOD BUDDIES," BUT DON'T USE IT ON THE AMATEUR BANDS. THE FEW, BUT INCREASING NUMBER OF "HAMS" WHO TALK THIS WAY ON THE REPEATERS ARE DEGRADING AMATEUR SERVICE TO THE CB LEVEL IN THE EYES AND EARS OF OUR LISTENING PUBLIC.

WE MUST MAINTAIN SOME DEGREE OF PROFESSIONALISM ON THE AIR TO RETAIN WHAT IS LEFT OF THE DISTINCTION BETWEEN CB AND AMATEUR RADIO. LET'S CLEAN UP OUR OWN BACKYARDS THEN WE CAN SET AN EXAMPLE FOR THE NEW HAMS WHO ARE COMING FROM THE CB RANKS.

TULSA REPEATER ORGANIZATION PAPER - 8/76 COURTESY, WA5FSN

REPORT OF RADIO INTERFERENCE

TO: Engineer-in-Charge
Federal Communication Commission
1100 Commerce Street, Room 13 E 7
Dallas, TX 75242

The following describes radio transmissions observed to be radiating from an apparent unlicensed source or otherwise in apparent violation of FCC rules and regulations.

The radio transmission(s) was (were) received on _____ (MHz) consisting of _____ emission, on (date) _____, beginning _____ local time and ending _____ local time. (For multiple transmission periods list below).

Substance of radio transmission was (were): _____

Observation was made by:

Name

Receiving Equipment

Direction Finding Equipment

The apparent source of emission was located at: _____

Reason for suspecting legality of emissions: _____

Contact was made with person(s) present at the suspected source of radio emission and he (they) (confirmed, see Part a)(denied, see Part b) _____ knowledge of the source of emission.

Part a. Person(s) contacted:

- ☐ Showed authorization for use of transmitter. (Explanation below).
- ☐ Claimed no knowledge of legal requirements.
- ☐ Refused to cooperate (Explain below).

Explanation and/or corrective action to be taken: _____

Signature: _____ Witness, date: _____

Part b. "I deny any knowledge of source of radio transmissions described herein."

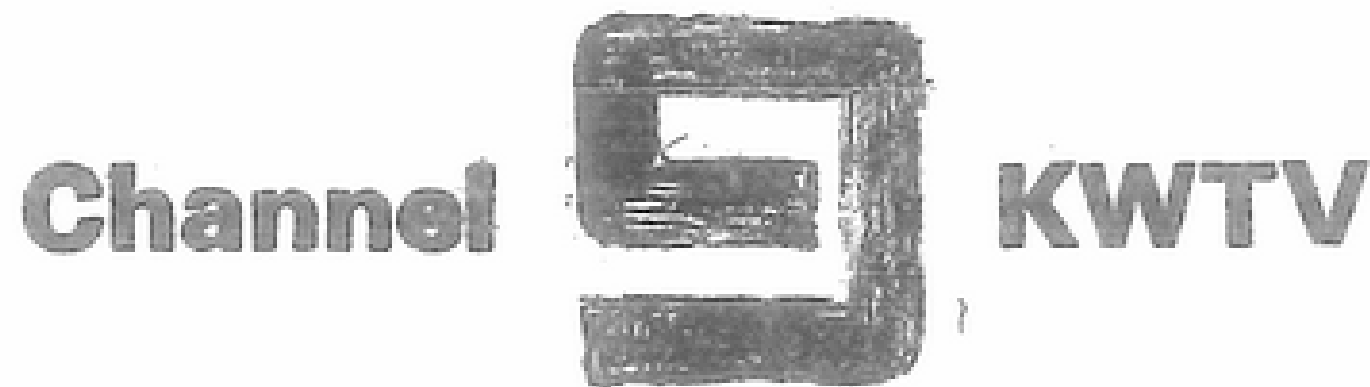
Signature: _____ Witness, date: _____

Log of Transmissions or Comments:

FROM: Name _____
Address _____

RFIV Form 13

PROPOSED REPORT OF INTERFERENCE



GRIFFIN TELEVISION, INC., A CBS AFFILIATE

JACQUES DE LIER
PRESIDENT
GENERAL MANAGER

August 16, 1976

Mr. Joe Harding
Central Oklahoma Radio Amateurs
Box 15013
Oklahoma City, OK 73115

Dear Mr. Harding:

This is to advise you and members of your organization that KWTW is proud to be associated with the Amateur Radio Operators of Oklahoma. Your efforts during severe weather, though unrewarded, are much appreciated by us here at KWTW and I'm sure by thousands of other citizens around the state.

We are happy with the storm warning network, and it is our desire that it continue for years to come.

If I can be of any assistance, please let me know.

Cordially,

A handwritten signature in cursive script that reads "Jacques DeLier".

Jacques DeLier

BREAK! ! !

WHEN THERE IS A QSO IN PROGRESS ON ANY FREQUENCY, REPEATER OR DIRECT, AND YOU WANT TO USE THE FREQUENCY, THERE IS A PROPER WAY TO GO ABOUT IT.

TOO MANY TIMES, LATELY, THE PERSON TRYING TO "BREAK" HAS BEEN TOLD TO "WAIT A MINUTE," "OH WE HAVE A BREAKER," AND THEN CONTINUE TALKING FOR A MINUTE OR MORE, OR NOT ACKNOWLEDGED AT ALL.

1. "BREAK" SHOULD BE RESERVED FOR A TIME WHEN YOU NEED THE FREQUENCY QUICKLY, SUCH AS AUTO PATCH, ETC.
2. FOR AN EMERGENCY - JUST SAY - "BREAK EMERGENCY."

ALL "BREAKS" SHOULD BE ACKNOWLEDGED IMMEDIATELY NOT AFTER YOU COMMENT ON HOW THE WEATHER IS.

TO MAKE COMMENTS, TO GET INTO A QSO ALREADY IN PROGRESS, OR TO BREAK INTO A QSO TO CALL A STATION NOT IN THE QSO, JUST GIVE YOUR CALL IN BETWEEN TRANSMISSIONS.

ALL STATIONS SHOULD LEAVE A BRIEF PAUSE BETWEEN TRANSMISSIONS FOR 3 REASONS:

1. TO ALLOW FOR "BREAKS"
2. TO ALLOW TIMERS ON THE REPEATERS TO RESET.
3. TO AVOID DOUBLING WITH SOMEONE WHO PAUSED OR UNKEYED ACCIDENTALLY.

BUT, BEFORE YOU "BREAK" IN ON SOMEONE'S QSO MAKE SURE THAT WHAT YOU HAVE TO SAY IS WORTHWHILE, NOT JUST A SMART REMARK.

TULSA REPEATER ORGANIZATION - COURTESY, WA5FSN



THE PRESIDENT'S CORNER

Oklahoma Ham Holiday is over for this year and by the time you read this the watermelon feed will be in the past, and things will slow down to the regular routine again.

So let's take a minute to thank all the people who worked to make our Ham Holiday bigger and better. It takes a lot of work on the part of a few who so willingly devote their time for preparation and presenting such activities, so the rest of us might enjoy ourselves, this you may not realize unless you have been closely involved in one of the duties such as publicity, registration, programs, etc. So remember, next year you can be of assistance in preparing for another enjoyable Ham Holiday.

Our tanks also go to Charles Carrol, W1GQO, Editorial Assistant QST for the program presented.

Then look at all the prizes that were given away. Many people went away with big smiles and gifts as a result of the drawings.

Also there was a lot of items that changed hands around the swap tables, but speaking about tables, did you see all the good food that was on some tables? It was all most enjoyable, so let's look forward to another great Oklahoma Ham Holiday next year.

Joe, WA5TRS, is programming classes to start in September, with classes to be held in various locations in the area. So if you would like to instruct one of these classes, give Joe a call.

The Aeronautical Center Radio Club now owns a counter for checking your transmitter frequency and a portable gasoline engine driven generator for Field Day and emergency use.

Join us for the September meeting. We do not have a program as yet, but will have coffee and donuts.

73
A1 WB5KCU

FOR SALE OR TRADE: VW Street-legal DuneBuggy with 40 HP Big Bore Engine. This unit is not completely assembled. Also various VW parts. Will consider trade for Ham-M and/or 20 thru 10 beam. Don Templeman 787-7174 WB5NIY

MINUTES OF THE AERONAUTICAL CENTER AMATEUR RADIO CLUB MEETING OF AUGUST 6, 1976

No meeting - therefore - no minutes.

Remember - we decided at the July meeting to defer the August meeting because of Ham Holiday the same weekend, and join the VHF Club for watermelon at Will Rogers Park on August 20.

Bill Oliver
Secretary/Treasurer

A SIMPLE IC AUDIO AMPLIFIER

Need a simple audio amplifier? One that doesn't require a dozen external components to make it work? The LM380 is the answer in the 3-watt range - and available at about \$1.30.

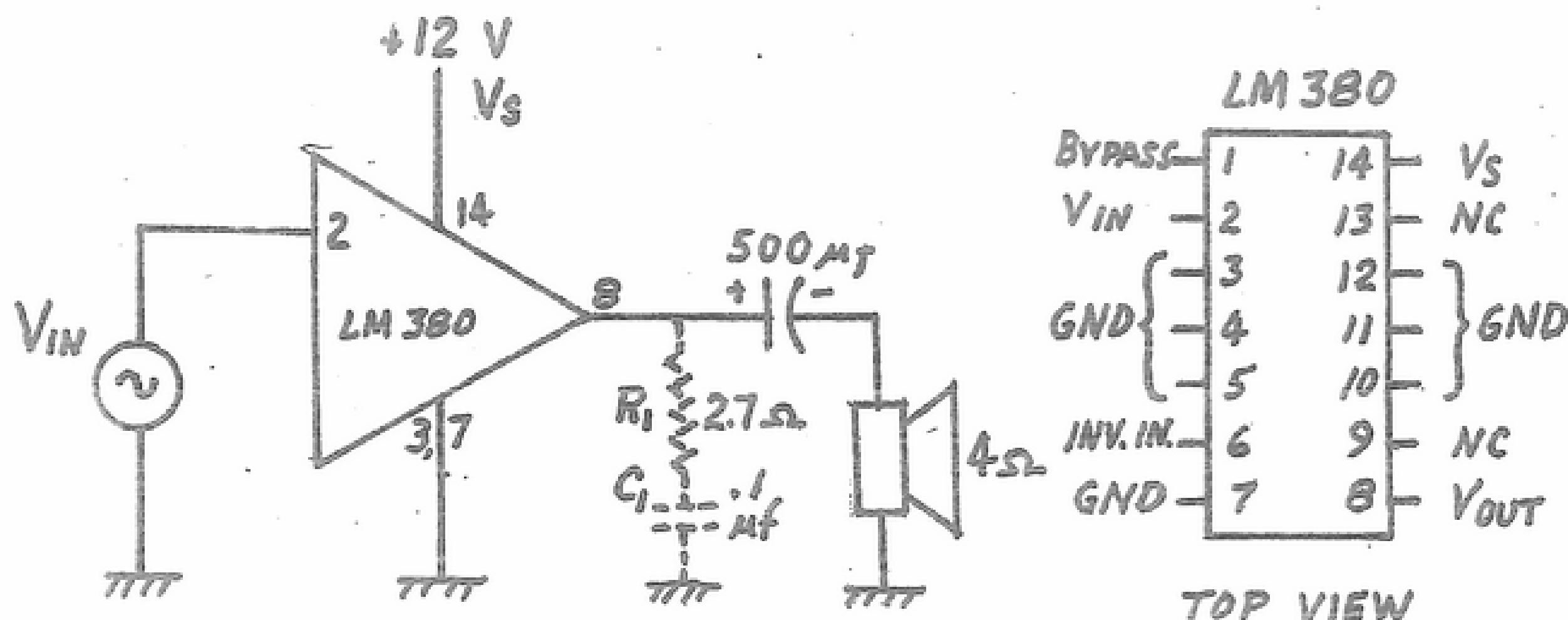


Figure 1

The basic circuit, for a single chip is shown in Figure 1. Note that the coupling/blocking capacitor to the speaker is the only external component required. R_1 , C_1 is shown to knock out high frequency oscillation if it occurs. This configuration will deliver 2 watts to a 4Ω speaker, 1.25 watts to a 8Ω speaker, from 12v at 3% distortion.

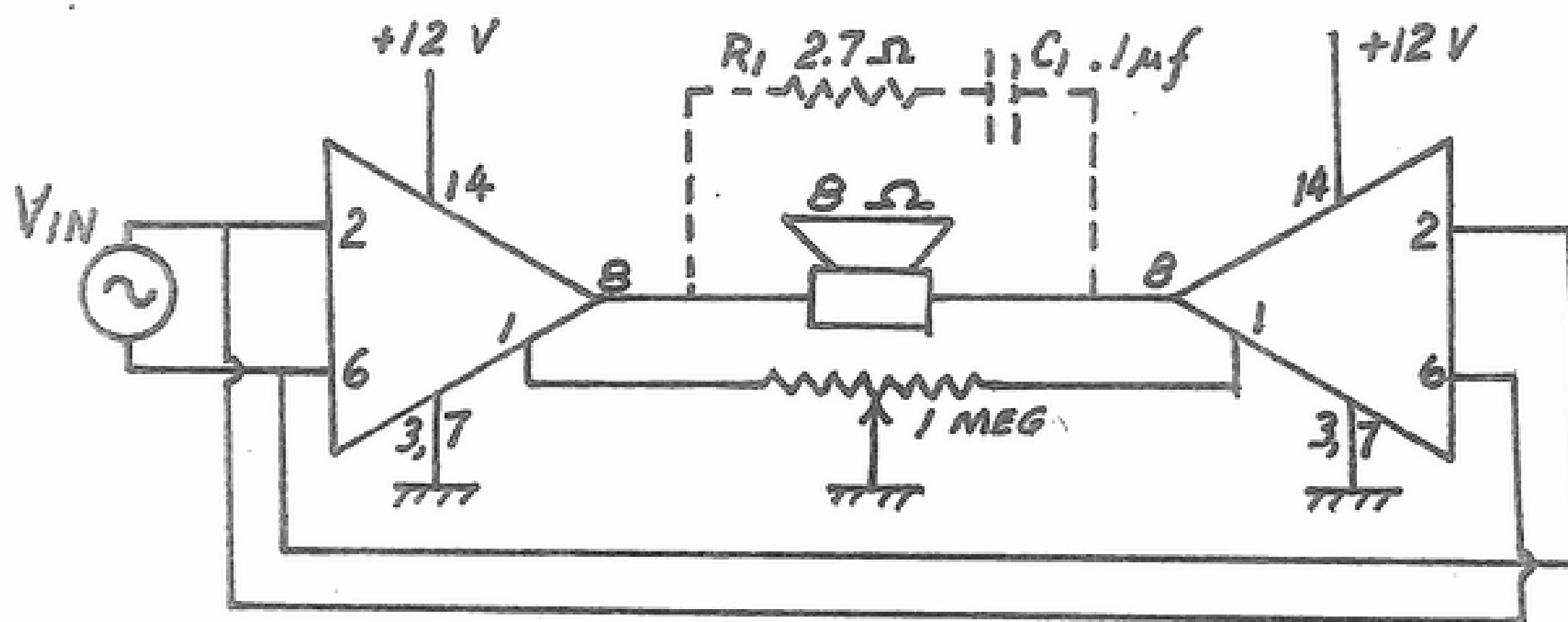
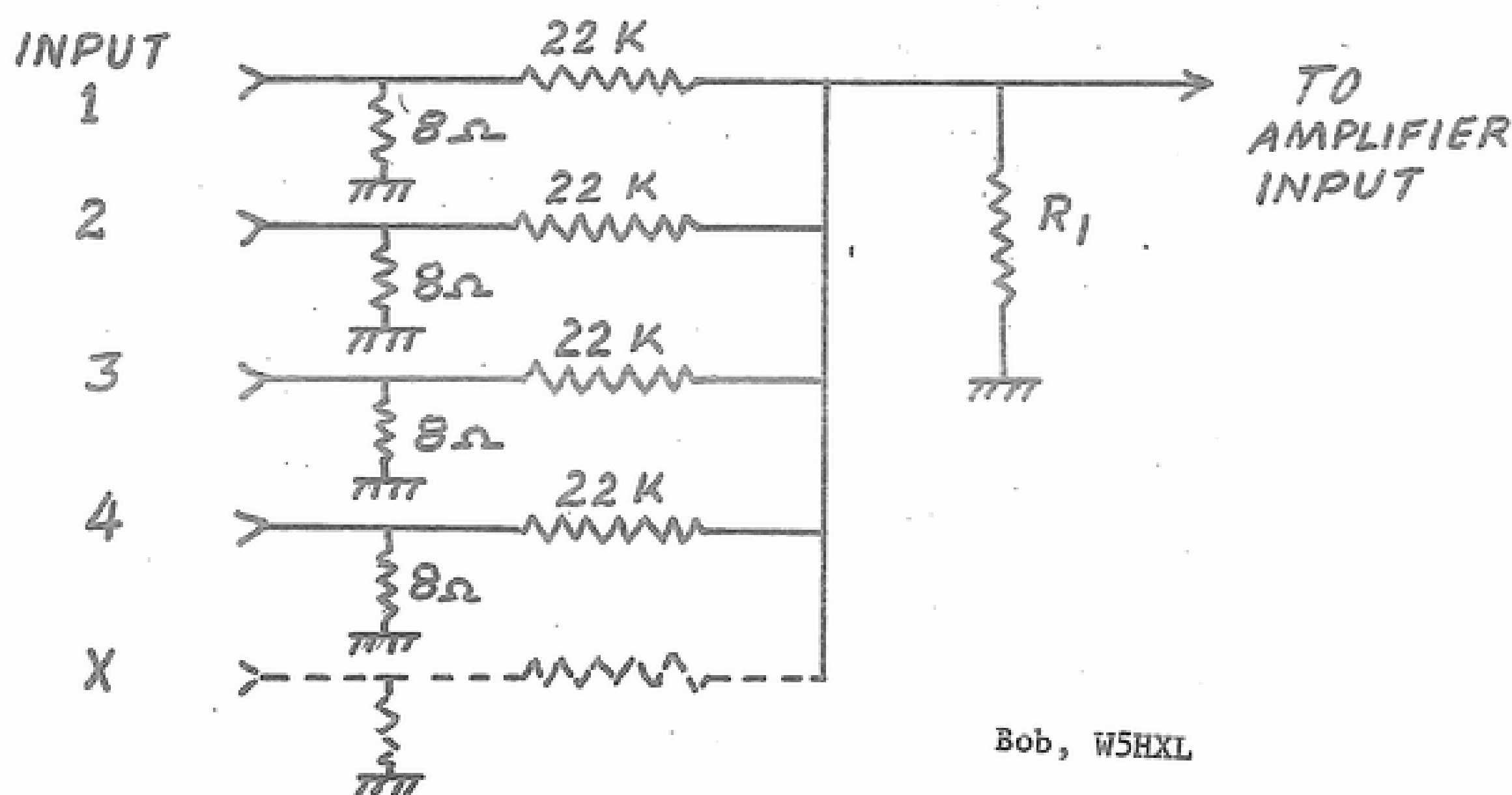


Figure 2

Look at Figure 2. Two chips eliminates the coupling/blocking capacitor, produces more gain and more output (loosely speaking, a push-pull configuration). This circuit will deliver 3.5 watts from 12v with 3% distortion. The 1 meg balancing pot is required to zero the DC current thru the speaker if the chips are not perfectly matched. Manufacturing tolerances could result in 250 MA through the speaker if the balance pot is not used. This increases the quiescent power supply current and increases the distortion - so, use the pot. I found it satisfactory to adjust for minimum quiescent (no signal) current. This was about 20 MA with a 12v supply. Six square inches of printed circuit board is adequate for a heat sink (per device) six of the 14 pins are soldered to the foil for the heat sink. If V_S is more than 2 or 3 inches from the power supply filter capacitor, a .1 μf ceramic disc capacitor is recommended from V_S to ground at the chip to prevent oscillation. I didn't find this necessary with some several feet of lead from the power supply. This circuit has ample gain from a low output variable reluctance or dynamic mike. Makes a fine low power PA system.

A SIMPLE IC AUDIO AMPLIFIER - Contd

A very useful application is to mix the output of all the receivers in the shack through this amplifier (or any equivalent amplifier) and drive one good speaker. This eliminates the lousy audio from the 2" internal speaker that invariably point out the top or side of the cabinet. The circuit shown in Figure 3 will do this nicely with appropriate plugs to match the external speaker jack on the various receivers. Use shielded wire and shield the audio amplifier or RF will get in and louse things up! The 8 ohm resistors provide a load for the receiver output. The 22 k resistors provide isolation between receivers. Add as many inputs as you need. Pick a value for R_1 that knocks the gain down to a reasonable level. Resistor values are not critical.



Bob, W5HXL

Figure 3

THANKS, JOE

The two greatest "happenings" for Central Oklahoma Radio Amateurs in recent years are the CORA Collector and Emitter and Oklahoma Ham Holiday.

While many good, hard working amateurs have contributed to the success of these endeavors, the catalyst (spark plug) that really made them go was one each Joe Harding, WA5ZNF.

The "working group" within CORA is well aware of this. I feel that it is only fair for the "multitude" that enjoy Ham Holiday and The Collector and Emitter realize the contribution Joe has made that we all benefit from.

As Managing Editor for Collector and Emitter, Joe has provided professional guidance to the various club editors and used his sharp business knowledge of editing, photography and printing to produce a monthly club newsletter that is among the best in the world. Further, his "know how" effort and perseverance has resulted in cost savings that give us this excellent publication with a minimum strain on the clubs budgets.

As facilities chairman for Oklahoma Ham Holiday, he has always succeeded in getting the "best deal" with the motel management and made the "show" run smoothly with a minimum of conflict between the many activities involved.

In addition to providing his expert advice and guidance to all, he puts in a lot of his own time, from a busy schedule, to make all this work so smoothly.

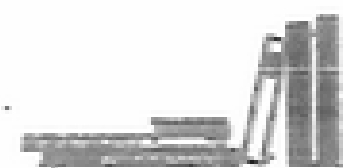
Thanks Joe, from all of us.

Bob W5HXL



TECHNICAL REVIEWS

W 5 J J



RADIO-ELECTRONICS, Aug, talks about Class G AF amplifiers. Class G is a system involving two active devices (tubes, transistors, etc.) arranged so that one operates at low signal levels and the second cuts in at high signal levels.

WORLD RADIO NEWS, Jul, only touches the edge of technical subjects but does a wonderful job of presenting the newsworthy aspects of amateur radio.

RADIO COMMUNICATION, Jun, offers an introduction to digital logic. It reviews a frequency-agile AF filter and a safer system of etching PC boards. As usual, Technical Topics presents a number of intriguing subjects.

AMATEUR RADIO, May, shows a sweep-generator attachment for use with a 'scope, has the second part of an HF linear amplifier, and reviews the Uniden 2020 HF SSB, CW, and AM hybrid transceiver; it has long been available in Europe but has not been sold here. It reads like a fairly good transceiver, covers 10 through 160 m (including the 11-m band, which still is Amateur in Australia), and sells for \$570 (Aus, not USA). But the VFO drifts forever and the cooling fan makes one helluva racket!

CQ, Jul, has W6SAI tell more on unusual antennas, W9EGQ clue in Novices on 21 and 28 MHz possibilities, W2IMB describes his version of small-space multi-band antenna, and WA2NDM unfolds the mysteries of CMOS logic.

IEEE SPECTRUM, Jul, has a short description of a narrow-band video transmitting system, "Sampledot," that appears to have possible Amateur Radio Service application. Additional information is in the IEEE Transactions on Communications, July 1976.

HAM RADIO, Aug, is an issue you'll not want to miss! It has construction articles galore; VHF FM xmtr, RTTY demodulator, syllabic VOX for Drake, IF and Det. Module, differential keying circuit, and TTL tester. The top, however, is a scholarly debunking of the "Double Bazooka" or co-ax antenna, by W2DU, one of the foremost antenna authorities of the world. Note, too, the Tempo 2020 ad; it's the same set as the Uniden 2020 reviewed in May "Amateur Radio," so read the full listing of both its good AND BAD points in that article before you get too excited over it!

ELECTRONIC TECHNICIAN/DEALER, Jul, courtesy of W5KE, predicts the end of the CB "boom" by the fall of 1977. It presents a well-written article on the "State of the Art of FM Detectors." There are good ideas on preventing the theft of mobile radio gear. Non-audio sources of distortion in mobile receivers are discussed. There's a new solder, Savbit, that contains copper; it's supposed to keep tiny wires or thin foils from dissolving.

SHORT WAVE MAGAZINE, Jul, describes an interesting mini-quad for 14 MHz and an amplifier for 432 MHz. The old trick of using a signal generator as a "grid dip meter" is given a revival.

QST, Aug, speaks in its editorial of a radiotelephone system for transmitting speech in one-half of its usual bandwidth! W2DU has Part 7 of his superb series on Another Look at Reflections. Don't miss it! HDQ staff tells about RF-sensed changeover relay system. W4AZW shows the design factors for short antennas. The full-wave loop is compared with a dipole in another article.

POPULAR ELECTRONICS, Sep, tells about LED bargraph metering devices, one of the few that can be used for measuring actual PEP input. (PEP output is easy to read with a calibrated oscilloscope and a resistive load.) Also it discusses some of the many applications for the LM380 IC. There's an article which attempts to tell how to design small inductors for high Q; the author doesn't know how to spell "resistor," so you can draw your own conclusions concerning his technical ability!

WORLD RADIO NEWS, Aug, continues its excellent coverage of the PR aspect of amateur radio. Don't ever underestimate its vital importance! The FCC soon will start issuing WD4_____ calls; WC prefixes are reserved for stations in the RACES.

RADIO-ELECTRONICS, Sep, mentions a new device for improving ELF (30 to 300 hertz, not kHz) reception for submerged submarines. The series on uses of the NE555 IC is continued. Info is given for calibrating your freqmeter from TV signals.

MID-OKLAHOMA REPEATER INC.

MINUTES OF AUGUST MEETING. No meeting, so no minutes. During the July meeting, it was decided to dispense with the August meeting because of the close proximity of Ham Holiday.

PROGRAM FOR SEPTEMBER will be a talk by Nina Hibdon of the State Legislature. She is a Representative from Cleveland County. She will talk about legislation on communication and other points of interest on bills before the legislature. This is an excellent opportunity for all concerned to exchange ideas. This will be at our regularly scheduled meeting on September 7, 8:00PM at EOC.

ORI HAS A UHF REPEATER in operation on the Liberty Bldg. The input is 449.1 MHz and the output is 444.1 MHz. Joe, WA5TRS, told me that he can get into it from all over the place with his Motorola HT 220 walkie talkie, but there is no one to talk to. How about you guys with 450 gear firing up and getting some activity going?

EC RULES AND REGULATIONS Are now separate volumes:

Part 95 \$1.50. Stock number 004-000-00324-1

AMATEUR Part 97 \$1.50 Stock number 004-000-00325-0

DISASTER COMMUNICATIONS SERVICE Part 99 \$0.75
Stock number 004-000-00326-8

Order from: Superintendent of Documents
Government Printing Office
Washington, D. C. 20402
or
Public Documents Distribution Center
Pueblo, Colorado 81009

ORIS stands for Oklahoma Repeater Interconnect System. Mr. Bob Pace gave a talk on ORIS during Ham Holiday. A major presentation is slated for Texhoma Hamarama coming up October 29, 30 & 31. An actual link demonstration is planned. Now, ORIS is in need of an organization to take over the planning, coordination, and operation of this potentially valuable new facet of Amateur Radio. Meanwhile, for information call Bob Pace, 681-4455.

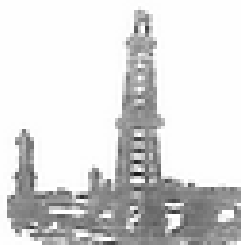
RAFAEL ELIAS, CP1GM/5 had a tribute bestowed on him by World Neighbors, International Headquarters, 5116 N. Portland, Oklahoma City, Ok. 73112. The tribute reads as follows:

"A Tribute to Rafael Elias, Bethany Ham Operator. Whose time and efforts provided vital communications in the aftermath of the disastrous earthquake which rocked Guatemala on February 4, 1976. Your help made it possible for World Neighbors to establish contact with its representatives in Guatemala and to coordinate the relief and rehabilitation program so badly needed by the people in that devastated Central American country.

On behalf of World Neighbors and the thousands of Guatemalans who were able to begin rebuilding quickly because of the immediate response provided through World Neighbors extensionists, we sincerely thank you and commend you for offering your services and expertise in this situation."

There are two freedoms, the false where one is free to do what he likes, and the true where he is free to do what he ought.
Cheer, Aug. '76.

=====WA5RAQ



MID-OKLAHOMA REPEATOR INC.

AMATEUR RADIO
SEVERE WEATHER REPORTING SYSTEM
146.82 MHz

CODE CHART

Code	North/South streets (west side)	Code	East/West streets (north side)
A	Gregory	1	220th Street
B	Cimarron	2	206
C	Richland	3	192
D	Frisco	4	178
E	Cemetery	5	164
F	Czech Hall	6	150
G	Mustang	7	Memorial Road
H	Sara	8	122
I	Morgan	9	108
J	County Line	10	Britton Road
K	Council	11	Wilshire Blvd.
L	Rockwell	12	63
M	Mac Arthur	13	50
N	Meridian	14	36
O	Portland	15	23
P	May	16	10th Street
Q	Pennsylvania	17	Reno
R	Western	18	15 th Street
S	Santa Fe	19	29
T	High	20	44
U	Eastern	21	59
V	Bryant	22	74
W	Sunnylane	23	89
X	Sooner	24	104
Y	Air Depot	25	119
Z	Midwest	26	134
AA	Douglas	27	149
BB	Post	28	164
CC	Westminister	29	179th Street
DD	Anderson		(south side)
EE	Hiawassee		
FF	Henny		
GG	Choctaw		
HH	Indian Meridian		
II	Triple XXX		
JJ	Peebly		
KK	Luther		
LL	Dobbs		
MM	Harrah		
NN	Pottawatomie (east side)		

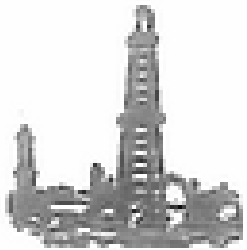
CONDITIONS

- 1 Heavy rain, 1/2 block visibility
- 2 Hail, any size
- 3 Strong, damaging wind, 50 MPH+
- 4 Cyclonic motion
- 5 Tornado aloft
- 6 TORNADO ON GROUND

Here is a weather code chart made by using the famous 22/82 map as a guide. Xerox this chart and it will be more easily carried around than the map. Slip into a glove compartment, etc. I find it easier to get a quick reference between code and street designations than when using the map. Also note its usefulness between storms. You may determine the sequence of named streets, to help find where you are while mobiling around. A further aid is the fact that each two adjacent streets on the chart are one mile apart. The quadrants are indicated.

The back of this chart is a handy place to list emergency and personal phone numbers as well as autopatch information.

- - - - - WA5RAQ



MID-OKLAHOMA REPEATER INC.

15 July 1976

Greetings,

This letter probably comes from the last person you ever expected to get some mail from. Lost my address list I fixed to bring with me, so am sending this via the CORA box. Hope you get it before Ham Holiday III.

Attached is my check and pre-registration for Ham Holiday. Since I obviously won't be able to be there I thought I would pass this along to you, let you send it to CORA and then pick up my drawing ticket for me. If I happen to win anything you can drop it by with Brooksie next you and Franc@s go that way and she can either mail it to me or save it until I get home for Christmas. Also, if they give prizes for the person registered from the greatest distance...remember, I'm on the other side of the world (HI). Seriously, even though I won't be able to be there I am glad to help support another fine Ham Holiday.

Otherwise, things here are fine. The weather is hot and humid but I'm learning to live with it. I got the car three days ago (after almost six weeks in transit) so that gives me a better outlook on life (was really getting tired of walking and depending on everyone else for a ride). The job is interesting and I really enjoy being back in broadcasting. We have the full range here, AM, FM and TV so there is a lot to do. Have a total of 82 Air Force, Navy and Marine personnel in the American Forces Philippines Network, so there is plenty of things going on to keep me busy. I have also been able to do some air work and produce a few shows and spots.

Amateur radio here is really "ZERO." Have a small club, about 20 people ~~xxxxxxx~~ in the club, but no one on the air. Looks like we might get the MARS station back on in about a month, so I will probably spend a lot of time there. Have a nice place to put the station, with two complete LP antennas up about 75 feet, lots of Collins gear, etc., which should work well on the MARS phone patch frequencies. Will be making a patch to OKC as soon as we get the place working.

Have been thinking of going to Japan in a couple of months to look over the Ham gear. The new TR-2200 (same as the TR-22C) is selling for about \$165.00, so that might not be a bad buy. Am also going to get something for HF, maybe the Trio TS-820 with the digital display. Going price in Tokyo is about \$650.00, and don't know what the price will be in the states. Everyone here seems to think it is about the top of the line in HF gear. However, I will have to admit that your Atlas is really a nice rig and I have been giving it consideration (boy American and all that).

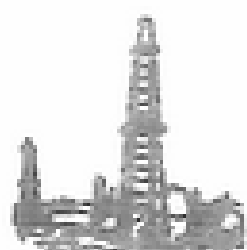
You might also give my address to Sid Gerber so he can mail me a new membership bill to MORI when my current membership is up.

Please pass along my "Hello" to everyone there in MORI and on 34/94. Will look forward to talking to everyone during the Christmas season.

LET me hear from you and what is going on there in OKC. Have a good time at the Ham Holiday.

73,

Maj Carl F. Freeman, WA4AQW
PSC 4, Box 17431
APO San Francisco 96274



MID-OKLAHOMA REPEATER INC.

The LONG Wire

H. O. Townsend, AA5MLT
president, MORI

Since time is marching on and we can not say this much longer...

BiCentennial greetings!

It is back to school, hello cooler weather and election time just around the corner. I hope you have enrolled, bundled up and plan to vote. At this hour, the real question seems to be, will the elephants eat the peanuts or will the peanuts eat the elephants? Is it elephant breath or peanut breath? Who knows may the best elephant peanut win. So much for this, on to loftier subjects.

It has been a great summer around our QTH I hope it has around yours. I have tried to ham as much as possible and XYL has been canning everything in sight. I have been afraid to leave my microphone for longer than five minutes!

After many weeks of sleepless nights, I now have my very own HF station to go along with the VHF equipment. Sleepless may not fully express the trials and tribulations one goes through today trying to find the rig he wants to use or can afford. My question that resulted in the rolling tossing nights was what criteria to apply. I am not sure I ever found out; however, I do have a nice station and I would like to thank the following for their support in the antenna party: Dix, W7FRO, Salem, Oregon; Charlie Bird, WBØ (I can not remember the suffix), Omaha, Nebraska; Gary, WA5GFO; Bill, K5KDR; Lee, W5MCN; Jess, W5SQJ, Jerry, W5MCJ; Jay, W5QC; Jess WN5UWB and Gary, WA5DCI, a college-mate of mine in Houston who located the antenna and freighted to Norman. Thanks very much gang, I hope I can do as much for a ham some day!

Incidentally, the station and antenna worked very well during the ARRL BiCentennial Celebration. 643-contacts worth after the dups were weeded out. That which was a little disappointing, was that the ringo ranger mast would not match the beam mast. However, it is being corrected. Maybe my signal will improve into the repeater.

Ham Holiday I am sure is all through this issue. What a tremendous weekend and success. Although I did not sell anything and bought little the eyeball QSO's were worth a lot just meeting the fellows I have talked to the past year: K5ASW, Harry, and Don, WB5EQR of Marlow; K5OWK, Marty, WB5CXS, Dave, and W5RFX, Russ of Ardmore; Ray, W5REC, Enid; WB5EPS, Dennis, Houston; Fred, WB5RAP, Purcell; and Dave W5JWN and Joe, WB5NHA of Ada and others I have just forgotten. It was great.

I hope some of you have had an opportunity to work the ARRL Convention station on 2-meters. I missed, but did work NCØARL on 20-meters. I also worked the JPL Viking station, N6V, on 20-meters after the first landing. Did anyone see which way the Olympic station went?, I never did.

I hope to see all of you at the next meeting. I guess I had better get back to haming and killing army worms and last but not least finish painting the house. I thought I would never see the end, but it is very near.

SAM, W5HAZ

ED SANDERS

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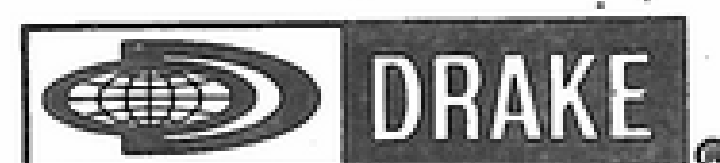


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Hart Postlethwaite, WB6CQW, representing
Western Sheriffs Association, will
be conducting demonstration of
RDF equipment designed by Happy Flyers.

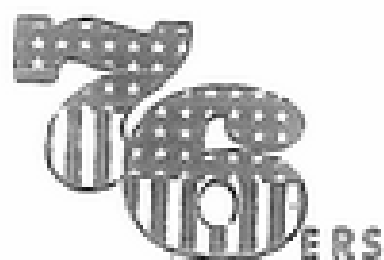
LEARN HOW TO ZAP A KERCHUNKER
OR CHEAT AT TRANSMITTER HUNTS

JAMMERS WELCOME

PLACE: Oklahoma Military Academy, N.E. 36th & Grand

TIME: Tuesday, Sept. 14, 7:30 P.M.





THE BICENTENNIAL AMATEUR RADIO CLUB



The August meeting of the Bicentennial Amateur Radio Club was called to order Tuesday August 21, 1976 at 7:00 pm by our president; Coy Day K5LMG.

At our last meeting we had voted to petition C.O.R.A. for membership. On July 30, 1976 our representatives Ken WB5PYN and Ken WB5ORY presented the petition to C.O.R.A. and our membership was accepted.

A report was given to the group about the upcoming HAM School by Coy. We decided that the school would teach both novice and general.

Plan to affiliate with the ARRL were discussed and was tabled until next meeting or until we could find out how many members we have who already belong to ARRL.

We decided to amend our By-Laws to change our dues to \$2.00 yearly.

Each member was given a new membership card as dues were accepted. Membership cards were by the courtesy of Richard Bennett.

It was agreed to take up a collection for the first meeting of the Oklahoma City Repeater Club, Inc. to help get them started and to offer our best wishes.

Meeting was adjourned for coffee and donuts at 8:15 pm.

After the break, Coy gave a good presentation of basic antennas and how radiation occurs.

Ken Newberry WB5PYN
Secretary

Editors note: Our next meeting will be September 21, 1976 and Gene Taylor W5GC will give a special presentation about the Basics of Transmission Lines. All are invited and this is the event that you would not want to miss.

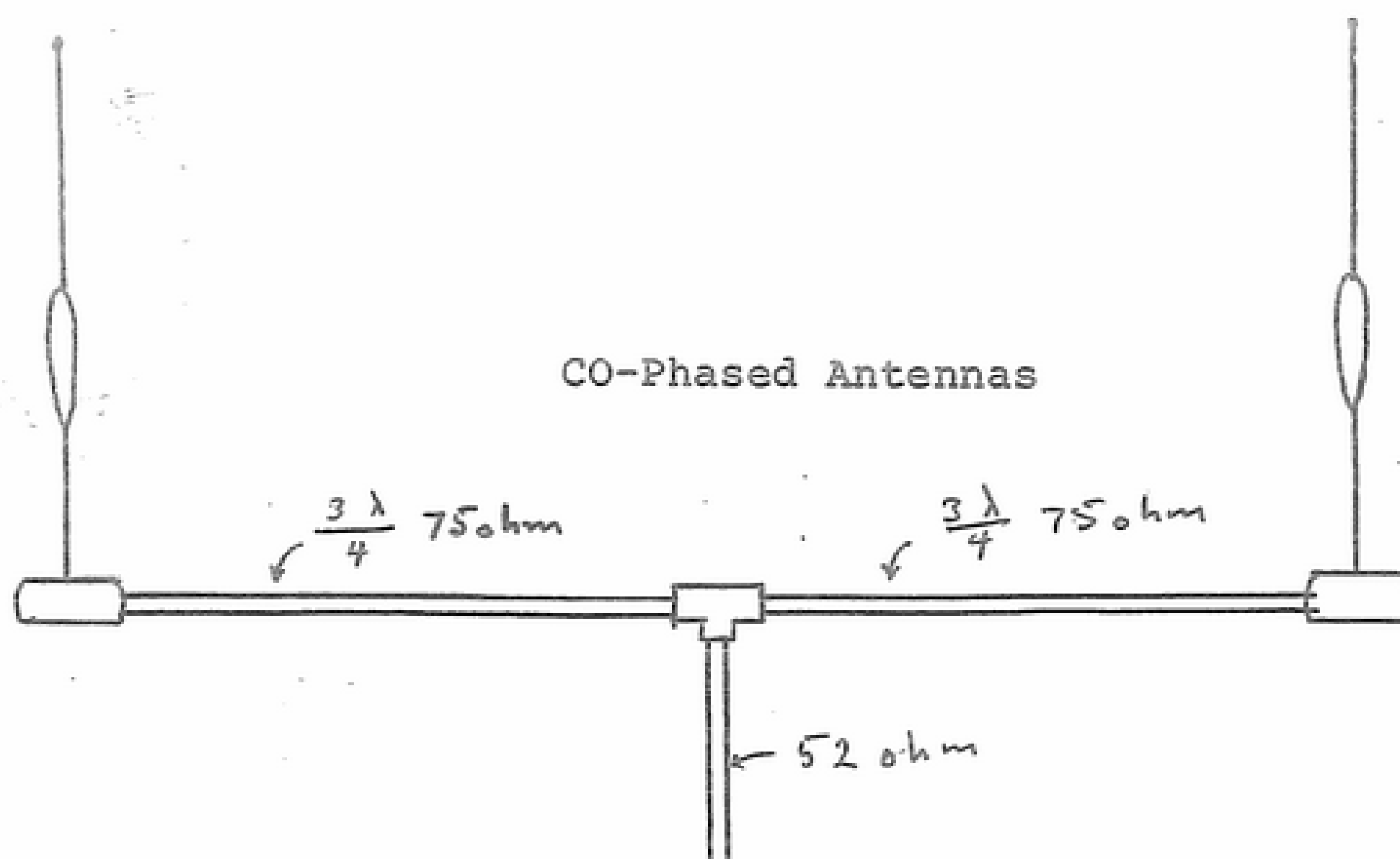
Also, the 76ers Ham School will begin Thursday, September 23, 1976 at 7:30 pm. If you or any of your friends are interested, contact Coy Day K5LMG at 691-1194.

73's
Ken WB5ORY

Presidents Comments

Several people have asked me about my 2 meter mobile antennas, especially since I recently talked with Tom W5OZE and Frank W5PDH thru the Granite and Elk City repeaters, while operating mobile in Western Arkansas. The 2800 foot pedistal called Mt. Magazine was alot of help but the antennas played a part. Briefly what I have is a pair of co-phased CG-144 Hustler colinear antennas. They are spaced 60 inches apart on the deck lid of my Dodge Coronet. To each one of the antennas I ran a 3/4 wave length (almost 40 inches) of RG-59 coax. This transforms the antenna base impedance of near 50 ohms to 100 ohms, which when paralleled into a T connector brings the impedance back down to 50 ohms. From the T connector, I ran RG-58 to the IC-230. I guess it was my lucky day, the SWR was flat. The important test though was field strength and radiation pattern. People must have thought I was crazy, driving in circles in Buchanan's parking lot. The antennas have gain to the fromm and rear with a sharp null to each side. The best part of it all is that I have the only car in town with a Ham license plate and dual CB antennas.

Coy, K5LMG

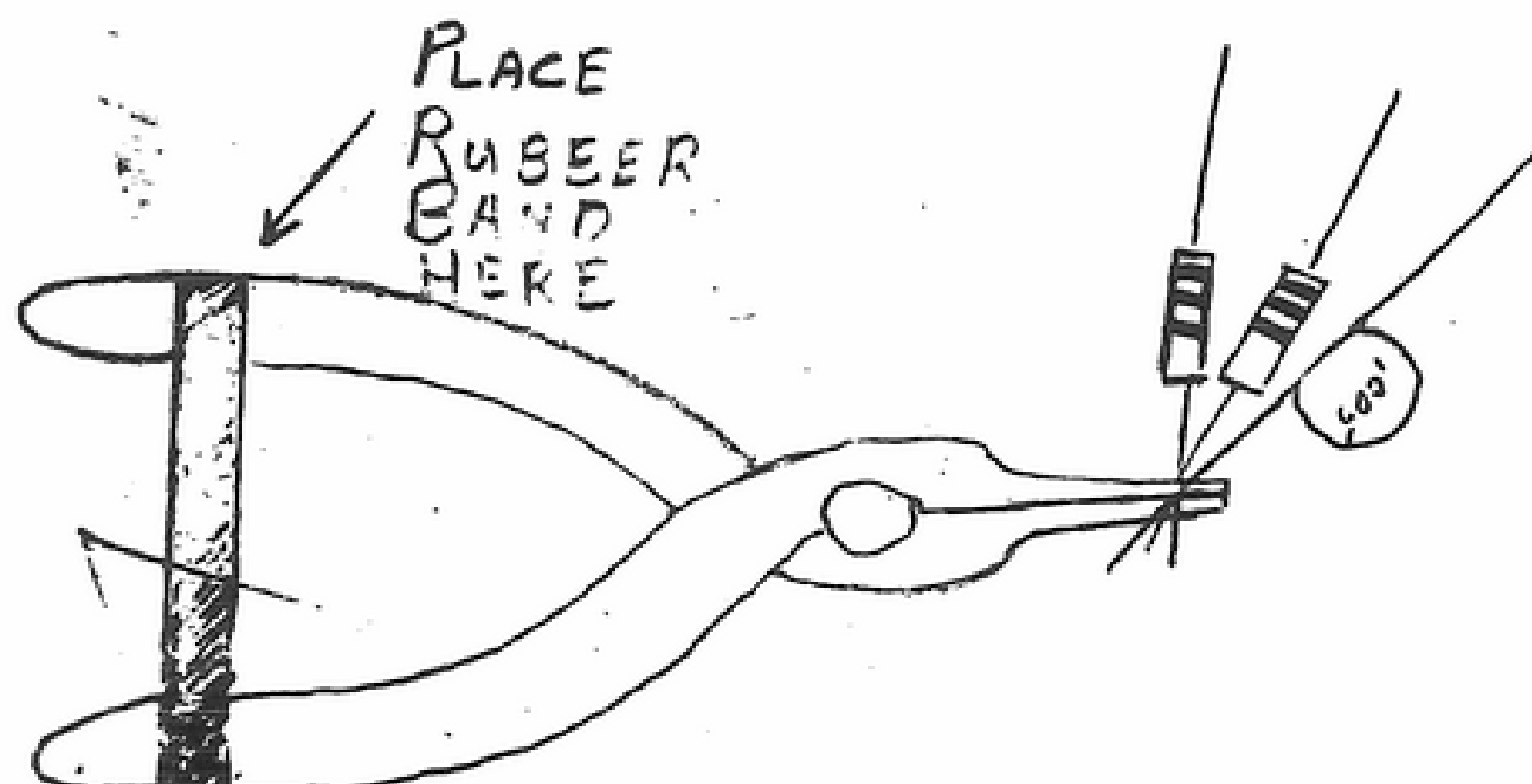


The following is a list of the 1976 officers of the Bicentennial Amateur Radio Club (The 76 ers):

President - Coy Day K5LMG 691-1194
 Vice-Pres - Earnest Wolf K5YKD 848-3425
 Secretary - Ken Newberry WB5PYN
 Treasurer - John Oltmanns WB5PZG 525-6066

The Bicentennial Amateur Radio Club (The 76ers) meets on the third Tuesday of each month at 7:00 pm at the Oklahoma Air National Guard Base. Anyone interested in coming out is certainly welcome.

EVER NEED A THIRD HAND? HERE'S A LITTLE TRICK I RAN ACROSS THAT MAY COME IN HANDY WHEN TRYING TO HOLD COMPONENTS, SOLDER, AND TRYING TO HIT THE RIGHT SPOT WITH THE SOLDERING IRON. JUST GRASP ALL THE LEADS WITH A PAIR OF PLIERS AND PLACE A RUBBER BAND AROUND THE HANDLES TO HOLD THE PLIERS CLOSED UNTIL YOU'RE FINISHED AND THE SOLDER IS COOL.



ADDITIONS - CORRECTIONS TO OFFICIAL CORA ROSTER
CORRECTIONS ARE UNDERLINED

A	John Ashworth	1125 Elmhurst Dr	Moore OK	
A	David Atnip	809 Plaza Dr	Moore OK	794-0460
A	Nick Bayouth	5731 NW 36	Okla City OK	787-1618
A	Richard Bennett	1321 Nail Pkwy	Moore OK	794-8262
A	Jamie Bird	5804 S Youngs Bl	Okla City OK	681-4920
A	Woodrow Harwich	900 Nail Pkwy	Moore OK	
A	Nelson Lee	3923 NW 59	Okla City OK	946-2743
A	Jack Lovegrove	4432 NW 11 Terr	Okla City OK	946-2966
A	Melvin Lummis	1120 SW 60	Okla City OK	634-0856
A	Donald Mayes	108 S Norman	Moore OK	794-2178
A	Phillip Pack	536 SW 43	Okla City OK	632-1904
A	Jack Perry	3108 NW Grand Blvd	Okla City OK	842-5606
A	James Pertree	401 W Charlotte Dr	Okla City OK	794-0362
A	Scott Short	212 Byrd Dr	Midwest Cty	732-6735
A	Jim Townsend	6610 S Shields	Okla City OK	632-5445
A	Roger Walker	303 Rock Pl	Moore OK	799-2585
A	Alden Woods	3429 NW 26	Okla City OK	943-9778
WN8AQZ	Rich Barber	459 Harr Dr Apt C	Midwest City	
WB6AWM	C J Appel	6047 Woodminister	Orangevale CA	
K5DNL	Ken Roberson	3813 SW 37	Okla City OK	
WA5EBG	Jeff Jeffries	928 Windermere'	Moore OK	799-3284
DJ2EW	Joe Schilling	1409 SW 66	Okla City OK	681-5884
WB0IDC	Ray Klotz	707 Ventura Ct	Okla City OK	
WB5IMF	Stan Lisman	1213 Mary Lee Lane	Edmond OK	
K5LLX	Ray Selby	420 S Eighth	Kingfisher OK	
WB5MSB	David Ihle	1619 Camelot	Norman OK	321-5774
WA5MZW	Bill Riddles	2647 NW 55 PL	Okla City OK	
W5PYH	James Brooks	6604 S Villa	Okla City OK	685-5478
WA5RZL	Tom Rhymes	403 E Brook	Norman OK	
WB5SKB	Donald Fisher	Rt 1 Box 140	Norman OK	
WN5SRX	O J Watkins	816 N Juniper	Midwest City	732-1868
WN5SSX	Bob J Wall	1804 S High	Okla City OK	677-3920
WB5SVH	Dee Collins	4329 SE 17	Del City OK	677-7478
WN5SVJ	Johmmie Ham	812 Juniper Ave	Midwest City	737-9356
WN5SVU	Chris Mosley	111 Kelly Dr	Moore OK	794-2163
WN5TDW	Joe Ramage	4401 S Agnew	Okla City OK	685-4814
WN5TEC	Robert Hartman	8324 S Linn	Okla City OK	681-9662
WN5TEL	Allen Mosley	111 Kelly Dr	Moore OK	794-2163
WN5TFM	Clif Day	2321 SW 92	Okla City	691-1194
WB5TKF	Bob James	729 Chisholm	Okla City OK	
WN5TMW	Richard Baker	2400 S MacArthur	Okla City OK	685-2867
WN5TNO	Bob L Wall	601 SE 82	Okla City OK	631-7261
WN5TRF	Lee Franklin	Box 338	Tuttle OK	381-3528
WN5UAP	Donald Duck	3913 SW 24	Okla City OK	
W5UGM	Jerry Rader	3121 NW 68	Okla City OK	
W5UKP	Don Jones	3444 SW 39	Okla City OK	685-2380
WB5UMK	Charles Stacey	1308 ValGene Rd	Edmond OK	
K5VRL	Jim Williams	6400 NW 30 Terr	Bethany OK	789-0769
K5VRL	Delete the second entry			
Change <u>WB5IYI</u> (John Prather) to <u>WA5THS</u>				
WB5BWQ	Pat Caldwell	3120 NW 61 Ter	Okla City	842-7280
WB5DPQ	Richard Perry	2605 NW 14	Okla City	524-0400
K5ZHD	Jan Cox	9624 Castle Road	Okla City	721-4617
W5SEX	Dwayne Rice	3216 Chetwood Dr	Del City	677-6472
WB5FJI	Jay Reid	RFD 10 Box 248	Moore	794-4733
K5AWD	Bill Jones	5021 Buddy Lane	Okla City	685-9842
WA5AOB	Wayne Hogan	113 Morningside Dr	Midwest City	732-1870
WB0OCA	Miles Head	4305 Sunrise	Springfield MO	
WA4MBM	Willis Casey	2750 Rainbow Forst	Decatur GA	
WB5IEK	Don Bruner	6604 NW 30 Terr	Bethany	
W5POJ	Al Kounovsky	411 E Rose Dr	Midwest City	732-5649
WA5GOI	Al Boord	316 Reynolds Rd	Edmond	
WN5OHK	Al Bruning	Rt 4 Box 100K	Choctaw	390-2983

OKLAHOMA HAM HOLIDAY PRIZES

The following list of companies and people have very kindly donated or given sizable discounts on the prizes that were given away at the Ham Holiday, August 7, 8, at the Southgate Inn in Oklahoma City.

Derrick Electronics, Inc.
P. O. Box 457
Broken Arrow, Ok. 74012

Radio Publications, Inc.
Box 149
Wilton, Conn. 06897

SBE, Inc.
220 Airport Blvd.
Watsonville, Calif. 95076

Wilson Electronics
4288 S. Polaris Ave.
Las Vegas, Nev. 89103

Radio, Inc.
903 N. Hudson
Okla. City, Ok.

Bob's Discount Elec.
720 N. Hudson
Okla. City, Ok. 73102

Ten-Tec, Inc.
Highway 411 East
Sevierville, Tenn. 37862

James Millen Mfg. Co.
150 Exchange St.
Malden, Mass. 02148

Bird Electronic Corp.
30303 Aurora Rd.
Solon, Ohio 44139

International Crystal Mfg. Co
10 N. Lee
Okla. City, Ok. 73102

Trice Wholesale Elect.
4701 N. Stiles
Okla. City, Ok. 73105

American Radio Relay League
Newington, Conn. 06111

VHF Engineering
320 Water St., P. O. Box 1921
Binghamton, N.Y. 13902

KLM Electronics
1600 Decker Ave.
San Martin, Calif. 95046

Frank Arnold
W5PDH

Electronics Center, Inc.
2929 Haskell
Dallas, Tx. 75204

Nanney Electronics
2608 Ross Ave.
Dallas, Tx. 75201

S. & D. Sales Co.
P. O. Box 28810
Dallas, Tx. 75228

Radio Store, Inc.
2102 S.W. 59
Okla. City, Okla.

Radio Shack
23rd & Council (DeVile)
Bethany, Ok.

Barber Corp.
Box 271
Waynesville, Ohio 45068

Radio Supply, Inc.
724 N. Hudson
Okla. City, Okla. 73102

Capitol Elec.
7312 Cherokee
Oklahoma City, Okla.

Motorola
3320 Belt Line Road
Dallas, Texas

Spectronics West
Dept. Q, 1429 E. 28th
Signal Hill, Calif. 90806

I wish to thank publicly the people who helped me gather the prizes. Thanks fellow-hams.

Ed Duclos, W5OEC
Prize Committee Chairman

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READING THE MAIL

It's about time we amateurs used some of our ingenuity to stop what is shortly becoming a major problem, mobile radio thefts. Ken K4FHZ's solution is certainly helpful. Should anyone forcibly, enter your car, your horn will blow and not stop till you come and shut it off. Obviously, no thief is going to stand around ripping off your rig while the horn is blowing so he would be effectively thwarted. However, it has some drawbacks, you had better be within earshot or else by the time you find out what is happening you are liable to be arrested for disturbing the peace, if your battery doesn't die first.

Some of the boys were kicking around the idea of having a switch arranged so that if your car door was forced open the transmitter will be keyed on an unused channel. For instance, if you were viewing a movie when a rip-off artist decided to abscond with your 2 meter rice box, as soon as a squelch breaks on your handi-talkie, you could bail out of the theatre and catch him red-handed. One proposal even suggested connecting a tape recorder which could broadcast an appeal over the repeater.

Sounds good? Don't kid yourself. Today's radio-crook attacks your car with a crow-bar, SNAP, and the door is open, another SNAP, and the radio is in his hands. By the time you got out of the movie (or for that matter from the radio club meeting) he is already four parking lots up the street and from the moment he opened your car till he has waltzed off with your rig there just wouldn't be time for a recorded message.

Now, the first part of my super-solution to radio thefts is to install an IDer in each radio keyed by the push-to-talk switch. Every time the rig is keyed it would send out the owners call in MCW. First it would identify the owner of the rig, second it would be on long enough for the entire call sign to be transmitted and from what I've heard of the transmitter hunters over in St. Pete, that's all they would need to pinpoint station's locality.

Of course that would only work if the radio was put to use. Unfortunately most 2 meter rigs that are stolen end up in the trash heap because the thieves don't know what to do with anything that transmits above 27 MHz.

This is where the most intriguing part of my super-solution for rip-off artists comes in. We mount in every rig a small, low power 450 MHz transmitter powered by a tiny battery. If someone opens your car door, or removes your radio, or opens your trunk, this transmitter is keyed and will remain keyed sending your call over and over again.

Meanwhile, up on the Bank building a 450 MHz receiver picks up the signal, recognizes it, and puts a series of tones on the two meter repeater. Upon hearing this series of tones a crack Transmitter Hunting Team goes into action. Quickly, they zero in on the perpetrator, who by now is heading down the road toward another parking-lot-hunting-ground not realizing all the time he is sending out a tracking signal.

Minutes later they have the thief pegged and are watching him pilfer more CB rigs. The police are notified by auto-patch and when they arrive, they not only have the equipment, but a half dozen witnesses to boot.

Now, doesn't that sound like more fun than listening to a horn blow??

K4KNW

From the Florida QSP

HAM HOLIDAY WAS A BLAST - - 440 people pre-registered and thus had a chance to take home a handi-talkie in addition to the other awards. Ralph Wood, W5JCQ did carry it home. Debbie Garland got to take the tower down but she had some help. 121 others paid a dollar more at the door to register making 561 registered and I personally talked to at least 50 more who just dropped in to see what was happening, several of the latter as a result of the excellent coverage by KTVY, channel 4 Saturday night. They did a good job and there was no possibility that anyone could get us mixed up with the CB Jamboree or who and what we were in contrast. Congrats to KTVY. There may have been other coverage but that was the only one I saw - I was having too much fun. In talking to the OKC Chamber of Commerce about larger facilities to handle the ever increasing crowds they had seen the TV coverage and were impressed with HAM HOLIDAY and offered to help any way they could. The evaluation sheets turned in after the drawing gave a 100% vote for continuing on an annual basis, although one guy was sure that he would be in Europe at that time next year he would get his pre-registration in before he leaves. If you get this issue by Friday the 27th make it down to the Red Cross and the next CORA meeting and get a full report, if your copy doesn't make it by then plan to make the meeting on 24th September. That will be election night and the start of planning for HAM HOLIDAY IV. If you can come up with changes to make it better or any other adjective you can think of - come to the meetings.

* * * * *

1 MAN'S IDEA + 4 CONCERNED CLUBS + 2 NEWER CLUBS =

Maybe that should be reversed to read up 7 because that is where CORA membership stands as of the time I write. At the last CORA meeting the Bicentennial Amateur Radio Club petitioned for membership and since they stand for the things that CORA does they of course were welcomed.



In preparing metal addressograph plates for over 40 members so each would be sure and get the CORA C & E this month I was impressed with the number of Novice on the list, none of whom were members of other clubs. That is good for amateur radio, to get them involved in the club side as well as operating for it is through the cooperating clubs meetings, get-togethers, HAM HOLIDAYS and such that more can be done to shape the future than an individual sitting in his/her shack communicating with one at a time. Of course that is also very important. Once again a hearty welcome to the Bicentennial ARC. What club will make me come up with an illustration for number 8?

* * * * *

ONE PICTURE IS WORTH 10,000 WORDS - - So say the Chinese, and they may have something in some cases. At least you can get people to look at pretty or entertaining pictures a lot easier than you can get them to listen to a "speech" and or read about something.

Amateur Radio need more and better PR! I suggest that CORA:

1. Start gathering photographs, color slides, etc. of amateur activities that will inform CB'ers and the general public of just what amateur radio REALLY is.
2. Build them into a 20, 30 or 45 to 60 minute presentation, once again not for "Hams" but for those who don't know that Hams Have More Fun.
3. Buy a real good slide projector and cassette tape player. Arrange slides, pre record the narrative and then after our clubs have seen and possibly make a few changes - Offer a program to CB clubs and gatherings as well as civic clubs, schools and anyone who needs a program - no telling who would be impressed.

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

See page 2 and/or individual club sections for details

rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei rei re

Now it's easy—

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It's all in one complete package . . .

- a lively, copiously-illustrated manual
- a Morse code cassette (with an introduction by noted TV star Jean Shepherd)
- an official U.S. call area color wall map.

Everything is covered to fulfill the novice license requirements, assemble an amateur station and get on the air. Best of all it was produced by hams at ARRL; the people who know amateur radio best. The whole package is just \$7.00—at

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- a lively, copiously-illustrated manual
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