SECOND CLASS MAIL Postmaster, see page 3

CENTRAL OKLAHOMA RADIO AMATEURS
COLLECTOR AND EMITTER
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Q. R. Zedd

POWER HOGS SPOIL ZEDD'S FUN

When Q. R. Zedd, A5A, decided to go QRP for a while, the world waited with baited breath.

Zedd, holder of the nation's only 1x1 callsign, the greatest DXer in the universe, electronic genius, holder of the coveted Worked All Stations award on all bands, and holder of the local Dunkin Doughnuts Mastication Achievement Award, worked much of the summer on his QRP rig.

Those who read this report regularly know of the engineering difficulties he surmounted. Those who don't read this report regularly don't deserve to know.

Anyway, it was in July that Zedd allowed a handful of the deserving to enter his shack at Honor Roll Ranch, just a hoot and a holler south of town, to watch him work some QRP. Little did we know, as we entered the holy of holies with fear and trembling, that we would also witness Zedd's wrath at power hogs and tuner-uppers.

What a sight it was as we entered! There was the array of Zedd's rigs, many of his own design and construction. There were the computers, the shelves of revered logbooks, the engineering charts, the map of the walkin linear room, and at the No. 1 operating position, in his leather recliner chair with the built-in boom mike and Coors dispenser, Zedd himself.

We were thrilled, to say the least.

Zedd, a tall and handsome man with iron-gray hair and muscles of steel, was wearing a red cowboy shirt, green Levi's, some magnificent silver jewelry, and purple boots with the ornamental spurs painted blue. He only waved us to seats in the bleachers along the west wall, because he was already working stations.

Things went great for the first hour. He worked about 90 countries. During a lull for a sody pop and a moon pie, he told us he was putting out something in the neighborhood of .5 milliwatt ERP, which, given the 900-to-1 gain of his big array at 3,000 feet, tells you he wasn't kidding when he designed the QRP transmitter.

The transmitter itself sat in the middle of his operating desk with a little tripod magnifying device over it so you could see it easily.

Zedd worked all his old pals in China, Nepal, Saudi Arabia and other old stomping grounds, and was obviously having a high old time. Tondelayo Schwartz, his blond, nubile, 20-year-old QSL secretary and constant companion, served refreshments to the faithful in worshipful attendance, and a grand time was being had by all.

It was about 10 p.m. local when the trouble started.

Zedd was in QSO with a lucky person in France on 20 meter phone when -- during the Frenchman's transmission -- someone came up smack-dab on frequency and started tuning up.

Zedd grabbed the mike. "The frequency is in use, OM. Thank you."

In view of later developments, it is important to note for the historical record that he said this real nice.

The tuning-up continued.

Zedd keyed his mike again. "Frequency in use. Frequency in use. Please QSY. A5A."

Usually the magic of the callsign brings instant obedience, but to our horror the carrier remained on frequency, possibly even getting stronger.

Zedd's face began to get red, a sure sign of trouble.

The Frenchman finished his transmission. It was Zedd's turn. He leaned back in his chair and responded to everything the Frenchman had said with the proper FB's and R's, and then told his French pal how he had invented radar during World War II, and something about the round-the-world DXpedition of only months ago. Naturally it was a grand story, because one of Zedd's other points of genius is his storytelling ability and wonderful sense of humor. So it was a great yarn, and took about thirty minutes.

When he "over'd" to his French pal, the carrier was still there! Furthermore, through the howl could be heard the French station, pitiably saying: **"A5A, A5A, this is (_____). I cannot copy. I cannot copy. Heavy QRM, OM. Try again, Zedd. Over, s'il vous plais."**

Zedd's boots clomped to the floor as the chair leveled. "Will the tuning-up station QSY?" he roared. "QSY! QSY! This is A5A."

The tuning went right on, and along with it came the sound of a laughing machine.

Zedd's face was terrible in its anger. His hands flew as he switched on some other equipment. The lights dimmed and shimmered. The sound of big transformer plates rattling nearby was like a crew of men tearing up a street. Coaxial switches were rotated. Plates touched up. A couple of big meters showed red needles swinging all the way to the right and out of sight.

Tondelayo happened into the room with a tray of more Colorado KoolAid for the guests. She took one look at what was happening, and blanched.

"Q.!" she cried in horror. "You can't run that big linear wide open!"

"Can't I?" Zedd screamed. "You forget my special authorization from the FCC that my pal Ronnie got me! Just watch!"

He hit the transmit switch.

The hair on everyone's head stood on end. The night lit up beyond the windows as corona effect intensified.

Zedd held full power for perhaps three seconds.

Then eased up.

The frequency was now quiet. The carrier was gone.

But the offending power hog must have been using Vox, for through the silence came a little voice, pitiful: **"Matilda, come in here! I've had my headphones blown clean off my head and I can't hear a thang! I'm deaf! I ain't even sure I' still got my ears!"**

Zedd heaved a righteous sigh and leaned back in his chair.

"Boys," he said softly, "it don't pay to mess around with Q. R. Zedd."

No one replied. The shack at Honor Roll was as quiet as a church.

--KU5B

GREAT PLAINS A.R.C.

WSHGH Repeater 146. 13/73

STORMS, ABBREVIATION AND DONATION

The August meeting of the Great Plains Amateur Radio Club had to be one of the shortest on record. The total meeting time was just eight minutes. Bad weather was the culprit causing our members to leave and serve as spotters. We did have one guest Bob Beatley, Mooreland Art Instructor and forthcoming ham. It looks like he found out just how efficient and speedy our club meeting can be conducted. Our Mooreland members are to be commended on ham activity in their area, particularly their recruiting of prospective operators. It was learned at the meeting that a substantial amount of feedline had been donated by Unit Drilling of Beaver OK. This cable will be used in support of storm watch activities in our area. Mr. Earl Giles and the personnel of Unit Drilling have the sincere thanks of all GPARC members. We feel particularly fortunate in our area to have the support of many excellent businesses helping with our activities.

RADAR BILLY NEWS

The Woodward Severe Storms Center recently purchased an AVQ-10 C-Band weather radar. This unit will be interfaced with the radar antenna syste presently in use. In addition, colorizer has also been acquire It will make possible a present ation similar to that seen o local television radar screens According to Bill Wyatt, KD5JR future plans call for the acqu isition of a 12 foot radar dish

Once again, all the personne helping with weather radar oper- operation are to be commended. Their services are a most valuable asset to our communities.

SUPER SHACK ! !

For quite some time we have been hearing stories of a certain fantastic Ham Shack located in or near Fargo OK. Since there weren't any hams in Fargo until a few months ago, this could only mean that JohnWright,N5AVV, was the responsible party. The Old Man and I had to check this one out. We used the feeble excuse that we were there anyway to see a Doctor (Fargo doesn't have a doctor, let alone one open at 9:00 pm.) to pull a surprise visit off on John.

Our questionable story and late hour of arrival did not hinder his hospitality. He invited us in and apologized for the Doctors office being closed. After a short conversation, we were gently nudged in the general direction of the much discussed room. Our conniving was just about to pay off. As we rounded the corner and entered John's Shack words of exclamation such as "Gadzooks!, Golly, Wow! and Leaping Lizards!" echoed throughout the neighborhood. The reports are now officially documented as truthful. All of John's equipment is built-in and presents a very attractive appearance. There wasn't a wire to be seen anywhere!!! We thoroughly enjoyed our visit and thank John for his hospitality. We plan to go back some day but need some tine to think up a more plausible excuse. I wonder if the Russians have an embassy in Fargo?

HAMFESTS AND PICNICS

Hams of our area have been able to attend lots of great hamfests, picnics and other ham related activities this summer. We were well represented at Han Holiday this year. Our thanks to everyone responsible for these get togethers. We know that each event takes a lot of organizing and hard work.

Don't forget the Great Salt Plains Hamfest, coming up September 8, 1985. The event will be held at the community building on the Souty side of the Great Salt Plains Lake located near Cherokee OK. For further information contact Steve Walz,WA5UTO Box 222, Cherokee OK 73728.

FOR SALE: RG-214 coax, 25c a foot. Ideal for low loss EME work or for long feedlines. W5JJ, 789-3788.

FOR SALE: Drake TR-4C xcvr with AC-4 Power supply & speaker, $295. RV-4C Remote VFO with Spkr, $75. N5PC, Ponca City OK (405) 762-4426.

ARDMORE

Field Day this year was unique for the Ardmore Amateur Radio Club in that it was held in Central Park in downtown Ardmore, rather than in remote country-side as always before.

This location allowed the general public to walk up, read the large posters beautifully done by John Merlyn, WD5FZD, watch continuously running Ham video tapes, observe the operating, sign up prospective students, and admire the equipment and antennas. Russ, W5RFX, had an operation of real interest with his live slo-scan and weather set demonstration.

Newspaper coverage was excellent, with pictures, both before and following F.D. Even the mayor came to witness and visit. We did wonder, though, about our popularity Sunday morning during worship services, what with the Methodist church on one side of the park and Episcopal church on the other. It may have been a little difficult for the amateurs to explain CW to their congregations. 21 Hams showed up and took part.

On Saturday, July 20, the club members did their annual good job of coordinating the many activities of the 1985 Ardmore Airshow, with over 100 aircraft taking part. Very exciting. Did you ever notice that all of the members of the Confederate Air force are Colonels? Nobody can talk back to anybody. Not a bad arrangement.

If you are on the road don't forget to join us for breakfast at 7:30, the second Saturday of each month, at the Corral Restaurant. Hit the 37-9 machine.

Jack, W5GM

ANOTHER EXAMINATION SET UP

There will be Anateur Test given, Novice through Extra Saturday, September 14, 1985 Novice will be given Free, the other upgrade test will be the ususl fee of $4.00.

Date September 14, 1985
Time 1:00 pm
Place KF Industries
(Plant Lunchroom)
1500 SE 89 th
Oklahoma City OK
PRE-REGISTERING NOT REQUIRED
(WALK-INS ONLY)
CONTACT: 794-7398 Hal NX5A
672-5564 George NX5I

These test will be given Saturday to offer people of the area who have trouble getting the other local testing sites because of job or other comments.

The South Canadian Amateur Radio Society

Davis, KD5IT

REPEATER IMPROVES.....

The -600 input link receiver to the repeater has now been finished. It has been in operation for about a month and all of the bugs seem to be worked out. Thanks to all of those who helped: N5BEW, K5PL, KA5EFJ, N5HZR, N5AMV, KA5LNO, W5MCN, KD5WA, N5HJG, W5OU, W2OCM, and WB5RZX. The entire project was done at a cost of less than $300, including all of the UHF equipment and beam antennas.

REPEATER GUIDES MAILED.....

Instruction sheets for using the new repeater controller have been mailed to all club members. If you did not receive yours, call KD5IT.

VE EXAMS SCHEDULED.....

Get out your study manuals and cram. Once again, FCC license exams will be given in Norman on September 18th at 6:30 p.m. The location will be Kaufman Hall (on the South Oval at OU), 2nd floor unless last minute scheduling changes at OU force re-location. Exams for all classes of license from Novice to Extra will be given. Walk-ins will be accepted on a space-available basis, but if you want to be assured of a spot (and also help out your friendly Volunteer Examiner Team), please send your FCC form 610, a check for $4.00 made payable to SCARS, and a photocopy of your current license to Sam Barrett, PO Box 18, Norman, Ok 73070 by about Sept. 12. Please be there promptly at 6:30pm as the exam will start on time. Stay tuned to the 147.66/.06 repeater for further developments, or call Sam, WA5RPP, at 321-2601.

NOVICE CLASS TO BEGIN.....

Dave, KD5IT and Monte, WB5RZX, announce that SCARS will once again sponsor NOVICE classes. The first meeting will be on Monday, SEPT 30 at 7:30p.m. at the Red Cross Building, 1205 Halley Drive, OU North Campus, Norman. The class will run for seven weeks and exams will follow. Another VE exam session is planned shortly after the class ends. Call 329-7485 after 6 p.m. for more information. Spread the word.

MORE SCARS NEWS.....

At the last meeting of the South Canadian Amateur Radio Society, the club voted to extend a Life Membership to Dean, N5AMV, in recognition of his service to the club. Dean has been very generous in making available equipment and shop facilities as well as many, many hours of his time.

KA5EFJ, Ken, has been officially named Emergency Coordinator for Cleveland County. He is currently assembling a list of volunteers for ARES. If you are interested, contact Ken. By the way, congratulations Ken.

W5MCN was named trustee for the club's HF station at the Red Cross, and N5HZR was named alternate trustee. W5OU is the trustee for the repeater, and N5BEW is the alternate. ⟹

THE BIG SIGNAL

OKLAHOMA CITY AUTOPATCH ASSOCIATION, INC.

HERE'S MY FIRST COLUMN AS V-P/ED OF OCAPA. NEW PREZ GERRY, N5GVP, SEZ WE NEED SOMETHING IN THIS MONTH'S C&E ABOUT OUR SEPTEMBER PROGRAM.

OUR SEPTEMBER PROGRAM WILL BE PRESENTED BY FRED NORMAN AND WAYNE SHATTUCK OF CHANNEL 5 TV AND LARRY MOONEY OF NATIONAL WEATHER SERVICE. THEY'RE GONNA LAY SOME HEAVY STUFF ON US CALLED "LIMITATIONS OF RADAR" OR, "WHY SPOTTERS ARE NEEDED." THIS MEETING WILL TAKE PLACE ON OUR USUAL MEETING NIGHT, TUESDAY, SEPT. 17, BUT WE WILL START THE PROGRAM ONE-HALF HOUR EARLY AT 7:00. ALL AREA HAMS ARE INVITED.

OCAPA HELD ELECTIONS OF NEW OFFICERS AT OUR AUGUST MEETING. WE HAVE AN ENTIRELY NEW TEAM AT THE HELM:

ELECTED PREZ WAS GERRY, N5GVP.

V-P/ED IS YOURS TRULY, DON, ND5M.

SEC'Y IS CHARLES, N5FMU.

TREAS IS ART, KF5DK (EX N5GRI)

CONGRATS TO ALL AND GOOD LUCK.

AND THANKS FOR A TOUGH JOB WELL DONE TO OUR OUTGOING OFFICERS, PRES KATHY, WB5NDO; V-P'S BOB, N5GWZ (WHO HAD TO RESIGN AND MOVE AWAY), AND FRANK, N5FM (APPOINTED TO FILL THE VACANCY); SEC'Y JOE, WA5ZNQ; AND TREAS RON, KE5M.

OUR NEW PREZ IS DIRECTOR OF JUNIOR ACHIEVEMENT, INC. HERE IN OKC. YOUR V-P/ED IS EMPLOYED AT GULFSTREAM AEROSPACE AT WILEY POST PEA PATCH AS A MACHINIST. TREAS ART IS AN EXPERIMENTAL TEST PILOTO FOR THE SAME COMPANY. SEC'Y CHARLES IS A COMPUTER SYSTEMS ANALYST AT BAPTIST MEDICAL CENTER.

NOTE ON ART'S NEW CALL: I TOLD HIM "KEEP FLYING FIVE DIFFERENT KINDS" MIGHT BE GOOD PHONETICS, BUT HE SEZ THAT SINCE HE WAS BORN IN DURANGO, MEXICO HE LIKED "DURANGO KID" BETTER. YOU GOT IT, ART. DURANGO KID IT IS.

FOR THOSE OF YOU WONDERING WHAT HAPPENED TO THE INFO YOU REQUESTED ABOUT THE CLUB'S 2-METER REPEATERS: ITS BEING WRITTEN INTO A FORM LETTER-TYPE PROGRAM FOR THIS 'PUTER SO I CAN JUST FILL IN THE NAMES AND NUMBERS AND PRINT OUT INDIVIDUAL COPIES FOR ALL THOSE REQUESTING THEM. ALSO, THERE'S A SLIGHT CASE OF THAT OLD AIRCRAFT WORKER'S SYNDROME TDL (TOO DARN LAZY).

The Field Day results show the operation netting a total of 1474 points. The reports have been mailed. Now, all we have to do is wait until they are published. This year saw one of the best efforts that SCARS has ever put forward, and we can all be proud of the results regardless of ranking in the final list.

A big thanks to KD5IT. He made writing this a whole lot easier by providing all of the above information.

OKLAHOMA CPM USERS GROUP

AUGUST 8, 1985, MEETING HELD AT THE OSU TECH ADM BLDG IN ROOM 307. 21 MEMBERS WERE PRESENT

George Konkle has a list of the latest public domain software. If anyone would like copies bring a disk to the meeting with the type computer and disk format printed on the front label.

Kevin Karnes gave a short report on the progress of the bulletin board. It will be on line August 23 for all CP/M club members only. The phone number is 947-6173.

There will be a message stating that it is for members only and it will list how to become a member.

Bill Skipper announced that a program chairman is needed and asked for volunteers. He has devoted the last year and a half doing a very good job in this line and would like to share the experience with someone else.

The club was contacted to see if there was an interest in manning a booth at the Quail Springs Computer Show, Aug. 23, 24 and 25. The theme of the show is "Computer Awareness and Back To School Week".

Phil Hall from MPI, gave an excellent presentation on Hard Disks. He works for MPI in the competition evaluation section. He had several drives to demonstrate with the clear plastic cover and we could see the heads working. The visual aids he brought were excellent, such as a large chart drawing comparing the height, the heads were above the disk comaperd to the human hair and a finger print.

We now have SIG/M libraries 91 thru 161.

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Club
NEWS

W5LOY

Minutes of August Meeting

There aren't any, silly! August is the month of the watermelon feed with our associates from the Aeronautical Center. I should have thought of that when I was preparing last month's C&E but I didn't. Thanks to the efforts of President Jerry, KD5IS, most everybody was contacted by telephone and a number of watermelon eaters showed up at Bethany City park for the shootout. Lots of fun had by all.

Joe, K5JB, Sec'y

That's Just Ducky, Ducky

Antennas have always been a very interesting subject for most amateur radio operators. There are a lot of mysterious designs and explanations of how they work and there always will be as long as operators lack working understanding of antenna fundamentals.

I was amused by the dealer at Ham Holiday who was selling "rubber ducky" antennas that were supposed to have seven dB gain over the antennas they were intended to replace. His explanation was based on the assumption that the antenna being replaced performed 7dB less than a good design. (He succeded in meeting his goal. He sold me one for 450 MHz. I took it home and tested it. After rethreading part of it and reassembling it correctly, it performed almost identically to the simple speedo antenna supplied originally by the radio manufacturer.)

During the discussion I discovered he knew nothing about the electrical characteristics of rubber ducky antennas. I got to thinking that a little discussion of them would make good grist for the old C&E mill.

When I first encountered Motorola HT-220 Handie-Talkies, I found that I had to buy an antenna test adapter to match the output of the transmitter (and input of the receiver, for that matter) to a dummy load for tuning purposes. It consisted of a little box that attached to the top of the radio, had a BNC connector for attachment to the 50 Ohm dummy load, or signal generator, and contained some parts to match the 50 Ohms to whatever the radio's antenna circuit wanted.

It has been a long time since I messed with the thing so I got it out and did some tinkering. I found it had a pair of shunt inductors across the radio output circuit and a series capacitor going to the BNC connector. I measured the inductors and found they had a combined inductance of 0.16 uH. Likewise, I measured the capacitor and found it had roughly 21 pF. I had to get the HP-25 and blow the dust off it to see what all this meant.

Assuming the adapter was designed to be connected to a 50 Ohm dummy load, and the design frequency was to be 150MHz, I did a little work backwards to see what kind of impedance the adapter would present to the radio.

I was rather surprised that it represented a load of 90.6 - j30.8 Ohms, which is a capacitive load. (Impedance is 95 Ohms, by the way.) I was always under the impression that the antennas were cut low in frequency, which would make them inductive. These figures would indicate that Motorola expected the antenna to be a bit short and respond best when the amplifier was tuned to expect a moderately high impedance.

As I think about it, the radio and rubber ducky make up an antenna system which is kind of short. The radio frame would have to be 19 inches long to be a correct counterpoise for the antenna. This is the key point to remember in all the discussion that follows. The antenna is only part of the antenna system of the radio. The frame, the talker, and the surroundings all contribute to the antenna system.

Just to further explore the theory of the moment I thought it would be a good idea to make some measurements of an antenna on a radio. I had previously measured some antennas and found that when mounted on a ground plane they resonated quite a bit below the design transmitting frequency, generally around 135 MHz. The old Millen dipper is getting kind of weak (anyone know of a source for good 6CW4s?) and wasn't giving a very good response around 150 MHz but darned if the antenna on the radio didn't seem to resonate around 151 MHz! Of course, this measurement was influenced by the tuned circuits within the radio.

Examination of a telescoping whip antenna intended for the HT-220 confirmed that it would indeed probably represent an inductive load if it were mounted on a ground plane. Rather than the 18 3/4 inches one would expect for a quarter wave on 150 MHz, It was 19 7/8 inches long (natural frequency, on a ground plane, would be about 141 MHz).

Just to further investigate the issue, I took a rubber ducky and connected it, bottom to bottom, to a telescoping whip to fashion a sort of half wave length antenna, then checked it for its resonant frequency with the grid dip meter. This assembly resonanted at about 138 to 140 MHz, confirming that they were designed to be resonant below the operating frequency. Now, for comparison, I replaced the telescoping whip with another rubber ducky and found the resonant frequency to be nearly the same. These antennas were all regulation Motorola items. At this point it occured to me that it would be easy to characterize a given rubber ducky by testing it for resonance and then replacing it with a telescoping whip. The whip could be adjusted to determine what the natural frequency of the rubber ducky had been. I didn't pursue this line though.

The bottom line is that the whip is an inductive (and resistive) load (on a ground plane) because it is electrically a little longer than a quarter wave length. The question in my mind was why would the antenna be designed in such a way when it appears that the Motorola engineers expected the radio to have a capacitive (short) antenna?

I knew from experience that if the ground circuit was expected to be imperfect, an antenna could be more effectively driven if it was fed at a high impedance point. The reason is simply that ground losses are reduced because feed currents are less for a given output power. In the case of the hand held radio, the ground would certainly be expected to be imperfect; the radio frame being only a small fraction of a wavelength long, and the hand, with body attached being a ground circuit of unpredictable electrical characteristics. Ninety Ohms is not what one would normally call a high impedance point though.

Ideally the antenna feed impedance should be as high as possible. This would occur if the antenna was 1/2 wave length and fed on the end. In the case of 2 Meters this is not too practical since 1/2 wavelength is approximately 39 inches. (I know, they make 'em that long, but how practical are they?)

In the real world, things like this just aren't worked out solely on paper though. On a business trip I was once fortunate enough to have an airline seat next to a person from Antenna Specialists Co., an outfit that makes quality commercial antennas. He related to me how his company happened to get into the Rubber ducky business and how the electrical specifications were described by manufacturers such as Motorola. It seems that the antennas are specified to have a certain resonant frequency and feed point impedance when mounted on a disk that approximates a ground plane. He indicated that a 150 MHz antenna actually has a resonance closer to 135 MHz when mounted quarter wave style on a ground plane. Apparently, the best configuration was established by testing and pruning and the successful, final design carefully measured under controlled conditions to permit duplication.

I am satisfied that the Motorola people knew what they were doing because I tested lots of rubber ducky and telescoping whips using the old field strength method. I found when I used the antenna specified for the radio, it always had the highest field strength. Some of the flea market specials fell mesurably short of the correct antenna's performance.

One obvious question remained. How does a typical Japanese radio with a BNC antenna connector reconcile the

need for a 50 Ohm design load for tuning and testing (and connecting to external antennas) with perhaps a more desirable 90 Ohm design load to get the most effective performance from a whip antenna? The obvious answer is, "Probably not very well."

To conduct a simple test, I installed a telescoping whip antenna on an Icom IC-02AT so I could vary the resonant length of the thing. I set up a field strength meter a short distance away and recorded readings with the antenna set at various lengths. The telescoping whip was 19 1/4 inches long and it was too short. (Measured with the hand waving method - I'll cover that again sometime.) Since the radio output could vary as a function of antenna load, I repeated the test with a bird wattmeter connected to the radio, and the antenna adapted to the wattmeter. The results were the same. The antenna still was too short. Since I hardly have what could be described as an antenna test range, it was impossible to make a comparison between the telescoping whip and some rubber duckies but some tests were made with the latter antennas also.

Three rubber duckies were tested. The original one that came with the radio, a short fat duck made by Centurion, and an antenna from another radio (who knows what it was on originally). The antenna from the other radio was electrically short when installed either on the radio or the Bird. However, it had the best field strength when the hand (or head) was brought close to bring the system into resonance. The short, fat duckie came in second. It was just a shade long and bringing anything close to it dropped the output drastically. The antenna supplied by Icom came in last. It was electrically too long and also dropped in output as something came close to it. Bear in mind the difference between all these antennas was probably in the order of less than a dB. Power would fluctuate from a maximum of 5 watts under best of conditions down to maybe 4 watts for one of the other antennas, when undisturbed. Of course, they went to zilch when the hand was brought close to them.

Field strength measurements are worthless when you are waving a hand in front of the antenna but the Bird in the line during half of the tests permitted a spark of quantative analysis to be performed.

I was going to go on into some discussion of 450 MHz portable radio antennas but I have prattled on long enough. Besides I want to share a discovery I made about my 75 Meter antenna...Joe, K5JB

Meanwhile on the D.C. Bands

I recently had occasion to rearrange my 75 Meter half wave antenna and made an interesting discovery. It is an inverted vee with the center tied at about the 25 foot level on the tower. One leg extends out to the back yard and the end is about 8 feet off the ground. The other end, to avoid tying it out in the front yard has always had a peculiar shape. About half way down its leg, I had an insulator which was tied to one end of my roof. The end of that leg went to another insulator on another end of the roof. The result was a dog-leg of perhaps 120 degrees in the middle of that leg. A tree I had planted a few years ago had reached maturity and was ready to fulfill its purpose in life. It was going to support that ziggy zaggy antenna leg. I made all the preparations and tied the antenna to its new support. I didn't try to guess whether it was going to have to be shorter or longer as a result of the rearrangement, I just marched into the shack and put the directional wattmeter on it. What a surprise! Its resonant frequency and apparent impedance was exactly the same as it had been for the last umpteen years. I went outside, loosened it and let it droop and remeasured it. Sure enough resonant frequency went down and it acted as normal as could be. I wonder how convoluted a path the wire could have taken before there was any measurable effect on the thing's characteristics?

Joe, K5JB

Packet Racket

The real grins happening on packet radio this month was the ordering of the TNC-2 Terminal Node Controller from Tucson Amateur Packet Radio Corp. (TAPR). For months the packet aficionados have been awaiting the announcement of the new TAPR TNC which is smaller, runs on 12V, and has a Z-80 processor rather than the 6809 of the first TAPR TNC (now called TNC-1). The announcement was made at Dayton Hamvention regarding the things and several people in the area were wanting to get their hands on one when they became available. When the announcement was made that they would be ordered by phone starting August 19, the word spread fast.

TAPR's plan was to maintain office hours for 12 hours a day starting promptly at 9 A.M. on the 19th and take orders until they were gone. There were going to be 280 available in the first shipment and the next batch of 300 would be avaiable in September.

At the appointed hour, I happened to be at home so I turned on an auto dialer and let 'er rip. After about 30 minutes it was apparent something was wrong. About one in 5 calls were getting through to the busy signal in Tucson. The rest were being intercepted with an "screech! whistle! Squeek! All the circuits are busy now, please try your call again later", message. I didn't have to listen to that very long to decide I had better things to do. I shut down the dialer and went off to do some grocery shopping.

About mid-afternoon, I fired up the dialer again. After about half an hour, I decided things had gotten worse. About one in ten calls were getting through to Tucson. I shut it down again. Maybe later, I thought. About 4:30 or 5:00 I tried again. So far so bad. I checked the dialer. It had dialed 366 times! That is about enough for one day.

Later, I checked Compuserve's Hamnet and found out that at 0300Z TNC-2 order number 230 had been taken. (I found out later that Hoss, WA5ZAI, had connected with number 226.) No way Jose. I got out a 22 cent stamp and a check and wrote up an order.

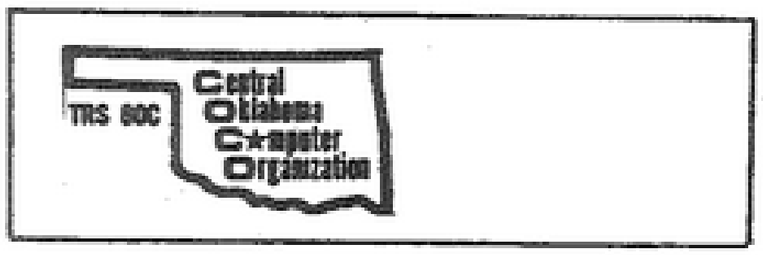
The other packeteros had not done any better. Stan, WB5UIY, and Sandy, WB5RRR, had worn their dialing digits to bloody stumps. They had no sympathy for my dialer which had smoked an RJ-11. I muttered something about "not backing losers" and went on to bed.

The next day I honored my promise to the fellas. They blamed me for the unfriendly wires of AT&T so I kept the dialer off. About 9 P.M., Stan called me on the radio and we compared notes on the situation. By this time his smart little fingers had memorized the TAPR phone number and were doing a little walking of their own.

"Hold on!" he said. "They answered! I got through!" Hallucinations, thought I, poor fella has become a Fone Fumble Freak. Or maybe he had the DT's (dialing tremens). I figured he would snap out of it by morning so I sent a quick alert packet to Sandy and went on about my dinner preparations. In a few minutes the phone rang. "I got number 465!" he announced. While I was acting really amazed and patiently listening to his ravings, I was stretching the phone cord to reach the stove, turn off the fire, reach the dialer, plug it in and cock it for what was to happen next. I had to give Stan a few minutes of Ho Hums before I could fire off the dialer myself. When he finally released the line I released the dialer. 1,2,3,4,5, and SIX! a ring! "Hello, This is Andy, N0CCZ," said the voice on the other end. "er, uh, VISA" said I...

Actually, Andy was quite chatty and volunteered that he had just taken an order from another Oklahoman. I told him that because of the miracles of radio, it was no coincidence. In a few minutes I got a packet connect from Sandy. He got through too. Enough excitement for for one evening, I went to the stove and relit the fire under my dinner.

The next morning, I saw a message left by Joe, WA5FLT, after I had gone to bed. "I got Number 487; dialed six times in all!" (Joe always was kind of laid back.) The next morning we left packets all over the place and made telephone calls to those we knew were trying. I haven't heard of others who were trying to get orders in but I presume there were a few more who will be on the list for the September shipment. Joe, K5JB



HOLLY'S CORNNER --- PROGRAM TALK --- 3000 AND ONE PROGRAMS --- ALL THAT'S EVER BEEN --- NO, none of those sound right. If your wondering what I'm doing, you are not alone. After Joe's appeal at last month's meeting for C&E articles, my lovly wife INFORMED me we were going to write a monthly column. Here I sit, my mind about as blank as the TV screen. I pleaded and I begged, all for naught. "But all I know about are a few of the old programs we have",says I. HEY!!! That might be of interest to someone. A list of all the programs, what they do, what version they are, programs that go with other programs and if they are listed under any other names.

Only time well tell how many can be done monthly. 10 to 20, hopefully. Even at that I won't get done until the year 2000. Not that I mind. It should be fun going back through those forgotten programs. I might even get to fix up my directories.

See you each month --- Take care and happy computing.

·Holly

Holly and I got married this past March, he has been asking me to write an article for the C&E. Just because I know how to type and don't have to have a dictionary close by at all times (two of the major attributes that he married me for) he is under the impression that I have some great untapped literary ability. I may have gotten an "A" in typing class and English grammar, but I never discuss the grades I made in English Lit. In fact, if some stuffy board of regents somewhere hadn't decided to make English Lit. a required subject I undoubtedly would have remained blissfully ignorant of the matter. I'm still pretty ignorant, just not blissfully so.

At any rate, when Joe came down to the CoCo meeting and asked for more contributions from our club for the C&E I decided to make an attempt. After discussing formats with my dear spouse we decided to try to do a monthly column that we would share. His half of the column will generally contain helpful hints concerning various programs. My half will be.....something or other.

HAM HOLIDAY

This past July, during the last weekend to be exact, was my very first Ham Holiday. I must admit that I was more than mildly disappointed. Please don't get too angry or upset, for I am not trying to step on anyone's toes, but for at least six months Holly talked about the upcoming Ham Holiday. He pestered me to get my novice ticket, send in our preregistration, study in order to upgrade and talked about it like it was THE event of the year. The thing that really concerns me is that so many of the people I chatted with who were regular Ham Holiday goers also expressed varying degrees of disappointment and dissatisfaction. What K2GKK(Mac) expressed at the drawings on Sunday, that those who were grumbling should be willing to take on the burden of the event, is very true. Everyone who worked on the event should be applauded for the monumental effort they put forth. Nevertheless, hopefully no one will get bent out of shape when I make a few suggestions concerning next year's Ham Holiday. Although a new novice I have been involved with entertaining people for many years and let's face it- that's really what people want.: From all that I heard about past Ham Holiday's that were the biggest successes that was what the weekend did. Keeping this in mind and listening and discussing possibilities with other hams here are a few ideas to consider:

1. Make Ham Holiday a field day also. Have the facilities someplace where people can hook up RV's, campers and tents and have some contests for contacts.
2. Give a theme to Ham Holiday. An Oklahoma Ham Holiday could have a western flavor from programs to banquets to people dressing western. It might make a good drawing card for hams from other states!
3. Although some enjoy the expensive dinner for a banquet, judging from the reported numbers for past banquets even more people would like a more affordable dinner. If the above suggestion of a western ham holiday were used, the dinner could be a barbeque served chuck wagon style.
4. Among the programs given I'd like to see a history of hams in Oklahoma, a short class telling non-hams what they need to know to start towards a novice ticket (at this would be the time to give a prize for youngest and oldest novice, something left out this year), microwave cooking (again), satellite down stations, ceramics and, of course, bingo(Holly made me say that).

These are all just suggestions and I hope they will be taken in the spirit intended. I personally would like to see the event moved to the fairgrounds. This would fit the needs of everything above. It even has horseback riding nearby at the String of Pearls, is centrally located, and for those who don't want to give up the expensive dinner, reservations could be made for that group at Glen's Hickory Inn right around the corner while the rest enjoyed the barbeque. The possibilities are only limited by our imaginations and willingness to help. Let's make CORA's Ham Holiday something to be envied by the other groups and something that people from all over will come to enjoy and SPEND MONEY(that will profit dealers and CORA alike). If you agree with any of this pass along your encouragement to your group's CORA rep. If you don't agree, don't shoot me, I'm just the piano player. KA5WMW(Judy)

Actually it has been eating away at the back of my mind that computers have been shown to the public as an indespensible tool for the home of the future. I'm sure I am not the only (if you will forgive the expression ladies) housewife who has been taken in by the image of the modern mother warming her hands over the computer hearth, cheerily organizing kitchen and other household chores. In reality I have had a tough time finding programs that could do all the things the computer salespeople promise, but I have run across a few slick ones and begged or borrowed whatever seemed promising. So I think my portion of this joint venture will be looking at the useful household programs. I will try to review them and pass along any suggestions or helpful hints. I am a novice CoCo owner and understand the nervousness the beginning users face so I will not be going greatly into the technical aspects of the programs, just addressing what needs to be addressed. I merely would like to see more beginners enjoying computers, and not just using them as pieces of modern art that collect dust in the corner, or the toy that is always in use by the kids and the even bigger kids (husbands).

I'll begin next month. If you have a program that falls in the category of what I will be discussing or a helpful hint concerning one, then let me know. PLEASE.

Judy

-FILE ZERO-

I need to start off this month with the official reports from the Chapter, so if anything gets cut, it won't be those.

First Birthdays for September:

1	Mary Stephens	XYL	W5HZD
2	Lucille Morris	XYL	W5TMM
4	Roslyn Ashby	XYL	W5HXL
9	Arabell Leach	XYL	W5FIJ
9	Dorothy Gartsman	XYL	W6ATC
11	Carl Drumeller		W5JJ
14	Ellard Foster		W5KE
15	Ralph Rea		W5AA
15	Don Rooker		NO5M

(Thats a distinguished group -.ed)

Now, the July Traffic Report:

QCWA Chapter 63 Operation on the air during July 1985 as follows:

Sessions	4
Check-ins	114
Traffic	12

(signed W5AS)

- - - - - - - - - -

Howard sent me a copy of a letter from Tiny Irwin, W5NBH who was chairman of the ARRL committee at Ham Holiday. Tiny noted they started out with over three hundred pounds of assorted books, decals, charts, and instruction material for volunteer examiners, and ended up with less than forty pounds to send back to headquarters. Tiny singled out his sales crew for special mention. He observed they each stood at least two hours manning the booth:

Ralph Rea	W5AA
Bob Ard	W5JME
Ray Long	W5TY
Sam Stephens	W5HZD
George Bunce	W5DKC
Fred Boardman	W5NL
Cecil Cash	W5PML

Charles Singleton W5IST

Tiny went on to say these guys were assisted by another group of un-named QCWA folks who were dragging up more people who needed material, but didn't know about the booth. Sales were brisk, as I understand, and the chapter sold a total of $1,317.81 worth of the ARRL material. Not bad fellers, and a special tip of the File Zero Hat to our very good member, Tiny. Y'all done guuuuuuuud!

Tiny noted that there were probably a significant number of real once in a lifetime bargains missed in the flea market by these volunteers. (that bit of news ought to make some XYL's happy -.ed)

Also from Howard; We have two new members in the chapter as follows:

Robert Onspaugh, W5NTR from Moore OK. Robert holds the General Class license.

Sue Snarr, W5OQT, from Oklahoma City, OK who holds the Advanced Class license.

Welcome aboard! We hope you enjoy a long and fruitful association with QCWA.

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Howard asked me to put in a little plug for the Nite Owl Net on 146.67. Beginning Sept 1, every Monday session there will be a short lesson on traffic handling conducted by "OJ" WB5SRX, and on Tuesdays and Thursdays Howard W5AS will explain what all those WWV propogation numbers he has been giving out all these years really mean. So, tune in there for that data.

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That's all the Chapter information I have for this month. Carl, W5JJ, sent me a short resume of the contents of the 75th anniversary issue of Amateur Radio published by the Wireless Institute of Australia. Carl notes a couple of interesting articles therein, one concerning the story of Gearge William Selby, who was the "Tesla" of Australia who did a lot of pioneering in the field of what we now know as electricity. Selby has not received much world-wide credit for his work. The second article Carl would have us note in this issue is one about the effects of point to point communication between two aircraft in flight. Some rather astonishing effects result. Thanks for the contribution Carl...we appreciate it. (that's an editorial "we" there -.ed)

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That's about "-30-" for this month. I'm kind of pressed for time... seems I'm in travel status for a while again, so need to get this sent to Joe and put to bed for this month. 73 to all. See you next month.

Rob -AAOo-

Forest Pk.Ok(NL)Aug.24: This Month-back to ye-olde typewriter. My/our computer & dot matrix printer out of action; which fact will make Joe, WA5ZNF and the C&E Printer much happier-dark type being the order of the day. On Sat. Aug. 17, your "Board of Directors" met at American Red Cross (ARC) Hdq. to consider a host of important items relevant to future progress and welfare of Chapter 63.
FIRST.....and tnx to Gene Nailon, K5DLE for pre-meeting homework.....

FALL MEETING
(First Notice)

Central Oklahoma Chapter 63's Fall Quarterly Meeting will have a change of P(l)ACE and format-just for something different & hopefully agreeable to more members attending.

When:Sunday, Oct. 20th.

Where:The Sheraton Inn, Will Rogers World Airport. Just a bit N&E of terminal.

Time:Approximately 12 Noon (or before) for leisurly dining in main dining room. Order from menu and entirely your choice. Thence to adjacent meeting room at or before 13:00 hours for start of meeting. Ample time for visiting.

Format:The meeting room will be clear and ready for action!! A program hand-out will be made available during your dinner. Very briefly--a short business meeting with voting on no more than three (3) very important items; followed by a program attraction equally interesting to YL's and OM's plus door prizes-hopefully donated gifts also for YL's & OM's.

Notes:We consider the location will be particularly attractive to members/guests arriving from Chickasha, Lawton, Granite and other points S. E. W. More details in Oct. C&E and On-The-Airwaves.

!!Plan to ATTEND-bring a FRIEND!

73
Chapt.63 "Board of Directors"

A special thanks to QCWA-ers, friends & well-wishers & guests who participated in the HAM HOLIDAY Sunday Breakfast-Sponsored by Chapter 63 (QCWA,INC). Then a very special plaudit to Dr. Vernon Sisney, featured speaker, who really scored to make this affair a resounding success. Am certain that many took away many key thoughts of practical benefit. Very briefly, I recall to mind a few of Dr. Sisney's key remarks & advice in dealing with his theme "The Trouble With People"-some in a humerous vein. As I recall, he covered STRESS, how to minimize its effects and should DEPRESSION arise-how to deal with it. For the latter (1) "do two or three nice things for

yourself-every day" (2) try to have more fun-take a 10 to 30 minute nap every day. (3) Defin- of Despair "Seeing your Shrink come out of a fortune tellers tent"(4) Law of Holes "When Yo' ure in one-quit digging. STRESS may occur when you are too pre-occupied with yoursely. Remember you're only one of you. "Call friends-call non-friends" .....for help.....plus much much more.....Dr. Sisney, TNX.

73
Fred, W5NL

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By now, most will know that Chapter 63 completed the most interesting task as TELLERS for the 1985,QCWA International election (Aug. 3,'85) with the results telecon'd to Ted Heithecker, W5EJ and in writing by Howard, W5AS. Special thanks to all who volunteered to count & they were most faithful participants. It now seems appropriate to include a re-copyed letter from Stuart Meyer, W2GHK outgoing QCWA President. Kind of difficult in column form.

Aug.16, 1985

Howard W. Baker, W5AS
Secretary/Treasurer, Chapt. 63
5928 North Redmond
Oklahoma City, OK 73122

Dear Howard:

On behalf of the Officers, Directors and Members of QCWA,I take this spportunity to compliment you and your committee for the excellent job performed in handling the ballot counting for our 1985 voting program.

Active local Chapters are the back-bone of all organizations like QCWA and participation such as your recent assignment goes a long way in fulfilling this requirement.

The end of this month completes my second term as President of QCWA and these truely have been golden and rewarding years in my life. Recent changes in our organization provides that I continue on the Board for two more years during which time I intend to remain active in QCWA management. I hope that my future travels brings me through your area so that I can attend one of your chapter meetings. During my term as President I have had the opportunity of visiting many chapters and QCWA meetings in conjunction with other activities. This too has been a great pleasure for me.

Sincerely,

Stuart Meyer
W2GHK/Forever

HARMONICS/FEEDBACK/ETC: It is quite difficult to keep a handle on member doings-illnesses, hospital ins & outs, shack fax etc. for the membership. Still it seems important that members have this information-since we do not have a very large percentage checking in on Sunday mornings (usually 30%).

New Members: Feel certain I have overlooked someone. Anyhow We welcome Robert J. Onspaugh, W5NTR, 984 N.W. 5th St., Moore Ok. 73160. We are most pleased to welcome back Sue Snarr,W50QT, 2020 N.E. 18th St. OKC 73111. Thru the grapevine we understand a possible new address by Dec.

Hospitalized:Bob Ard, W5JME had a short stay in the Cardiac unit of St. Anthony's, but is now back home and he reports on the mend after much, much testing. Mildred Drumeller is well on the mend after knee surgery at Bone & Joint Hospital. According to Carl's, W5JJ report she is taking well to therapy and a walker. Looks like a very rapid recovery, Mildred.

kay

This months meeting was a transmitter hunt which was enjoyed by all who participated. KD5FX with the help of N5PC and KA5UOI was the first to locate the Fox followed closely by N5ANV. Since everyone had such a good time, another will be scheduled soon, but not on a club meeting night. KA5SJK says he'll be more crafty next time. Don't worry Steve, I'm working on my next secret weapon.

Some sad news, W5IPN, Bob Stark is moving to Texas. We'll all miss him around here. WD5BXI, Sam Freidhof has already moved to Yankee land. There are a couple of new folks in town though, listen for them on the repeater.

AD1S HERE FOR SEPTEMBER MEETING

George Adkins from OKC will come and give us a slide show and talk on his latest DXpedition. This will be held at the Pioneer Bank at 7pm on September 19. Talk-In on 146.97. Everyone is invited, you don't have to be a club member to attend. Those of you who read this from other cities around Ponca City are certainly invited.

73 for now, KD5FX

FOR SALE: Kenwood 2500 2 meter hand held with speaker mike and spare PB25 battery pack and charger. $175. Jerry, N5GVP, 721-1957.

Edmond Amateur Radio Club
P.O. Box 76252 / Okla. City, Ok. 73147

ICE CREAM SOCIAL - MMM GOOD

Edmond Amateur Radio Club's annual ice cream social was held Monday, August 12th at Hafer Park in Edmond.

Three freezers provided ice cream for everyone, with lots of cookies, cake and lemonade on the side.

Thirty eight members and guests were present to enjoy the feast.

STOLEN PROPERTY

Readers are encouraged to be on the lookout for the following equipment:

Genave GTX-1T hand held. This is a six-channel brick crystal rig, with 07/67, 16/76, 22/82, 34/94, 52/52, and 63/03 installed in that order. The tone pad on front is a twelve button membrane type. Serial number on botton is 2871.

Kenwood TR-2500A hand held. Moderate wear and tear. Kenwood belt clip is installed. LCD display is beginning to show a dark spot. Larsen Kulduckie replacement antenna is installed. Serial number on back panel is 2070872.

Kenwood TR-7950 45-Watt mobile radio. This rig will not have a mobile mounting bracket, as it was not taken. Frequency 1 will have "7.030" programmed into it. The power cord should have a large, silver male connector on the end opposite the radio. Serial number on the rig is 4090060.

Also taken at the same time were the following KENWOOD accessories: PB-25 Battery for the 2500a. PB-26 Battery for Kenwood 2600A (Charcoal color) PB-21 Battery for Kenwood TH-21/41 Series hand-held. DC-26 DC/DC Converter for 2600/3600 series. DC-21 DC/DC Converter for TH-21/41 series. RA-5 Dual band (2M/440) telescoping antenna.

Any information regarding the recovery of the above equipment should be directed to Mike, KA5JFT, or Mark, WD5DYI on the 147.030 repeater, or call 755-4672.

Be aware: All or some of the above equipment may show-up on the air soon -- maybe on your home repeater. Do your part to try recovering this gear quickly. Thank you. --de WD5DYI-- MORE →

TELECONFERENCE RADIO NET
SEPTEMBER 13th

Edmond Amateur Radio Club is proud to present another Teleconference Radio Net on the 147.030 repeater Friday, September 13th, at 8 p.m.

Will Amplitude Companded Single Sideband (ACSSB) obsolete your present 2 Meter FM equipment? Will it become the voice mode of choice for amateur satellite communication? Just what is ACSSB, anyway? These questions and more will be answered on the next North American Teleconference Network.

The speaker for the forum will be one of amateur radio's foremost technical leaders, Paul Rinaldo, W4RI, editor of QST. Paul has closely followed the development of ACSSB and was instrumental in obtaining ACSSB transceiver boards, recently made available to experimenters by ARRL.

ACSSB is just beginning to be used by the commercial land-mobile radio services because of its spectrum efficiency. ACSSB uses 5 kHz channels versus 15 or 20 kHz used by conventional FM. And unlike its cousin, single sideband (SSB), ACSSB provides the benefits usually associated with FM, such as receiver squelch, automatic frequency control and capture effect. Given these features, shouldn't we be talking about a 5 kHz spacing plan for 2 Meters, rather than 15 or 20?

The North American Teleconference Radio Net is comprised of hundreds of repeaters across the United States and Canada, linked together to provide topics of interest to amateurs in their homes, cars and wherever a radio can be carried. Mark your calendars NOW for September 13th at 8 p.m., on 147.030.

FOR SALE

KENWOOD TR-7950 (Not the stolen one). 45 Watts on 2 Meter FM. Comes with mobile mounting bracket and CTCSS (PL) encoder board for $275. Contact Wendell, WB5ISO at 943-4308.

ICOM IC-211 ALL-MODE 2 METER transceiver with RM-2 Remote Control Keypad/TT Encoder. PLUS -- an ICOM Desk Microphone. Priced at $350. Contact Bob, KA5ETA at 799-1765.

RESERVE YOUR CALLSIGN TAGS NOW

Amateur radio callsign plates should be applied for before October 1. Callsign plates are available to all amateurs, Technician class and over, for a fee of $2.70. Two plates are issued for the same vehicle, to be installed on the front and back.

Applications may be ordered from the Oklahoma Tax Commission's Motor Vehicle Division, 2501 Lincoln Boulevard, Oklahoma City, OK 73194-0013. The Special Tag Division's telephone number is (405) 521-2468. A call to this number will get your application to you quickly.

Requirements on the form include a full description of the vehicle to be tagged, plus the regular tag number and the sticker number. On the initial application, you must include a photocopy of your amateur license.

THE ZANY NEWS FREQUENCY
By JOE, WA5ZNF

EDITORIAL

THE COLLECTOR & EMITTER IS BROKE !

Yes, that is true. Due to several things we are no longer solvent. Unless something is done we will have to publish a 4 page "paper" next month.

What can be done?

1. Collections from member clubs has been slow. Part of that is due to lack of "enthusiasm" by the CORA Treasurer. Part is due to my inattention to the business of the C&E.

2. All clubs will have to "pay up" right now, bringing your dues up to date.

Send your payment to:

Joe Harding
1020 Arthur Dr
Midwest City OK 73110

and I will try to get everything back on track.

3. I know this is a drastic situation but it has come up and I know of no other way of solving it.

4. Part of the problem is due to the new size of the C&E. The new " Tabloid" format costs just twice as much as the old " Pony Tabloid" (Less the cost of the bindry work). Now do you want to continue with the present size or do you want to go back? It is surely worth a 22c stamp to let me know what YOU want me to do, so write a letter today and tell me. The CORA representative can't tell me unless you tell me, so do something about it. NOW.

Joe Harding, WA5ZNF
Managing Editor

FROM ASSISTANT DIRECTOR

The ARRL Board of Directors completed their meeting on July 27, 1985 with considerable positive results. I do not have the full report but was advised by telephone concerning my input. The following is that report:

(a.) Concerning the Repeater Frequency Coordination NPRM, the Board agreed on *NO* mandatory coordination, use of Regional Coordinators and a National Data Bank at ARRL Headquarters with access by Computer Telephone Modem.

(b.) ARRL Volunteer Examiner Coordinator will begin sending a confirmation of receipt of an examination package received from a VE team.

(c.) The Board agreed with the need to change the time limitation of RACES Drill as dictated in FCC Rule 97.121 (b). It is believed that four hours per week would be more appropriate.

(d.) My cencern about ARRL Membership rates results in new Youth Member Rates. They will be $6.25 per year for less than 12 years olds and 12.50 per year for 12 to 18 year olds. This rate change does *NOT* apply to family rates or the current rates for older operators.

(e.) In the matter of some who wish to discontinue publishing contest results in QST, I went on record in opposition. My rationale is that the QST is the only journal of amateur radio operators and that all facets are of equal importance.

(f.) The postion of the majority of Directors on the Novice expanded privileges is to allow phone on 28.3 to 28.5 MHz. I concur in this position. My rationale for that opinion is based on a number of reasons, chief among them being the need to protect our allocation by more use. The other parts of this subject, as applied to 220 MHz, 1240 MHz, RTTY and digital communication techniques, are not in contention.

(g.) The Board advised me that HF Broadcasters, in addition to Standard Radio and TV Broadcasters, may rebroadcast Amateur Radio and Citizen Band transmission ***WITHOUT*** permission. Since my input to the Board, FCC Rule 73.1207(c) has been revised. It has *NO* limitation to the invasion of privacy of Part 95 and Part 97 licensees but does protect privacy of *All* other radio services except the weather and time signals of NOAA and NBS. It is my belief that this FCC action, if not unconstitutional, violates the policy of the Republican Party in that it allows invasion of privacy for about one tenth of the Nation's population, i.e. 405,000 amateur operators and 15 to 20 million citizen band operators. I shall pursue the matter on the basis of invasion of privacy and discriminatory policy.

Well, that is about it for my part in the Policy Branch of the ARRL. Watch QST for the full minutes of the Board of Directors.

73,
Ray, W5REC

P.S. Forgot to mention the alarm device NPRM that proposes the use of detectors operating on 1.6 to 10 MHz!! ARRL will strongly oppose this ridiculous idea!

The Great Salt Plains Hamfest will be held Sunday, Sept.8,'85. Events start at 10:00 local time at the Great Salt Plains Community Center Building on the south side of the lake. Take US Hwy 64 NW of Enid, go west to JET-thence north on state hwy 38 about 8 miles to South Rec reation area. Turn left past the state park office and you are almost there. No registratin fee , dinner by covered dish, an ARRL Speaker, etc etc.

Salem

HIGHER AND HIGHER, ANTENNAS, PRB-1 AND GUSCHKE V. CITY OF OKLAHOMA

Sometime later this year, the FCC will make a decision regarding antenna height for amateur radio. And what that decision is may prove crucial to the continued existence of tall antenna support structures in residential neighborhoods. Every man-jack (better make that person-jack) of us wants a tall antenna. I have to think that one of the things that got me into amateur radio was the absolute fascination of being able to communicate over multiple or even thousands of miles by just feeding a little RF out the window to a hank of wire. And it did not take a lot of intuitive knowledge (based upon Columbus' discovery that the world was round) to figure out that the taller the antenna, the greater the effective communication range of the station.

This, however, is a fact lost on many city councils and more recently the judiciary system. The problem, basically, is that to a certain genre of citizens, the existence of an amateur radio tower (or CB if it fits the case) next to or in the neighborhood may be classified as not esthetically pleasing. Now, I am just like the next person, beauty is in the eye of the beholder, but a 75 foot tower of Rohn 45G stretching to the sky and topped with a tribander is art akin to the Golden Gate Bridge or the Empire State Building. The problem is that a lot of people don't want to live next to the Empire State Building. Additionally, there is the problem of TVI that (many) people believe is associated with that radio tower, whether the amateur is guilty or not. Thus, the tower becomes not only an eyesore, but a generator of interference with the lifestyle of the citizen. While one solution is to turn off the television and wake up to the rest of the world, not many are willing to give up the electronic pacifier and experiment with life outside of the 23" screen.

No one can really blame them. After all, the home is the refuge and retreat from the workaday world, a place with a sense of privacy and solitude. The citizen who sees his world invaded by 75 foot towers may have a right to feel threatened, especially when he does not understand the purpose of an antenna. And that may be a key. More problems with antennas have been solved with information and understanding than with courtroom battles. And with the acquisition of understanding, many citizens who previously had objected to antennas have come to the realization that the amateur radio operator also desires and deserves to come home to his "castle" to engage in his hobby in a meaningful manner by putting up the biggest damn antenna he safely can. One of the principles of an ordered society is that government should interfere with only those things in our lives that government needs to interfere with. These generally revolve around matters relating to health, safety and the general welfare when dealing with local city governments. And generally those rules are observed. But local city governments are generally creatures of politics. When the local citizens get upset, they take the problem to the closest government they can and almost everybody knows their city council member. Thus it is not uncommon for city councils to become embroiled in issues that might stretch far afield from issues generally relating to health, safety and the general welfare. The desire to attempt to solve general problems is an outgrowth of the political system and most city council members are all to eager to pacify the public and keep dissension down in their district. It doesn't take a lot of heat to generate opposition in a city council race.

Let me move from the general to the specific. Actually, this discourse started over amateur radio antennas. For several years now, Oklahoma City radio operators have watch keenly the efforts of Chuck Guschke to void a 50 foot height limitation for accessory structures (make that antennas) within the City of Oklahoma City. The problem started when Chuck bought a used tower that was approximately 64 foot in height. It was commercial construction and extremely well made. The wind survival rating was calculate as somewhere over 120 miles per hour. Through the top of the antenna, Chuck pu up a pole that stretched another 13 foot. Overall, the antenna stretched to 78 foot in height unguyed. I am given to understand that the antenna with its 40 meter beam, along with other appropriate beam antennas, worked in a word, great.

But all good things must end. And the end came when several neighbors saw this aberrant structure in their residential neighborhood and reasoned that they just didn't like its looks. A call to the City inspectors produced an ordinance which contained a height restriction for residential property of 35 feet:

> (a) Height: No building shall exceed 2 1/2 stories or 35 feet in height.
>
> §3200. 3(c)(4)(a)
> Okla City Planning and Zoning Code

Chuck's antenna was not a "building" within the strict meaning of the word, but rather was an "accessory structure and the height of these structures are limited by another section of the Code:

> Parapets, Penthouses, Antenna Towers, and Stacks. Chimneys, cooling towers, elevator shafts, bulkheads, broadcasting or receiving antennas or residences, fire towers, lofts, tanks, water towers, ornamental towers and spires, wireless towers and necessary mechanical appurtenances shall be excluded from the measured heighth of a building. These accessory features may be erected to a height not exceeding 15 feet above the applicable permitted maximum height for that building or to such greater height as may be provided in these ordinances.
>
> §3300. 1(H)(3)

The net result is that in the City limits of Oklahoma

City, no one can erect a structure higher than 50 feet in an area classified as R-1 (Single family residential Dwelling).

There is a procedure whereby an appeal can be made to the City for an accessory structure greater than 50 feet, but this is an expensive and time consuming process. Dutifully, after receiving a citation, Chuck went through the process and made application. Neighbors within 300 feet of his property were notified of his plan to obtain a permit for the tower. Witnesses were prepared to talk to the Board of Adjustment about the benefits of amateur radio and the necessity of antennas of such magnitude. Experts were brought in to talk about safety and the construction of the tower. This item concerning was scheduled last on a long docket and finally was taken up at 4:00 p. m. on a docket before the Board of Adjustment that had began some 4 hours earlier. The problem is that some neighbors appeared to complain and these Boards are political bodies and rather than deviate the height restriction, they elected to do nothing and turn down Chuck's application (Curiously, enough, another amateur made an application some 12 months later for a structure almost identical to Chuck's. There was minimal opposition and the Board of Adjustment approved the Variance).

There is a procedure for appeal. This is to the State District Court for the County. Recently, cases like this had had limited success by challenging the ordinance in Federal Court under the Civil Rights statutes. The problem is that several of these cases had involved ordinances considerably more restrictive than the ordinance imposed by Oklahoma City. Some had challenged ordinances of 20 foot or 30 foot and had provisions limiting interference. There is no doubt that the 50 foot height limitation established by the City of Oklahoma was arbitrary. It had no relationship to either safety or reasonable restrictions. For example, it was entirely reasonable to assume that antennas less than 50 feet height might be unsafe (and legal under the ordinance) and there would be no way for the City to know about it since there was no inspection required under the ordinance.

Conversely, just because an antenna is over 50 foot in height, it does not mean that it is unsafe. Chuck's antenna was proof of that. Many of the houses in the surrounding neighborhood would be flat before Chuck's tower would hit the ground. The same argument would apply to any aesthetical objections by the City fathers or the neighbors. There is no way to say that an antenna and tower is beautiful at 49 foot tall and "ugly" at 51 foot. The city regulation is just not related to any reasonable regulatory power except in the most general way.

Obtaining favorable treatment of such objections to city regulations in federal court is a tricky business. First, federal court's are courts of limited jurisdiction, that is, you must overcome a presumption that the court will not normally deal with your lawsuit by citing a particular federal statute or rule that grants the court the power to hear or decide your case. Once you have established jurisdiction, you must then convince the court to hear your case and not abstain from making a decision because it deals with an appropriate subject matter which the court expects to deal with and to make such a decision would not tread upon matters which have apprpriately been left to other branches of government.

Getting the court to consider jurisdiction was relatively easy. First, the case involved the interpretation of the Federal Constitution (more specifically the "Supremecy Clause" and the "Commerce Clause.") Additionally, there is a specific federal that grants the power to the Court to decide cases that involve "an act of Congress regulating Commerce." The Communications Act of 1934 was enacted specifically because of the Commerce Clause of the United States Constitution that gave the Congress the power to "regulate commerce among the several states." Finally, a limitation on an ability to broadcast does, to some extent, impose a limitation on the right of free speech. The federal courts are also granted the authority to decide cases that deal with civil rights such as free speech.

Despite the grant of jurisdiction to hear a case such as this, convincing the Court of the merits of the case is another story. The local district court, after a considerable amount of briefing and time, said that it would not consider the case important even if the City had imposed substantial impairments upon the ability of the amateur radio operator to communicate. The result was a dismissal of Guschke's original complaint:

> It is undisputed that Plaintiff's ability to transmit and receive is impeded by a lower antenna height. The only dispute is the degree of impairment. Defendant City contends the impairment is only minor while Plaintiff (Guschke) strongly disagrees. The Court finds that the degree of impairment is not a material fact.
>
> Memorandum Order
> November 9, 1983
> Guschke v. City of OKC,
> No. CIV-81-787-R
> US DC WD Okla

Taking the issue that the degree of impairment was not material to a determination of the controversy, the District Court held that in its view, the FCC had not preempted local control by City s of height restrictions, that is, when Congress wrote the Communications Act of 1934 and created the FCC, it did not and the FCC has not since that time, taken away the power of local governments to control the height of radio antennas under the Supremecy Clause even though such restrictions might impose substantial burdens on the interstate use of radio. The Court also held decided that the ordinance of the City of Oklahoma City did not unreasonably burden the occurrence of interstate commerce in the form of amateur radio and that the City's ordinance did not interfere with the right of free speech of amateur radio operators.

Federal Courts are divided into three layers. At the bottom are the District Courts or trial courts where cases are originally decided and filed. These Courts are supervised by Intermediate Court of Appeals or Circuit Courts. Finally, all the Courts are under the control of the United States

Supreme Court. The decision of the District Court in Guschke was subject to quite a bit of discussion including conversations with many ARRL officials and Christopher Imlay N3AKD who had kept an ear to the ground involving this litigation. Rather than let an unfavorable decision of this type stand, it was decided to appeal to the Tenth Circuit Court centered in Denver.

The decision is Guschke may not have been a surprise. For the most part, many of the decisions of this type that come out of courts are unfavorable to amateur radio. There has been a growing body of law that holds that Citys and towns have the right to impose reasonable restrictions of this type. Most of the cases that hold in the amateur's favor are few and far between. Every case of this type that is brought in the courts brings the risk of being unfavorable to amateur operators. Yet, you cannot create favorable precedent without taking this risk.

An appeal to a Circuit Court involves more time and legal briefwriting and a trip to Denver for oral argument before three members of the panel of judges. Finally, after oral argument in January, the Court issued its decision on May 28, 1985 affirming the trial court's dismissal of the case. The Court said that the congressional language that created the FCC was too general to be used in the context of limiting the power of the City to zone height restrictions:

> Plaintiff looks to these general statements (statement of purpose of the amateur service 47 C. F. R. 97. 1; and 47 U. S. C. §151) providing for centralized control of radio communications by the FCC and encouragement of radio use as evidence of federal preemption of state zoning height limits as applied to radio towers. With the exception of height limitations designed to avoid interference with air traffic, 47 C. F. R. §97. 45, neither Congress nor the FCC has taken any explicit action concerning the height limitations of amateur radio antennas.
>
> Guschke v. City, p. 6
> Tenth Circuit, No. 83-2599
> May 28, 1985

And that may be the crux of the situation. The FCC is considering a petition by the ARRL to preempt local control of amateur radio antennas, but it has not done so. PRB-1 is still pending before the FCC and no decision has been reached at this time. In fact the Court specifically recognized that such specific action on the part of Congress or the FCC would substantially change the consideration that they would give the case:

> In Earth Satellite Communications, Inc. . . ., the FCC took specific action preempting a state's attempt to regulate satellite master antenna television systems. Similiarly in a proposed rulemaking the FCC provides:
>
> > State and local zoning or other regulations that discriminate against satellite receive-only antennas in favor of other communications facilities are preempted unless they have a direct and tangible relationship to reasonable, valid, demonstrable and clearly articulated health, safety or aesthetic objectives and constitute the least restrictive method to accomplish such objectives.
>
> . . . In the proposed rulemaking the FCC noted that the ARRL had requested a ruling preempting zoning regulation of amateur radio towers. The FCC declined to consolidate the League's request with the ruling on receive-only satellite earth stations. Had the FCC taken specific action to preempt zoning control of amateur radio antennas, our inquiry would be whether such action was within the FCC's authority and exercised reasonably. . . The FCC, however, has taken no action concerning local regulation of amateur radio antennas.
>
> Guschke, p. 8

No relief is in sight from the Federal Courts for amateur radio concerning this questions. The question really lies in the hands of the FCC in PRB-1. The Commission has proposed a rule similiar to the one mentioned above. This would give amateur radio operators a possibility of convincing the Courts that certain local restrictions do burden amateur radio. Thus, if the FCC does issue a favorable decision with a similiar rule as shown above for amateur radio, there will be a new round of litigation set off under the new rule to seek to establish the proper guidelines under which the regulation will operate. It is critical that these new cases be carefully brought and tried in the Courts. After the work and effort to get the FCC to consider and (hopefully) rule favorably for amateur radio operators, it would be a shame to lose what has been gained by an inartful presentation in court. In a sense, the battle is just beginning and since amateur operators will have a chance to chose the battle sites, we should wait for aggravated cases of actions by cities. The Oklahoma City ordinance height restriction of 50 feet is not really a prime candidate.

In the meantime, what can the amateur who is faced with an oppressive ordinance to do? Well, realize that an ounce of prevention is worth a ton of litigation. Approach your neighbors in advance about any planned tower construction. Tell them what you are doing and solicit their suggestions. Tell them about amateur radio and give them a demonstration if possible. Generate good will through the neighborhood by attending local functions and talk to these people. You may find that a little knowledge on your neighbor's part may make things easier. You don't have to win everybody over. If you get a couple of allies for your installation, they may go a long way to defusing any potential ugly situation where somebody violently objects.

Also, visit city hall locally and find out what permits and requirements are needed to build a tower and comply with them. Some cities do not keep really useful catologs of the ordinances that have been passed, so be prepared to ask for someone who knows what they are doing and seek your info.

If you are required to produce drawings, do them right, just don't slap them freehand on a piece of paper. Impress the city inspector with the fact that you know what you are doing.

Make sure that your installation is safe. Quite simply, comply with all manufacturer's requirements when installing your tower. Put in enough concrete to ensure that the tower stays put. Keep the tower safe. Don't overload it and regularly inspect it for rusted parts and repair it promptly. You never can tell when a wind storm might blow up.

Seek and solve neighborhood problems with TVI. Sure, it may cost you a couple of high pass filters or even a low pass filter for your rig, but that is a minimal cost compared to attorneys fees and court costs. Many city inspectors don't inspect unless there is a complaint. Make sure that nobody has a reason to complain. Besides, if you are in compliance, the inspector's interest will wane rapidly.

The old adage, "If your antenna didn't blow down last winter, then it wasn't big enough." has absolutely no application in the city, but be sure you know where your antenna is at all times. City blocks and residential lots are usually not very big. Developers make more money by making lot sizes smaller so there will be more of them. If you do put up an antenna that can fall on a neighbor's property, be darn sure it will never have a chance.

Antennas may deal with a very technical subject. Putting up antennas deals with politics. a healthy respect for both will put you miles ahead of the competition. Meanwhile, if you have a neighborhood political problem relating to your antenna, stay calm and be very careful before you act. Finally, don't just haul off and sue someone without a lot of thought about what will happen. You should wait for the FCC's decision in PRB-1 anyway. Until then, Federal ligitation will be no use. State Court litigation must be carefully handled, also.

Micheal Salem N5MS

N5 MS DOS-PART II

The battle of N5MS versus MS DOS continues and some slight gains have been made. Actually, now that the computer is in place and a variety of accessories have been obtained, the mysteries of MS DOS have been slowly revealed as experience brings about more and more revalation. I might add that certain personalities mentioned in last month's article have taken umbrage (a good word) at several of my references to his assistance in showing the way, the truth and the DOS. Good old Vince (there I go again) though, has a rather thick skin fortunately, but the mere fact that he mentioned it is grounds for me to say that his method of instruction is not really monkey see, monkey do, but "rote." Some examination of primary sources relating to MS DOS and PC DOS is slowly building a conceptual framework to use. I have even written and edited some batch commands and developed a greater understanding for the architecture of my new machine.

Those of you who have been watching this space for the last couple of months may remember that I just recently acquired an IBM PC AT for use at my office. I have yet to use it to type a C & E manuscript. Somehow, writing it through one time (I let the gentle reader pick his way through the typos) is the price I have to pay for writing this stuff at home instead of traveling to the office to assemble it. Besides, I have a perfectly good typewrite at home. Additionally, I just recently acquired a printer (more later) and do not have a proportional wheel to use with it. I kind of like the type that this old IBM Executive II produces and it certainly is distinctive. Legible too.

The printer was a Juki 6300 and it is a nifty printer. It retails around a thousand, but can be purchased discount through some of the computer suppliers for about 70% if you shop around. I found that many of the mail order companies prices are deceiving. What they show for the hardware prices usually doesn't include shipping and is a cash price only. If you want to charge it, be prepared to pay anywhere from 3 to 5 % depending upon which credit card you use. The Juki printer is a Daisy carbon ribbon that uses a rather common Diablo Hy-Type II ribbon. It comes with a parallel interface and a serial is a little more (I didn't need serial since I had a parallel port extra). There is a built in 2K buffer which is expandable. This means that the printer can print continously almost 7 pages. Sheet feeders and other accessories are also available. Print quality is excellent and the speed is supposedly 40 characters a second, but in reality, it is probably a little slower at 32-35 depending upon what you are typing. It uses a printer action table similiar to the Diablo 630, but if your software has a special Juki PAT, it will print a little faster because it prints bidirectional. It will handle 10, 12 and PS pitch, and uses a 95 character plastic printwheel which is very inexpensive. I have priced the HyType II ribbons at about $34 a half dozen through one of the large office supply companies. The printer does make a little noise, but nothing objectionable. I can easily carry on a conversation on the phone or in the office while it is operating. I read a review of the printer in PC Magazine and they give the impression that you would have better luck with a jackhammer outside the window. I don't know. I think that most of those computer magazines are flakely anyway. The articles are generally long on the writer's ego and short on really useful information about the software they review. I have yet to find one that answers any really substantial questions. More on this later.

With revelation of MS DOS comes a desire to organize the disk in a relevant fashion. Having recently contemplated the usefulness of subdirectories, I took a suggestion from K5JB and dropped all the DOS commands into a root subdirectory, then instituted a path command to the subdirectory as a part of an autoexec batch command. Several commands that have rather dire effects (such as the FDISK and FORMAT commands were delegated to sub-sub directories with special passwords and bells and whistles that prevent accidental erasure of the main harddisk.

Joe also suggested a brief structure of the directories that I find quite elegant. With all the DOS commands out of the root directory (all except comand. com, it must stay in the root), you can pick your way through the subdirectories because that is all that is left in the root. I also have a batch command that brings up a batch subdirectory where all the batch commands are stored. These are also cleared out of the root. The batch commands are mainly used to determine how to bring up a particular program without having to remember all the dancing that is required. Most of them consist of changing to the appropriate subdirectory and executing the command to turn on the software. I also put a clear screen and echo off in each batch command so that the program lines for the batch commands don't turn up in sequence across the top of the screen. After the program is access and the work completed, the batch command returns the program to the root.

The subdirectories in the root consist of DOS, a wordprocessing directory with several programs on evaluation; other directories include a "utility" category subdirectory which contain certain programs useful in management of the system. An accounting subdirectory contain a couple of accounting packages that are being evaluated. It is certainly more efficient to check out what is on the disk when the root directory only has a single page.

I am finding MS DOS to be a very powerful and useful system, but it is still tedious to learn and the help within DOS is nonexistent. You must check the manuals to figure out what is going on. Nevertheless, I refuse to buy some of the on-line help systems for DOS, these can become too easy to use. Got to learn to gutcheck it.

Micheal Salem N5MS

ICOM IC-A2 - AIR BAND TRANSCEIVER

Not a misprint. Icom has finally figured a way to get into the pilot's pocket (or wallet) with a new Air Band Transceiver. The radio is just about identical to the IC-02 and 04 radios, but covers all the Com and Nav Channels for aircraft. I have been looking for a walkie talkie for the aircraft band for some time, so I was really interested when I saw one of these in Communications Magazine. It was just a short blurb, but I called Icom in Bellevue to get the poop. The person I talked to was basically uninformative and seemed more eager to get me off the phone than helpful. He promised to send me a brochure. A month or two went by and nothing came. I finally hauled off and wrote the President of Icom and asked for some information and told him about the person who gave me the bum's rush. He never responded either except to send me a brochure finally a month later.

The radio looks good. It covers 118.000 Mhz to 135.975 Mhz (COM) Transmit and Receive (720 channels) and 108.000 Mhz -117.975 Mhz (NAV) Receive only (200 Channels). Icom advertises it as having an extra 720 channels over and above the regular 720 channels. I didn't really figure out where they got those until I saw that the radio is also capable of 12.5 khz split channels along with the regular 25 Khz channels. So, if the FAA ever expands the radio bands again, Icom is ready. The radio also covers the NAV channels at 12.5 Khz spacing also.

Receiver sensitivity is less than 1 uV for 7 db (S + N) /N on the COM band and Less than 2 uV for 6 db (S + N) /N on the NAV Band. Selectvity is typically + 25 Khz at -60 db, not the best in the west, but probably OK unless there are a lot of adjacent channels in use. I would be more interested in image rejection with the FM Band just below the NAV Band and the Commercial boys and Hams above. They don't say whether the injection is high or low, just say that the receiver is a double conversion superheterodyne.

The transmission mode is 6A3 (AM). I thought that they might have some type of reduced carrier mechanism since they indicate the power in PEP, but doesn't appear to be. Just like the amateur versions, there is a high and low power switch. High power is a hefty 5 watts PEP output and low is a more moderate 1.5 watts PEP. Icom will sell the radio with a commercial version BP7 Battery instead of the BP3's that they are foisting off on the amateurs. BP3's just don't last and they know it. It is just a trick to get people to buy a BP5 or BP7 for these current hungry radio. Standby current is 50 ma. The radio draws 180 ma. at maximum audio output, 1.0 amp at high power transmit and .7 amp on low power. This pretty much follows the numbers I drew while checking current drain on my IC-04AT.

The radio has 10 channels, scans the memory channels and has a two channel priority "Air Watch" that will scan only those two channels with priority lockon to the primary operating frequency. The light switch is replaced with a noise blanker switch, something new and different. Probably a good idea on an aircraft radio for AM with channels +25 Khz wide. All of the usual Icom accessories work with the radio which should save some money for those of us who have invested a fortune in Icom stock, one accessory at a time. With the aircraft radio, Icom is offering a different warranty that for the amateur transceivers. The first warranty is a three year limited warranty. After the three year warranty has expired, the radio is covered by a lifetime warranty (yours or theirs) with a guarantee that repair charges will not exceed $45.00 per repair for those items that are covered under the three-year warranty. It is apparent that the service record for these types of radios has been good. Of course, they may also exclude certain kinds of high cost repairs from the warranty.

I followed up on the letter and brochure to see when they are going to be available. The local avionics shop didn't know anything about them. The fellow asked me if he should call me if he found out anything, I told him to not bother, that I would call him when I found out. Icom is setting up two distributors, one in california and another in Dallas. The people in Dallas seemed really nice. The price is $579.00 retail which is kind of stiff, but the aviation market is a captive audience. Availability is sometime around the middle or end or September. Let you know as things develop.

Micheal Salem N5MS

EDMOND AMATEUR RADIO SOCIETY

We all met at PePe's for Mexican Dinners and the convenience of their large meeting room. About 36 persons were there of all ages.

No business was conducted except for the presentation of a plaque to honor and show appreciation for the tremedous amount of effort by KA0CVK and of course his many assistants in our tremendously successful License Classes. It was presented to Bob and He reaaly did appreciate it as much as we appreciate him!!!

Well you don't have to read no more from this sucker because there ain't no more.

For sale: FT 101-ZD Ken Stepp, N5DBM 341-4874

K5SKA WILD BILL!!!!!!

A GREAT BUY: Kenwood TR-2600, 5 months old. Includes Speaker Mic and Belt Clip. Total price $225. Call Jerry, KA5TDE at 360-3370

HAM HAPPENINGS

REFER TO CLUB SECTION FOR SPECIFICS

SUN	MON	TUE	WED	THU	FRI	SAT
1		MORI Great Plains		Aeronautical		
Wheatstraw CP/M	EDMOND Club	76'ers OU OIRA		ALTUS AREA		ARDMORE COCO SCARS
		AUTOPATCH 7:00 PM!		KAY County		VHF Club
	CIMARRON COLLECTOR - EMITTER	CORA				
	30			SEPTEMBER		

The managing editor assumes no responsibility for the data contained herein.

TRS 80C Central Oklahoma Computer Organization

Meeting called to order by Bob Pace at 9:18 A.M. with a round of introductions. There were 109 members and guests attending.

Holly Holcomb announced the start of a new program to share software packages donated to the club. Each month packages would be drawn for and go home with the winner but only for a month. They would be returned the following month to be drawn for again by another lucky individual. Anyone wishing to make up a software package with diskettes and documentation to donate to the club for this program is welcome.

It was announced that the World Wide Computer Club is having a computer awareness week with computer demos on Aug. 23,24 & 25 at Quailsprings Mall. Bob Pace ask for people to volunteer to keep a booth. Several members expressed an interest.

Bob Helms gave a synopsis of the club disk and Joe Harding explained how articles should be submitted to the C&E.

A warning was given about leaving modems plugged in to phone lines during electrical storms. There were several members headed for the repair bench because of this oversight

Bob Pace suggested that a list of people for assistance in software & hardware problems be made available to the club.

Several door prizes were awarded as follows:

MC6809 Cookbook	David Coburn
Hot Coco Disk	Jim Seals
Rainbow Disk	John Boyer
OS9 Manuals	Steve Roberts
Flt.Sim. Manuals	Herb Reed
Chromacassette	Horace Skinner
Disk Sleeves	Raylon Rogers
Disk Sleeves	Robby Runion
Disk Sleeves	Mrs. Pace
16k Chips	Louise Burrell

The official drawer was Nathan Roberts.

Dues were accepted from 13 new members. Total income for dues in August: $65.00

Three people made donations to COCONET totaling $30.00.

Bob Helms continued the very informative progran on disk basic with information on disk commands.

G.R. Zedd, a mighty familiar name around here, is gaining nationwide distribution with the exchange club bulletins printing part or all of them, or at least talking about "him".

The latest to join the crowd is CROSSTALK, the bulletin of the TRW Amateur Radio Club. Redondo Beach CA.