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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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Poatal Station 18, Okla City OK 73169
MEETS: 8:00 PM First Friday each month
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Pres	Robert Graham	WB5NSV	677-8685
V-P	Robert Runyon	W5JES	373-1818
Sec/Tr	Bob James	K5FW	787-5793
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MID-OKLAHOMA REPEATOR
MEETS: 8:00 PM Tuesday, first full week
in month. Okla City EOC, 4600 N Eastern

Pres	John Huckaby	K5QDR	672-4706
V-P	Bill Rogers	WA5RAQ	632-4375
Sec/Tr	Richard Zanni	WB6FYL	691-1809
Dues:	Sid Gerber, 829 E Bouse, MWC		73110

OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB
202 W Boyd, Room 219, Norman OK 73069
MEETS: 1st & 3rd Tuesday, 8:00 PM
STUDENT UNION, Room 161

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V-P	Kirk Kirkland	WB5MJM
Sec	Nathan Kirby	WD5GNG
Treas	Mike Salem	WA5EPK

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

Pres	Ken Burdick	K5UAB	681-0281
V-P	Dick Baker	WB5TMW	685-2867
Sec	Mark Northcutt	WD5DYI	842-1086
Treas	Joe Ramage	WB5TDW	685-4814
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OKLAHOMA CENTRAL AMATEUR RADIO CLUB
323 NW 10th, Okla City OK 73103
MEETS: 8:00 PM third Friday each month
American Red Cross Bldg, 10th & Hudson

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V-P	Al Prince	WB5KCU	
Sec	Joe Buswell	K5JB	732-0676
Treas	Ellard Foster	W5KE	789-6702

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

Pres	Jim Denman	WB5OEL	681-6048
V-P	Joe Hustak	WA5ZNO	789-8587
Sec/Tr	Hobe Burgan	WB5MLN	751-1646

CENTRAL OKLAHOMA RADIO AMATEURS,
MEETS: 7:30 PM, fourth Wednesday
Red Cross Bldg., 10th & Hudson.
Come to the alley entrance.

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

Pres	Bob Bratton	WD5BBW	782-3073
Sec/Tr	Janice Simms	WB5WMN	477-0921



Volume 4 Number 40

FOR HAM HOLIDAY '78

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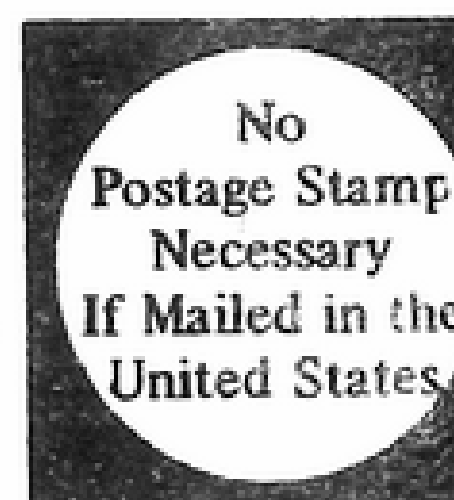
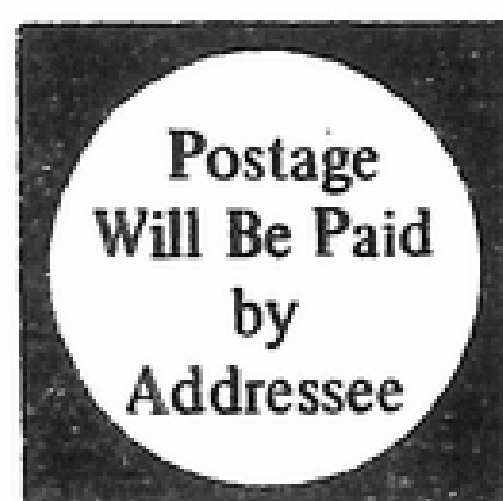
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HAM HOLIDAY '78

Name of Organization



Club
NEWS

V5LOV
The Elmer Goodwin Memorial
Station

MINUTES OF APRIL MEETING

MEETING WAS CALLED TO ORDER APRIL 21, 8 PM BY PRESIDENT KEN, WB5KHU.

BOB W5HXL, BRIEFED THE GROUP ON HAM HOLIDAY PREPARATIONS. LLOYD KIRK, WB5HUP, WILL CHAIR THE LADIES COMMITTEE AND C. Y. CHANDLER, WB5TKG, WILL ORGANIZE A TALK-IN STATION. JOE, K5JB, COULD USE SOME HELP ON PROGRAM COMMITTEE.

ON FIELD DAY, ACARC WILL BE CONSULTED REGARDING CALL TO BE USED. C.Y., WB5TKG, IS SOLICITING VOLUNTEERS.

CARL, W5JJ, REPORTED CALL LETTER SITUATION WAS TOO COMPLICATED TO BE SUMMARIZED.

KEN, WB5KHU, REPORTED ON EMERGENCY COMMUNICATIONS MEETING HELD BY COY DAY, N5OK, OKLAHOMA COUNTY EMERGENCY COORDINATOR, AND MENTIONED THAT COPIES STATE EMERGENCY PLAN AND AMATEUR RADIO/NATIONAL WEATHER SERVICE REPORT ARE AVAILABLE FROM H. O. TOWNSEND, WA5MLT.

PROGRAM WAS GIVEN BY CHARLIE, WA5JGU, WHO DISPLAYED A CRYSTAL TEST OSCILLATOR AND DEMONSTRATED EFFECT OF CAPACITANCE ON FREQUENCY AND ACTIVITY OF THE OSCILLATOR, HE SHOWED A HOME MADE TRANSVERTER BUILT 8 YEARS AGO FROM INTERNATIONAL CRYSTAL MODULES.

AN AUCTION WAS HELD TO DISPOSE OF SEVERAL PIECES OF SURPLUS EQUIPMENT. ELLARD, W5KE, BEAT JOE, WA5ZNF, OUT ON BIDDING FOR A FILM STRIP PROJECTOR BY ONLY TWO BITS. THE NEXT DAY HE STARTED FEELING SORRY FOR JOE AND GAVE IT TO ME ALONG WITH THESE NOTES ON THE MEETING. HE ASKED ME TO GIVE THE PROJECTOR TO JOE. NOW ISN'T THAT A NICE GUY?
JOE, K5JB, SEC'Y

TO MAKE LIKE A BIRD...

I GUESS ONE OF MY HOBBIES IS COLLECTING LICENSES. I AM PROUDLY SPORTING A NEW ONE AND DOING A LOT OF BRAGGING THESE DAYS. MY LATEST LICENSE IS THE PRIVATE PILOT AND I WANT TO TELL YOU ALL ABOUT IT.

I HAVE ALWAYS GOTTEN A KICK OUT OF AIRPLANES. I AM OLD ENOUGH TO REMEMBER HUGE NUMBERS OF WORLD WAR TWO AIRPLANES FLYING OVER IN FORMATIONS CREATING A TREMENDOUS DIN. I REMEMBER HEARING A LONE P-38, OR P-51 APPROACHING AND MY BREAKING INTO A RUN OUT OF THE HOUSE TO GET A LOOK AT IT BEFORE IT DISAPPEARED FROM VIEW. I REMEMBER THE DRONE OF A B-36 COMING FROM A POINT IN THE SKY FAR DISPLACED FROM THE POINT WHERE A TINY SILVER DOT WOULD BE FINALLY FOUND. A LOT OF DC-4'S, DC-6'S, AND CONVAIRS USED TO COME IN LOW OVER OUR HOUSE BEFORE ALIGNING WITH THE RUNWAY AT WILL ROGERS FIELD. SPEAKING OF WILL ROGERS, MANY DELIGHTFUL SUNDAY AFTERNOONS WERE SPENT WITH MU FATHER PARKED IN A DIRT PARKING AREA NORTH OF SOUTHWEST 59TH, RIGHT IN LINE WITH THE RUNWAY AND WATCHING THE AIRPLANES LANDING.

WHEN I WAS A LITTLE OLDER, I DISCOVERED DOWNTOWN AIRPARK JUST A SHORT BICYCLE RIDE FROM MY HOME. I HAD A PAPER ROUTE SO MUCH OF THE SUMMER DAY WAS AVAILABLE FOR LOOKING IN, AROUND, UNDER, AND THROUGH AIRPLANES, AS WELL AS WATCHING THEM FLY. ONE THING I FOUND WAS THAT THE PRICE FOR AN AIRPLANE RIDE WAS STAGGERING. AT THAT TIME, A SHORT RIDE IN A PIPER CUB COULD BE BOUGHT FOR ABOUT FIVE BUCKS, BUT WHEN I WAS MAKING ABOUT A BUCK AND A HALF A DAY, FIVE BUCKS WAS HARD TO PART WITH IN ONE SPOT. NEVER THE LESS, I SPRUNG FOR A RIDE ONE DAY. IT WAS NOT MY FIRST. FOR MY FIFTH BIRTHDAY, MY FATHER GOT ME A RIDE IN AN ERCOUPE WHICH BELONGED TO A FRIEND OF A FRIEND OF HIS. (I WONDER HOW LONG HE WORKED ON THAT ONE)

THERE STILL REMAINS A GAP BETWEEN THE COST OF FLYING AND MY WILLINGNESS TO PAY. MY WAGES HAVE INCREASED CONSIDERABLY BUT SO HAS THE COST OF FLYING. HOWEVER, MY FASCINATION HAS NEVER DIMINISHED.

ONE EVENING I WAS VISITING A FRIEND WHO IS A REGULAR FLYER AND HE SUGGESTED THAT I MIGHT BE INTERESTED IN BUYING OUT ONE OF HIS PARTNERS IN A AIRPLANE. HIS PARTNER WAS PLANNING ON LEAVING THE COUNTRY FOR A WHILE AND WAS ADVERTISING HIS PART OWNERSHIP IN THE AIRPLANE. I TOLD HIM I WOULD CONSIDER IT AND MIGHT EVEN GET MY

PILOT LICENSE IF HE WOULD GET HIS AMATEUR LICENSE. I WOULDN'T SAY I WAS EXCITED ABOUT THE PROSPECT BUT I DID TAKE OFF FROM WORK EARLY THE NEXT DAY AND MEET THE DEPARTING PARTNER TO TALK ABOUT IT AND LOOK AT THE PLANE.

THE PLANE WAS BEAUTIFUL, A 230 HORSEPOWER CESSNA 182 SKYLANE, LESS THAN TWO YEARS OLD, AND SINCE IT HAD BEEN KEPT IN A HANGER, IT WAS IN LIKE NEW CONDITION. HE ASKED ME IF I WOULD LIKE TO GO FOR A RIDE. DID I! IS THE BEAR A CATHOLIC? HE SHOWED ME HOW TO PERFORM A PREFLIGHT INSPECTION AND HAD ME GET IN THE LEFT SEAT WHILE HE TOOK THE INSTRUCTORS SEAT AND THE FIRST LESSON BEGAN. AS A CERTIFIED FLIGHT INSTRUCTOR, HE WAS ABLE TO MAKE MY FIRST ADVENTURE WITH THE AIRPLANE A WORTHWHILE ONE. MANY THINGS HE TAUGHT ME ON THAT FIRST RIDE CONTINUE TO INFLUENCE MY FLYING HABITS.

AS I WAS MAKING THE DEAL ON THE AIRPLANE, I WAS ALSO CONSIDERING THE ALTERNATIVE WAYS OF LEARNING TO FLY. I INVESTIGATED THE FLYING SCHOOLS AND PUT OUT THE WORD THAT I WAS POSSIBLY LOOKING FOR AN INDEPENDENT FL'ING INSTRUCTOR WITH A GOOD REPUTATION. I BEGAN TO ACCUMULATE WRITTEN MATERIAL ABOUT FLYING TECHNIQUES, AERONAUTICAL INFORMATION AND, OF COURSE, FEDERAL AVIATION REGULATIONS.

I WAS IN A HURRY TO LEARN TO FLY. AFTER OVER THIRTY YEARS OF FACINATION WITH AIRPLANES, I WANTED TO LEARN RIGHT NOW. I DROVE THE AVIATORS IN THE NORMAN LUNCH BUNCH CRAZY WITH QUESTIONS. WELL MAYBE NOT CRAZY, JUST ANNOYED; HAVE YOU EVER MET ANYONE WHO DIDN'T LIKE TO TALK ABOUT HIS INTRESTS?

ON DECEMBER THIRD, LAST YEAR, I MET THE MAN WHO WAS TO BE MY FLIGHT INSTRUCTOR. THIS PERSON, AS IT TURNS OUT. BECOMES YOUR TEACHER, DISCIPLINARIAN, GODFATHER, SLAVEDRIVER OR FRIEND DEPENDING ON HOW YOUR PERSONALITIES MATCH. IN ANY CASE, THE FLIGHT INSTRUCTOR IS SERIOUSLY ON YOUR CASE TO KEEP YOU FROM KILLING YOURSELF OR SOMEONE ELSE. MY INSTRUCTOR WAS A GOOD PILOT WITH GOOD RECOMMENDATIONS AND WAS WILLING TO GO FLYING AS OFTEN AS I COULD STAND IT SO WE STARTED ON AN INTENSIVE FLYING PROGRAM. (HE PREFERRED THAT I NOT CALL IT A "CRASH" PROGRAM)

WE FLEW ON THE AVERAGE OF EVERY TWO DAYS. I WAS ABLE TO USE MY LUNCH HOURS PLUS A LITTLE WHICH I WAS ABLE TO MAKE UP BY WORKING LATE. THE FIRST THREE OR FOUR LESSONS WERE STRENUOUS TO SAY THE LEAST. HE THREW PROCEDURES, TECHNIQUES, AND METHODS AT ME SO FAST I WAS NOT ABLE TO KEEP UP WITH THE AIRPLANE. EVERY EVENING AFTER FLYING I WOULD MENTALLY REHEARSE THE DAY'S MISTAKES AND WHY I MADE THEM. I COULD GAUGE MY PROGRESS BY HOW FAR I GOT AROUND THE AIRPORT TRAFFIC PATTERN BEFORE THE AIRPLANE GOT AHEAD OF ME.

ON CHRISTMAS EVE, I HAD TAKEN A BOX OF MY INSTRUCTOR'S BRAND OF CIGARS TO THE AIRPORT TO GIVE HIM AS A PRESENT. HE JUST WASN'T THE TYPE OF TEACHER ONE WOULD GIVE AN APPLE TO. AFTER A FEW TIMES AROUND THE PATTERN, HE HAD ME PULL OVER SO HE COULD SIGN MY LICENSE AND SEND ME OFF ON MY FIRST SOLO. BOY WHAT AN EXPERIENCE! I WAS NOT A LEAST BIT SCARED. I MOSTLY FELT RELIEF THAT HE THOUGHT I COULD GET THE THING OFF AND BACK ON THE GROUND WITHOUT BENDING IT UP. AS IT TURNED OUT, THE CIGARS WERE APPROPRIATE FOR THE EVENTS OF THE DAY AND I HAD QUITE A CHRISTMAS PRESENT!

AFTER THE FIRST SOLO, I WENT TO WORK SHARPENING MY SKILLS AND AFTER A FEW DAYS GOT SEVERELY GROUNDED BY MOTHER NATURE. FOR THREE WEEKS I SLID AROUND ON THE SNOW WITH ALL THE OTHER EARTHLY MORTALS. I STILL HAD SOME THINGS TO LEARN LIKE CROSS-COUNTRY NAVIGATION, INSTRUMENT FLYING AND NIGHT FLYING, BUT HAD TO WAIT FOR THE WEATHER TO CLEAR. THERE WAS A SHORT BREAK IN THE WEATHER AND THEN THREE MORE WEEKS OF WINTER.

FINALLY ON MARCH 26 I MET WITH THE FAA DESIGNATED EXAMINER TO TAKE MY CHECK RIDE. WOULDN'T YA KNOW, ON HIS CAR WERE CALL LETTER LICENSE PLATES W5TQB. IT WAS PETE HOURS, WELL KNOWN TO FRIENDS OF MINE WHO HAD TAKEN FLYING EXAMINATIONS FROM HIM ALSO. I PASSED AND AS PETE STATED, I NOW HAD A LICENSE TO LEARN.

LARRY, WB5POW, ENDURED SOME MOMENTS OF STARK TERROR AS I BEGAN TO LEARN THE HANDLING OF THE 182 GOING INTO EXPRESSWAY (USUALLY KNOWN AS "CROSSWINDS") AIRPORT. HE VOLUNTEERED TO CHECK ME OUT ON THE HIGH PERFORMANCE FEATURES OF THAT AIRPLANE SO I COULD LEGALLY FLY IT.

I DON'T KNOW IF THERE IS ANY POINT IN THE PROCESS OF LEARNING TO FLY WHERE ONE BEGINS TO FEEL CONFIDENT THAT HE IS A SKILLED PILOT UNLESS IT IS AROUND THE HUNDRED

HOUR POINT WHERE THE STATISTICS SHOW THE HIGHEST ACCIDENT RATE OCCURS. I AM
 CONFIDENT THAT I CAN FLY THE THING SAFELY, IF NOT TOO SMOOTHLY, AND I HOPE I NEVER
 GET SO CONFIDENT THAT IT SNEAKS UP AND BITES ME SOMETIME. OH WELL, I JUST GOT
 BACK FROM MEMPHIS, CARRYING ONE PASSENGER AND AM LEAVING FOR TOPEKA TOMORROW,
 CARRYING THREE PASSENGERS, SO I GUESS SOMEONE HAS CONFIDENCE, OR A LOT OF NERVE!

WHEN I GET THE TIME, I'LL DO SOME EXPERIMENTS WITH MY RDF EQUIPMENT IN THE PLANE.
 THEN MAYBE I WILL BE ABLE TO THINK OF SOMETHING RADIO RELATED TO WRITE FOR
 COLLECTOR & EMITTER. JOE, K5JB

!!HELP!!

WILL YOU DONATE TWO HOURS OF YOUR TIME TO HELP "TALK-IN" VISITORS TO OUR 1978
 OKLAHOMA HAM HOLIDAY? TWENTY OPERATORS AT TWO HOURS PER OPERATOR COULD PROVIDE
 CONTINUOUS AVAILABILITY OF ROAD DIRECTIONS AND STREET INFORMATION ON 146.34/94
 FROM 6 AM FRIDAY UNTIL MIDNIGHT SATURDAY.

YOU CAN DO THIS AT HOME-AT WORK-IN YOUR CAR-AT THE SITE-OR ANY PLACE WHERE YOU
 CAN GET INTO THE 34/94 MACHINE. JUST BE AVAILABLE FOR TWO HOURS TO GIVE INFOR-
 MATION IF SOMEONE ASKS FOR IT. -PLEASE HELP- CALL C.Y., WB5TKG AT 232-9005.
 ANYTIME. C.Y., WB5TKG

prepared by the editors of Ham Radio Magazine

Number 196

April 7, 1978

THE 3-CM AMATEUR BAND IS THREATENED by "Amateur Radio" manu-
 facturers who're planning to make and market police-radar jam-
 mers under the "Amateur Radio" label. The just out March issue
 of Communications Retailing, describing one such unit being sold
 as a "radar calibrator," quotes a company official as saying they
 may designate their jammer as Amateur equipment to escape FCC's
 controls on such items and it should be on the market in May.
 More Technical Details on the new "technology" are provided
 in an article by N5MS and K5JB in the April CORA Emitter and Col-
 lector, along with details on a proposal that 10.4-10.5 GHz be
 designated a "Class F" CB band specifically for radar jammers!
 Whatever The Result of all this, Amateurs seem likely (as
 with the 10-meter linear ban) to be the losers in the end. Even
 the radar detector manufacturers oppose the jammers, according to
 Communications Retailing, on the grounds that they're almost cer-
 tain to generate legal sanctions that would include detectors.

FCC'S BAN ON 10-METER linears will be opposed by the ARRL in
 a Petition for Reconsideration filed shortly. Thon't
 Learn probably address
 "rincin"

GUFFAW!
 WHEEZE!
 SNIORT--LAFF!
 APRIL!
 FOOL!
 N5MS & K5JB

GUYS-YA CAN'T TRUST EM!

TEE HEE! YUK YUK! I KNOW THOSE

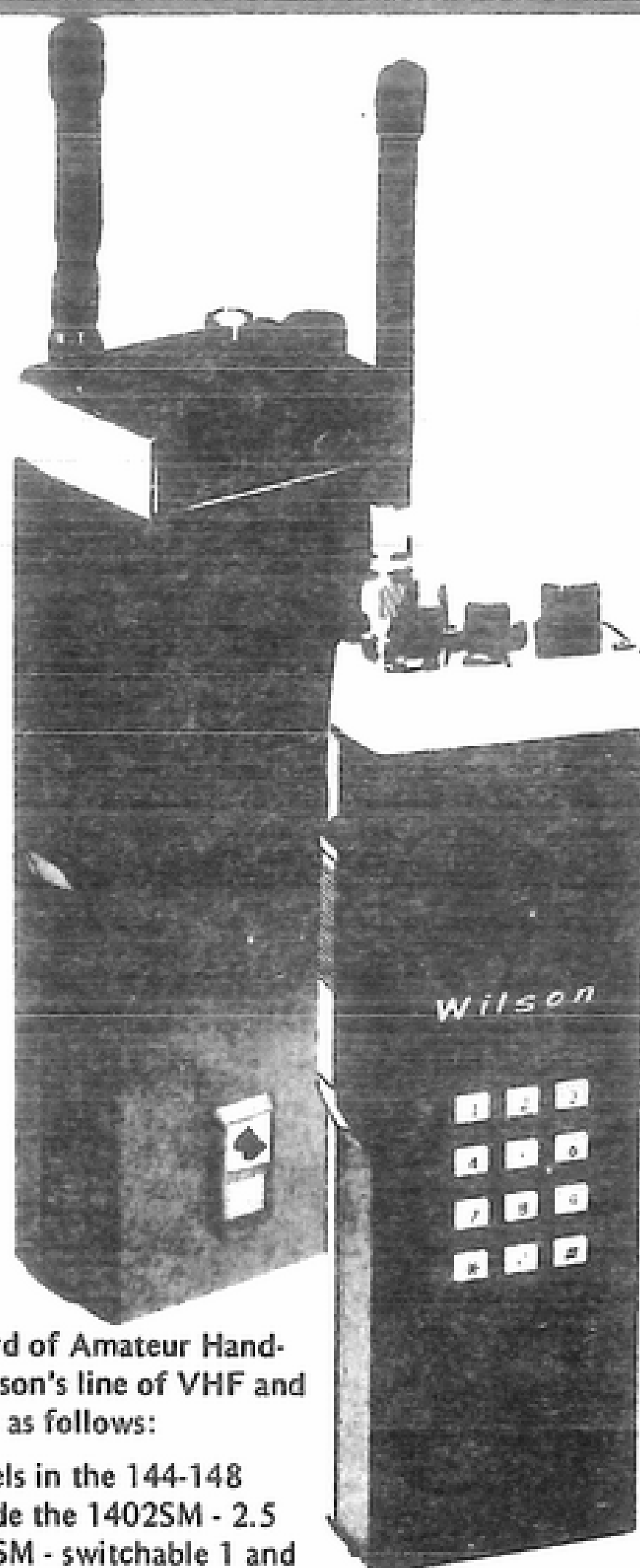
Wilson Electronics Corp.

First Name in Amateur Hand-Helds

OPTIONS AND ACCESSORIES

ANTENNAS TUNERS ROTORS

Illustrated
at right is
Model
1402SM
2.5 watt
144-148
MHz



The standard of Amateur Hand-Helds is Wilson's line of VHF and UHF radios as follows:

Three models in the 144-148 range include the 1402SM - 2.5 watt, 1405SM - switchable 1 and 5 watt, and 1407SM - 7 watt units, one unit in the 220 band: Model 2202SM - 2.5 watt, and Model 4502SM - switchable 1 and 1.8 watt unit is in the 450 range.

Illustrated above is 1405SM with optional Touch Tone Pad (Models 4502 and 2202 have similar appearance).

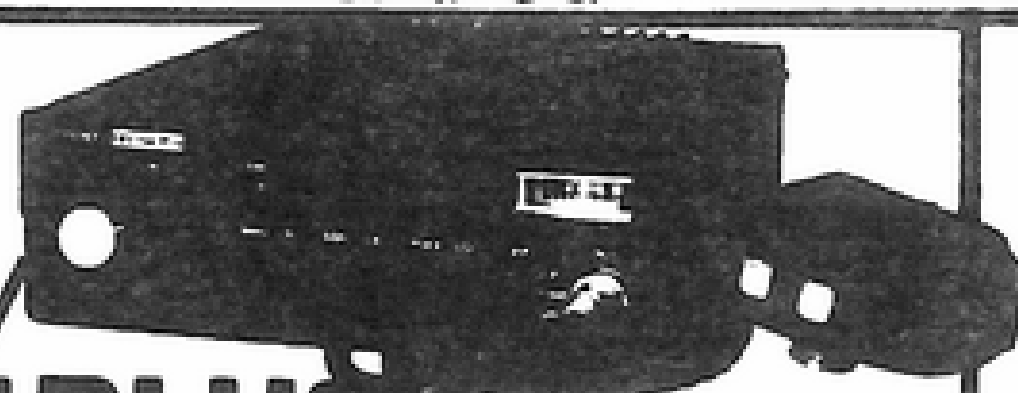
LARSEN ANTENNAS

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(ASK FOR BILL)

TO BIG "D" AND BACK WITH A BIG "T."

In amateur circles for many years, Collins Radio has been a name synonymous with Cadillac. I suppose that they haven't changed the design of their amateur equipment much, but to those in the know in the broadcast industry everything has been as they say "up to date in Kansas City."

Which brings up the point of this essay and that is recent changes at KFNB - FM in Oklahoma City, a station which WB5POW and I share some association. At one time, KFNB was 100,000 watts horizontal only, but the explosion of automobile stereo for FM made it desirable for the station to reach this most mobile market. However, because of the size of the antenna length on the First National Bank, the current transmitter could only make about 63 KW horizontal and vertical when the new antenna was installed. Meanwhile, the old RCA was gasping its last amp and the need for a new transmitter and some control room surgery made the purchase of a new transmitter necessary.

The powers that be settled on a new Collins 831H2 40 KW behemoth. With this monster, KFNB would be able to rock along with a cool 100 KW vertical and horizontal with almost one tube tied behind its back. This beauty has everything. It consists of two 20 KW transmitters tied together through a combiner. Everything is completely redundant. There are two complete exciters and the loss of output from either exciter automatically switches out the offending device and over to the standby. If one of the transmitters goes down, the other one is taken out and some massive antenna relays route the remaining transmitter to the antenna. Or you can take one transmitter down at a time and perform your necessary maintenance and still stay on the air. All of this magic is performed automatically whenever a very extensive control system senses a wrench somewhere in the gears.

Anyway, the moose was coming off the production line and going into test and WB5POW asked me if I wanted to go down to Dallas and "assist" with bringing it back. Sure, but I'll need to check my schedule. I began to feverishly reschedule to leave the appropriate weekend open. My secretary was told not to place any appointments during zero hour and day. The next task was for Larry to convince the station manager that the "Technical Director" (my erstwhile title when traveling incognito) needed to be a part of this sortie to Big "D." He agreed and we waited to hear from Collins.

The next week, I received a call and Larry said that the transmitter would be going onto the test pad in a few days and was scheduled to be shipped Friday afternoon. We decided to meet out at the airport on Thursday and catch an 11:00 a.m. flight. I checked my schedule and found no problem.

The next day, we were both were running a little behind schedule. Fortunately Braniff Intermittent (the world's largest unscheduled airline) was also. We got in line and began to fear that we were cutting it a little close. Things were further complicated by some lady in front of us buying all her tickets to Timbuktu or some place for the next 10 years. If it hadn't been for some nice lady just in front of us who let us cut in front of her, it might have been a close call. Instead we sauntered down to the boarding gate with minutes to spare. Braniff was only 20 minutes late at this point. While we were buying tickets, the lady behind the counter picked up a suitcase belonging to a passenger in front of us. At this time Larry's HT chose to belch out an ID from one of the local 450 repeaters. The counter lady dropped the suitcase like it was a neutron bomb and began to question the bewildered passenger about carrying strange noise makers in her baggage. I finally stepped forward and explained that the noise came from under Larry's coat and not from the suitcase. We always get strange looks going through the X-ray machines. I had a couple of HT's with me and Larry was carrying 4 altogether including one that belongs to the radio station.

The flight into Big "D" was uneventful except for the peanuts and cokes that they served. The pilot came on the PA to announce that the Red River started somewhere in Texas and that as far as he was concerned everyone from North of the Red River was a Yankee. We arrived at DFW regional and picked up the rent car. Our trip out of DFW on the confusing interstate highway was singularly marked by my getting lost (but only briefly, ahem).

Our first stop was Collins in Richardson. Larry had phoned Al Senter, the Director of Broadcast Marketing and told him we were on the way. We drove by a few computer stores and surplus houses, but being the true dedicated employees we were, we headed straight to Collins. We headed up the North Central Expressway to Arapahoe and then east. The Collins facilities are located in a pleasant industrial area along with Hewlett Packard and some other nice people like that. We parked in a restricted area and stumbled around looking for the main entrance. Ah, there it is and it was there that we met Laverne deMammery, the receptionist. Laverne typed out some identification cards and one of the people from Broadcasting came up front and escorted us back to the plant. I was quite intrigued by all the security measures. No one is allowed to wander around unescorted. I.D. badges (for visitors and employees alike) must be visible at all times and several burly guards hawed the entrances and exits. Laverne only guarded the entrance.

Al first took us to watch the transmitter in test. Let me say that this system is a moose. The transmitter consists of seven five foot rack panels (two transmitters on either side of a control panel). The output from the transmitters were then fed into a giant maze of plumbing which contained the coaxial relays and combiners. Yee Gods! Have you ever seen a coaxial switch capable of handling 40 KW? They are not small and I have never seen one in a flea market. The combiner was a source of fascination. How can you feed two 20 KW outputs together and keep them from burning out the outputs from circulating currents when they are out of phase? The answer came in a later conversation with other Broadcast Division employees and Jack Sellmeyer, project engineer for Collins. Jack also designed parts of the transmitter and the stereo exciter.

The combiner (its principle came back vaguely to me from my fields and waves course back in school) works quite simply. The output from the exciter is split and passed through a phasing network. The output from this network is then fed to each of the transmitters. One of the outputs is 90° out of phase with the other. The outputs from the transmitters are then fed to the combiner as shown in the illustration. The combiner is a small blue box that contains two tightly coupled quarter wave lines. The output from the combiner opposite the top transmitter appears with both outputs in phase at -90° . At the reject port of the combiner, you have the top input at -180° and the bottom input at 0° so that both inputs are 180° out of phase. The top output port of the combiner has the top input at -90° and the bottom input -90° (since it must travel the $1/4$ wave line) and the output combines. The transmitter is then tuned and the phasing network adjusted to minimize the power appearing at the reject port.

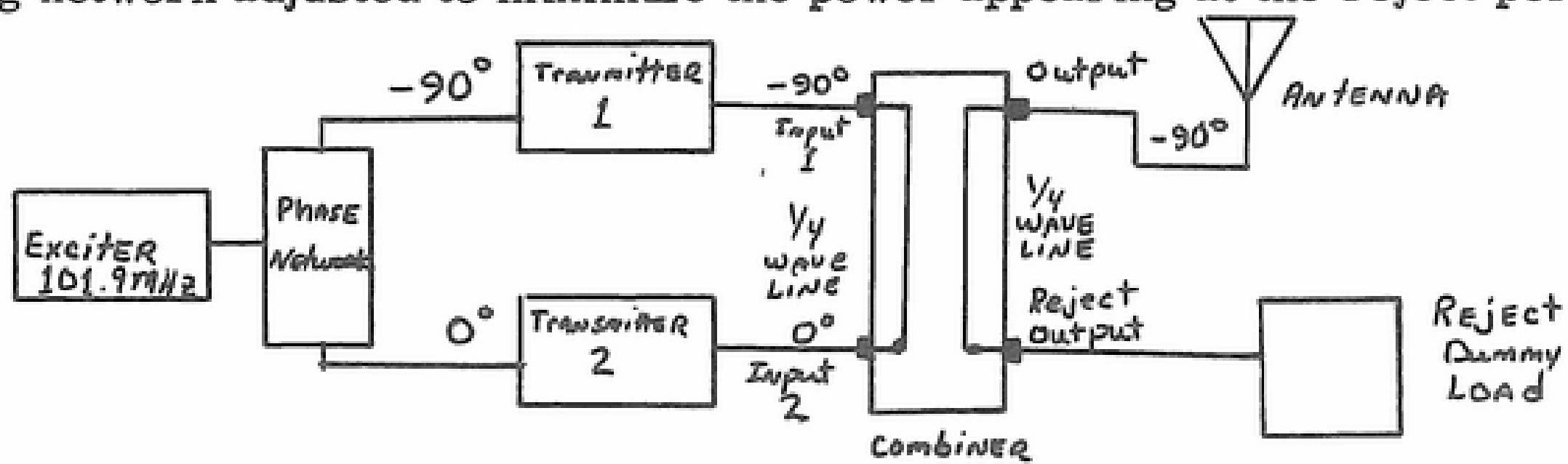


Figure 1. Combiner and Associated Circuitry

<u>Input to Combiner</u>	<u>Phase at Output Port</u>	<u>Phase at Reject Port</u>
Xmtr 1 (-90°)	-90°	-180°
Xmtr 2 (0°)	-90°	0°

The above table summarizes the phases of the outputs as they appear at the inputs and outputs of the combiner. When properly tuned, you might have 10 or 20 watts appearing at the reject dummy load (remember, you are putting about 40 Kw total from the transmitters into the combiner). However, if you should lose one transmitter, you might notice that the power that enters from the combiner from the one remaining transmitter is then split between the antenna and the reject load. Thus with the combiner and one transmitter out of service your power output is only 1/4 of your previous output. Collins takes care of this loss of power by using their coaxial relays to switch one of the transmitters out of the circuit and remove the combiner and feed the remaining transmitter directly to the antenna. Thus power only drops to half of licensed power instead.

An interesting thought was mentioned by Jack. If you have little or no power appearing at the reject load (it is capable of handling half of one transmitter), could you just disconnect the reject dummy load? The answer, of course, is no since it also serves the function of balancing the system by maintaining the proper impedance across the load output. You could remove it and replace it with a 10 watt 50 ohm resistor, but be prepared for it to explode if you lose a transmitter.

Jack later invited us over to his house to visit. He has built quite a few broadcast stations and has bits and pieces of test and broadcast equipment. One of the more spectacular was a giant 4 channel tape deck which some inspired engineer (not Jack) had converted to a 3 channel machine by means of a head transplant. He obviously felt that 3 channels would be the next step after stereo. The surgery produced a machine that, unless reconverted, will go the way of the Dodo bird and the Pinky Lee show.

Jack had an amateur license at one time, but with all the hustle and bustle of big time transmitter design work and etc., had let it lapse. He indicated that as things settled down, he was thinking about reupping. We discussed the virtues of two meters and down, repeaters and the HF bands.

The next day (friday) Larry and I got up at the crack of midmorning and drove back out to Collins. (Laverne was there and insisted on preparing new I. D. cards. Bless her). We watched them make the transmitter jump through a few more hoops and (ahem) asked to see the Special Sales Division also known as Collins surplus.

Like most medium and large size electronics firms, Collins maintains an active surplus outlet for discontinued parts and products. If you happen by at the right time, you might find some terrific buys in surplusage. Our visit consumed about an hour and a half before we had to go and in the meantime I found some nice minature shielded cable at 65¢ a pound. We also found some other nifty boards and parts and the bill totaled less than a deci "C" note (ten dollars, for those who don't think metric). We found some neat little self adhesive stickers that said Rockwell on them. We got a couple and left them on the dash of the Hertz car. I bet the next person who rents that car will wonder when Rockwell started making gear shift knobs and car radios.

Back to Collins (after waiting for our rent truck to show up, to haul the transmitter back to OKC) and another visit with Laverne. About this time Al Senter offered to show us through the plant to view the various goodies manufactured by Collins.

It is common knowledge throughout the electronics industry by now that Collins has recently been purchased by Rockwell International. It now is a separate subsidiary of Rockwell. In the same plant with the Broadcast Products is a complete construction facility for broadcast equipment, telephone equipment, computer software development and of course, the normal lifeblood of Collins, government contracts. Some areas are restricted, but we went through (or passed by) the computer facilities where software development for Electronic Funds Transfer for the Federal Reserve and other national banks was in progress. Next to it was a complete computer system dedicated to the use of the various engineering departments.

As we passed through the production and fabrication areas, Al pointed out the emphasis on quality control that permeates the Collins philosophy. Every production area is terminated in a quality control and testing portal. All products are tested at the board, subassembly and final assembly phase. Further down the line were the engineering areas where new product development was going on. Next were complete metal fabrication facilities complete with computer driven machinery that made the various chassis. One machine might contain as many as six or more different bits and tools to machine the various blocks of metal. The theory, Al said, is to try to produce as much of the work, at all levels, inside the plant so as to lessen dependance upon subcontractors.

We walked completely around the plant and then Al took us upstairs to the Microcircuits Laboratory. Collins features complete thick and thin film laboratories with clean rooms for assembly and testing. Collins produces small runs of specialized chips in quantities of 5,000 to 100,000. Anything larger than that, they send you up the street to Texas Instruments.

They have continued diversification into other fields and now fields products and services including broadcast products, Microwave, Microelectronics, telephone switching and computers. We went back to the broadcast test area and toured the products assembly and construction area. Collins had previously subcontracted the construction of their air production consoles, but as demand increased and the subcontractor faltered, the decision was made to bring it back into the plant. A production line was set up in a matter of months and consoles were rolling off the ramp.

Other broadcast products include AM and FM transmitters in sizes from very low power (250 watts) to the 40 KW behemoth we drove off the lot. I suppose that just by observation or osmosis, one might pick up a few techniques for amplifier construction. I paid careful attention. The equipment is extremely solid and well made. I don't think any of this stuff will turn up on the surplus market for a long time.

The transmitter was ready for transport back to OKC. We backed the truck up to the ramp and moved two 2400 pound transmitters into the truck. Next came the control panel, combiner, dummy load, reject dummy load and 40 foot of 3" hardline coaxial cable. The ride back to OKC was uneventful, but we sure had a lot of fun getting the transmitter out of the truck. The total effort took until 3 a.m.

The Collins facilities represent some of the latest in manufacturing and production. To date, the KFNB transmitter is operational and working in fine style. Jack came up during the final installation and assisted in getting the system on the air. A few minor problems and we now have 40 KW on its way to the antenna. And the trip to Dallas was great.

Micheal Salem N5MS



ALTUS AREA
AMATEUR RADIO
ASSOCIATION

President - Bob Bratton, WD5BBW

Sec/Tres. - Janice Simms, WB5WMN

The Altus Area Amateur Radio Association met Thursday, April 13, 1978 at the North Main Fire Station, 7:30 p.m. Thirteen were present. President Bob Bratton, WD5BBW, called the meeting to order and led the introductions. The Treasurers report followed.

Dwight Dennis, WB5KRH, president of the Repeater Association, made a report on the damage to the repeater. He attributed the loss in signal strength to the collapsing of the top section of the antenna and to a burned amplifier. Dwight also passed out the maps which will be used during a weather watch. He briefly explained the coordinates.

Loren, WA5CBF, announced that there are still plenty 1978 call books available. This call book furnishes information on clubs, repeaters and such throughout Oklahoma & North Central Texas.

A report of the Amateur Radio classes was given by Mike Schenkler, WD5HXS. There are currently eleven enrolled in the class which meets on Tuesday evenings.

Mike suggested using a small building located at his home as a club station, however no action was taken at this time due to lack of equipment available. He also informed the group where to get used telephone poles.

After a short break the film entitled "Storms, the Restless Atmosphere" was shown and was followed by a "gag session".

Concratulations to these club members on upgrading their license at the Lawton Ham Fest, as well as others not reported:

Phil Whiteman, WB5KPM	Tech to Advance
Mike Schenkler, WD5HXS	Tech to General
Phillip Walker, WD5IRU	Novice to General
Bob Howland, WB5JVV	to General

Welcome to new members: Bob Howland, WB5JVV & Bob Mayfield, WD5IRV.

DUES are due by these members: Larry Jones, Cal Hunter, Gary Stevenson Brent Haught, Danny Watson, Richard Spencer, Don Hayes, Donald Sevedge.

73

Janice, WB5WMN

FOR SALE: Drake TR-4CW w/noise blanker, AC power supply & speaker. Used 6 hours. \$825.00 - - Yaesu FT 101-EE w/CW filter, \$650.00. Yaesu FR101S receiver w/all filters & crystals \$550.00, both 6 months old. Ed Blackwell, WD5FKG, phone 691-3494.

FOR SALE: SSTV CRT's. 40 ea 5FP7 tubes in original cartons. \$1 each. 150 ea 3FP7 tubes in original cartons. 50¢ each. Take all and get numerous scope tubes and other 7" & 9" CT's in deal. Shipping to be paid by purchaser. Abe Crook, WB5AUF, 405/943-5518.

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If you get this issue in time you are urged to attend the organization meeting of the AMATEUR TELEVISION EXPERIMENTAL SOCIETY. Tuesday night May 2 at 7:30 p.m. 15th & Broadway in Edmond. Edmond Plaza Shopping Center. Continental Federal Savings & Loan.

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FOR SALE: 80-10 AT Dentron long wire tuner, \$40.00. Heathkit HF watt-meter, \$25.00. Perfect. Frank Carter, WB5EBX 391-3394

FOR SALE: Ham M rotator with control box, \$35.00. Operational. Lloyd, WA5PPA, Washington, Okla. 73093 (Box 266)

FOR SALE OR TRADE: 2 mtr gear. 2 ea FM-27B with mobile mount and mike, honest 28 watts out, never been used mobile. \$180, take pick. 2 ea Standard SR-c 146AU HT with CES 220 Touch-tone pad installed, rubber duckie and extension antennas, leather case, BASE MASTER nicad charger with connections for base use, 10 nicads, 94/94, 34/94/ 22/82, 81/21, 52/52. Two watts out. Your pick \$175. Manuals for all above. Will trade for a 80-10 transceiver, Lets deal. I want to sell or trade only one of each unit. Ben Allen, K5IRO, 101 W Glenn Dr Edmond 348-4264

FOR SALE: Drake TR-4, rebuilt by Drake to latest FCC regs, w/ AC power supply. \$450.00. Also various ham accessories, code sets, manuals. Gene, WB5VCA. Phone 942-1238.

FOR SALE: Clegg Venus, 6 meter w/matching power supply, \$175.00. DX-160 w/spaker. Radio Shack, general coverage, \$100.00. SBE SLA-1 Linear Amplifier, 1 KW PEP. Charles Greene, WA5JGU.

FOR SALE: NEW Kenwood AT-200 Antenna Tuner. See page 6 of January QST. One of the first ones in Oklahoma. First check for \$145.00 takes it. In original package, never used. Robbie Reid, Norman 321-0077.

Robbie, K5QR, phone 373-1818 is looking for the base or outer housing for a HAM-M rotor. The mounting holes are filled with seized bolts on his, the rest of it is like new. If you have an old one laying around that won't work call him, he had a couple of bucks left the other day.

Late-Night Amateur Radio is ALIVE

After the Ten O'clock News and Johnny Carson's monologue, many Oklahoma amateurs are finding something refreshing on two meters. Mobiles out-and-about, late-shift workers, and relatively distant hams know of it, too. It's called The Night Owl Net, the best way to keep in touch with amateurs in Oklahoma. Every amateur, technician class and higher is welcome to participate. The net provides assistance to mobiles, passes traffic and keeps the bank alive with good amateur conversation. Join us any evening at eleven p.m. - even on weekends. You may get hooked!

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Cecil E. Pegors, Manager 787-0560

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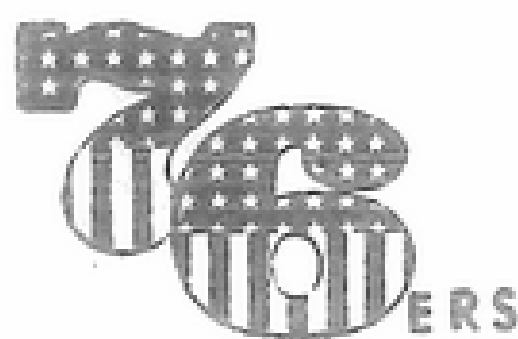
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THE BICENTENNIAL AMATEUR RADIO CLUB



MINUTES OF THE MARCH 21, 1978 MEETING OF THE BICENTENNIAL AMATEUR RADIO CLUB

The meeting was called to order at 1904 Local by president Ken Burdick, K5UAB.

The treasurer's report was read by vice-president Dick Baker, WB5TMW, at the request of treasurer Joe Ramage, WB5TDW, who was unable to attend the meeting. The report disclosed that as of this date, 76 members are enrolled in the club membership, with 61% of those being ARRL members.

No Old Business was presented to the floor.

An appeal was made by president Burdick for someone to head the Ladies' Activities at Ham Holiday '78. No volunteers were recognized. C.O.R.A.'s duties for our part in Ham Holiday were to be for the Ladies' Activities. General interest in the Ladies' Activities was mixed, tending to be apathetic to the problem.

Discussion was again opened on the meeting nights conflicting with other activities. Coy Day, N5OK, presented the topic for discussion. It was a general consensus of the group that our meeting nights should not be moved, due to the fact that the '76ers meeting nights have been established longer than other groups.

Self introductions included remarks about each member's and guest's activities.

Information was passed on this year's procedures for the Oklahoma Severe Storm Warning Net held on the 22/82 machine.

Coy Day, N5OK, is in the process of organizing a 10-10 Club local chapter. For more info, check with Coy.

A committee was selected for organization of Field Day. Members include: Dick, WB5TMW; Bill, N5WM; C.Y., WB5TKG; Bob, WB5SSX; Ken, K5GI; Don, WB5UAP; Lloyd, WB5HUP; and Dennis, WD5CSM.

The program was presented by Ron Robison, WA5WYQ, on traffic handling.

The meeting and program adjourned at 9:24 P.M.

* * * * *

MINUTES OF THE APRIL 18, 1978 MEETING OF THE BICENTENNIAL AMATEUR RADIO CLUB

The meeting was called to order at 1905 Local by president Ken Burdick, K5UAB.

Minutes of the March meeting were read by secretary Mark Northcutt, WD5DYI.

The treasurer's report was given by Joe Ramage, WB5TDW. Joe asked that each member of the '76ers confirm their ARRL membership with him for our records and also for a possible club rate on memberships and QST subscriptions.

Under Old Business, the club discussed its obligation for the Ladies' Program at Ham Holiday. Lloyd Kirk, WB5HUP and Don Duck, WB5UAP volunteered their help in this area. Any other volunteers would be appreciated--contact Lloyd or Don.

For New Business, the main topic of discussion was introduced by Don Duck, WB5UAP. He asked if the Seventy-Sixers wished to become affiliated with the Oklahoma City Repeater Club, Inc., sponsors of the 37/97 repeater with open autopatch facilities. The Repeater Club is in financial difficulties due to very few members. Because of time limitations, a meeting was scheduled for April 22, 1978, for further discussion on the topic. Recommendations will be presented at the May meeting. A constitutional change may be involved; therefore, a large turnout for the next meeting should be encouraged.

The program for the evening was presented by Doc Goodhead, WA5CZN, and Paul, WB5EVO, on Fast Scan Amateur Television--a very interesting program!

The meeting and program adjourned at 9:30 P.M.

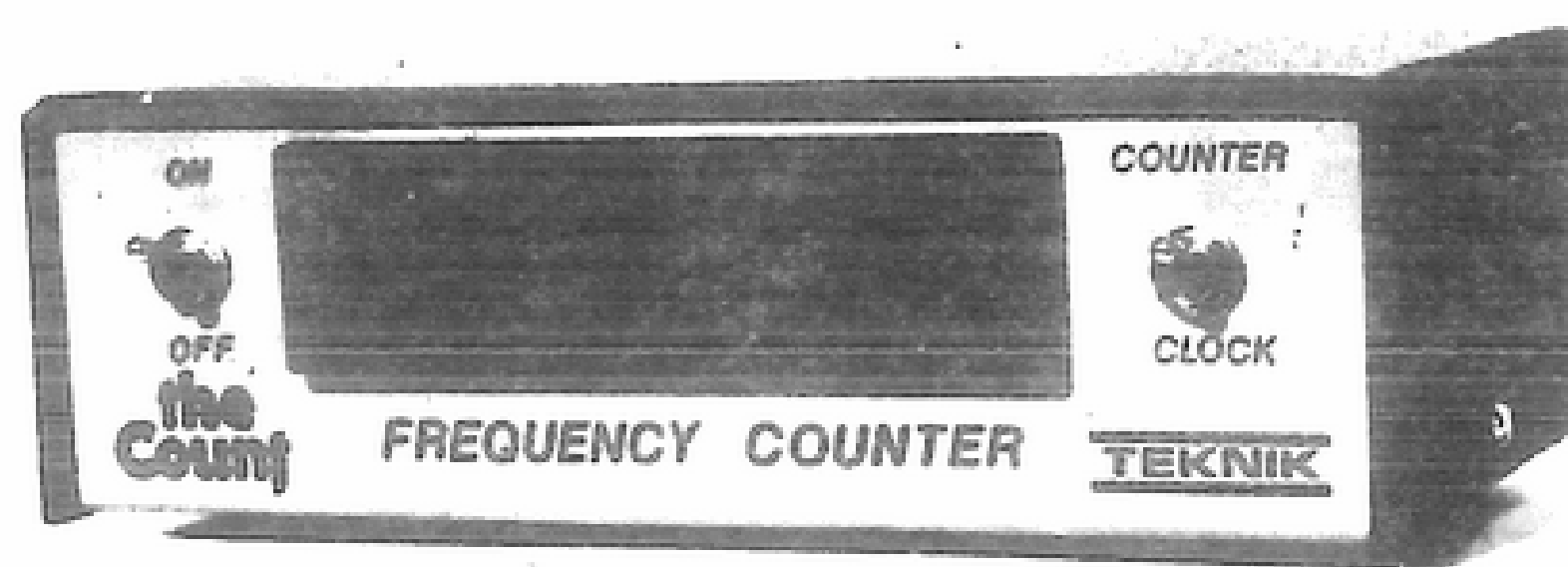
Mark Northcutt, WD5DYI
Secretary

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RANDOM WORDS FROM THE PRESIDENT

I would like to thank Frank Jerome, W5AT, for presenting a fine program to the club in April. Everyone seemed to enjoy his presentation, as was evidenced by the discussion that followed.

Our may meeting will feature "VHF-DP, FAA Style." Ed Murta, K5LIL, and yours truly, will present this program in response to member request. There seems to be a great deal of interest in this area, so join us for an interesting May meeting.

Many club members have asked about the ".25-.85" repeater. Well, as of this writing, we have recieved both the antenna, and the duplexer. The ID'er, timer, and control circuits are ready for installation, so all that remains is delivery of the radio itself, and final installation. Many members (and non-members) have also asked about access to the repeater. As it now stands ".25-.85" will be an open repeater with an open autopatch connection.

At the last meeting Charlie Green, WA5JGU, asked that we look for someone to pickup the radio classes in September, and relieve him for awhile. Charlie has been doing an excellent job of coordinating, directing, and many times teaching this type of class at the Red Cross for many years, but now it is time for some of us to help out in more than just a teaching capacity. Charlie has agreed to help whoever undertakes this job in any way he can. So, if you might be interested in helping new amateurs get started (or not so new amateurs get upgraded) by teaching, coordinating, or whatever, Please contact Charlie Green, WA5JGU, or myself. Thanks Charlie for a job well done, from a graduate of one of your Red Cross classes.

73 Bob Graham, WB5NSV

"TEST EQUIPMENT FOR THE RADIO AMATEUR"

The latest publication issued by the Radio Society of Great Britain is on test equipment. Not just the use of test equipment, but also on constructing and calibrating many useful devices. Like all the RSGB books, it provides great detail, considerably more than similar publications in our country.

Its chapter headings give one a general overview of the contents, but it takes careful reading to appreciate the full worth of the book. The headings are: Current and voltage measurement; frequency measurement; wavemeters; RF power measurement; antenna and transmission line measurements; noise measurements; components, tubes and semiconductor signal sources and attenuators; oscilloscopes and modulation monitors; power supplies; and reference data.

When you consider these subjects applied to all amateur practices from AF to SHF, you'll have a true appreciation of the quality and quantity of work that went into the preparation of this one book.

W5JJ

For Sale: Galaxy FM-210 W/AC-210 PS and Power Booser. Larsen 5/8 magnetic mount, call Mike @ 789-5890.

FOR SALE: Daven terminating AF wattmeter, matches very wide range of impedances, \$25.00. Also many milliammeters, ammeters, voltmeters, and one RF ammeter; many coax and twin-ax fittings. W5JJ, 5824 N. W. 58 St., Warr Acres, OK 73122, Ph. (405) 789-3788.



TORNADO BEHAVIOR

A few fellow amateurs who have read my novel TWISTER have been kind enough to suggest that a few observations from my research on the subject of tornadoes might be interesting to readers involved in storm-watching nets. I'm not sure how much help these gleanings may be, but here goes.

The uninitiated sometimes gripe about all the severe weather watches issued during the spring, but the fact is that the issuance of such watches is one of the few things about tornadoes that can be done with any real degree of accuracy. The elements which produce severe thunderstorm potential are fairly well understood, and include such items as stratifications of temperature and humidity in the lower atmosphere, low pressure centers, availability of cool-dry and warm-moist air masses, jetstream behavior, and so on. When a watch suggests that something may happen, it is based on solid evidence.

This does not, of course, mean that severe weather will always develop. Nor does the absence of a watch mean there is no chance of trouble. Not many years ago, a tornado struck one Oklahoma community when no watch or warning was in effect. And many of us have been out on spotter assignments for storms that fizzled.

Still, the accuracy of predicting some likelihood of severe weather is very high. On April 1, 1974, Al Pearson, director of the National Severe Storms Forecast Center in Kansas City, sent a unique message to National Weather Service offices in the eastern half of the country. He told offices to pull maintenance on radar units immediately, if needed, and to have everything back on line by the night of April 2. He suggested that regular days off be cancelled on the third, as the potential for severe weather would be very high.

Unfortunately for many, Pearson's message was not one of those April Fool things made famous by Mike Salem. On April 3, 1974, the eastern half of the United States was hit by more than 150 tornadoes, the worst outbreak in the history of this or any nation.

Everything else about tornadoes, however, is freaky.

Radar? Sometimes it sees 'em, sometimes it doesn't. Sometimes it sees a hook echo when there is no tornado. Many experts admit privately that the value of radar is vastly over-rated by the general public, but if it makes people feel better, well....

The wall cloud? It's often a good indicator. But the spotter who watches only the southwest quadrant of a cloud, seeking a wall cloud, may get a nasty surprise. Tornadoes have hit before the rain, during the rain, and after the rain. They have developed in various quadrants of clouds. They have struck communities from every compass point, and some have been tracked through enormous U turns, coming right back where they started. Some research tends to indicate that a tornado sometimes turns to a more northerly course, from its usual southwest-northeast path, in its dying stages; many did that in April 1974. But you can't count on that either.

Spot 'em by the lightning at night? Or see if channel 2 on the TV acts funny? Great. But only 20 percent of tornadoes are electrified. Although some of the storms that hit Ohio and Kentucky in 1974 produced incredible electrical displays, some twisters had no lightning at all associated with them.



Watch toward the southwest? Usually. But the tornado that clobbered Worcester, Mass., on June 9, 1953, came from the northwest; it was the worst ever in New England. And possibly the people in Worcester console themselves with the statistic that says a tornado will likely hit a given spot only once every two hundred years or so. Don't tell them about Oklahoma City, hit 28 times since 1892, or Huntsville, Ala., hit twice in the same day a few years back.

Clearly, spotters will have no easy time of it. Out there in their cars, they'll also face some more personal decisions if and when they spot a twister. There's just no question but that they could be in danger if they decide wrong.

Moving away from the path of a tornado is fine if you can clearly tell the direction of movement, can outrun a storm that may be moving 50-60 mph, and are lucky enough that the tornado doesn't change its mind about where it wants to head next. But what if you're in the car and it begins to look like the thing may run over you?

At this point, as the man said, things can get puckery. The car is not a good place to be; it may be picked up and hurled through the air, or tumbled end-over-end; projectiles -- from hail to power poles -- may turn all that glass into killing fragments. An underpass may be good. I think I would abandon the car and hit the ditch if I could find one. And if I were a regular spotter I would have some kind of hard hat in the car to help protect the noggin from flying junk in such emergencies. Don't worry about the rig, man, or anything else except your life. Take cover!

Finally, I think all spotters ought to ponder something I had a character in TWISTER say early on. He was a weatherman, and he said he liked to ask people in conversation whether tornadoes scared them.

If the person said he wasn't scared at all, my character knew not to talk with him any more because he was obviously a danged fool.

I didn't have to make up that line. It was given me in real life by a meteorologist who has devoted most of life to studying -- and chasing -- tornadoes. His point was one we all need to remember: don't get bored or hung up on your macho images; be vigilant, and don't take too much for granted. Because if you start thinking you know all about tornadoes, and aren't the least bit scared any more, one of the damn things may just cream you.

-- Jack, WB5TZZ

For Sale: Atronics Code Reader model KCR 101 Reads Morse Code 5-50 wpm
Displays characters on LED readout. \$125 Don WB5RAX 787-0092

"CORA C&E GETS QUOTED DOWN UNDER"

The February issue of AMATEUR RADIO, the publication of the Wireless Institute of Australia, quotes from the August 1977 issue of C&E in a bit entitled Improve Your Status.

The same issue points out possibility of spurious emissions from the Uniden 2020 transceiver (marketed in this country as the Tempo 2020). Every user of that transceiver should read and heed! Certain modes of operation create undesired emissions, ones that may fall out of our amateur bands.

SAVE THOSE FINAL AMPLIFIER TUBES

The majority of rigs in use now are transceivers, the final amplifiers are either TV sweep tubes or 6L46, neither take kindly to a prolonged key down time for tuning. Here is a circuit that will save you the trouble and expense of replacing those expensive finals.

I built my unit in the base of my D104 on perf board with a DPST switch mounted on the base, there is a blank pin on the mike jack in my FT-101E, so I borrowed 13.5 v from the rig. A 9 v battery can be used.

To use: Do not use tune-up position of function switch. Use either USB or LSB position, apply power and tune for maximum out put.

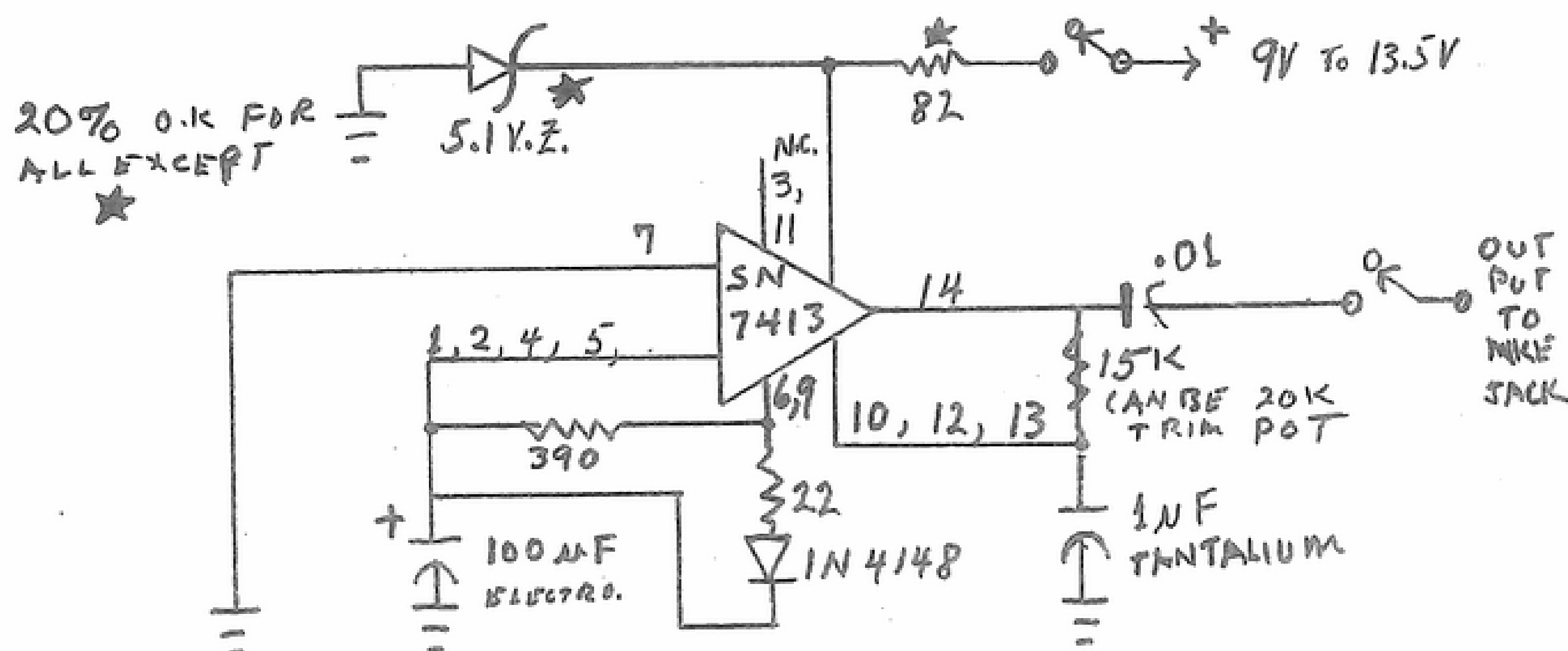
DUMMY LOAD PLEASE

After tuneup be sure to turn the unit off. You could use a LED for an on or off indicator. Here is what you get with a 9 v battery:

CURRENT 20 mA OUTPUT 4 volts peak to peak
TONE 2000 to 2100 Hz PULSED DUTY CYCLE 30% on, 70% off

With the 30% ON duty cycle of this unit you can tune all day if that is your bag, (and from listening around the bands I think it is a coming hobby). Remember please, Use the dummy load.

You might want to mount the unit in a small mini-box, if not in
mike. I have constructed 5 of these units and 2 didn't take too kind-
ly to RF. The other 3 could have cared less, they were setting open on
the work bench. Ben, K5IRO



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OKCAP NEWSBRIEFS

March Meeting

A flea-market program was staged for the March meeting as previously announced. By some standards the turnout was not as great as had been hoped. However, a reasonable amount of bartering took place and many enjoyed those "eyeball QSO's."

Another flea-market is being planned for May. Plan now to bring out those stored treasures that we're sure someone just couldn't live without. We might add that members of other CORA Clubs are invited to participate in these sessions. There is no charge for displaying those rare goodies.

Severe Weather Net Innovation

Beginning with the next activation of the Severe Weather Net, there will be implemented an interlinking between the .22-.82 and 444.3 machines. This innovation should provide additional net input which will allow more effective reporting to the general public.

Speaking of net activity, shortly after the close of the last net, the pre-amp on the .22-.82 repeater "decided" to cease operating. Temporarily we are functioning without it, but don't despair! Jay Liebman - K5JL is working on a new - improved version which will soon be put into service.

Technical Committee Reports

Bob Williams - K5PJU reports that the repeater systems are working well as of this writing.

The previously discussed building project which will house some of our facilities is in a "holding pattern" due to some building clearance problems. This will be our own 12' x 12' building built by OKCAP members.

There are many new and noteworthy projects being planned for our club. And, it goes without saying that man-power, together with your expertise, are required. Just in case you don't want to be left out of any technical committee programs, call Bob Williams at either 341-5529 (home) or 528-3009 (office).

Now please - - don't all call at the same hour!

APRIL MEETING

Your president and vice-president were out-of-pocket for the April meeting due to unchangeable business commitments. The meeting was run by some of our capable members, however.

If you were there, you know what transpired. If not, you will have to ask those present. Over and out!

FOR SALE: Drake 1A receiver in mint condition. \$125.00. Call Lloyd Wright - WB5Z0I. Office 235-3777 or home 843-6811.

FOR SALE: Model 210 programmable Bearcat. Brand new for only \$225. IC21 with 24 channel capability \$300. GLB Synthesizer for 144 to 148 MHz. Price negotiable. Directional RDF units for 2-Meters. Includes boards, specs, parts instructions, etc., only \$12.00 per unit. Call Bob Williams - K5PJU. Home 341-5529 or office 528-3009.



HELP HELP HELP

During several past meetings and informal get-togethers, many discussions centered upon proposed improvements in our repeater equipment and programs. The proposals so presented came about after many hours of planning and developing and were geared toward a high level of operating efficiency and top quality equipment performance.

It goes without saying that such proposals require expenditure of considerable funds. As examples: we need about 1,200 feet of heliax at roughly \$2.13 per foot. Building materials for our planned 12 x 12 foot building will involve a fair "piece of change." In addition to the funds, a considerable amount of good hard physical effort will also be required.

Here's the pitch, friends: We need your support--financially and physically. Send your contributions to Hobe - WB5MLN. And, notify Bob - K5PJU of any building supplies you could provide and physical effort you would make available.

HR REPORT HIGHLIGHTS

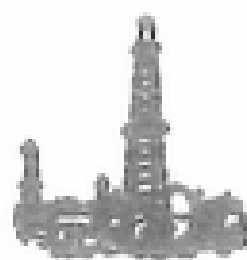
SERIOUS QUESTIONS ABOUT AUTOPATCHES and the apparent increase of business-type communications on the Amateur bands are raised in an April 5 FCC release, which likened "telephone interconnection at Amateur stations" with the situation in the Personal and Business Radio Services." Though there were some text problems with the release as issued - the Personal Radio Division has requested that it be corrected and re-released - it strongly points up growing Commission concern with this area of Amateur Radio.

Autopatches and Reverse Autopatches in particular were discussed at some length in the FCC document. For example, it pointed out that the regulations require a control operator be on duty whenever autopatching or reverse autopatching occurs, effectively prohibiting autopatch use when a repeater is operating in "automatic control." It further stated that "all calls not initiated at an Amateur station had to be screened by the control operator before being placed on the air." Though a revised release is to be issued shortly, it's obvious that autopatch operators and users should start now to tighten up their operations.

Autopatch Financing could raise still another sticky question with respect to ITT tariffs, W0MKZ points out in Boulder QSP, if money is collected from users specifically to pay for their use of the autopatch. It appears clubs or other groups with autopatch repeaters would be on firmer ground if autopatch costs were to be covered as just another expense item financed from club revenues.

AA1A, KB5AB, AND KA9AAC will all be heard soon along with Nx3 callsigns as a result of the new FCC callsign structure announced in last week's HR Report. The initial Extra Class callsign (Group A), assigned in each call area will be AAxA, but 2x2s for Advance Class (Group B) will begin with KA1AA in the first call area but KBxAA in all others (since KAx2 callsigns are currently in use by U.S. personnel in Japan). Canton Island licensees with KB6 callsigns will keep them, but when new Advance Class licensees in California start showing up with KB6 calls they're sure to create pileups. Novices are also going to start a new callsign group (Group D), with KAx3 calls such as KA3AAB.

NOTE: Only Extras and other class licensees who are upgrading or applying for their first Amateur license are currently eligible for the new calls. Applications from others will be returned!



MID-OKLAHOMA REPEATER INC.

MINUTES OF THE APRIL MEETING

THE MEETING WAS CALLED TO ORDER AT 8:05 P.M., APRIL 4, 1978 AT THE E.O.C. BY PRESIDENT JOHN, K5QDR.

INTRODUCTIONS FOLLOWED, THERE WERE 53 MEMBERS AND GUESTS PRESENT.

ANNOUNCEMENTS

IT WAS ANNOUNCED THAT BILL RODGERS, WA5RAQ, HAD RESIGNED HIS POSITION AS THE EDITOR FOR MORI'S SECTION OF COLLECTOR AND EMITTER. IF THERE IS ANYBODY WHO COULD FILL BILL'S VACANCY YOU ARE ENCOURAGED TO CONTACT K5QDR.

VOLUNTEERS FOR MORI ARE NEEDED FOR THE REGISTRATION COMMITTEE OF HAM HOLIDAY WHICH WILL BE HELD JULY 28, 29 and 30. IF YOU CAN BE OF SERVICE PLEASE CONTACT MARK, WD5DYI OR JOHN, K5QDR.

D.F. COMMITTEE

DUE TO SOME OF THE MEMBERS BEING UNAVAILABLE THE DIRECTION FINDING COMMITTEE HAS NOT MET YET.

MARK, WD5DYI, REPORTED TO THE MEMBERS THAT THE NIGHT OWL NET HAS BEEN AVERAGING 14 CHECK-INS PER NIGHT. HE ENCOURAGED EVERYONE TO PARTICIPATE. THE NET MEETS EVERY NIGHT AT 11:00 P.M. ON THE 146.07/67 REPEATER.

JIM, K5VRL, REMINDED US THAT VOLUNTEERS WERE NEEDED FOR THE AMERICAN CANCER SOCIETY PICK-UP APRIL 12.

REPEATER REPORT

34/94 EVERYTHING IS WORKING OK. POWER OUTPUT IS 50 WATTS INTO A 6db GAIN DB-224.

450 SYSTEM IS ALL OK AND THE NEW DUPLEXER IS WORKING FINE. THERE STILL IS ROOM FOR A FEW MORE PEOPLE UP THERE. BOTH OF THESE REPEATERS ARE LOCATED ON THE LIBERTY TOWER.

07/67 DESPITE THE PROBLEMS WITH THE AUTOPATCH NOT WORKING ALL THE TIME

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JULY 28-29-30

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AND A.R.R.L. STATE CONVENTION

JULY 28-29 & 30

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*****PLENTY TO DO FOR THE LADIES*****

REGISTER BY JULY 21 AND BE ELIGIBLE FOR THE PRE-REGISTRATION DRAWING

PRE-REGISTRATION AWARD: Wilson Mark II
WITH TONE PAD, CASE, AND CHARGER

GRAND AWARD: Kenwood TS-520S

PRE-REGISTRATIONS MUST BE MADE BY JULY 21ST TO QUALIFY FOR THE PRE-REGISTRATION AWARD. MAIL PRE-REGISTRATIONS TO: HAM HOLIDAY, P.O. BOX 14604, OKLAHOMA CITY, OKLAHOMA, 73113. TICKETS WILL BE HELD AT THE REGISTRATION DESK. SEND S.A.S.E. IF CONFIRMATION IS DESIRED. ROOM RESERVATIONS MUST BE MADE BY JULY 14TH. DEAL DIRECT WITH LINCOLN PLAZA. MENTION HAM HOLIDAY OR USE POSTAGE-PAID FORM FOR SPECIAL RATES.

POSTMASTER: Send Form 3579 to:
CORA C&E Box 15013
Oklahoma City OK 73115
Publication No. 11649D

MAY HAM HAPPENINGS						
SUNDAY	MONDAY	TUESDAY O.U.A.R.C. MEETS	WEDNESDAY	THURSDAY	FRIDAY A.C.A.R.C. MEETS	SATURDAY
	1	2	3	4	5	6
		M.O.R.I. MEETS		ALTUS A.A.R.A. MEETS		
7	8	9	10	11	12	13
		'76er's QUARC. AUTOPATCH			VHF MEETS	
14	15	16	17	18	19	20
	EDIT C&E		C.O.R.A. MEETS		VHF MAILS C&E	
21	22	23	24	25	26	27
	MEMORIAL DAY					
28	29	30	31			

See page 2 and/or individual club sections for details

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