SECOND CLASS MAIL Postmaster, see page 3

CENTRAL OKLAHOMA RADIO AMATEURS
COLLECTOR AND EMITTER
50¢

Vol 11 AUGUST 1985 No 127

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GREAT PLAINS A.R.C.

W5HGH Repeater 146. 13/73

The July meeting of the Great Plains Amateur Radio Club was held Tuesday, July 2, 1985 at the Woodward Public Works Building. This is a busy time of the year for those of us involved in agriculture and attendance was understandably lower than usual.

We are very proud to have John Wright, N5AVV, join us as our newest member. He comes to NW Oklahoma from the Houston TX area, currently resides in Fargo OK and is the FAA Supervisor at Gage. John is just about to get "settled in", and has already been a big asset to the club by helping with communications at the Gage Roadrunner and Woodward Harvest Days Races. Welcome aboard, John!

Club Field Day Activities were, again this year, conducted at Woodward's Crystal Beach Park. Twenty-three hams were counted at one time or another at the site (the largest percentage probably at one of the excellent meals). Again, Field Day activities occur during our busiest time of the year in this area and we feel fortunate that as many were able to participate. Our unofficial results were 380 plus contacts on 20 meter phone, and 100 plus, CW and phone, on allother bands. Ross, WB5MZZ, set up his computer gear at the site and helped to make the computation chore much easier. Our sincere thanks to all who helped!

The largest portion of meeting time was spent discussing the feasibility of outfitting some type of club communication vehicle. The pros and cons of a motorized vehicle versus a trailer were thoroughly discussed with the trailer coming out ahead. Gerald, N5CCV, has a van in his possession that would be most suitable, provide a place to house club gear and be available for use when needed. It was mentioned that an extendable tower and other equipment would still be needed. This project was tabled until a later date, when more members would be present.

Our thanks to Gerry and Sharon Ford for allowing the Club Board of Directors to meet in their home the 30th of June. Quarterly Board Meetings are required by the GPARC Constitution.

As you will recall in last month's edition we were honored to have been able to interview K5OJ. The second part of his interesting story follows:

CLUB PROFILE

QUIDO SHULTESE, K5OJ (Cont.)

Quido and his family left Squier Laboratories, at Ft. Monmouth NJ in November of 1945 because of Mrs. Shultise's health and returned to California. He worked for Standard Oil in San Fransisco for a short period and was then employed by Aerojet-General in 1946 where he was to work until 1963. During these seventeen years he literally grew up with the space industry. He worked in the Instrumentation Development Department of Aerojet-General and was engaged in the testing of large rocket engines. He recalls the extreme conditions involved such as high temperatures and strong vibrations. Quido was instrumental in the development and application of the first multi-channel differential, DC amplifier designed specifically for the purpose of measuring the various perameters involved with testing rocket engines. He recalls that this amplifier was adopted as a standard and widely used by major rocket engine developers such as Rocketdyne, Thycol, Martin Marietta, Rockwell, etc. In 1963 he retired from Aerojet. Fishing, camping, traveling, woodworking and working around the house took care of all of his extra energy for quite a time.

He was absent from amateur radio from 1923 until 1970. He recalls that in early Spring of 1970 he was involved in a telephone voice circuit set up by some of his previous amateur friends. Altho Quido is not a fan of SSB he said that particular circuit was excellent and that he has not duplicated it since. He maintains that voice circuit was "The Beginning of the End". He built up a set of Heath Twins, a 301 and matching 401 and setup a Hustler Vertical. All was not ready, however, his paperwork was misplaced by the FCC and it took quite a time to get it straightened out. Finally, he got back on the air in September of 1970. Almost immediately he ran into many old friends that he had known before. He joined the TWA group and has been active there ever since.

In 1978 Quido's wife returned to Oklahoma to take care of property and to do some visiting. Because they had realized it ultimately would be necessary for them to return to Oklahoma to manage their property, Mrs. Shultise purchased a house in Woodward during this trip. They sold their home in California and returned to Oklahoma in June 1978. Quido still makes his hone at the same location.

Most of his radio time is spent on 40 meters working CW and meeting schedules. He uses mainly Ten-Tec hf equipment in his shack connected to a big loop antenna. As mentioned before, he is an avid CW fan even to the extent of using his right hand for straight key work and his

Continued, page 5

IMPORTANT ANNOUNCEMENT

The following is reprinted from the last minutes of CORA and it concerns everyone so I hope you read it and are not surprised when your club gets its statement from the Collector & Emitter.

"Much discussion followed the Editor's announcement that the "Tabloid" size of the C&E would cost 50% more than the "Pony" size rather than the 25% as announced last month with a limitation to 20 (corrected from 24) pages per month (more pages = more cost).

On motion by Ted, WD5JNT, and Second by Kathy, WB5NDO, and amended by Linda, WDOFTM, with Second by Mac, K2GKK/5< it was agreed without opposition that the C&E rates would go up to 30c per club member per month, $7.00 per Subscription and 60c cover price (newstand) effective with the September 1985 issue."

SO, that's the way it will be. If we can make it at the new rate we will continue to print it in the "Tabloid" size,

Joe Harding, WA5ZNF
Managing Editor

kay

JULY MEETING NOTES.

Gary Boyer of SW Bell of Ponca City gave a talk on digital communications and showed us some of the fiber optic cables that Bell Telephone is starting to use. His talk was very interesting as he went over the basics of digital electronics and the history of optical communications. Believe it or not, Alexander Graham Bell experimented with communications by a light beam more than 100 years ago! By using mirrors, lenses, and the sun, he could communicate about 100 feet by modulating a light beam.

We also discussed the August 15 meeting which will be a transmitter hunt!! The club will meet at the usual place (Pioneer Drive-in Bank) at 7:30pm before the hunt to discuss any club business. The hunt will follow soon after this meeting. A prize is being discussed to be awarded to the first one who finds the transmitter, so everyone get busy and build those RDF loops!!

A swap meet is being planned for August 3 at Stark's Aviation at the PC airport by the OIDAR club. VE exams will be given in the morning, so this will be a good time to upgrade.

Thanks to everyone from the KCARC and the OIDAR clubs who helped with the Jaycee's Raft Race down the Arkansas River near Ponca City. The course is about 10 miles long and the Jaycees needed help in keeping tabs on the rafts in case anyone ran into trouble. The members who helped did a great job and also had some fun.

Thanks to KA5SJK for setting up these events and some future ones yet to happen. If anyone has an idea for a club meeting, please let SJK or myself know about it. Also if anyone has news items or things for sale and would like to put them in the C&E, just drop me a note and I'll put them in the column.

Rick Long, KE5XY
300 Woodbury
Ponca City OK 74601
73 KE5XY

A CLOTHING manufacturer turned out thousands of sweat shirts with the words "*Money Isn't Everything*" on them. He went bankrupt.

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THESE CORA MEMBER CLUBS PROMOTE AMATEUR RADIO

1 AERONAUTICAL CENTER ARC
MEETS: FIRST THURSDAY, FLIGHT STANDARDS BUILDING, FAA, S. MACARTHUR

PR	JACK IMAN, WB5SVN	677-8537
VP	TOM MANGHAM,K5LDI	677-5291
SE	GLORIA SEIGNIOUS, WD5JPW	722-1740
TR	BOB PACE, WA5CJG	376-3569
EDITOR:	GLORIA SEIGNIOUS, WD5JPW	722-1740

2 CENTRAL OKLAHOMA VHF CLUB
MEETS: 10:00AM THIRD SATURDAY, RED CROSS. 10TH & HUDSON (BACK DOOR) OKLA CITY

PR	JERRY METMORE, KD5IS	524-5080
VP	PAT SHERRILL, N5PS	943-3219
SE	JOE BUSWELL, K5JB	732-0676
TR	ELLARD FOSTER, W5KE	789-6702
EDITOR:	JOE BUSWELL, K5JB	737-0676

3 MID-OKLAHOMA REPEATOR, INC
MEETS: 8:00PM FIRST TUESDAY, OKLA CITY STATE CIVIL DEFENSE, WILL ROGERS BLDG., STATE CAPITOL

PR	BOB ALLEN, N5EPV	UNLISTED
VP	BOB GAMBEL, N5GRA	672-9294
SE	ELISE NORTHERN, N5HII	376-4287
TR	SID GERBER, W5KOZ	737-1050
EDITOR:	ELISE NORTHERN, N5HII	376-4287

4 OK CITY AUTOPATCH ASSN.
MEETS: 7:30PM THIRD TUESDAY. OKLA CITY FIRE TRAINING CENTER. 800 N PORTLAND

PR	KATHY WHITED, WB5NDO	799-1457
VP	BOB NORTHERN, N5GMZ	376-4287
SE	JOE HUSTAK, WA5ZNQ	789-8587
TR	RON RECER, KE5M	341-7030
EDITOR:	BOB NORTHERN, N5GMZ	376-4287

5 OKLAHOMA UNIVERSITY ARC
MEETS: 7:30PM SECOND TUESDAY (SEP-MAY) 119 WILSON CENTER. 1334 S JENKINS

PR	LUKE NOAH, KA5BAY	325-1775
VP	JOHN MUSTENBERG, KE5M	325-2382
SE	PETER RICHESON, KA5COI	329-3217
TR	GREG SMITH, KA5LZN	366-1641
EDITOR:	GREG SMITH, KA5LZN	366-1641

6 ALTUS ASSOCIATION
MEETS: 7:30PM SECOND THURSDAY NORTH MAIN FIRE STATION (CD) ALTUS

PR	DWIGHT DENNIS, WB5KRH	482-2498
VP		
S/T	MIKE SCHENKLE, W5VIU	482-1797
EDITOR:	MIKE SCHENKLE, KB5IN	482-1797

7 BICENTENNIAL (76ers) ARC
MEETS: 7:00PM SECOND TUESDAY. OG&E BLDG. SE 3RD & E. K. GAYLORD BLVD.

PR	DONALD DUCK, AE5N	691-4199
VP	TED VANLANINGHAM, WD5JNT	262-1675
SE	JERRY SPROUL, W5AUH	354-2061
TR	TOM WEBB, WA9AFM	737-6716
EDITOR:	JIM SEALS, KB5IN	381-2005

9 WHEATSTRAW ARC
MEETS: 2:30PM SECOND SUNDAY. LOCATION VARIES. SEE CLUB SECTION FOR DETAILS.

PR	MARVIN STOKES, WA5JHB	893-2221
VP	VIRGINIA BENEDA, N5EMD	825-3302
S/T	GEORGE MASCHINO, K5GGL	263-7614
EDITOR:	RICHARD RUHLE, WD5GLD	375-4843

19 OKLA INDEPENDENT AR
MEETS: 7:00PM SECOND TUESDAY SOUTHWESTERN BELL IFFICES, PONCA CITY

PR	DAVE WHITE, WN5LUI	765-5707
VP	VERNON TREIBER, N5ANV	767-1571
SE	GLEN BISHOP, JR, KA5PUB	767-1031
TR	BIZ MICHY, WD0HCO	762-3297
EDITOR:	DOUG EVERITT, N5DUB	949-1928

11 EDMOND AMATEUR RADIO SOCIETY
MEETS: VARIES. SEE CLUB SECTION FOR DETAILS

PR	KEN STEPP, N5OBM	341-4874
VP	BILL DEMAND, K5SKA	751-5137
S/T	BILL WRIGHT, KC5GN	341-6076
EDITOR:	BILL DEMAND, K5SKA	751-5137

12 QUARTER CENTURY WA
MEETS: QUARTERLY AT VARIOUS PLACES.
NET: 3855 kHz SUNDAY AT 8:00 AM.

CHM	FRED BOARDMAN, W5NL	427-2505
VCH	RAY LONG, W5TY	942-4314
S/T	HOWARD BAKER, W5AS	721-5453
EDITOR:	ROBERT RUNYON, AA0O	373-1818

13 KAY COUNTY ARC
MEETS: 7:00PM THIRD THURSDAY PONCA CITY EOC

PR	PAUL DAVIS, N5HIC	765-2227
VP	MARSH PRONNEKE, WA5UBO	363-2526
S/T	DAVE LAND, KD5FI	762-8616
EDITOR:	DAVE LAND, KD5FI	762-8616

14 CIMMARON ARS
MEETS: 7::PM FOURTH MONDAY. PLACE VARIES. SEE CLUB SECTION.

PR	JACK DAY, NN5Z	227-3462
VP	LEO PEIL, KA5DUO	886-2996
S/T	REETA MARTIN, KA5SLY	227-3013
TR	DEDE BAILEY, W5FUN	227-2061
EDITOR:	RUTH SIMPSON, N5FUR	227-2791

15 SOUTH CANADIAN ARS
MEETS: 9:30AM SECOND SATURDAY. RED CROSS BLDG. NORTH OU CAMPUS. NORMAN

PR	DAVE EGLE, KD5IT	321-7570
VP	KEN ESAGOOAH, N5BEW	329-4667
SE	JOE GREEN, KA5AXQ	364-4301
TR	MONTE BATEMAN, WB5RXZ	329-7485
EDITOR:	SAM BARRETT, WA5RPP	321-2601

16 EDMOND AMATEUR RADIO CLUB
MEETS: 7:00PM SECOND MONDAY. SEE CLUB SECTON FOR LOCATION AND TYPE

PR	MARK NORTHCUTT, WD5DYI	755-4672
VP	RON CRON, WA5EAI	681-0896
S/T	KAY NORTHCUTT, WA5DYJ	755-4672
EDITOR:	MARK NORTHCUTT, WD5DYI	755-4672

18 GREAT PLAINS ARC
MEETS: 7:30PM FIRST TUESDAY CIVIL DEFENSE ROOM, WOODWARD COURTHOUSE

PR	GERRY FORD, NC5C	256-5342
VP	LEWIS PATTERSON, W5KFK	256-2111
SE	LOIS FORD, KA5PYA	923-7683
TR	FREIDA PATTERSON, N5EOX	256-2111
EDITOR:	LOIS FORD, KA5PYA	923-7683

20 ARDMORE ARC
MEETS: 7:30AM 2ND SATURDAY. CORRAL RESTAURANT IP INFORMAL: EVERY WEDNESDAY, 221 9TH NW

PR	GENE SOUTH, WA5IJA	223-8252
VP	HOWARD ROBINSON, WB5FAJ	223-5726
SF	JIM CHILCOAT, W5JCX	226-6816
TR	JOHN MERLYN, WD5FZD	223-9543
EDITOR:	JACK GANT, W5GM	223-2619

CENTRAL OKLA RADIO AMATEURS
MEETS: 7:30PM FOURTH TUESDAY. RED CROSS BLDG. 10 & HUDSON OKLA CITY (BACK DOOR)

PR	REGGY WHITED, WN5WWI	799-1457
VP	DON SAUNDERS, WD5ISS	751-0404
SE	JIM BUSWELL, N5BEQ	236-0368
TR	LINDA CALLISON, WD0FTM	751-3620

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EDITOR: Joe Harding, WA5IMF 737-1044
CIRCULATION: Bob Graham, WB5NSV, 677-8685

EDMOND AMATEUR RADIO SOCIETY

Well I better get this off and running as I understand my last offering got there six days after I mailed it and was too late to be published. We have had Field Day and seven of our number have passed upgrade exams with only two who did not make it but, hope to do so next time. If I am correct it is great to know that our group were the only ones who did pass at the time the tests were given. Congratulations to all those who did pass. You all did very well.

As for Field Day all new amateurs who were there were observed as having a great time making contacts and enjoying the work and fun of their first time out.

The next up is Ham Holiday which is July 26,27 and 28. I hope we will see all of our people out for the many interesting programs and new and used equipment that will be presented to their hungry eyes. Well it may not seem apitizing but, I thought it was a reasonably decent play on words.

All this may be enough rattling this time with what didn't get printed last time to also be printed this time.

Hey! It's Field Day again and EARS is going to be at Enterprise Square parking lot, next to O.C.C. on Memorial Road.

We will have a very busy weekend and will also have an outing at Hafer Park in the Pavilion area where we will bring various dishes according to our place in the alphabet. Another great idea by our Activities Director, Jandas XYL of course.

I will have the details on these subjects in the August issue.

EOY! You talk about tough. A. C. Adams with the new call of KA5WGV had open heart surgery Monday 10 July and is doing very well, but on top of that is preparing to take the Technical Class License test, Monday the 24th of July. We recommend that you not mess around with this guy at all.

Also we have eleven new Novices taking the Technician License at the same time along with newly licensed Novice KA5WIS, Lee Vaughn. Rather than take a chance and leave someone out we will be sure to mention new Novices Frank Tassone, KA5WGS, and David Patillo, KA5VYF. Jerry Drewery, N5HTF, who was K5FQH is a new member who many of us already know. Welcome to all these new members and remember if we can be of any help to you please let us know.

That is enough, out, this time! K5SKA, Bill

Regency Scanner Repair:

I have heard of others having the same problem with their scanner of the same model as mine, ACT-T-16K, the sixteen channel "The Touch" by Regency.

The scanner would occasionally go into buzzing or roaring modes, not work at all (no audio when unsquelched), or sometimes work just fine. The problem was traced to the VCO circuit board which can be identified by the hot melt glue placed over the FET and varactor diode. Tapping the location in question would cause the problem to come and go. I replaced the FET with an ECG 312 (Regency #4811-0000-020). The scanner still had the same problem. Closer inspection revealed what looked to be a fracture around one lead of the varactor diode where soldered to the PC board. I resoldered all of the joints under the hot melt area. The scanner now worked fine. I then covered the new FET with hot melt. I am wondering if perhaps over a period of several years the hot melt doesn't shrink and pull the leads loose? FYI: the gate of the FET goes to a 470 pf capacitor, the drain and source of the ECG 312 are interchangable; the Regency part # for the varactor diode is 4809-0000-004, it looks like a transistor, TO-92.

While you have the case off you should check that all of the screws securing the PC boards are tight; this solved some distant problem I had before.

HH 85:

I will be contacting EARS club members to help with the registration at the door during Ham Holiday, July 27-29. I hope that you have pre-registered so as to save yourself some bucks; you might win the pre-registration prize too! Thanks in advance to all of you who help make the "at the door" registration a success.

Rpt news next month 73 N5BUJ

IC-02AT & IC-04AT Modifications

Ron, N5DEW, recently found out what some of the tricks are with respect to changing the 02/04 frequency coverage. Another modification will delete the automatic PTT delay when using the tone pad. Should you elect to make these changes you are on your own, please don't call me with questions. I am telling all I know here, which is very little. Should you have more information or a better technical description then write it down and submit it to the C&E. I don't claim to be an expert but I do believe in sharing information; however limited it may be. THANKS

To rid your 02/04 of the automatic PTT (push to talk) delay remove C-505 from the tone encoder board. This will probably be a 4.7 uf, some prints show it to be a 10 uf.

The frequency modification change will allow you to enter any frequncy, of course they won't all work. The tuned circuits only have so much bandwidth. The processor used in the Icom uses a four by four matrix with diodes properly placed to tell the processor which radio it is (Australia, Europe, USA, Britian, ect.); change the diodes and the processor will think that it can do anything!

After changing the diodes you will probably have to adjust the VCO circuit so as to have enough local oscillator at the new frequency. You will need some sort of signal generator to insure that the radio still receives the amateur frequencies as well as the new frequncies. I used a Regency ACT-T-16K programmable scanner. The local oscillator of the Regency is 10.7 mHz below the programmed frequency. To program the scanner to generate 162.4 mHz enter a frequency of 173.1 mHz (162.4 + 10.7 = 173.1). I know that I am not the only person that makes use of this "poor man's method" as I have read of others doing the same in the C&E.

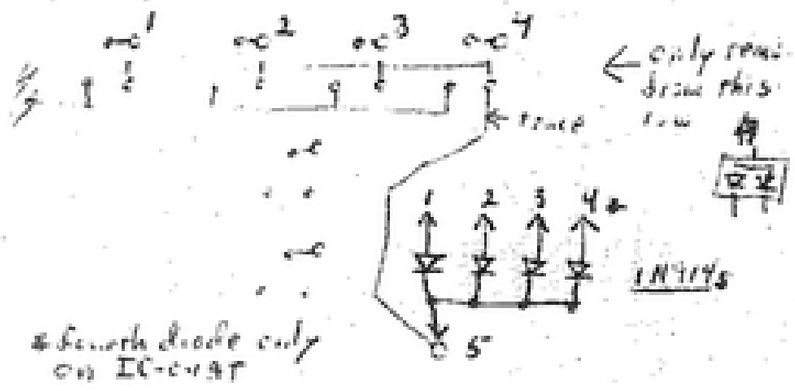
Should you actually own this particular Regency you might say that 173.1 mHz is out of this scanner's range. You can confuse the Regency so that it will allow you to enter most anything (not all will actually rcv) by pushing "9" then "C" while in the scanning mode. More on the Regency later.

Open the Icom up, it will be necessary to remove the two screws at the bottom of the tone

Continued Next Page

EARS CONTINUED

encoder board to allow you to swing this board out of the way. You should now see the top of the processor board (might not be what Icom calls it?). You should notice two three legged surface mount devices about an eighth of an inch square. Carefully remove both of these dual diode packages. You will now notice that provisions are made at the top of the board for installation of four such devices. If you are making this mod to an IC-Ø2AT you will only install three 1N914 diodes. If you are making this mod to an IC-Ø4AT then you will install four 1N914 diodes. See the sketch for details. A picture is worth a thousand words!



Now that you have installed the diodes without burning up your radio....assemble same but leave the back off. Slide on the battery. You should be able to enter 149.990 and step to 150.000, then 159.990 and step to 160.000... took me a while to figure that out. Use your signal source to see how high in frequency you can monitor. Adjust the signal source to a point just above the frequency of no reception. Locate the VCO circuit by refering to the drawing (picture) in your Icom manual. Page 37 for the IC-Ø2AT. On the Ø2 adjust only the coil inside of the tin shield. On the Ø4 adjust only the top right capacitor inside of the tin shield. Check that you can still hear the amateur band and continue to crank the signal source up in frequency. We enabled the IC-Ø2AT to receive up to 162.4Ø mHz (OKC NWS) and the IC-Ø4AT to receive up to 465.ØØ mHz. Use your own judgement and don't tweak anything else unless you know what you are doing. I didn't have a service manual and the hand-helds that I modified were not mine so I really can't offer any other advice, I simply followed written instructions without knowing what I was changing or adjusting. I hope that someone will pick up on this and perhaps write a more technical article for the C&E.

Remember not to transmit out of the amateur radio band.

GPARC CONTINUED

left for keyer or paddle sending. He keeps a CW rig in his bedroom and is able to make contacts from his bed by using the keyer.

He is very involved in computing and owns several different computers including a Vic-20 which is used for CW and RTTY. As he is with radio, he is interested in computers and enjoys using and visiting about them.

As is evident from these articles, he has seen and been a part of many changes. Quido is a pioneer from birth in Taloga OK the son of a General Merchandise Store owner, stocking everything from needles to thrashing machines, through early day wireless communications, as an active part of the space program and, though now retired, is still working with radio and computer technology. He recalls holding these calls, 9NX, WB6EGA, K6TK and K5OJ.

Unfortunately, these articles do little justice toward many of the interesting stories, pictures and happenings gathered in these interviews. It would be easy to complile many additional pages of excellent reading material garnered from our visits with Quido. Perhaps these installments will shed a small light on a most interesting Ham Radio Operator, K5OJ, Quido Shultise.

73, Lois, KA5PYA

A Frenchman was relating his experiences in studying the English language. He said, "When I discovered that if I was quick, I was fast; that if I was tied up I was fast; that if I spent too freely I was fast; and not to eat was fast. I was discouraged. But when I came across the sentence, "The first one won one one-dollar bill" I gave up."

SAY "WELCOME" TO THE NEW KID ON THE BLOCK! What kid? The Oklahoma Races Repeater is slowly coming along and in it's shakedown phase. The repeater occupies the frequencies of 144.81 and 145.41. It listens on 144.81 and transmits on 145.41.

So what does this mean to the amateur radio operator in Oklahoma? First off, it is just another repeater, but owned and operated by the State Civil Defense Agency. It has autopatch capability; as of this writing, non-functioning but should be operating shortly.

There are no restrictions as to the use of this repeater and autopatch, other than those that pertain to amateur radio and repeater operations.

Why would the State Civil Defense sponsor a repeater? Well, why not? Civil Defense is charged with more than the defense of the civil population. They can and will be called into action any time the citizens are threatened, whether it be floods, hurricanes, tornadoes, earthquakes or any other natural or man-made disaster.

So why, with all the other repeaters around, does the state have this repeater? How better to assure adequate communications? In other words, one more repeater cannot do any harm, and by FCC regulations, it's use can be restricted to RACES stations or a licensed radio amateur operator who is certified as enrolled in the Civil Defense organization. (See 97.175, 97.176)

There is a net already being called on this repeater. On Saturday evenings at 7pm, a net is called for "RACES members and all interested amateurs". This allows check-ins from any radio amateur licensed to operate on the frequency. If the net is called for "RACES members only", then the only check-ins to be allowed will be from RACES members.

This repeater is currently located at the Capitol Complex on the Will Rogers Memorial Building. There are plans to relocate the repeater to a 400 foot tower in the vicinity of Piedmont, north-west of Oklahoma City, in the near future.

Welcome one and all to the new kid on the block. All you need is to talk to it on 144.81 and listen to it on 145.41, or in the jargon of the repeater group, 144.81/145.41. Every duly licensed radio amateur is invited to use this as an open repeater and when all the bugs are worked out, it should be a welcome addition to the Oklahoma Radio Amateur's capability.

Q. R. Zedd

THE GREAT MAN TRIES QRP

As faithful readers know, the summer of 1985 will go down in radio history as the epoch when the greatest DXer the world has ever known, Q. R. Zedd, decided to experiment with QRP operation.

Zedd, A5A, is of course known internationally (if not interplanetarily!) for his DX exploits. While Zedd has never been known to approach legal power limits while operating worldwide, he has on occasion caused brownouts in the Norman area when he turned on his big linear, and once bested the great Bill Blast, of the West Coast Blast Off Net, in a head-to-head confrontation over the airwaves.

Zedd has also repeatedly whipped the fanny off Boris Badenov, famed Soviet DXer, and once won out in a pileup over W5NUT.

This summer, the great man got all het up about high-power rule violations, and decided to go low-power as a symbol for all the faithful and deserving. After a short period when he policed the airwaves, he finished work on his first QRP transmitter, and began testing it in early July.

This is a report on how it came out when he started feeding the signal to his antennas.

"I had me some trouble at first," Zedd told us recently, sipping a mint julep on the porch of his home, Honor Roll Ranch, just a hoot and a holler south of town.

"First thing that happened, I didn't have an SWR bridge sensitive enough to register my QRP signal because when I go low power, I go **low power**. So I had to stand by while I designed up a more sensitive bridge, but that still didn't work too neat because every time I had a sody pop, the changes in the PH of my mouth and gums caused my gold fillings to transmit more power than the rig was doing. So what I had to do was build me up a little linear to switch into the SWR bridge when I wanted to check it... get the power up to a quarter of a milliwatt or so, so the bridge would register somepin.

"Well, I got all that done and checked things out, but my barefoot QRP signal was so low I couldn't use any of my tall antennas -- I mean, that signal was **so durned** QRP that more'n about six feet of coax would just sop up the whole thing, and nothing would be left for the yagis atall. So I had to run me some open-wire feed, and put in a couple of boosters on the way up, and then calculate things out so I would have just the right amount of power into the antenna, and all.

"It was hard, even for a person of my electronic genius.

"But anyway, boys, I done it, and a few nights ago I got on the air and hollered QRZ, and of course everybody heard me right away, especially in Oklahoma and Texas, because I used the W5MCN method of raising my voice enough so I could be heard in a range of 400, 500 miles even if the power gave out.

"It was a lot of fun. I worked about 220 countries, plus my pal N5BEW and old WA5MLT down in Dallas, the latter contact being real interesting because he still ain't got his rig fixed. Then I played some radio chess with WA5RPP and beat him in six moves, which made him sulk quite a bit, but not as bad as when N5IAA whups up on him at bridge, and then I went QRT because it was suppertime and I'd been at it nearly four hours already and my grounded diode transmitter was getting kind of hot.

"Later I worked my momma over in Mena, and the king over there in that near Eastern country I can't never remember the name of, and had a real nice pileup going again. So I decided it was too easy, and I had to go QRT again for a while to stick in a swamping resistor in the rig because obviously I wasn't getting no challenge."

Zedd shifted his lanky legs on the porch railing, making scuff marks on his lavender boots with the biodegradeable brown trim. "When I got back on a day or two later, I had it cut down real strong. By my calculations, I had exactly sixteen electrons flowing around in the circuit, which is pretty low power, I can't tell you exactly how low because I haven't found me a computer yet that will cipher out to that many decimal points.

"But it's real low power, boys.

"It's such low power that if you just sort of squeeze the feedline with your fingertips, changing the skin effect a little, no power will flow through at all.

"It's such low power you got to leave your digital wristwatch in the other room someplace, because the near field of your watch battery might mess up your output calculations.

"It's such low power, if you ain't careful, the durn thing will go negative power and start thinking it's a receiver, and taking stuff in instead of putting something out.

"I know the advanced theory behind that phenomenon is far beyond you boys. But think about it."

Zedd fired up a cheroot with the aid of his friend and constant companion, Tondelayo

Continued, Page 9

ALTUS AREA AMATEUR RADIO ASSOCIATION

The Altus Ham Club held its July meeting at 7.30PM Thursday the 11th. Present for the meetint were Dwight WB5KRH, Loren WA5CBF, Ann KA5WDY and her sister Laura May, Sherwood WA5TXG, Dorothy KA7LPG and Mike W5VXU.

With Dorothy now joining as a new member, the Club now sport a membership of 27 with 17 also being members of the ARRL.

Mike reported that the Club treasury now contains $337.23.

After some discussion, the members present decided to hold this year's Ice Cream Social on 10 August at 7.00PM in the same spot as last year, the pavilion at the north side of the Altus City Reservoir.

It was reported by a very reliable source that Ann, XYL of W5VXU, has now become proficient in the first 6 letters of the alphabet and is attacking the next group with a will. Chip, N5FJK, has already told her he will be happy to administer the Novice test whenever she is set.

It looks like Mike is going to have to resign himself to the idea that his TS430 may have to serve double duty pretty soon.

As an added note, the next scheduled regular meeting has been cancelled for 8 August and will be included during the Ice Cream Social on 10 August.

Loren, WA5CBF, has indicated he is willing to part with some of his accumulated goodies. Among the items he has for sale are a TR-3 Drake transceiver, 80-10M, 300W with AC3 and DC3 power supplies and manual for a firm $300. Also a Tentec Argonaut, 5W, 80-10M transceiver & 50W power amplifier, matching, as well as microphone and manual priced at a firm $200.

Also going will be a whole group of different equipment including RTTY, test gear, power supplies, etc.

Contact Loren, WA5CBF at 405-477-0921 for further information and prices.

Loren told me to make sure everyone understands to hurry. He can't wait to go buy his new TS430.

=FILE ZERO=

This month's FILE ZERO will be mercifully shorter than last. I got a little wordy for the July issue, and our esteemed Managing Editor, WA5ZNF had to cut some of it. However, Joe promised me that he would put the "Growing Old" piece in for this issue IF, I keep it short! So here 'tis again.

HOW TO KNOW WHEN YOU'RE GROWING OLDER

Everything hurts, and what doesn't hurt, doesn't work.
The gleam in your eyes is from the sun hitting your bifocals.
Your little black book contains only names ending in M.D.
You get winded playing chess.
Your children begin to look middle aged.
You finally reach the top of the ladder, and find it leaning against the wrong wall.
You join a health club, and don't go.
You begin to outlive enthusiasm.
You decide to procrastinate, but never get around to it.
You're still chasing women, but can't remember why.
Your mind makes contracts your body can't keep.
You know all the answers, but nobody asks you the questions.
You look forward to a dull evening.
You walk with your head held high, trying to get used to your bifocals.
Your favorite part of the newspaper is "twenty-five years ago today.
You turn out the light for economic rather than romantic reasons.
You sit in a rocking chair, and can't make it go.
Your knees buckle, and your belt won't.
You regret all those times you resisted temptation.
You're 17 around the neck, 42 around the waist, and 96 around the golf course.
You stop looking forward to your next birthday.
After painting the town red, you have to take a long rest before applying a second coat.
Dialing long distance wears you out.
You're startled the first time you are addressed as an "old timer".
You remember today that yesterday was your wedding anniversary.
You just can't stand people who are intolerant.
The best part of your day is when the alarm clock goes off.
You burn the midnight oil after 9:00 p.m.
Your back goes out more than you do.
A fortune teller offers to read your face.
Your pacemaker makes the garage door go up when you watch a pretty girl go by.
The little gray haired lady you help across the street is your wife.
You have too much room in the house, and not enough room in the medicine cabinet.
You sink your teeth into a steak, and they stay there.

(Anonymous)

I'm not sure where I came by this, but believe it is not copyright material. I enjoy this sort of stuff, and have a small collection of different things like this. Maybe I can find some more at a later date if you enjoyed this one. Or, better yet, how about some contributions from y'all?

WHEN IT TOOK TWO LICENSES TO OPERATE

In looking over my first licenses, I noticed a curious thing. My Amateur Operator's license, issued 06 January 1932, was Form 759-B, Department of Commerce, Radio Division. The Amateur Station license, issued 22 January 1932, was Form L-AM, Federal Radio Commission. All of my subsequent licenses, whether amateur or commercial, were issued by the Federal Radio Commission until that entity was replaced by the Federal Communications Commission.

My first Radiotelephone First Class, November 1933, was issued by the Federal Radio Commission; others, of course, by the FCC.

Stifling my initial repugnance, I renewed my expired Radiotelephone First Class with that boy scout merit badge called a "General Radiotelephone License".

W5JJ

QCWA CHAPTER 63
BIRTHDAYS August 1985

2	Jane Willis	XYL	W6ATO
4	George Lagaly		W5NTL
11	Sid Pokorny		W5UAU
14	Norman Jessup		W5EHR
14	Ed Oldfield		W5AYL
17	Harold Gilbertson		W5RB
20	Hugh Benson		KA5DGY
24	Ernie Miller		W5SNM
24	Dottie Shima	XYL	WOPAN
25	Elmo Black		W5JCB
26	Marjorie Diehl	XYL	K5WUF
29	Larry Watson		W5EIU

HAPPY BIRTHDAY TO ALL

The following is excerpted from the monthly activity report submitted by W5AS:

QCWA Chapter 63 on the air operation during June, 1985 as follows:

SESSIONS	5
CHECK-INS	173
TRAFFIC	25

(signed) Howard W. Baker, W5AS

- - - - - - - - - -

Here is some more late stuff from Carl:

"FORGOTTEN GENIUS"

The March issue of Amateur Radio has an article on Nikolas Tesla, that genius who lost to others the credit for a dozen important inventions. You should read the account.

Also there's a bit on the "Royal We". I quote:

"I know you have to be rich to afford radio amateur equipment these days, but how is it so many amateurs are rich enough to have a staff to run their station? Clearly they have a staff of technicians as they refer to themselves in the plural 'we'. 'We have a tribander Yagi, and our rig is a Fox Tango 107. We should be happy to QSL via the bureau.'

The other possibility is that they are royals and thus have a legitimate right to use the plural. But how can I tell whether to say '73 to all of you' or '73 to your majesty'?"

In another item (elsewhere) on that subject, an author said the use of "we" should be limited to kings, editors, and pregnant women. hmmmm. So, if you hear some chap we-we-ing into his microphone, should you address him as "your Majesty" or as "little Mother to be"?

W5JJ

The South Canadian Amateur Radio Society
Davis, KD5IT

BICENTENNIAL AMATEUR RADIO CLUB
"To Promote Radio Communications"

Kay

SCARS TODAY.....

SCARS is alive and well and growing. There is more activity around here than there has been for quite a while. The club station is up and working, the repeater is being improved continually, and Field Day was a big success. Congratulations to all SCARS members. Keep up the good work.

REPEATER UPDATE.....

The repeater continues to work well thanks to loving attention from several of the faithful. Work is continuing on the remote receiver and the linking system. This should prove to be a real plus for coverage of the machine, providing greater access to talkies.

At last word, the receiver crystal was back to the shop for reworking, however this is only a minor setback. Thanks to all of those involved in making our repeater one of the best in the area.

FIELD DAY.....

The results are being totalled, however this year's edition of the "Big Event" was great. I only managed to get by for a few minutes, however I could tell that participation was excellent, and the preparations couldn't have been better. Reports of our club's operation were carried by at least two Oklahoma City television stations. That's really good PR for amateur radio and especially for our Norman group. Thanks to all and especially Louis KD5WA for heading up the planning.

I have no way of knowing everyone who showed up, however, over 500 total contacts were made, and those making contacts were: N5HJL, KD5IT, N5HJG, N5DWN, KA5COI, KA5LNO, KA5EFJ, N5BEW, N5HGL, WD5GTC, WB5RZX, KD5WA, N5HSZ, N5HSX, N5MS, K5PL.

Some special recognition goes to:
-Mark, N5HZR, attending for the first time this year, made 152 contacts out of the club's total of 513.
-Monte, WB5RZX, made two contacts on Sunday, despite the fact that he and N5HZV, Jean were married on Saturday. Congratulations Monte and Jean.

JUNE MINUTES

Meeting was called to order by the President Don Duck at 7:30.

Treas. Report: The secretary reports that we have $134.91 in the Gen Acct and $99.78 in the Repeater Acct. for a total of 235.70 in the checking acct.

Secr. Rpt. The minutes of the last meeting was summarized by the secretary and was approved as read.

Field Day: Well most every body got the field day date wrong and a good part of the 76ers wound up missing field day however Ted and George did make it out, also Dick helped out the OCAPA club on theirs.

C.O.R.A.:We were represented at the last meeting by one member. The minutes of the meeting was read by Jim Buswell who is the secretary of CORA. most of the meeting pertained to preparations for HH85 but there was one other matter about the cost of the C & E magazine. Joe the editor reports that we cannot continue with the new format unless we cut the size or raise the price. A consensus was taken of all the clubs and it is decided that the new format should be kept. A motion was made to raise the Clubs assesment for each member by .05 cents per issue,starting with the Sept issue. The motion was passed and will take effect as scheduled.

PRE-REG COMMITTEE: Pre reg is going well by N5AUH and K5GGL and should be well overwith by the time you read this. Hope everyone enjoyed Ham Holiday 85

NEW BUSINESS: The Annual Ice Cream supper has been scheduled for the regular meeting night in August. It will be held again at the Granada Village Club house at 2400 S. McArthur on the lawn around the swimming pool. If you wish to swim come early as the pool closes at 8:00. The party is scheduled to start around 7:00

Meeting Adjourned.

N5AUH Sec.

—MORE 76er news on next page—

-KD5IT, Dave, worked the long lonely hours of the graveyard shift.
-N5BEW and KA5EFJ, Ken and Ken, who called in the TV crews.

All in all, this year's field day was great, and Louis says that next year is already being planned and will be even better.

-wa5rpp-

.*COMMUNICATIONS FOR 10K RUN

The KCARC provided vital communications for the CEA sponsored 10K run out at Lake Ponca on June 8th. This is the third function of this type so far this year that we have helped with. A big thank you to KE5XY, N5HIB, N5HIC and KD5FX for helping out.

JUNE MEETING NOTES....

New (?) Club Officers are:
President: Paul Davis, N5HIC
Vice Pres: Dave Land, KD5FX
Sec/Tres : Rick Long, KE5XY
We were a month late in electing officers this year, but we had a quorum this time and the railroad ran again.

1986 CLUB DUES CHANGED...

The club voted to change the makeup of the dues to this:
$5 Club membership
$10 Repeater use fee
$5 Autopatch use fee (plus at least the repeater use fee) These will become effective January 1986.

EXECUTIVE COMMITTEE CREATED...

The club also voted to create an executive committee to take care of the mundane club business ahead of meeting time and eliminate the problem of too much time spent during meetings working out all of the little details of clubo peration. Their first order of business is to create some guidelines to work under and present these at the next meeting. Any interested member is invited to the executive meeting, its time and date will be announced on the repeater during the Monday Night Nets. Besides the three regular club officers, the following were elected to serve for one year, W5ZWH, C. L. Hallmark, and WB5SAG, Grady Skillern.

1985 FIELD DAY...

The final plans were made for Field Day, we're combining our resources with the OIDAR group and having Field Day out at the old Duffy Building West of town. By the time you read this , it will all be over and hopefully turned out very well. FINAL ARTICLE....

Since Rick is the new club secretary this will be my final regular article. I'll still fill in for Rick when he needs me though. Its been fun the last year or so and I hope you've enjoyed it. See ya at the July meeting on July 18th and at Ham Holiday!! 73 KD5FX

MORE KAY COUNTY news, page 2

The May meeting of the Bicentenial Amateur Radio Club (76'ers) was called to order by President Don Duck at 8:00 pm.

Treasurers Report: The financial report was read by The Treasurer. Motion was made to accept as read. Tom says he is unhappy with the bank where we have our account and is looking for another place.

Secreyary Report: The minutes of the last meeting. The report was accepted as read.

CORA Report: Jin Buswell handed out the minutes of the last meeting. Discussion was made on whether to let an Arkansas club join CORA. The consesus of the club was that it was OK with us if they were non-voting members.

Old Business: None was conducted.

New Business: None was conducted.

Field Day Report: A motion was made that the club not have our own FD this year but to assist the Wheatstraw Club in their effort. The notion was seconded and passed unanimously.

The meeting was adjourned at 8:45 pm.

Jerry Sproul
N5AUH, Secretary

This is a reprint from the very first meeting held by the Bicentenial Radio Club.

CHAPTER MEETING OF BICENTENIAL .*RADIO CLUB, 6 JANUARY 1976

The meeting was conducted by Coy Day, representing the club sponsor (Oklahoma Air National Guard).

The club name was decided upon as the Bicentenial Amateur Radio Club, nicknamed the "Seventy Sixers".

The meeting date was set for the 3rd Tuesday of each month.

No dues were to be levied at this time, but provisions woul be in the constitution and by-laws for dues in the future.

The constitution and by-laws were read and approved by all present.

The nominating committee presented the following slate for election:

President: Coy Day
V. President: Ernest Wolf
Secretaty: Ken Newberry
Treasurer: John Oltmanns
Activ Dir: Steve Hutcherson

The slate was elected by acclamination.

The meeting was adjourned for coffee.

Fourty Six (46) persons were present.

OIDAR OKLAHOMA INDEPENDENT AMATEUR RADIO

LICENSE EXAMS and SWAP-FEST

Don't forget the OIDAR swap-fest: Saturday, August 3rd, 9 a.m. to whenever, at the Stark Aviation hanger, Ponca City airport. No cover charge; bring your own tables if you have a lot of stuff. Tulsa ARC will be acting as V.E.s for license exams early in the day. Brodie Electronics will be hawking goodies. Food and drinks will be available from a private concession.

TEN FM HOT THIS SUMMER - 10 meters has been *very* open on sporadic-E short skip a good bit of the summer. Lots of people assume 10 and 6m are just plain dead during the sunspot null - this is emphatically not true. It *is* true that long-haul DX via the F2 layer becomes very rare, but short-haul sporadic-E (500-2000 miles) is largely unaffected by the sunspot cycle. Naturally, this means lots of ten-meter FM bouncing across the countryside, so if you've got the gear, get on there. If yer not an FMer (and why not?), there's still plenty of action on the low end, with 10-10 number-hunters infesting sideband as ever. 6 meter SSB has been good this year, too, although activity is down some from the "big DX" years of 1981-82. A final word on sporadic-E: "Es" is seasonal and tends to fall off sharply after mid-August, but usually picks up again for a brief season around December-January, dropping out again until the main May-August season. Above all, don't give up on 6 and 10 (or the new 24 MHz band).

POOR LOAD - One of (several) hitches in the link with Enid's 145.29 is that one of the 220 MHz antennas has been stolen from the repeater site north of Enid. Ken W5QMJ has moved the other one inside the blockhouse. Some C8er somewhere must be mighty disappointed at the SWR on his new toy. Dan K5CAY tells me that one attempt to get the antennas mounted failed when it was discovered that the wrong size brackets had been brought along. At any rate, when all the antennas and feedlines are ready, 145.29's parallel system on 220 will go on, swapping frequencies with the existing Enid ARC 224.94 machine, which will move to 224.70. Then, Vern and Dave will interface one of the DUB 220 radios to the 145.31 OIDAR repeater and the existing link radios to 145.23 in Blackwell.

OIDAR's NEXT regular club meeting is Tuesday, August 13th, 7 p.m., at the Southwestern Bell offices in Ponca City. 73 - Doug - **N5DUB**

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*        76ers       *
*     ICE CREAM      *
*       SUPPER       *
*  TUES AUG. 13      *
*      GRANADA       *
*     2400 SOUTH     *
*  MCARTHUR BLV.     *
*    COME EARLY      *
*      TO SWIM       *
**********************
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Bring your freezer and family for lots of good ice cream and family fun

ZEDD

Schwartz, the blond, nubile, 20-year-old QSL secretary and graduate of the Harvard Business School whose recent trip to Norman in her topless candyflake Toyota Land Rover caused such consternation (not to mention 103 accidents) on Norman's Main Street.

"If you old boys would like a demonstration of all this new fun I'm having," the great man added, "come back after nightfall tonight. I'll fire the rig up and we'll work a few thousand."

Naturally everyone wept a little at the joy-filled prospect of actually getting to walk into the sanctum sanctorum, Zedd's shack. We promised we would be back.

And we were.

Little did we know that we would witness the full fury of Zedd's righteous indignation that evening.

(To be continued.)

--KU5B

QCWA CONTINUED

(I've heard it said that the royal "we" as applied to kings, popes, etc., derives from the notion that the possesser of the title shares power with God and is thus a plural person. Nowadays the notion of devine plurality is usually applied to people possessing phychotic split-personalities. Come to think of it, maybe that fits. .-ed.)

"HIGH FREQUENCY RADAR"

April issue of A[mateur Radio has an article on a rarely mentioned subject: High Frequency Radar. We've all heard the Russion Woodpecker; here's the info about an australian version that allegedly doesn't wipe out amateur radio bands. You'll pick up some good info from this article.

Another article concerns the center-fed Zepp (antenna); really, it is more on the use of tuned open-wire feeders on a variety of antennas.

If you're building a power supply, VX5XI tells how to use rectifiers on everything from half-wave to voltage quadruplers plus some ideas on testing junkbox diodes for high voltage use. W5JJ

Salem

N5 MS DOS (or I've Been Massacred)

Never owned a computer. Nope, not any. At least the kind of computer that people sit down with a cold coke and a glassy eyed expression. And I don't count the kind of computer that you get for $5.00 at the corner notions store. I have had plenty of those. Used to buy busted ones from Radio Shack. And then after fixing them, I would store them somewhere in the house and usually lose them. Used to take them to the office. At one time, I had about 5 calculators at the office. I would set them down just about anywhere confident in the knowledge that if I needed one, I could open just about any drawer in my desk and there one would be.

I also don't count the packet TNC. Yes, it may be a computer, but it is not in the same league or type as the personal computer. I know that the IC-720 had a computer in it. But again, it is a dedicated processor instead of a general purpose computer. I have had a TI-59 programmable that I used in the office for awhile. Even got some software for it. A statistical package came with it on the purchase and I got a plug in module for Electrical Engineering last year at Dayton. Problem is that when I got it home to plug it in and test it, smoke came out of the printer. So, I just closed it up and set it to the side.

I don't have a bias against computers. In fact, I kind of like them. They can save a lot of trouble and make life a lot easier. The word processor at the office certainly made the work I did easier by an order of magnitude. I never had any qualms about asking a secretary to make corrections when all she had to do was dial it up, make the corrections and then whirl me out another copy. And I do like to make changes in my work product. I have been known to correct or change a sentence structure and then change it back on the next round of proofreading.

It's a good thing that we had a dedicated wordprocessor in the office. I once had a secretary make a ton of mistakes. I would correct them and give the document back. Somehow, the document came back with mistakes where the other mistakes were corrected and new ones.

I once owned a board known as the Familiarizor (I think that I still have it, come to think of it). This was a 6502 based processor with bus and some storage all on a simple one board pc card. Learned a little about coding in machine language. I kind of liked it, but it was too limiting. It took too much work to get anything out of it that was useful. Besides, it developed a problem in it that took awhile to solve and in fact, don't know if I ever really got it working again.

I finally learned to use the word processor in the old office. This was a Radio Shack Model II. It cost over $10,000.00 new with dual floppy, expansion chassis and printer. Definitely over-priced. And eventually, the price on it came down to cheap. Now Radio Shack doesn't show in the top 10 of the market since IBM came out. And they used to be No. 1 or so in the personal computer field. Things change, but not always. For example, IBM is now there slugging it out in the marketplace with their PC hanging out. And they rapidly became the de facto standard. And whole new sets of phrases and words came into being like compatible or lookalike. If imitation is the sincerest form of flattery, then IBM is well loved.

And IBM is the biggie. I have written before of the trials and tribulations of working with an IBM 1130 during the time that I was going to school. Seemed like a really good machine, but compared to some of the machines available today, they just blow its socks (electrically speaking) away. And nothing was in real time. You always had to submit a batch file for execution and come back later and make sure that it caught on and coughed up some output. Usually I would find instead, numerous format or other errors. I recently went through my desk and dug out all these programs. One was a relatively complicated statistical package which I used several times to validate the test scores of various students. (I was conducting a survey for a paper).

What all this is leading up to is that as things started getting busy in the new office and I thought that getting a new computer would help. I also envisioned an office working environment with a terminal at my desk and one for the secretary. Then I could read letters on the hoof and simply walk away. No hard copy. Then when the finished copy was completed, I would just simply need to put the information on a screen and correct information with no hard copy.

The first decision was to see what software was available. There were a bunch of wordprocessors. I looked all around and in fact, at this date, I am still looking. I decided that I could pick this later once I had the software ready to go onto the machine.

Hardware was another story. I pretty much had been out of the computer gang for some time. I don't remember the last time that I played with somebody's personal computer. So I had to rely on friends such as KA5OHU and WA5JXX to fashion some understanding of what was available. I pretty much decided that IBM would be the easiest. After all, everybody has IBM stuff complete with all kinds of services. I wasn't sure if I wanted something like the new AT and all the firepower that it possesses or one that is fairly simple like a PC.

Well, after all kind of literature searches (I began to subscribe to the fancy slick magazines that are nothing more than a couple of hundred ads strewn together with a minimal of education

about computers in general. These magazines are written for a very special market. They generally gear to the person who wants to casually browse and not somebody who really needs important information. And they give great consideration to who their advertisers are. Reviews are carefully worded and not critical. I guess the main criticism that I have is that most of the articles about software are subjective and contain little really hard data about the programs. Not that space should be a problem. PC Magazine, PC World and PC Tech Journal all run several hundred pages each and every issue. Subjective information is OK, but I think that they should beef up the other data. And PC Tech Journal aint really. None of these magazines really compare with the first computer journals I used to read when the personal computer started to become popular. That was back when Altair, Imsai and the machines like that were king. Now, Byte, Kilobaud and Dr. Dobbs were definitely technical journals with schematics, page after page of machine code and stuff like that. Now, don't get me wrong. I think it good that the personal computer field has become more user friendly in the last several years. It really had to since the great mass of people who want to play with computers don't really have time to dig through all the technical mumbo journal to make the machine work. And, to be honest about it, I am no different. I just don't have time to decipher code and schematics to solve problems. Just like coding in machine language for the early single board computer, the benefit cost ratio to accomplish anything just wasn't worth it.

I finally decided on an IBM PC AT. After a little consideration, I decided to buy an unenhanced version of the AT and then beef it up with some special modifications. The unenhanced version has only 256K of ram, and no hard disk. Everything else is just the same. It also sports one of the new IBM 1.2Meg floppy drives. IBM has taken a new tack in marketing this machine. They make it part of the literature that comes with the computer to show you step by step how to install the extra equipment yourself. I got a monochrome monitor (the primary use would be wordprocessing and I wasn't about to have secretaries go blind staring at the lower resolution color monitors all day long. I think that eye strain is relieved a little with the monochrome.

The machine is an impressive box. It came in a couple of days before HamCom in Dallas. I had been looking around for a hard disk drive to go in it and finally had settled on a Quantum Q540 42 Meg (unformatted) hard disk (They format to 32 Meg which is the maximum the PC Dos can handle). I couldn't believe it, but there were some guys down in Dallas in the HamCom flea market who had some surplus hard disks that were identical to the one that I had planned on buying and at a savings of about 450 dollars or so. I brought it back and WA5JXX helped me install it in the IBM and it worked. We formatted it up and did a surface analysis. Woops, it had about 28 bad tracks. I called the manufacturer and a service representative told me that somebody must have dropped the disk a short distance during a head access. I called the guys in Dallas and they said, sure, send it back and we will find another one which is just a little bit better and they did. Roger was planning on going to Dallas later and he dropped by and exchanged the disk. The new one checked with only a single bad track. Capacity was just less than 32 Megs. The limitation of disk size comes about because MS DOS can only address 64000 tracks with 16 bits and each track is 500 bytes big, hence the 32 meg limitation. It is possible that modifications may be made that will allow a bigger disk file to be handled, but nobody is really talking. The limitation is not really significant to all but the really big number crunchers who need hundreds of megs of on line storage. In fact, you can get the rest of the disk on line by some software magic in the device driver software by formatting the rest of the disk space and then changing the drivers to fool the computer into thinking that the extra formatted space on the disk is another disk drive (in an IBM, this would be Disk D since the first hard disk is drive C).

I also got a floppy disk (360K double sided double density) to go with the 1.2 Meg floppy. IBM is right on the cutting edge with these new floppies and there is a little imcompatibility between it and the 360 K floppies. Because the tracks on the high density 1.2 Meg jobbers are just so much closer together, disks written on the high density disk just can't be read on the low density disks. However, the high density disk will read the lower density diskettes just fine. You might be able to get a double density disk to read a high density disk, but only if you bulk erase it and write to it one time only. But you shouldn't even do this. The double density disks have a mechanical ridge around the spindle area that is built up for reinforcement. The high density disk does not. This ridge is intended to keep the disk driver from pinching or crimping the disk when it is inserted in the drive. The high density drive prevents this by starting to turn when the disk is inserted in the drive so that it is seated properly when it begins accessing the disk. To put an unreinforced disk in a drive that doesn't begin to turn when the disk is first inserted could be fatal to your data. So the basic rule is keep the high density disks out of the lower density drives, but it is ok to move the lower density disks upward in the high density drives.

The floppy disk drive was cheap, just a little over a hundred dollars. I am fascinated at how the price of all these devices have come down. Used to be you could not touch floppy drives for personal computers for less than 2 or 3 hundred dollars. Now, you can buy the ones that look just like IBM and plug right in for much less. I see that the regular list price for the floppy disk from IBM is about $400 to $500. The plug in aftermarket drops that considerably and there are a whole host of other boards and accessories that are dirt cheap also. One thing I say about the slick magazines is that they have created a lot of price competition among the suppliers. That is because they form a natural conduit for sellers. And once the bidding begins, it just really doesn't stop. Software is generally 30 to 40% off and sometimes frequently less. Hardware is a little bit better or worse depending upon the demand.

The competition among the software houses is ferocious, at best. I have never seen such an assortment of advertisements containing such name calling and tongue wagging, you can almost hear the clucking as one software house writes about its competitor. These people are spinning straw into gold anyway. The money they get for their products may be well worth it if you are a commercial user and you need the program, but this places it above the price for the general hacker or even for those people who want to just buy something to browse through it to see if it is what you want. Much of the advertisements are long on marketing and short on information. Even the slick manufacturer's brochures don't really contain much data, and schematic diagrams? Forget it. don't expect to find much in the way technical descriptions. It is really to the point where complex boards chocked full of parts are treated as super compnnents, single items that function as a unit. Each of these boards are a single "device" with certain input and output characteristics. You want X, you get a board that does X, you want a Y, go find yourself a super-component that does it. It seems like they plug these things in and out of the expansion modules much like I used to plug resistors and capacitors in and out of my bread board.

The next step on the agenda was to learn MS DOS. Not easy. This is not user friendly stuff at all. But to a full chested do it kind of guy like myself, who likes to read old Byte Magazines full of schematics, this was easy, Right? Wrong, 80286 breath. MS DOS (or PC Dos from IBM of which MS Dos is a subset) has no lily livered menus or help. All it features is a gut check prompt c . And that is that. No hint of what to expect, except swift and sure punishment in the event that you offend it with the, heaven forbid, wrong command or file name. So, you want to look at books, ask questions of other saltier dudes who have mastered this new language and do anything except address this new prompt with a "to hell with it" quick command. But be careful about it. MS DOS also goes to the extreme to give you a lot of power over your machine. You can erase disks and files with just a quick swish. I think that IBM realized this because the later versions of DOS have recovery programs to bring back the files you may have accidentally relegated to the software graveyard. And if those don't work, there is always the Norton Utilities. God Bless Peter Norton. This guru of the DOS set has written a collection of programs that allows all kinds of snooping and file access, even to stuff long gone. He writes for PC Magazine and they apparently pay him with advertisements for his programs called the Norton Utilities. No self respecting PC er should do without them. They ar e a hoot to use. To paraphrase the old saying, No persons' software is safe while Norton is in session. He allows you to go in and look at erased files and see what is really on the disk. About the only way to be safe when Norton is around is to directly encrypt the data when you store it.

I did have some help while trying to pick up some of the simple commands of MS DOS. Vince W5UXR was delighted to play with the new AT (quite a step up from his PC, Jr, a powerful machine in its own right), so we have had a few sessions of monkey see, monkey do. Vince has about a 7 month head start on me and he is doing great. I am not the flash I thought that I could be, but my time with the computer has been limited. I am now to the point where I can write and edit simple batch commands to bring stuff up to the screen. I can copy stuff from here to there and back again. The AT came with basic and basica which I do understand and have programmed some time ago. This makes it a little familiar. Just like riding a bicycle, you never forget how to program, it is just that you have your stack pointer somewhere else for such a long time that a trip back to programming just takes some skinned knees and knuckles the first time back at it. I still don't make the keyboard fly, but I can now get in and out of various programs without hurting myself or the data.

I have also come into some phenomenon known as "freeware." There is a particular economy, underground in nature, that handles off programs back and forth of a useful kind. PC Write is one of these and it is a pretty good word processor. You can get it free and freely use it without many restrictions, but if you want updates and manuals, you can register with the maker. The price is nominal and if you decide that you like the program, it is really no big deal.

There are also a bunch of other programs that you can run in the public domain. People can be very generous. This is the way it was when I first started reading Byte and those others. However, those dog days have changed. Now, only the simplest stuff shows up openly and freely in the magazines. In an activity where knowledge is money, there are all kinds of people who want to sell you the little tricks and tics that make the computer dance. I suppose that there is a rightful element of this, but it certainly belies the "Elmer" nature of amateur radio. Maybe it is because the price to play in the computer game is upped by the financial ante and people are looking for ways to amortize the cost. But a little of this is tempered by the one time deduction for computer equipment used for business. But, I guess that if you are writing programs and selling information, you are in business. Nothing really wrong about that. And the big software houses do have a substantial investment in those humongous programs for wordprocessing. No wonder they are so proud of them. Still, a long way away from the friendly help I used to get as a kid.

My impression at this point is spotty. I think, however that the computer will be a very useful adjunct to the business. I don't really have a lot of game programs since it is a tool, and not a toy. It stays at the office and although I would like to expand it with a system at home with dial up capability so that work can be completed in progress from the homestead, that is some time in the future. I haven't disappeared from the airwaves, as some radio amateurs have done when they first go online, but I haven't had an opportunity to get the HF station back on since moving. But I will keep hacking away.

Micheal Salem N5MS

IC-04AT -- Another AT MODEL for N5MS

I bought an IC-04AT at Dayton. I didn't buy it new, but in the flea market. The kicker is that I didn't buy it from a stranger, but from a good friend of mine who periodically trades radios like changing a pair of gloves. The radio is very interesting, but for some reason, I don't understand where Icom is going with it. In some ways, it is clearly superior in performance, but in others, it is just terrible. My good friend WB5DUC had decided to sell the radio, so I got it from Larry. I had been on the prowl for one for awhile now, and I had planned on narrowing my choices down at Dayton. Larry heard my ranting over our normal Dayton direct frequency and called me. We made a deal on the spot.

After a couple of months of playing with the device, I think that I will keep it, but for many different reasons that the one I initially purchased it for. It is a nice package and all wrapped up into one reasonable small area, but it is still not the small handheld scanning walkie talkie I have been looking for.

When Icom brought the IC-04AT out, they also brought out a couple of extra battery options. They need them. The machine is a current hog drawing almost 45 mils in the standby squelch condition. The minimum battery to consider is thus a BP5. The BP3 that the radio arrives with is just not sufficient for a trip to the grocery store. Judicious use might stretch its capacity, but this requires the placement of several small plug in chargers in strategic locations. When I was at Dayton, I found a couple of 12 plug in wall chargers that supply 300 mils or so and plug right into the 04AT. I have used these at the office to relieve the strain and drain on the battery. You can't transmit with them, but they handle the current for the receiver quite nicely. Using one of these and a BP3, I have managed to survive during the day monitoring my local UHF control link. It also require that I plug in a small nicad charger into the back of the BP3 to always make sure that I have a fresh charge on it. And this is one of my major beefs about the radio. Although I like the plug in feature for 12 volts (this is a good idea by itself), you can not also charge the battery from the single 12 volt connection without having another nicad charger. This is not really a problem since I own several of these radios. With each radio comes a charger. I have also bought extra batteries and chargers in the flea market. So I have several of these. Enough that I can even leave one of them in an ever ready always ready overnight bag for emergency traveling.

It makes sense why Icom did not include some type of connection to the battery. When you plug in the external 12 volts, it disconnects the battery completely from the circuit through the use of an internal relay. Some of the battery options for the IC-04 run right up there to almost 13 volts or so. No telling what type of system might be on the other end, so Icom protects the battery by connecting your external 12 volt source to the radio. This is something akin to blowing a transistor to keep the fast acting fuse from blowing. I generally want that battery across the radio power connection. It is a buffer, a giant shock absorber, if you may, that keeps old fumble fingers like me from blowing the radio to kingdom come by accidentally connecting all the voltage in the world to the radio. If you are going to put in an external power connector, then put it in such a way that it connects directly to the radio's battery which then connects directly to the radio or have it charge the battery up to a full current drain for transmit with a simple regulator circuit that stops excessive charge or current. I don't think that it would have added much to the cost.

One thing that I do like about the external voltage plug is that it makes the use of the radio in the car much more versitile. After I got the radio, I got a UHF amplifier from Mirage. The D24 is really quite a hoss. It plugs out about 4Ø watts plus with just about 2 to 4 watts in. With a 5 db gain antenna, this is just about all the gas you could really want with a UHF radio. The amplifier is a little delicate in that regard. You can't put more than 4 watts in to its tiny little front end or it go boom. I was concerned about this since the 04AT was rated up to 5 watts or so. Worse case condition on the car battery, through about 10 foot of RG58 back to the truck where the amplifier is and the power never really goes over 3 watts or so. I checked it out very carefully before bringing it on line. The Mirage D24 is quite a versitile little machine and will work with FM, SSB and CW signals. It can be remotely controlled, although I just use it on all the time and never connect up to it unless I cant make the repeater with the radio inside the car. It draws about 7 amps or so, but that is no problem with the large motorola power cable that runs the length of the car. I also have a 2 meter amplifier online that produces just about the same power. Both run to the avanti through the glass antennas on the back window. A friend of mine who is not too fond of the antennas says it makes my car look like a grasshopper. Sigh, so be it.

Back to the radio. The scanning features are great. It may not make a lot of difference since there is not a lot of activity on UHF, but I think that it is growing. Programming only requires a reference to the key pad and the use of a "shift" or function key that allows keyboard entry directly or memory recall. One thing that I was concern about is that the PL is set to a single PL frequency for the first several channels or so and can only be set to a different frequency in the last couple of channels. While not significant, it is a limitation none the less.

I also modified the radio to receive outside the band. This not to difficult and I will review this next week. You can also make it work down below 440 directly by adding a single diode (D5) which allows keyboard entry beginning with the 10 Mhz position. You can dial in any frequency from 410 to 480 Mhz. I will describe this next month. Icom has also come out with a new aircraft radio that looks just like the 04 and 02 radios. It is an IC-A2 and covers 720 channels and 200 nav. I am waiting for literature from Icom about it. This is something definitely to have.

Micheal Salem N5MS

Edmond Amateur Radio Club
P.O. Box 75252 / Okla. City, Ok. 73147

OKLAHOMA CPM USERS GROUP

THE BIG SIGNAL
OKLAHOMA CITY AUTOPATCH ASSOCIATION, INC.

EARC HELPS MAKE PARADE BIG SUCCESS

It may have been just another hot day in July to some, but to over 15,000 people on Classen Blvd. it was a flag waving day for a spectacular parade.

The Edmond Amateur Radio Club was right in the middle of organizing the event for the sixth year. The club helps stage the parade and then monitors the route as it rolls north on Classen Blvd. With over 150 entries, the members, along with several other good amateur helpers, put it all in the right order to delight the children and parents with clowns, bands, beauty queens, and beautiful floats.

For many of the staging crew, 7:00 AM was extremely early, but FREE coffee and doughnuts helped to get the gang in gear. It was the American Red Cross and Tim Sartorius who provided these benefits. After the "eye opener" the crew got busy and assited the entries as they arrived into the staging area at NW 20th and Classen. The staging went rather smooth with several participants commenting it was the most organized parade they had ever been to.

With the parade started the entries filed out in order past the reviewing stand where Roger Cooper and Patti Suarez did the commentary. The only hitch in the parade were the two "ringers" that came from out of the woodwork and stepped in along with the registered entries. One included a known "mental patient" that Ray March had to throw out a second time.

After the parade was over, the gang helped disassemble the reviewing stand and send it back to storage. The Parade Committee and Stan Van Nort (WB5UIY) would like to say thanks to those that helped make another Fourth of July Parade a BIG success.

Staging Crew from EARC:

Mark, WD5DYI	Kay, WD5DYJ
Phil, N5HIP	Joe, K5JB
Wendell, WB5ISO	Joe, WA5FLT
Larry, W5NZS	Bob, WA5BQX
Mike, N5DZW	Jim, WB5YWO
Jerry, N5GVP	Ray, WD5BDW
Phil, N5HIP	Ed, N5HDV
Stan, WB5UIY	

Other Crew Members:
Jim Cochran, WB5JCV
Robert L. Shaw, (BQX's son)
Larry Hazelwoods two kids
Lloyd Smithson
Bob Delaughter
and members of the IOOF Lodge.

Meets at OSU Tech, 6 to 10 pm on the Second Thursday of each month, room AD100.

6:00 pm - Informal meeting
7:00 pm - Start meeting
8:00 pm - Program

The July meeting started at 7:15 pm, after the minutes and the budget were read. There was a discussion of the library. We now have about 75 percent of the library on tape and working on the remaining 25 percent.

Since the budget has an excess of cash at this time, there was a motion made to set up a Bulletin Board system for club members only. It was seconded and carried. Kevin Karns will be setting the BBS up at his home and hopefully within the next couple of months the system will be up and working.

Well, I lied, I didn't get the list of programs so they are not here this month. I'll try again next month.

The August meeting will be a program of "How Hard Disk Drives Work" and the usage of them.

ICE CREAM SOCIAL SLATED FOR AUGUST

With the HOT SUMMER now in season its time for Ice Cream. Set for August 12, at 7:00 PM, the annual Ice Cream Social will kick-off in Edmond at the park. The park has yet to be reserved so watch for upcoming annoucements. Don't miss it.

NEW UHF CONTROLLER ON ORDER

A new RC-850 for the UHF repeater has been discussed and pledges made for several months. At the last business meeting, July 8, there was a motion made to call in the pledges and buy it, or drop the issue. One week to July 15, was the only time alloted to "get with the program". The faithful UHF users pulled together with the help of Larry, WB5DUC and Mark, WD5DYI to collect enough donations to make the deadline. On the evening of July 15, the down payment was mailed and the remaining amount put into escrow pending the COD arrival.

The manufacturer, ACC, said it takes approximately 6 weeks for delivery. In the mean time, Mark has been planning to get the interconnections ready so it can be placed into immediate service.

July Meeting Minutes

At the July 16, 1985 meeting it was announced that Bob Northern, N5GWZ, the club Vice President, and KA5SVE, his wife, have moved back to Indiana. Kathy, WB5NDO, club President, appointed Frank, N5FM, acting Vice President for remaining two months of the term, which means I get to write C&E material, and I'm not prepared.

Buddy, KE5LD, the Technical Coordinator for OCAPA 22/82 announced that the new controller for 81/21 was in place and the new features were ready. 81/21 has emergency autodial and user autodial. 22/82 has voice telemetry and mailbox. Send S.A.S.E to Don Rooker, NO5M, 7014 N.W 61st, Bethany, OK 73008. If you are a member (paid up) of the OCAPA he will send you new access code and slot number; one number per member, maximum of two numbers per family, due to limited number of slots available.

New nominees for club officers were announced:

President	Jerry Allen, N5GVP
Vice Pres	Dennis Patterson, WD5CSM
Secretary	Charles Hofferber, N5FMU
Treasurer	Art Hernandez, N5GRI

Nominations will be accepted from the floor on the August 20 meeting for elections. Please make your plans to attend. Frank, N5FM

AUTOMATIC CONTROL

The FCC may soon permit all amateur stations operating above 29.7 MHz to do so under fully automatic control. This is the gist of a Notice of Proposed Rule Making released by the FCC on April 10th.

The Commission states its feeling in the document, designated Personal Radio (PR) Docket 85-105, that now is the time to expand the usage of "automatic remote control" in order to give hams wider latitude in the implementing of new technologies, such as computer bulletin board operations and packet radio systems.

The release of this NPRM was in response to a request from the ARRL. In its petition, the League was looking for automatic controls only for digital communications, but the FCC feels that it is better to simply deregulate everything and let the hams set any restrictions themselves through a gentlemen's agreement.

- The Westlink Report -

Club
NEWS

Minutes of July Meeting
Meeting was called to order at 10:20 A.M by President Jerry, KD5IS, with five members present.

Ellard, W5KE, gave the Treasurer's report and Jerry outlined the schedule of events for Ham Holiday.

The group discussed the plans for conducting the talk-in service for Ham Holiday.

Motion was passed that the surplus Ham-M rotor be sold to the first offeror of $50.00 or more.

The meeting ajourned at 10:52 A.M.
Joe, K5JB, Secy.

News from Lake Poke-N-Plumb

Well, it has been a quiet month in Lake Poke-n-Plumb (that's where you poke your head out of the window and you're plumb out in the country).

It's been pretty hot! On a couple of occasions it took two beers to get the mouth and stomach lining loosened up enough to put food in it and talk on the radio.

There were a couple of public service events that were a lot of fun. Jerry, N5GVP, recruited some 2M FM operators to provide communications for the Sooner State Games June 28-30. I don't know how many were involved but I would guess it was around 15 to 20 folks. I pulled really light duty sitting in the shade at the Wheeler Park stadium and reporting on the softball games. Fortunately, the diamond where the shade was plentiful was where the game co-ordinator stayed and where the girl's teams played, sigh!

Jerry is a heck of an organizer. He recruited volunteers and prepared a written list of names, times and places and mailed it to each of the volunteers in plenty of time. When we arrived at our appointed places we experienced the same situation usually encountered when providing public service communications (flood, tornadoes, etc). We had to find out who was in charge, introduce ourselves, convince the person in charge he needed us, and sometimes, help take charge (ask Mark, WD5DYI, about that). Besides being helpful and a lot of fun, these kinds of things are good practice for serious business that we sometimes get involved in. Thanks Jerry, for putting it all together!

The following week brought on the Independence day holiday and its Oklahoma City parade. Stan, WB5UIY, is the parade marshall and he starts planning months in advance for the event. I suppose there were about 10 to 15 of us providing communications for that activity. This was the first time since I have been involved that I got to see the whole parade. After I pulled my duty as a bulldog on one of the gates, I got to ride in the police car that led the thing. My job was to listen for Stan who was going to stop the parade twice so performers could do their things in front of the reviewing stand. I nearly wore my wrists out waving at the little (and big) kids along the parade route. At the end of the route was where I got to see the whole thing. What a lot of fun it was; almost as much fun as popping firecrackers!

It was a big one, having over 150 entries on the lists Stan provided to us. Thanks to you Stan for the work you put into the parade.

I was eager to get a new toy in time for the parade but it didn't make it. My friend Hoss, WA5ZAI, who now lives in Alexanderia VA, was going to mail me a gadget that permits moving the antenna from the top of a belt mounted walkie talkie and mounting it on a headband. It arrived the Friday following the parade. It came in time for Ham Holiday though and ought to come in handy for handling my part of the talk-in schedule.

It would be easy to duplicate. The manufacturer found a simple way to mount a BNC female socket into a fuse holder, the kind that mounts into a panel and has a little quarter turn cap that holds the fuse. The RG-174 coax is soldered to the BMC connector which is in turn jammed into the fuse holder. A spring clip is soldered to the lug on the side of the fuse holder and permits mounting to the headset headband. The other end has a fancy BNC plug on it but an ordinary one would do. It would be nicer though to have one that was designed for small coax so one wouldn't have to bush the thing to keep it from wallowing around in the connector.

Well, that is about all the news from Lake Poke-N-Plumb. I am really looking forward to Ham Holiday and the flea market, etc. I gotta check and see if there is anything there I don't have one of...Joe, K5JB

Hi Freq Mobile Operation

In one of my conversations with the "faithful" who meet regularlly on 40 meters, I discovered it wasn't common knowlege that the tailpipe of a car makes a heck of an antenna, transmitting engine generated noise. On my Chevy Van, I was able to reduce noise perhaps 30dB by grounding the tailpipe at the most aft hanger. It was a very simple process. I robbed some shield from RG-8, though a simple wire would have probably done just as well. With screwdriver in hand I crawled under the van and punched one end of the braid between the rubber vibration isolation mount and the tailpipe. I shoved the other end in between the rubber and the frame mount. Before and after check showed the noise was almost gone! Just for good measure, I added ground straps at two other places but couldn't really tell that it reduced the noise much more.

This procedure was done without any thought of galvanic corrosion, weather protection, etc. After a couple of years I pulled the braid out and it was shiny from constant tailpipe vibration. In fact, I just looked at it and after 120,000 miles it is still servicable.

Another problem with HF operation is how to change the base matching capacitor easily when changing bands. My first design involved a switch installed on the inside wall of the van. This was neat looking but presented a problem. After pulling over to change bands, I would switch the antenna and then have to open the back door to get to the switch. The solution occurred to me when I bought my latest van. While preparing it for surgery to accept the switch I got an inspiration that there was a better (easier) way. I dragged out the drill and drilled a hole in the ball of the ball mount, the right size for a number six tap. After tapping the hole I took a stainless steel number six screw and installed a wire terminal with internal locking teeth to bite into the aluminum ball. Then I took another, larger, wire terminal and installed it under one of the mount's mounting screws. These two terminals made convenient posts that allowed capacitor attachment. Now to change bands, all I have to do is stop the car, take the proper matching capacitor with me and exchange it when switching antenna bands.

For you who have not had the experience, HF mobile antennas are very difficult to feed because they are so short compared to a quarter wavelength. The radiation resistance of a 75 Meter mobile whip is only a couple of ohms. With the current this represents, losses are terrific in the antenna parts themselves (including the ground circuit). There is not much one can do about the circuit losses in the antenna since they are set by design. However, the better the antenna, the harder it is to feed. If the coil, for example has an effective 25 ohm resistive loss, SWR is 2:1 from the resistive loss alone, a reasonable figure but not too good in terms of efficiency. A large coil made with silver plated wire may have only a few ohms of resistance and the SWR might go to over 10 to 1, definitely hard to feed!

The solution is to install an impedance transformer at the base of the thing. Fortunately, there is a simple way. An "L" network consisting of a shunt capacitor and series inductor can transform a low impedance

on the coil side to a higher impedance on the capacitor side. Part of the antenna's loading coil can provide the inductance since it doesn't have to be right at the same place as the shunt capacitor. All this sounds complicated but in practice, it really isn't. All that is required is to install a capacitor right across the end of the feed line and retune the antenna to cause it to become inductive. Fine tuning to achieve a 1:1 match is tedious but once it is done, fixed capacitors can be combined to get the right shunt values. By the way, as long as the antenna circuit is close to resonance, the capacitor doesn't have to be a high voltage one. At 100 Watts, there is only about 70 Volts at a 50 Ohm feed point.

The advantage of raising the feed point impedance rather than using a wide range matching box at the radio end of the coax is that the tuning is independent of coax length. If you choose to pull the radio out and run it on a picnic table or in a motel room you can add coax and not experience a change in radio loading.

Typical values of shunt capacitors are 700-1000pF for 75 Meters, 300-500pF for 40 Meters and 100 (or none) on 20 Meters.

By the way, the antenna I am using is one of the old Swan mobile jobs with the manual band switching. It has a whip that is about 6 feet long and a coil that is about 2 1/2 or 3 inches diameter, and 14 inches long. It is similar to the Master Mobile antennas that used to be so popular.

The HF mobile antenna is the second most challanging thing about HF mobile operation. The first is to keep from running over someone while playing radio, Har! Joe, K5JB

From ARRL Letter

The following tidbits were copied from the July 18, 1985 ARRL letter:

AUXILIARY OPERATION ON ALL AMATEUR FREQUENCIES?

The FCC has proposed to allow auxiliary operation on all amateur frequencies, with the exception of 431-433 and 435-438 MHz. Presently, auxiliary operation is restricted to frequenc-ies above 220.5 MHz. In December 1984, the Quarter Century Wireless Association (QCWA) filed a petition asking the FCC to delete Section 97.61 (d) from Part 97. At that time, the frequencies for auxiliary operat-ion were specified in that Section. Since then, the frequencies have been moved to Section 97.86. Accordingly, in the Notice of Proposed Rulemaking (NPRM) in PR Docket 85-215, the FCC proposes to amend Section 97.86. Aux-iliary operation is primarily used for remote control link purposes. Restricting auxiliary operation to frequencies above 220.5 MHz has precluded the use of remote control devices, including simplex autopatches, on the 2 meter band. Adoption of the NPRM asproposed would permit simpatch use on any amateur frequency. In their petition, the QCWA states that the technological state of the art has made restrictions on auxiliary operation unnecessary.The FCC stated that "The rationale for expanding the use of auxiliary links in the Amateur Radio Service is consistent with our proposal in PR Docket 85-105 to broaden the uses of automatic control." The Commission invites amateurs to file comments documenting any problems that may arise from permitting auxiliary operation on all amateur frequencies. Comments may be filed until September 24, 1985, and formal comment requires the filing of an original and five copies. Send your comments to the Secretary, FCC, Washington DC, 20554. Copies of the NPRM are available from ARRL Hq. for an s.a.s.e. with 39 cents postage, and we would also like to receive copies of comments filed on this proposal.

GENERAL CODE TEST-EXTRAS ADMINISTER

In Order 85-344, released July 12, 1985, FCC has granted a Petition for Reconsideration in fact while dismissing it in effect. This Order has been issued in response to a Petition for Partial-Reconsideration filed by Frederick O. Maia, W5YI, in which Maia held that an earlier Order dismissing a petition concerning six specific changes to the VE program (the Girton petition -- see the ARRL Letter, January 31, 1985, Vol 4, No 3) had been correct with respect to examination Element 4(A) (intermediate theory) but had erred as a matter of law with respect to Element 1(B) (the 13 wpm code test). The Girton petition asked that Advanced Class operators be allowed to administer Elements 1(B) and Elements 4(A) and 4(B) (Extra Class theory). FCC dismissed this, repeating that exam elements for a given license class must be administered by a higher class licensee. The exception is that Extra Class examiners can and must administer the Extra Class exam, there being no licensees available of a higher class. The Maia petition agreed, except in the case of Element 1(B). It asked the Commission to take another look at allowing Advanced Class licensees to administer the General Class code test, saying that this would allow greater availability of examiners for the General Class and Technician exams. The Commission did take another look at its decision on the Girton petition. It did conclude that "...the statute permits us to accept the voluntary services of Amateur Extra licensees to administer all elements for all classes; Advanced licensees to administer 1(A), 1(B), 2 and 3 for applicants for General, Technician and Novice classes; and Technician licensees to administer Elements 1(A) and 2 for applicants for the Novice class."

Joe, K5JB

Packet Stuff

Things are moving along pretty well in Packet Radio. Bill, KB5BS, is the latest one to get on board and Bob, WA5CJG, has a Heath TNC to put together. One of the amateur radio dealer ads in Ham Radio magazine had a real good price on the AEA TNC, around $300, as I remember. The following letter from Kantronics is being circulated:

KANTRONICS 7-1-85
1202 E. 23rd Street
Lawrence, Kansas 66044
(913)842-7745

To: Packet Clubs
Re: Kantronics Packet Communicator Price Change

Dear Club Members,

Kantronics has made a recent announcement concerning the Kantronics Packet Communicator. We ask your assistance in informing other amateurs who are interested in joining the packet revolution.

First, Kantronics has dropped the suggested retail price of the Packet communicator to $219.00. This is not a kit price, but rather a fully assembled and tested unit with a power supply and full one year warranty. This price change is effective immediately.

Second, this price change was brought about by competitive factors. Kantronics does not plan to discontinue the Packet Communicator, or make an effort to "dump" an old design before announcing a new unit. We have simply decided to lower the price in an effort to show how serious Kantronics is about packet communication.

Third, Kantronics will continue to guarantee all our products, and give service assistance via phone and letter. We are proud of the service reputation we have, and we plan to do our best to get and keep you on the air.

Please inform those who question the price change of these facts. Kantronics is always available to answer questions about our products and the way we do business.

Sincerely,
/s/ Mike Forsyth
Marketing Director

And here is something from the Gateway, the ARRL's packet radio newsletter:

PACKET FOR THE COMMODORE 64

The manufacturer of the PKT-1, Advanced Electronics Applications (AEA) will be announcing a packet radio adapter for the C 64 sometime this fall. The adapter will plug into the C 64 like any other program cartridge, and it will provide AX.25 protocol software, a terminal emulator

program and a modem. Transmission and reception of HDLC frames will be handled by hardware. To provide enhanced HF operation, AEA may use something other than the common EXAR IC modem. How much will it cost? Around $200, but the price has not been set yet. When will it be available? This fall, probably sometime in September. Via WB9FLW, AEA.

And another from Gateway, a Tucson Amateur Packet Radio (TAPR) status update on the TNC-2 everybody seems to be waiting on:

TAPR PROJECT STATUS

The TAPR TNC 2 is in the "final stages" of beta testing, with the hardware completely debugged and the final version of the software distributed to the dozen beta testers. The manual, one of the most demanding aspects of the project, is almost complete. It looks like initial estimates of "late summer or early fall" for availability of the first 300 TNCs were fairly accurate.

The process of announcing the availability of the TNC 2 and then taking orders for it will be tightly controlled. When TAPR is ready to take orders, electronic messages will be posted on ORNET and Compuserve HAMNET. Orders will be taken over the telephone, and only one order per person and one order per phone call will be accepted. No COD or purchase orders will be accepted. Once the first 300 TNCs have sold out, there will be NO WAITING LIST. These rules will not be bent.

The TAPR PC board for the K9NG 9600 bit/s modem is also just about through beta testing. Several of the boards are operating at beta sites.

That's the end of the electronic scuttlebutt...

I don't know anyone with first hand experience with the Kantronics TNC. It achieves its results differently from either the GLB or the TAPR. I talked to a fellow at the Dayton Hamvention who claimed to be a Beta tester for the Kantronics and he said it had some of the same problems if contention for the processor that the GLB has. Since that time, I learned that it shouldn't have any problems of the sort. It uses the same kind of commands as the TAPR so users should be familiar with how to operate the thing. It probably cannot handle full duplex communications on the radio side; the TAPR design is the only one that can do that. It is immaterial anyway because nobody is running the things full duplex. If it was to be adapted to a telephone circuit it might be useful to operate full duplex but certainly isn't necessary for packet radio. It just so happens that the controller circuit in the TAPR is able to do it.

One Kantronics problem I heard about was a spur the early models generated around 145.01, the most popular packet radio frequency. I suppose that was corrected and rumors have it that the price reduction was to compensate for that glitch. I wish someone locally would get one and give it a shot.

The GLB has had a lot of bad press. When one is put on the air by a new packet operator it has a certain amount of trouble getting into the swing of things. The only problem is that the keyboard entry interrupts the process of sending and receiving packets. This is only a problem if one can't hear the radio's audio and doesn't realize what is going on. If the operator is using a simple terminal, or a printing terminal like I use, he can peck away at the keys, disrupting things until the link times out. I found a simple solution using the Radio Snack model 100 computer as a terminal. I form the transmitting text in the computer and burst it to the TNC at high speed. If there is a clash, it doesn't happen very often. In fact, I'll bet it has never happened because I was never aware of it.

I still think the GLB is an elegant design, and properly used can hold up quite fine with the likes of the TAPR.

For you who have the capability to access computerized bulletin boards, I have been putting the ARRL's Gateway on the COCOnet BBS. It is a rather long file and I have to crank the speed down to an effective 90 bauds to dump it so I don't keep too up to date on it. In fact, I think I may have forgotten to put the last one on there. Since the files are so long (16 to 20k) they don't stay on there too long to clutter the thing.

I expect to bring up the subject of standard packet radio frequencies at the Ham Holiday meeting of the Oklahoma Repeater Society. I propose that the frequencies 145.01 to 145.09 be recommended for packet radio much like has been the practice in the rest of the country. The 20kHz question may take up most of the energy of the gropu though and they may have little interest in tackling a question that is interesting to a very minor part of the 2M population.

Again, I offer the invitation to come on in the water's fine. Things are getting better and better in packet radio and you will want to be ready when the network challange and the satellite activity starts. Joe, K5JB

The Old Jive Weather Net

As a reminder, the 75 meter weather net is still alive and well and meeting every night except Sunday night on 3900 kHz, 5:45 P.M.

There are typically 15 to 16 check ins that send weather to a logger located in the Oklahoma City telephone calling exchanges. There is always need for sufficient loggers and if you are interested, come up on 3900 and listen in. You will discover the secret of how the newspapers know what the high temperature was in Gotebo, or Vici, or Logan, or wherever. Be a part of history being made! Come on in and join us and help with some backup coverage logging, and if you really want, calling the thing. Joe, K5JB

New Circuit Board Fabrication

In one fo the magazines that came across my desk I saw an interesting article about a new method for manufacturing printed circuit boards. It seems that the motivation to reduce pollution and reduce manufacturinc costs has spurred development of a method that is more like printing than the etching method that is normally used.

In the new technique, specially prepared copper flakes are spread over a board made from a thermoplastic. A hot die with the circuit design is pressed onto the copper flakes, mashing them together and into the substrate. The result has a little more electrical resistance than solid copper foil but it passes the standard peel resistance tests and is more durable in regard to board flexing.

I would be interested to see how it responds to soldering temperatures. Did you ever try to solder on one of those boards like in a Princess telephone? (Of course not, who'd do something like that?) Should be interesting to see if the new design catches on; it would give'em one point for irreparabilty! Joe, K5JB

What Is That Noise?

Has anyone listened to the facsimile sounding stuff on 450.000 MHz? I can hear it all over the place on a talkie set to that frequency. That must not be the exact frequency because it straddles the edge of our band, right? After listening to it on way home from work one evening, I decided it was sending the same image over and over. I would sure like to know what it is. Joe, K5JB

For Sale

Entire Ham Shack! SP-600-JX with full manual. RCA Carfone, 60 Watts output set up for 146.34/94. Complete Yaesu station; 301D with power supply and external VFO. Dentron MLA-2500 with 10 Meter band coverage. Dentron antenna tuner. Butternut antenna. QST, CQ, and Ham Radio magazines dating back to 1960. Thousands of small parts. Complete test bench with table. General Radio Lab standard and signal generator. Tektronics RM-45 oscilloscope with three plug ins. Audio oscillator, Multimeter, decade divider and all regulated power supplies you'd ever use, including 115V, 400Hz. Call Don Morris, W5TMM, 946-1801

ASSISTING THE MATCHING NETWORK

The most-used antenna at station W5JJ is an 80 metre trapped dipole with a 52-ohm coax feeder. It has been used effectively on 80, 40, 30, 20, 15, 12, 11, 10, 6, and 2 metres plus a few odd-ball AF MARS frequencies. Before its feedline was buried, it was used, still effectively, as a T-type Marconi on 160 metres.

Hard to fault? Well, yes, but it does have a weakness. On 80 metres the feedpoint impedence is as wild as a March hare. I don't pay any attention to the VSWR figures, but it's interesting to note that at 3.5mHz the VSWR is 11:1; at 4mHz it's 7:1. Nothing to get excited about unless one owns a matching networkl that is limited to 5:1 excursions, like my MN-2000.

Still no real problem.

One needs only to scoot the sending end feedpoint from a wild-eyed impedence to one that doesn't look so formidable to a MN-2000. With the MN-2000, it's easily done. It has two antenna connections. Usually, I keep these in parallel, but it's easy to add an extra length of coax to the feedline at this point. I had an odd length of coax laying around. I don't know its length, and don't give a whoop what it is. Anyway, that particular length of extra feedline varied the Z at the MN-2000's input to a value it was happy to cope with, both at 3.5mHz and 4mHz and all points between.

Now, what happened? Did I change the VSWR? Hell NO! Then, what did take place? Review your transmission line theory (or, learn it, if you don't already. know it) and visualize the undulations of the voltage plotted over a few half-waves back from the feedline termination, presuming the feedline is mismatched. You could use current variations, but voltage is just one hell of a lot easier to measure! Keep in mind that at the peak of the voltage "hump" the impedance, were you to cut the line at that point and measure the Z, would be high and purely resistive. A[s you scoot down off that "hump", in either direction, the Z becomes less and partakes of an X component, either capacitive or inductive, depending on the direction upon which you scoot. If you scoot all the way down into the "valley", the Z becomes quite low and, again, purely resistive. S-o-o-o-o, if your feedline is of a length that makes your matching network face a too-high or a too-low Z, just add a bit to its length, just enough to vary the Z to a more friendly value. No "magic", just a simple application of knowledge that every Amateur of Radio Communication and Technology should possess.

W5JJ

ANTENNA RAISING ACCIDENT

This ham is sitting at his desk answering a letter from his insurance company.

I am writing in response to your request for additional information for block three of the accident reporting form. I put "poor planning" as the cause of my accident. You said in your letter that I should explain more fully and I trustthat the following details will be sufficient.

I am an AMATEUR operator and on the day of the accident, I was working alone on top of my new 80 foot tower. When I had completed my work, I discovered that I had, over the course of several trips up the tower, brought up over 300 pounds of tools and spare hardware. Rather than carry the now unneeded tools and material down by hand, I decided to lower the items down in a small barrel by using a pulley, which fortunately was atached to the gin pole at the top of the tower.

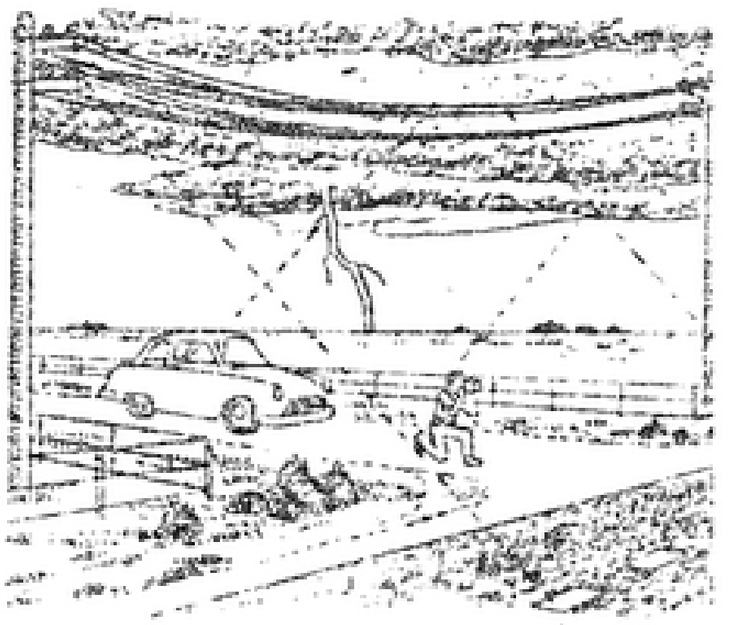
Securing the rope at the ground level, I went to the top of the tower and loaded the tools and material into the barrel. Then I went back to the ground and untied the rope, holding it tightly to insure a slow decent of the 300 pounds of tools. You will note in block eleven of the accident form, that I weigh only 155 pounds.

Due to my surprise of being jerked off the ground so sudenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded at a rather rapid rate of speed up the side of the tower. In the vicinity of the 40 foot level, I met the barrel on the way down. This accounts for the two fractured ankels and the lacerations of my legs and lower body.

The encounter with the barrel slowed me enough to lessen my injuries, when I fell onto the pile of tools and fortunately only three vertebrae were cracked. I am sorry to report, however, that as I lay there on the tools, in pain, unable to stand and watching the empty barrel 80 feet above me.. I again lost my presence of nind. I let go of the rope.

de Sue KA9GNR

45 DEGREE CONE OF PROTECTION



The safest place to be, whe out chasing, is completel within your car (no arms hangi out) and looking through an ope window. With intense, loca lightning, you should not t touching any metal trim However, I have seen very fe accounts of any automobiles eve being struck. People in th mid-west and plains seem t drive safely through all kind of storms, so your car is pretty safe bet. If you mus leave it for a better photo graphic angle, the safest plac to park and exit may be midwa between two utility poles ar underneath the connecting powe or utility line. Together, the should forman approximate 4 degree "Cone of protection" fro the poles and along the line to the ground. However, be sur not to stand near to eithe pole - especially on wet ground since a strike to either pol can send a lethal ground-conducted charge more than hundred feet and end your day vacation and 'ever-after' righ there. Warnings of imminen discharge which may be presen are: (1) Static on your car's A radio band, especially a steac "buzz" or "zipper" type sound o (2) Hair standing on end, whe in the open. If the latte happens, drop IMMEDIATELY dow on your haunches; don't lie fla since wet ground can carry th charge to you - and is mor likely, the more of you that i in ground contact. One extrem hazard and temptation to th average photographer is in us c a metal tripod to steady th camera in gusty inflow winds Other chasers have encountere electric shocks from suc set-ups. This is a HIGH RIS excercise!

Please note, this advice is only - based on informe conjecture - and on limite personal experience. No on should assume 100% protection and all calculated risk whe exposing themselves t lightning.

24MHZ IS OURS

Raymond A. Kowalski, Chief of the FCC's Special services Division of the Private Radio Bureau, made it official at Hamvention '85. On April 24, the FCC adoted a Report and Order transferring 24 MHz to the Amateur Radio Service efective 0001 UTC on June 22, 1985. This will make the band available one day before Field Day, and it is unknown at press time how, or if, contacts for the new band will be counted for the event. The FCC has set no special power limits for 12 meters; 1500 watts PEP is the maximum allowable power output.

In addition, 10 MHz(30 meters) is now officially an amateur band, eliminating the need for the temporary authority granted by the Commission some time ago. Hams operating on 30 meters will be restricted to a power limit of 200 watts PEP output, in order to protect existing fixed services which plan to continue operating through 1989.

- The Westlink Report -

A NATIONAL REPEATER COUNCIL IS ON ITS WAY. A steering committee, chaired by John Hackman, WB4VVA, has been formed. The committee is the result of three meetings of frequency coodinators held at Hamvention '85. Initially, all agreed that they could "never agree" on a single 2 meter band plan to be used nationwide. On the other hand, an accurate data base of all coordinated repeaters, accessable only by frequency coordinators, was deemed needed in light of PR Docket 85-22. Subject to Board approval, aid will be provided by the ARRL in the form of computer and possibly a telephone line. In all aspects of its involvment, the League will support the work of the committee without any direct control over, or access to, the data base; its role will be supportive only.

- The Westlink Report -

If there is anything wrong with that transceiver we bought in Mexico last week end ... we have been cheated out of $3,75.

We went to Ham Holiday and found that the hot dog is the noblest of all dogs - It feeds the hand that bites it.

Don't smoke. Don't eat. Don't drink. Don't work. Don't play. Don't buy. Don't sell. Don't stay. Don't live. Don't die.

Traffic jams are our afternoon spread, after having made our daily bread.

The trouble with obesity is that it is so widespread.

- From ARNS Bulletin =

MICHIGAN AND TEXAS GO 20

Michigan and Texas have adopted 20 kHz channel spacing for repeaters in the 146-148 MHz range.This plan was overwhelmingly approved at the December meeting of the Michigan Area Repeater Council (MARC) and by an 8 to 1 margin at the February 16 general meeting of the Texas VHF-FM Society. MARC and the Society, respective frequency coordinating bodies of Michigan and Texas, studied the plan for over a year before adoption. MARC plans to have all repeaters on 20 kHz spaced channels by May 1986, while the Texas Society expects it to take several years for full implementation ofthe plan.

From QST

COMPUTER NETS

Milwaukee-area amateurs have a 2-meter FM net that K9IZV calls to order each Thursday at 9pm on 31/91. The purpose of the net is to exchange information, ask questions, solve hardware problems and give technical talks-all on the subject of computers. Each session has about 30 computer owners representing eight different computer manufacturers. Over 140 stations have checked in so far. It's not unusual for several enthusiastic operators to ask questions and share interesting comments.

There are several computer nets already in operation on the HF bands with operators willing to give you tips and guidelines in reply to your questions. Pertinent information about such nets appears in the ARRL Net Directory. The curent edition of the Net Directory is available for the asking (if you are a member.) You may obtain your copy by sending a 9 by 12 inch s.a.s.e with 90 cents US postage to ARRL Net Directory, 225 Main St, Newington CT 06111.

If anyone wants to start a computer net here - just start it - announce it here in the C&E and send inforfmation to:

Stan Hoezepa, WA1LOU
75 Kreger Dr
Wolcott CT 06716

Richard Regent, K9GDF via QST

-

ARIZONA MOBILE

Late word from Arizona is that state Senate Bill 1346 is dead, at least for this session of the legislature. It was an attempt to outlaw mobile two-way radio. This comes as welcome news to the state's hams, CB operators and other private radio users, as well.

MORE FROM THE OLD TIMER

One advantage of being an ld timer iss that you get to meet a much larger group of people thar a youngster hasyet been able to do. And, in the process of meeting all these people, by the law of statistics, you get to net some really interesting ones (Privately, I call them weird. You know, only one oar in the water - only at the same time amazingly brilliant!)

I have a ham friend something like that, who recently told me about the astounding break through he had just made. Don't know how, since he can't break through a paper bag!

But any way I've got to tell you about this one. He figured that, whereas, when you pay your water bill, you get to keep and consume the water. When you buy fuel oil for your furnace, you burn it and don't have to send it back. BUT, when you pay your electric bill, you are paying for something (electrons) that the power company only lets you use for a tiny instant and you have to send them back. What comes in the hot wire goes back in the neutral wire. So, where's your gain?

Well, my friend had read a lot of solid state physics books, so he worked hard and designed a filter to send back the electrons to the power company before going through the meter, leaving only the "holes" or spaces between the electrons to enter his house wiring. Don't laugh!

Any respectable solid-state physicist will confirm the fact that current is conducted both by electrons and "holes." Since the electrons don't enter the meter, his electric bill dropped to zero. He was delighted!

Only a couple of slight nconveniences have occured. Due to the reversal of "holes" for electrons he found he was heating his house with the refrigerator and had to keep his food in the furnace. Also, he found he was transmitting on his receiver and receiving on his transmitter. This was O.K. but the most disconcerting effect was the instant darkening of the room when he turned the lights on! And vice versa.

He told me that after a while, he got used to these unusual conditions, but he confided in me, almost with a sob, that now ... when he sends CW he can send only the spaces between the dots and dashes, and nobody will come back to him when he calls CQ! (From Rags Review, Rochester NY)

HAM HAPPENINGS REFER TO CLUB SECTION FOR SPECIFICS

SUN	MON	TUE	WED	THUR	FRI	SAT
AUGUST The managing editor assumes no responsability for the data contained herein.				1 **Aeronautical**	2	3
4	5	**MORI** 6 **Great Plains**	7	8 **ALTUS AREA**	9	10 **COCO** **SCARS** **ARDMORE**
Wheatstraw 11	**EDMOND Club** 12	**76'ers** OIRA 13	14	**KAY County** 15	16	**VHF Club** 17
18	19	**AUTOPATCH** 20	21	22	23	24
25	**CIMARRON** Central Oklahoma Radio Amateurs COLLECTOR - EMITTER 26	**CORA** 27	28	29	30	31