

SECOND CLASS MAIL Postmaster, see page 2

Q. R. Zedd

HOMER LEARNS ABOUT RESISTANCE

The faithful will remember that Q. R. Zedd, world's greatest DXer and holder of the nation's only 1x1 callsign, A5A, recently got trapped into becoming the Elmer for a prospective new member of the amateur radio community.

It develops that the new student of amateur radio theory is named Homer Klott, and we were honored recently to witness one of his early visits to Honor Roll Ranch, just a hoot and a holler south of town.

Most folks who want to be hams are neat people. Homer, we are sorry to report, is a different kettle of fish.

He is not, as they say, real swift.

Those of us who did not fully realize the finite number of Homer's brain cells had the enormity of Zedd's teaching task brought home to us vividly that recent night when we were in the A5A hamshack when Homer came for his weekly lesson.

We all got up to leave.

"Stay," Zedd ordered. "Sometimes this is hard to take alone, and Tondelayo is visiting Momma over in Mena."

So we stayed.

Homer, wearing his 10-4 Good Buddy sweat shirt and bib overalls, told Zedd he had really studied hard.

"I studied a bunch!" Homer said, pleased with himself.

Zedd sat him down in a chair facing his own at the No. 1 operating position.

"All right, Homer," said Zedd with quiet resignation.

"Have you been studying your book on electronic theory like I told you?"

"Forty roger affirm!"

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ALTUS AREA
AMATEUR RADIO
ASSOCIATION

The Altus Area Ham Club held its regular monthly meeting at the North Main Fire station on 8 January 1987 at 7pm.

Present were WB5KRH, WA5CBF, KB5LS, N7DNU, W5VXU, KA5WDY and Laura, a regular visitor.

With twelve paid-up members listed on the Club roster and six present for this meeting, annual elections were held. Dwight, WB5KRH, handed over his gavel to Jim Molledahl, KB5LS, who will serve this year as Club President and Mike, W5VXU, relinquished control over the Club's money to Mike Sullivan, N7DNU.

Dwight announced that a tentative date for this year's Weather Watch meeting is being shown as February 23 at 7pm at the City Auditorium.

Laura announced that she felt just about ready to take the Novice examination, while her sister Ann, KA5WDY, is getting anxious to do some upgrading before too long.

Mike, W5VXU, as his last official act, announced that after all bills due are paid, the Club will have \$315.56 in the bank. He also indicated that all those who have not yet paid their dues for 1987 need to do so very soon because the CORA C&E will be terminated for the ones who have not sent in their money.

The official Club roster shows that we have the following members in good standing:

W5VQS, WB5KRH, WA5CBF, W5VXU, KA5HUX, KA5WDY, KB5LS, KA5YWY, N7DNU, KA5TFJ, KF5ME, N5FJK, and W5UOV.

PCS Prototypes Co.

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BOARDS**

AMATEUR - HOBBIES

Paul Solheim, WB7QIN
391-9572, Evenings

Automatic Packet Operation

(From ARRL Letter, 11/11/1986)
The FCC has issued its Memorandum Opinion and Order in PR Docket 85-105. It amends the rules to allow packet stations on frequencies 6 meters and above to retransmit third-party traffic while under automatic control without the control operator being present.

The Commission said that the nature of packet radio was such that control operators of intermediate retransmitting stations were unable to screen retransmitted messages. It would now be up to other amateur stations who were monitoring the traffic to detect the introduction of messages from non-amateur stations. The Commission noted that "The present packet network...is vulnerable to unauthorized use. The design of future retransmitting networks should take these matters into account more fully."

The Commission acknowledged the ARRL's comments concerning safeguards in its AX.25 packet protocol. The ARRL had stated that detailed records of packet message transfers and histories of who accessed them were automatically maintained. All messages also include a serial number and the originating station call sign, making it possible to establish a "trail of accountability." These assurances by ARRL were enough for the Commission to provide this exception in its rules.

The Commission deferred any consideration on expanding the exception to packet stations on HF because of the possibility of interference to other stations. The Commission took note of an ARRL study to coordinate a small group of packet radio stations who plan to request a special temporary authority to operate packet stations under automatic control to determine their interference potential. "Organized...projects conducted by a manageable group of amateur stations such as that planned by ARRL will be helpful in determining any rules necessary to prevent interference to...amateur operators." The following are the exact rule changes:

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AUTO PACKET OPERATION

97.80 Operation under automatic control.

(b) No amateur station may be operated under automatic control while transmitting third-party traffic, except an amateur station retransmitting digital packet radio communications on frequencies 50 MHz and above. Such stations must be using the American Radio Relay League, Inc. AX.25 Amateur Packet-Radio Link-Layer Protocol, Version 2.0 October 1984 (or compatible). The retransmitted messages must originate at an amateur station which is under local or remote control.

97.114 Third-party traffic.

(b)(4) Third-party traffic from an amateur station under automatic control, except under the conditions specified in 97.80(b).

G. R. ZEDD CONTINUED

Homer shot back gleefully. "I got a bunch of that stuff down cold, good buddy! Ask me anythang! Hey! Ask me about them resistance!"

"You mean resistors and resistance?" Zedd asked with sad resignation. "Like Ohm's Law?"

"Roger forty!" Homer cried. "Circus theory! Home's Law! All them ham stuff!"

"Ohm's Law," Zedd corrected with pained calm.

"Roger dodger! You wanna hear me talk Electronic? I got it down cold!"

Zedd's eyes rolled toward the ceiling, but he gamely held his temper. "Homer, tell me what you know about resistance, Ohm's Law, and so on."

"Resistance," Homer said with pride in his tone, "is what you get ... it's sort of like when you got a garden hose? You know? And you got the water running through it, you know, and then you go over and you bend the hose, kind of put you a kink in it? And do you know what? Them water electrons get squeeze down, they can't flow out so fast, and out of the nozzle you get less. And that is like resistance, to put it in ham talk."

There was a quiet grinding sound in the room: Zedd's teeth.

"Go on," he grated.

"When you got you some resistors in a bunch of wires, what you got is a circus,"

Homer went on excitedly. "There is things to measure your circus, one is called a VOM, which stands for Valuable Old Meter."

"In your circus you can have your resistors different ways. That's if you have more than one. Some is big and some is small, some is brown and some is other color, but most have got these color bands on. And what the color bands do is, they tell you how to arrange your resistors so they don't clash, and take ohms out when you want to put them in."

"You can have your resistors in two ways. You can have them arranged in serious or you can have them arranged in perilous."

"Serious is just what it says, when you do them that way, they WORK! You add them up, all the colors, so you get something like red-red-green-yellow-orange-black-black-yellow, which is several. When they are serious, they go together and you get a lot."

"Perilous is different. This is the one little part I don't have real clear yet and maybe you can help me, or maybe I have got it right. What perilous is, is this: you hook them up on the wires and all, but instead of you looking down the long way, what you do is sort of look across sideways. So they don't add, they divide."

"Except in solid state, where you don't have no wires, only EPROMS. And that is a different ballgame, believe me! But I don't have to know no Boolean arithmetic for my Novice, do I?"

"No, son," Zedd said, opening another Coors with his mouth. "You don't."

"You want to hear the rest?" Homer asked.

"Yes," Zedd said, game to the end. "Press on."

"When you have serious and when you have perilous, either one, you can have Home's Law," Homer told us. "Now, Home's Law is hard, but the gist of it is this. Sometimes you add and sometimes you subtract. But whichever you do, you do them one at a time."

"The way Home's Law goes is, E, I and one other letter. You arrange them different for what you want. What you want is what you get. Laws are laws, you can't change them."

"The E part is like, remember when I talked about the hose? Well, the E part is the faucet. There is pressure in them faucet even when they are off. Except if you leave the hose hooked up at this time of year, then you freeze the E all the way into the sillcock and it probably leaks in your bedroom closet or someplace like that. But the E is the pressure."

"The I part is where you have stuff coming out, it's sort of how fast. And the other letter I think is R, which is the resistor part."

There was a crunching sound, Zedd chewing off part of his Coors can.

"You can have big resistors," Homer told him, "and you measure them in kilos. The small ones come in millis. If you have a big E, you need a big R. And the opposite is equally true."

Zedd threw his can through a window and bit a leg off his chair. "Boy, you don't have the capacity to learn how to pick your nose! You --"

"Capacity?" Homer repeated. "Capacity! That's one of them other things, you got capacities and you got inductors. When you get into all that, you're into heavier stuff, boy, because that is not just simple electrical circus, them are AC!"

Zedd looked in a mirror. Sure enough, there was more gray in his hair. He fought for calm.

"Why," he asked, hoping for a miracle, perhaps, "do capacitors and inductors involve AC theory?"

Homer blinked, and then brightened as he found his answer in memory. "AC is alternate. DC is diligent. But in AC it takes a lot to faze the circus because of the waves."

"I think that will be enough for tonight," Zedd said, rising from his chewed-on chair.

"I know about safety, too," Homer told him. "How you should stand on the ground."

"Keep studying," Zedd ordered, leading the nerd to the door. "Review all you've learned so far. We'll talk again next week."

"You think I'm ready for the test? You think I can take the Novice next week? Huh? Huh? Huh?"

1 AERONAUTICAL CENTER ARC

MEETS: FIRST THURSDAY, FLIGHT STANDARDS
BUILDING, FAA, SOUTH MACARTHUR 7:30 PM

PR BOB PACE, WASCJG 376-3569
VP
S/T JACK IMAN, WBSVN 677-8537

EDITOR: BOB PACE, WASCJG 376-3569

2 CENTRAL OKLAHOMA VHF

MEETS: 10:00AM THIRD SATURDAY, RED CROSS
10TH & HUDSON (BACK DOOR) OKLA CITY

PR JERRY WETMORE, KDSIS 524-5080
VP HUGH BENSON, KASOGY 946-0023
SE JOE BUSWELL, K5JB 732-0676
TR ELLARD FOSTER, WSKX 789-6702
EDITOR: JOE BUSWELL, K5JB 732-0676

3 MID-OKLA REPEATER

MEETS: 8:00PM FIRST TUESDAY, OKLA CIVIL
DEFENSE, WILL ROGERS BLDG., STATE CAPITOL

PR TIM RAUSCHER, KASHUS 848-9910
SE MIKE SAMBUO, KASTSD 672-9176
TR SID GERBER, WSKOZ 737-1050
EDITOR: MIKE SAMBUO, KASTSD 672-9176

4 OK CITY AUTOPATCH

MEETS: 7:30PM 3RD TUESDAY (7:00PM MEAL OPTION)
GOLDEN CORRAL RESTAURANT 7000 NW 23 (ROCKWELL)

PR CHARLES HOFFERBER, W5FMU 340-4468
VP DAVE HOLDER, W5GUY 524-4711
SE DAVID CARM, KFSEB 751-5672
TR ART HERNANDEZ, KFSDK 354-9724
EDITOR: DAVE HOLDER, W5GUY 524-4711

5 OKLA UNIVERSITY ARC

MEETS: 7:30PM SECOND TUESDAY (SEP-MAY)
119 WILSON CENTER, 1334 S JENKINS

PR FRANK DONALDSON, W5IQJ 329-4172
VP JOHN MUSTENBERG, KESN 325-2382
SE PETER RICHESON, KASODI 329-3217
TR GREG SMITH, KASLZN 366-1641
EDITOR: GREG SMITH, KASLZN 366-1641

6 ALTUS ASSOCIATION

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

PR JAMES HOLLEDAHL, K8SL8 482-7938
S/T MIKE SULLIVAN, W7OMU 477-2938
EDITOR: MIKE SCHENKLE, K8SIN 482-1797

7 BICENTENNIAL (76er) ARC

MEETS: 7:30PM SECOND TUESDAY
KIPS RESTAURANT, RENO & MERIDIAN

PR DONALD DUCK, AESN 691-4199
VP TED VANLANINGHAM, W5JNT 262-1675
SE JERRY SPROUL, W5AUH 354-2061
TR
EDITOR: JIM SEALS, K8SIN 381-2005

9 WHEATSTRAW ARC

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

PR RALPH WILDER, W5PFK (MATONGA) 623-5421
VP TOM JOHNSON, W5IKM (EL RENO) 262-5631
S/T JOE GARLAND, W5FLT (CALUMET) 893-2660
EDITOR: JAN KUEHN, W5JUT (OKARCHE) 263-4480

10 CENTRAL OKLA COMPUTERS

MEETS: 9:00AM SECOND SATURDAY, RED CROSS BLDG
NW 10 & HUDSON, BACK DOOR.

PR PAUL PAPE 755-1058
VP RONN FOLK 737-3580
S/T MARTIN SCHIEL 670-6891
EDITOR: MARTIN SCHIEL 670-6891

11 EDMOND AR SOCIETY

MEETS: ODD MONTHS, 3RD SUNDAY, 2:00PM EDMOND
ECC. DINNER, EVEN MONTHS, 3RD FRIDAY.

PR BOB MCCOY, W5BUJ 348-2032
VP LEE VAUGHN, KASHIS 348-2961
S/T AMBER THOMASON, KASVEK 478-4615
EDITOR: AMBER OR BOB THOMASON 478-4615

12 QUARTER CENTURY W A

MEETS: QUARTERLY AT VARIOUS PLACES.
NET: 3855 KHZ SUNDAY AT 8:00AM.

CHM ROBERT RUNYON, AA00 373-1818
VCH GENE HAILON, K5BLE 341-8289
S/T HOWARD BAKER, W5AS 721-5453
EDITOR: ROBERT RUNYON, AA00 373-1818

13 KAY COUNTY ARC

MEETS: 7:00AM THIRD THURSDAY
PIONEER DRIVE-IN BANK, PONCA CITY OK

PR DAVE LAND, K0SFI 762-8616
VP STEVE SCOTT, KASS6K 762-0117
S/T HARRY BEATTIE, W5DPR 765-3862
EDITOR: CHARLES NORTH, W5EYD 762-8136

14 CIMMARON ARS

MEETS: 7:30PM THIRD THURSDAY, W5FUD SHACK
827 S 13, FAIRVIEW

PR BILL SIMPSON, W5HQR 274-3334
VP RAY BARNES, AB5Z 764-3599
SE DENNIS PAINTON, W5KV 227-3672
TR TERRY MCCOLL, KASTVF 227-3462
EDITOR: JACK DAY, WNSZ 227-3462

15 SOUTH CANADIAN ARS

MEETS: 9:30AM SECOND SATURDAY, RED CROSS BLDG
NORTH OX CAMPUS. NORMAN

PR MARK KLEINE, W5H2R 329-4285
VP ANDREA WOLFE, KA6PKJ 799-5150
SE LINDA BRANDT, W5DWN 321-5081
TR MONTE BATEMAN, W5SRZX 329-7485
EDITOR: DAVIS EGLE, K0SIT 321-7570

16 EDMOND AR CLUB

MEETS: 7:00PM SECOND MONDAY. SEE CLUB
SECTION FOR LOCATION AND TYPE

PR MARK NORTHCUTT, W5DYI 755-4672
VP BOB MOORE, KASETA 799-1765
S/T KAY NORTHCUTT, W5DYJ 755-4672
EDITOR: MARK NORTHCUTT, W5DYI 755-4672

17 OK CPM USER GROUP

MEETS: 7:30PM SECOND THURSDAY OSU,
ROOM 307

PR WILLIAM COOTER 360-2141
VP JIM WHITE 364-5289
S/T JOY MELTON 789-0280
EDITOR: WILLIAM COOTER 360-2141

18 GREAT PLAINS ARC

MEETS: 7:30PM FIRST TUESDAY
WOODWARD PUBLIC WORKS BLDG.

PR WINDLE HATCHETT, W5PLW (FT SUPPLY) 766-3561
VP LEWIS PATTERSON, W5KFK 256-2111
SE LOIS FORD, KASPYA 923-7683
TR FREIDA PATTERSON, W5EOX 256-2111
EDITOR: LOIS FORD, KASPYA 923-7683

19 OKLA INDEPENDENT ARC

MEETS: 7:00PM SECOND TUESDAY
SOUTHWESTERN BELL OFFICES, PONCA CITY

PR DAVE WHITE, WNSLUI 765-5707
VP VERNON TREIBER, W5ANV 767-1571
SE GLEN BISHOP, JR, KASPU8 767-1031
TR BIZ WICHY, W0HCO 762-3297
EDITOR: DOUG EVERITT, W5DUB 359-0069

20 ARDMORE ARC

MEETS: 7:30AM 2ND SATURDAY, CORRAL RESTAURANT
INFORMAL: EVERY WEDNESDAY, 221 9TH NW

PR GLENN HAMILTON, KESES 226-4379
VP KEN FRANKS, W5MPC 226-1950
SE ROBERT GRIFFIN, W5SVKA 223-8741
TR JOHN MERLYN, W5SF2D 223-9543
EDITOR: JACK GANT, W5GM 223-2619

21 TRI-CITY ARC

MEETS: 1ST THURSDAY OF THE MONTH.
PLACE:

PR LLOYD WILLIAMS, KASUK6 382-3231
VP RON PHILLIPS, W5UPU 382-1856
S/T J. B. BILLS, KESNU 379-3992
P.O. BOX 655, HOLBENVILLE OK 74848
EDITOR:

CENTRAL OKLA RADIO AMATEURS

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

PR JIM BUSWELL, W5BEQ 236-0368
VP FRANK TASSONE, KASW6S 341-4945
SE LEE WARD, W5HIR 789-0681
TR SUSAN ST LAURENT, KFSLG 324-8180
COM/COM: CHARLES HOFFERBER, W5FMU 340-4468

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EDITOR: JOE HARDING, W5ZNF 737-1044
CIRCULATION: BOB GRAHAM, W8NSV 677-8695

The South Canadian Amateur Radio Society

SCARS

held its monthly meeting on Saturday January 10 at the Norman Red Cross. The meeting was called to order at 9:33 am by President Mark, N5HZR. There was a great turnout, 35 members and three guests.

The RED CROSS

Director Steve Murray has been transferred to KH6 land, according to Mark. A new director will be named at the end of January. Mark hopes to establish a good relationship with the new director.

Packet radio

will be the subject of the program at next month's SCARS meeting. Mark announced he has moved his two packet stations, N5HZR-1 alias NORMAN and N5HZR MPK mailbox to the OPRA WX frequency 145.09. Persons interested in joining OPRA should contact Mark for info.

NWS WX Net

communications officer, Bryan DeKart, attended the meeting to encourage SCARS members to volunteers to man the CD public service radio to be placed at the National Weather Service building in Norman. This station will be part of the NWS Central Oklahoma Severe Weather Net which operates on a public service band to pass WX info between the NWS and various EOC's around the area. An amateur radio license is not required but is preferred. This is not the same as the Cleveland county WX net(organized by KA5EFJ) but both will be located at the new NexRad building on the University of Oklahoma's North Campus just up the street from the Red Cross building. If you are interested in this service opportunity, call Bryan at 390-9319 or 627-2124.

Ken, KA5EFJ,

reminded us that persons interested in working for the

Cleveland County Severe WX Net should contact him soon. The NWS will be running a training session and it is necessary for spotters to attend at least one of these training sessions. This is an important function of the Cleveland County EOC and volunteers are needed.

HAM HOLIDAY

may be moving to the Holiday Inn West in OKC, according to Dave, K5PL. The next meeting of CORA will be there to consider this new site for HH. Dave reported that he; Mark, N5HZR; Louis, KD5WA; DON, KA5ABS; Marshall, KF5RQ; and Gary; WB5ULK had been attending the CORA meetings as representatives of SCARS and the OU Amateur Radio Club. If you have any suggestions concerning HH, contact one of these reps and pass it on.

Andi, KA6PKJ,

reported that the Christmas party netted the club about \$50. She gave a brief report on the party for the benefit of those who didn't attend. It was the best Christmas dinner this editor has been to in a long time and enjoyed by all who attended.

The good news

is that the current balance in the SCARS account is \$497.50; the bad news is the account is in Security National bank.

Reportedly

seen on a bumper sticker:

LIVE ON THE EDGE...
BANK IN OKLAHOMA

The .07/.67

repeater went on the fritz a couple of times within the last two months but was speedily repaired. Leland, W5MCN, donated some of the parts to keep it running. Dave, K5PL, reported that the Voter and the battery backup transmitter logic circuits had been designed and the group working on the repeater upgrade were starting on making the necessary boards.

To beep or

not beep was the subject of a discussion regarding the courtesy tone being used or not used on the repeater. By motion from an anonymous trouble maker, the vice-president Andi was placed in charge of selecting a courtesy tone for the repeater. Andi spoke against the motion but it passed by a 2 to 1 margin anyway. So send your cards and letters to Andi with your nomination for the best courtesy tone for the repeater. Andi, my vote is for the first 32 bars of the 'Battle Hymn of the Republic'.

An RFI

committee was appointed by the prez, Mark, N5HZR, to gather information on the causes and cures for the dreaded national disease. (I may have the name wrong, was it an AIDS committee?). Steve, NI8W, was named chairman with Louis, KD5WA; Davis, KD5IT; Leland, W5MCN; and Don, KA5ABS, as the other lucky members.

A NOVICE/TECH

class will be held this spring by SCARS at the Norman Red Cross. It is scheduled to start on Monday, March 9, and will meet once a week from 7 pm until approximately 9 pm. The class will run for 6-8 weeks as needed and the goal is to have newcomers earn a Novice and a Technician license at the end of the eight week class. Monte, WB5RZK, and Davis, KD5IT, will be conducting the class. Upgrade sessions to bring techs/generals to general or advanced class will be held simultaneously. Tell your friends and neighbors about this opportunity to get in on the fun of amateur radio. Contact Monte at 329-7485 for information on the class.

VE Exams

will be held in Norman on Wednesday, February 25, 1987 at Kaufman Hall, room 138, on the University of Oklahoma campus. All levels of CW and theory exams will be given. The charge will be \$4.35 for one or more exams(except Novice) and you must bring a valid ID(driver's license is

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OK), the original and a copy of your current FCC license with you to the exam. Walk-ins OK but preregistration preferred. Contact Sam Barrett at 321-2601 for info.

The NABBS

or Norman Area Bulletin Board System has been operational on packet radio since November 22 1986 on 2 meters (145.010 MHz). It is operating under the call KD5IT-1 and is available for posting short messages or announcements.

Coffee is

available at the Norman Red Cross every Saturday morning from 9 to about 11 am. Come on down and meet some of the members of SCARS (and some good folks who haven't joined yet too). If you don't know how to find the place, fire up your 2 m rig on 147.060/660 and ask. Hot coffee, lots of doughnuts, and plenty of advice waiting for you on Saturday mornings.

Dues are

due now! The dues for 1987 are \$16. If you can't bring your check in to the Red Cross, put it in the mail to Monte Bateman, 1514 Denison Drive, Norman, OK 73069.

Next meeting

will be on Saturday, February 14, at the Norman Red Cross, 1205 Halley Drive. That's Valentines day, don't forget to get your mate a new radio!

KD5IT

RADIO AT OLD CENTRAL HIGH

Charles E. Maupin, W5HQM

Back in the 30's only one high school in Oklahoma city offered courses in radio and electricity - Central! Although I lived in the Classen district, I was so bitten by the radio bug I transferred to Central to get in on these courses. The teacher was Paul Bell who was also active in the Oklahoma National Guard. There were several radio sections in the various Guard units and many of Bell's students, including myself, joined the Guard while in school to participate in these radio sections.

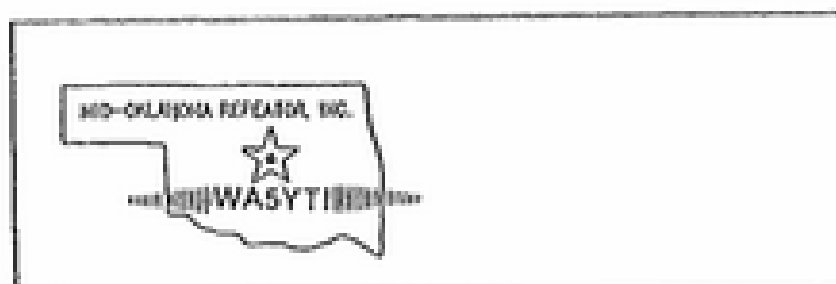
In 1931, six Central stud-

ents decided to activate the school station, W5YE. They had each qualified as operators by taking and passing the government exam for radio amateur stations. The group included Barney Moffatt, W5CJZ; Charles Day, W5AND; Gail Benson, W5ADV; Gerald Tuma, W5BEP; Warren Morey, W5BMT and John Gifford, W5AOW.

The group ordered a Pilot Super Wasp receiver kit and parts for a CW transmitter which took form as a pair of 852's push-pull and powered by a 500-volt motor-generator set. It was keyed by a relay using nickle coins for contacts! Antenna was the old reliable Zepp. Barney was chief operator of W5YE and the group made many contacts, both with the school station and their home QTH rigs. Barney had the highest number of contacts in the Oklahoma Section of the CW sweepstakes contest of 1935 and a picture of his station, W5CJZ, appeared in the July issue of QST that year. All of Barney's gear was home brew until he bought a National SW-3 receiver from Southern Sales, later trading first for a FBXA and then for a NC-101ZXA. His rig for many years was a 47-46-T55 lineup and later a 800-03A, all CW, but finally adding a class B modulator. Today Barney operates with his original call in Dallas with commercial solid state gear. He also held the calls W9PVQ and W0PVQ while working in Kansas City and Minneapolis. Barney pursued a career in aviation with Mid-Continent and Braniff airlines retiring from the latter as chief of all overhaul shops in October 1979. During WWII, he helped convert the Doolittle B-25s that bombed Tokyo and installed Norden Bombsites on military aircraft.

Of the others, Charles Day was employed by a seismograph company in Tulsa, Gail Benson still resides in OKC, Gerald Tuma became a Prof. of Electrical Engineering at Oklahoma University and resides in Norman, John Gifford majored in Chemistry at Oklahoma A&M College (now OSU) and Warren Morrey worked with Barney on slot machines after graduation and later moved to Little Rock where he passed away some forty years ago.

Many others (including myself in 1938) became radio amateurs while attending old Central.



At last! At last! We finally had enough of the membership turn out at the January meeting. The January meeting was held at Pop's BBQ NW 23 & Hudson. The February meeting will be held at the same place and time, 8 pm. Come early, come hungry.

The new slate of officers looks like this:

PR Bob Allen, N5EPV

VP Tim Rauscher, KA5MUG

TR Jim Jones, K5PER

SE Richard Wood, K5QNN

Our CORA Rep is Tim Rauscher, KA5MUG. We certainly want to thank the past officers for their efforts, especially Sid Gerber, W5KOZ, for his diligence as a club officer for the past sixteen years. You will be missed, Sid.

The new year is off to a good start, we're looking forward to changes and a better year in '87. The success of this club is directly proportional to the input and participation of its members; this is true of any club. So come on, members of MORI, we need your input and participation--now is the time. (c) KA5MUG, Tim

The school was first established in 1982 as Oklahoma High School and was the first such school in the Indian Territory and later the State of Oklahoma. The name was later changed to Oklahoma City High School and finally to Central High School in 1922 when Classen and Capitol Hill High Schools were added. It was finally closed down in 1968 due to student population shift and decreased enrollment. Southwestern Bell Telephone Company has since purchased the building (listed on the National Register of Historic Buildings) and completely renovated and modernized it to be its state headquarters. The old entrance facing Robinson between 7th and 8th has been converted to a museum with momentos of the old school, including a radio plaque prepared by Barney with a picture of W5YE and the six hams with their original QSL cards. Visiting hours are from 11 am to 2 pm, Mondays, Wednesdays and Fridays.

GREAT PLAINS A.R.C.

USHGK Repeater 146.13/73



Unfortunately for the readers of this article, the YL, N5JGQ has been in OKC for the past week with her Mother who has been hospitalized. Therefore it has become necessary for the less-than-capable hands of WB5OVT to attempt to prepare this column. So set back, Dera Readers, and enjoy the next few minutes of misspelled words and completely fouled up punctuation. Hopefully nobody reading this is an English teacher!

NOVICE CLASSES

January has been a very busy month for ham activities in Northwest Oklahoma. Novice classes, held at the Woodward Public Works Building on Tuesday and Thursday evenings were kicked off recently. The enthusiasm of the group has only been dampened by the foul weather. If you know anyone residing in this area, interested in becoming a Novice Operator, send them our way!

VICI TESTING RESULTS

A very cold and windy Saturday morning January 10 found a sizeable group of amateurs gathered at the Vici School for the annual volunteer testing. Twelve elements were given and 5 were passed. Steve Loomis, KA5UFC, Cleo Springs; Ernie Martin, KA5WYF Canton; Jerry Wilkins of Cordell and Mark Smith of Vici were all successful in their efforts to obtain Technician privileges. Gayle Lusk, KA5UYR, is to be congratulated on her move up to General Class. Many hours go into the preparation for testing by both those being tested and those giving the test. We feel extremely fortunate in having area amateurs who are willing to donate many hours so that we may have several close by opportunities to upgrade our amateur skills throughout the year. Our thanks to our examiners!

NORTHWEST OKLAHOMA SERVICE NET

The bad weather enjoyed(?) by most of us points out why our traffic handling and familiarity with emergency procedures are so important. In many instances, we can solely provide important

We held our regular meeting in Okarche at the Community National Bank.

This month's meeting was hosted by WO5B & N5JDN Ed & Betty, N5JWK & N5JUT Leroy & Jan, K5GGL George all of Okarche and KA5ZYZ & YL Jerry and Virginia of OKC.

We had one member of our club KA5WYF, Ernie Martin of Enid to upgrade to Tech.

We would like to express our sympathy to KA5PJR, Ken and his family who recently lost his mother and also WD5ISB whose mother also passed away.

In our regular meeting we discussed getting additional learning material from the ARRL.

Code practice is still on every Monday & Thursday evening at 9:00 pm on the Calumet repeater (146.610). Anyone is invited to check in.

services to our respective communities. Gerald, WG5Z, reports NWOSN participation for December was 13 sessions with 113 check-ins and 7 pieces of routine traffic being handled.

NEW RADIO CELEBRITY !

Recently, Bill Wyatt, KD5JR, was interviewed on local radio station K101 in Woodward. During this program, Bill gave the area amateurs a pat on the back for their work as severe weather spotters in conjunction with local radar operations. He also told about the effectiveness of radar in picking up snowfall and mentioned that area spotter training was planned for the first part of April. Later we found that Bill has taken a part time position forecasting the weather for that station. Our congratulations to Bill on his new position.

NUFF SAID

My apologies in advance for an abbreviated article and for any newsworthy items I may have left out. Hopefully, things around here will have calmed down by this time this next month and the GPARC Reporter/chief cook and bottle washer will have returned. For now.,

73, WB5OVT

WA5PFK, Ralph, President of our club, discussed the idea of setting up AR stations at local fairs and functions for the recognition and promotion of Ham Radio.

N5IKN, Tom, announced the weather net is Monday through Saturday at 5:45pm on 3900 kHz and invites everyone to listen and check in if you can.

Net Control for the month of february will be members of our club from Kingfisher. Our weekly net is Wednesday evening at 8:30 on 146.610 kHz.

We are very fortunate to know a man named Bus Blum, W5VVU, who is a lifetime member of our club. Probably the majority of club members attended Bus' school to learn about Ham Radio and get their Novice ticket. His school is open to everyone and is located near Calumet. He has been holding evening classes twice a year for a long time. I asked several club members and no one really remembers how many years he has been doing this. Recently Bus has started classes in Advance theory on Monday and Thursday evenings. Anyone interested in attending can find out more information from Wheatstraw members on 145.610.

Joe, WA5FLT, Secretary of the Wheatstraw Club wanted me to remind all members who haven't sent in their dues that 1987 DUES are DUE. Please send them in. Thanks from Joe.

We had 27 present at our January meeting in Okarche and hope to have a good turnout in February at the meeting to be held by Kingfisher members.

Have a Successful Year!

N5JUT, Jan

MORE EARS

I certainly do not take credit for all of Edmond Amateur Radio Society, Inc. great accomplishments in 1986; no one individual can. EARS success has been a family effort of all our members and supporters. I thank all our members for their support of EARS during 1986 and am proud to have served as president of such a fine organization.

73 DE N5BUJ BOB MCCOY

348-2032

PS To the party that called for me and left a telephone No. Please call again as the number was lost. Sorry N5BUJ



Minutes of December Meeting

Meeting was called to order by President Jerry, KD5IS, at 10.30 A.M. with four members present. Meeting was held at Big Ed's at Tenth and Dewey because the Red Cross security man failed to open the building for us. The only business conducted was (as required by our by-laws) to set the next year's dues. They are to remain the same as they were in 1986 (\$6.00). Meeting adjourned about 11:30 A.M. so we could continue our Christmas shopping. Joe, K5JB, Sec'y

Minutes of January Meeting

OOPS! The snow storm got us! Meeting was canceled and not rescheduled until next month at the regular time. This will give you another month to decide who you want to be your officers for 1987. Elections will be held in February.

Joe, K5JB, Sec'y

The Day I Learned Morse Code (Part 2)

Last month I rambled about my first attempt to learn Morse code to get my ham ticket. After thinking I could meet the minimum performance requirements of copying 65 consecutive characters, without error, at 13 words per minute I gave it a shot. However, my pencil turned to jelly and I squeaked out only enough text to meet the 25 character minimum for 5 words per minute. I went ahead and took the written test and passed it to qualify for a Technician ticket, a license I thought at the time was only for those interested in radio control model airplanes and boats.

I had a ham ticket but I didn't think it was good for anything, so I just left it in my dresser drawer until I met Dick Wokaty, WA5OUU in a company sponsored class. When the class participants were introduced, each one gave a self introduction with a little background information. Dick mentioned that his hobby was amateur radio and during break I happened to mention to him that I too had an amateur radio license but it was "only" a Technician Class ticket. He mentioned that he too was a Technician and was active on 6 Meters doing all kinds of things, talking to all kinds of people, about all kinds of things. Darned if this didn't pique my interest I started asking him lots of questions. He invited me to the next

VHF club meeting and I went. There I found others whom I already knew, but was unaware had ham tickets. Bob, W5HXL, offered to loan me a six meter rig, which he did. The next day I built a turnstile and was on the air; and I begin to have fun!

In a short while I had a whole bunch of new friends, and many of them were having trouble, as I was, with the code. With renewed interest, I got out the old tapes and keyer, etc. and started working on it again. It wasn't too long and I was ready to try that mean old FCC man again. And I did. And I flunked it about the same way it did the first time. Crumb!

Seated in front of me was a guy, and I sure can't remember his name, who muttered that he spent years copying the code and couldn't do any good on that test because he had never copied it with a pencil. He said he had used a typewriter during his Navy career as a radio telegrapher! He swore that he was going to bring a "mill" to the next code test, and as soon as the rules permitted. Since the FCC only came to Oklahoma City every three months, this meant he was willing to go to Dallas in 30 days and give it a shot. We exchanged telephone numbers and agreed to share expenses on a trip to Dallas to knock off that test.

I didn't do anything differently to prepare for the test retake and in a little less than a month we made contact to firm up our plans for the trip.

We drove to Dallas the night before the test and stayed with his relatives. He was equipped with his typewriter, I had my tape recorder so I could do some last minute fine tuning. The next morning I broke out the tape recorder and gave myself a little practice, eyes closed, listen, listen then write, listen, write, etc. I was doing pretty good but I was nervous about blowing it like I had before when the real thing happened. I asked my companion if he had been practicing. He admitted that he had not, since he had copied code for years and didn't think he needed to do any practicing. I was astonished at his confidence but he finally proved himself to be human and as he dragged out his portable and set it on the coffee table to give it a little shot. He just sat there and went peck, peck, peck as that code rolled out of the recorder. I could tell he wasn't going to have any trouble, unless his typewriter keys turned to mush, like I knew a pencil could do. I was suddenly aware, from listening to that sound that the speed of 13 wpm wasn't all that fast!

When we arrived at the Dallas FCC field office, we found a friendly staff and a pretty comfortable atmosphere. I don't really remember much from that stage on except when that code started coming over the earphones I started writing, eyes closed, etc. I could hear that peck, peck, peck, close by. I opened my eyes to see my friend calmly punching those keys while I was scribbling down those letters. His calm must have been infectious because I didn't get a bit uptight and just kept jotting down those letters and numbers as they came. I really don't remember how well I did but there couldn't have been but a few letters missing on the paper I handed in. I passed! Whoopee!

But I still didn't know Morse Code.

There were a couple of guys in my office who were interested in getting ham tickets and I really put the pressure on for them to do it. One was Stan, who became WA5YFI, and the other was Hoss, who became WA5ZAI. A third good troop in the circle was Elaine, who became WA5ZAJ. The reason I mention them is because they were three of the folks who finally began to teach me Morse Code. I gave Hoss and Elaine their novice tests and out-of-a-sense-of-responsibility I got on the air many times with them to chit chat and make code sound like fun. And you know, it started to be fun! At the slow speeds Hoss and Elaine were starting out, I could chit chat with ease. He talked about all kinds of things. They were good sports and while they were under a lot of pressure to dive into the thing, I was really enjoying myself because I had a superior advantage on code. They weren't taxing my skills but they were doing some much more important to me. They were making it fun!

Fred, W5NL, was the guy who taxed my skills. He didn't know how to go slow until he heard the key word "QRS". He had been copying code since Marconi was a pup and he had fun with it. I had fun with it talking to Fred too, because I knew Fred, and I knew he had the patience to put up with me saying "QRS" all the time. I really was having fun with code and was kind of thinking how much fun it would be to take a little CW transmitter on a little trip out into the boonies.

The whole story of the Mexican trip (actually in south Texas, 200 miles south of the Pecos river) has already been related but to make a long story short, I built a 3 Watt 40 Meter transmitter I could carry in my pocket. To test the capability of the little thing I made a bunch

of test contacts from home to see how it worked. Hey! Pretty good. I regularly made 600 mile contacts in the evenings and early mornings for about a week so I felt the equipment was ready.

Notice that I was "testing a transmitter", or "chatting with friends", not "practicing code".

When I set up the portable 40 meter station 200 miles South of the Pecos and made daily 5 A.M. contacts with Fred, Hoss, and Stan (and several other crazies) I really started getting comfortable with code. I had learned to recognize their individual fists and the sounds of their transmitters, specially Stan's! He always seemed to come up with some kind of kinky transmitter sound that was sort of like a Cuban's signal going long path through aurora, kind of like a chirp, with some AC hum, mixed up with some flutter. I spent a week on that trip and some time during that period I began feeling like I was starting to be a telegrapher. Not a good one, by a long shot, but I could read reasonable code at 13 to 18 wpm and miss very little of what was going on. I was still having to write it down as I heard it, because that is the way I learned how to do it.

I was humbled when I was around the likes of Gene, K5DLE, or Ray, W5TY. Those guys could read code that sounded like staccato machine gun bursts, or like a drunken banana boat radioman. I watched Gene during a contest and was amazed at his skill. I remember standing in Ray's kitchen with the faint sound of a radio in the other room. He stopped in the middle of our conversation and say, "Hold on, that is old Jake! I wanta say HI to him." All that I had heard was a bunch of slurred tones, no timing, maybe dahs ten times as long as dits, really bad stuff compared to the sanitary stuff made by machine. But it was really code and Ray could read it, and I couldn't. Still can't.

I guess I really don't know how to read code very well but I can sure have fun with it because I am not afraid of it. Occasionally, when I don't feel like doing anything else, I twiddle the dial looking for something interesting. If I happen to hear someone sending CQ with a pretty fair fist, I grab the key out from under some clutter, throw the right switches, and find the keyer battery dead!

Fortunately I have one of those Brown Brothers keys with a straight key mounted along side the keyer paddles. If the speed isn't outa sight, I can get along pretty well

with that. If it looks like it is going to be an interesting (long) conversation, as CW contacts tend to be, I go to the closet and grab the Vibroplex. I can still do a pretty fair job on that thing, once I remember to let up on the dash side between dashes!

I now know that I made a couple of serious mistakes trying to learn code but you couldn't have convinced me until I made the mistakes anyway. I should have gone for the Novice license first and given the telegraph code a whirl on the air. I seriously underestimated how hard it is to learn code with the wrong attitude. If I had only known that what I needed was play, play, play, instead of work, work, work, I might be a pretty good telegrapher today.

An acquaintance who used to go hunting with me learned the whole alphabet in one evening while making a game of it with Fred, W5NL. Tehran (no relationship to the town by the same name...he pronounces it "Tear-en") is my friend Bob Harper's son-in-law and he was watching Fred and my antics one evening in Harper's cabin.

Fred is a typical Amateur Radio Missionary. When he sensed a curiosity on Tehran's part he got out the old key and oscillator and started sending stuff like Tehran's name, his wife's name, familiar stuff like that, and letting Tehran learn enough to get a sense of achievement. As the night wore on he kept adding letters to the alphabet until Tehran was responding to the whole thing. Fred was able to test him at about 5 words per minute and Tehran would have passed if he had been interested in getting a novice ticket. Unfortunately, he was not interested. He just thought it would be fun to know how to read code. It was an amazing thing to watch.

The next morning he still remembered probably 80 percent of what he had learned. This guy wasn't smarter than I but he approached code with the right attitude, had fun with it, and he learned it painlessly!

By now it should be clear what my point is. Telegraph code can be an obstacle or an opportunity, depending on attitude. It can be an opportunity to make friends all over the world, thanks to standardization agreements made between our countries. (Consider these agreements as opportunities instead of restraints.) It can be an opportunity to attain a skill, and a feeling of accomplishment, not unlike playing the violin; and, it is a good way to have fun!

Joe, K5JB

Packet Happenings

J., KBOQJ, didn't file a formal OPRA report this month but he did leave a message with Joe, WA5FLT, and then turn around and leave me a message to read what he sent to Joe. He is pretty sure of himself with that station of his. (Actually, I seldom miss a packet from J. He does have an excellent station!)

He advised that progress is being made on 145.09 activity. The RUSH digipeater is operating on both .01 and .09. KBOQJ, W5HLZ (alias MMC) and NORMAN (N5HZR?) are powered up all the time. Mark, N5HZR, has his mailbox on .09. NIBW has a GE Mastr PRO he is planning on installing at the Norman courthouse, at the old 147.06 site. J. advised that funding from corporate donations has not come through yet and nothing is final on tower sites but correspondence about the sites is promising.

Dave, WB5FWE, advised me that there were some modifications that might make a PK-232 work a bit better. I thought they looked familiar and I found them in a message left by Norm, W2JUP, on Compuserve's Hamnet. Norm is the guy who wrote the manual on the PK-232. Here is part of his January 1 reply to a question:

...If you bought your unit in August, your boot screen probably shows the date "29-JULY-86". If true, you should ask AEA for a ROM update. Current production firmware appears to be dated 1-DEC-86 and has several new commands and a series of changes affecting operation with packet BBSs and AMTOR. The hardware mods of which I'm aware include:

1. Change R35 from 20K to 47K ohms (feedback between pins 13 & 14 of U28;
2. Change C54 from 0.1 mfd to .01 mfd (series audio input capacitor)
3. Add a 0.047 mfd capacitor in series with R79 at the input to U28 pin 2.

The HOST mode (in my opinion) is not intended for the average packeteer, but rather is used to communicate between the PK-232 and the host computer in a non-English format. The PK-232 sends data to the computer ONLY when the computer asks for data. The data are prefaced with special headers that identify the type of information being sent. The HOST mode is intended for computer control of the tnc. Programmers can write code without worrying about talking to the TNC in English. A typical command from host computer to TNC might look something like:

(SOH) 4F a b any_data (ETB)

This isn't too useful to the "average" packeteer and thus was withheld from the general User's Guide information. A complete description of the dialog used in HOST mode appears in AEA's forthcoming Technical Reference Manual along with detailed circuit theory and calibration/alignment information.

To recover from inadvertent entry into HOST Mode, type these characters exactly as shown:

(CTRL-A) O H O N (CTRL-W)

(Those characters are "O" OSCAR, "H" HOTEL and "N" NOVEMBER.) That should return you to the non-HOST or "verbose" mode. I hope this may be of help to you...

(The replacement ROM I got cost \$10.00. It is dated Oct 14, 86 and has some new Commands like Norm mentioned. AEA advises that normal software upgrade cost is \$30.00 but made an exception in the early models. The hardware modifications mentioned may be in the current models. They deal with receiver performance. Joe, K5JB)

Packet Bulletin Boards

Just a bit of explanation before you jump into Ron's report below...There are different ways bulletin boards are used on packet radio. Some are like what are called file servers. They contain large files, like ARRL letters, Packet Status Registers, etc. Used in this way, they are not suitable for large area use because access to them requires digipeaters and sending large files through a bunch of digipeaters doesn't work worth a hoot.

Other bulletin boards handle messages and their operators prefer to call them mail boxes. Their messages are smaller than the files on file servers. Some of the mail boxes have the ability to forward messages to other bulletin boards. Ron is talking about a bulletin board system that can act as a file server or as a message forwarding system, depending on the options selected by the owner. Normally, access to the thing is limited to paths consisting of two or less digipeaters unless it is being accessed by another system for the purpose of handling traffic. This forwarding process is usually done during wee hours of the night and can permit linking through a greater number of digipeaters, as the operator chooses. Some of the forwarding systems operate on HF as well as on VHF and enable quite effective cross country traffic forwarding.

Now into Ron's report:

OPRA BBS Report

De Ron, WB5TTU, Hugo OK, Jan 1, 1987

This is a report of how OPRA (Oklahoma Packet Radio Assoc.) is doing in conjunction with bulletin board system (bbs) network development in this area.

The present system of autoforwarding bbs's here in Oklahoma is growing. WA7MBL / WORLI type systems are now in operation in four locations across eastern Oklahoma; ADA, HUGO, POTEAU and TULSA and all are linked by autoforwarding. At this time, forwarding is done between the hours of midnight and 6am local time. In addition to the intrastate message network, interstate forwarding is also done with KC5JH and WD5B in Little Rock, Arkansas and plans are in the works for forwarding to Wichita, Ks and Dallas, Texas (some forwarding to Dallas is being done via the WD5B hf gateway).

Our aim is for a system of bbs's no more than 2 digipeaters distant from any user within the state. The "local bbs" concept is being applied and "bbs dxing" is discouraged.

Areas needing local bbs's include: LAWTON, OKC, ENID / PONCA CITY in addition to the Weatherford / Woodward local area networks (LAN's).

You as a user can help. As 145.01 MHz is a congested frequency, please do not DX a bbs, use your local board...and if it doesn't do autoforwarding, then ask your bbs system owner why not. Much of the congestion can be eased by use of local bulletin boards that forward during off hours.

To discourage bbs dxing and encourage use of local bbs's, the following systems will allow connects thru only 2 digipeaters: N5JZT, WB5TTU, N5WX and N5JKN.

The systems serve the following areas:

N5JZT	ADA	Serves Ada LAN
WB5TTU	HUGO	Serves S.E. Ok and N.E. Texas
N5JKN	POTEAU	Serves Ft. Smith LAN and Western Arkansas
N5WX-1	TULSA	Serves Tulsa LAN and N.E. Okla.

The following are non Okla bbs's

KC5JH	LR	Serves Little Rock Ark LAN and Central Arkansas
WD5B	LR	"Ark Gateway" HF gateway for msg forwarding
NI5C	BTVL	Serves Batesville

N5DKQ-1	WICH	Arkansas LAN and N. Central Ark. Serves Wichita, Kansas LAN and South Central Ks.
WA5MWD	DALLAS	Serves Dallas Lan
W5XO	GAUSE	Serves central Texas. HF gateway for msg fwd'ing.
WA5ZQS	STX	Serves S. Texas

The following are not at this time linked into the Oklahoma system: DKQ-1, MWD, XO, ZQS.

MWD, XO and ZQS form part of the Texas bbs network.

The Oklahoma BBS system is still growing. If you have any suggestions or comments please address them to WB5TTU and post to your local autoforwarding BBS or send to PLINK ID# WB5TTU.

BBS Footnote

The "PLINK" Ron referred to is his identification on People Link, a commercial service like Compuserve, or The Source. (I got one hour free time for signing up about six months ago and have not received a bill yet. Guess I don't use it much, eh?) Ron has filed several OPRA reports through it to me though. Don't think he likes me hitting his BBS from Oklahoma City, Grin!

Ron's message to me had this footnote, which had some interesting additional information:

Joe, some tidbits of info...N5WX-1 bbs in Tulsa (09) will move to 01 between hours of 10pm and 6am for msg forwarding. TUL digi will be moving to 09 due to overlapping coverage of CLR. N5JZT bbs in Ada will be somewhat on/off. Max digis will be 2. 3rd Thurs of this month I will present a proposal to Paris TX radio club for club sponsored digi..wish us luck. Please discourage bbs dxing...I hope Oklahoma City will establish a local fwding bbs thereby eliminating need for cross state log-ons. I'm not saying OKC not welcome, just pointing out that too many logons during prime hrs really create congestion. Suggest education of local bbs concept, and allow bbs's to fwd tlc outside of local area during non-prime time.

Enuff said..hi..73, Ron

I had a long winded treatise (LWT) worked up for this issue but just ran out of room. If anyone is serious about setting up a forwarding BBS in Oklahoma City (or anywhere, for that matter) let me know and I will do what I can to help you get the code to do it. Next month we might run the "LWT". Joe, K5JB

kay



KAY DEC. & JAN. MTG NOTES...

We had a very good turnout for a very good dinner and program at our annual Christmas dinner.

A great big thanks to George, ADIS, who came up and presented a very interesting slide show on his trip to Micronesia. He also won the drawing for the door prize. We presented a plaque to Jay, W5TXF, in absentia (his Mother had just passed away and he couldn't be there) which named him the first KCARC 'Ham of the Year'. This is in appreciation for all of his hard work in keeping the W5HZZ 146.97 repeater going during the past year. We had a good group at the January meeting. The Pioneer Bank Building is booked up for the year so we will meet at the Vo-Tech until further notice. We discussed several things at the meeting. The most important of which is the upcoming 15K Ground Hog Day Run that needs communication. It will be Saturday January 31st at Lake Ponca. Bring your mobile w/ 2 mtr radio and check in with me on .97. Here's a list of the public service functions coming up for the year: Put them on your calendar now!

Jan 31 15K Lake Ponca
Mar 28 Bi-Athelon Lake Ponca
Apr 25 10K Pioneer Woman
Jun 6 Tri-Athelon Lake Ponca
Sep 26 10K Lake Ponca
Raft Race in July
Jamboree (Boy Scouts) in Oct.
And of course FIELD DAY in Jun
Please make a note of these now. We will need plenty of help at each of these Public Service functions, after all, that's what Ham Radio is all about.

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FEBRUARY MEETING

The next meeting will be held on the 19th at the Vo-Tech. Check in on .97 on your way to the meeting to see what we'll be in. It will be 'Radio Check' night! Jay, W5TXF, will be there with his IFR and a dummy load (me) to test our mobile 2 mtr rigs. We'll check for deviation, frequency, output power, sensitivity and tone pad deviation. Just bring your radio and mic, we'll have all the rest. There's still a

President Paul Pape called the meeting to order at 9:04 AM on January 10, 1986. About 100 members and guests attended.

Secretary-Treasurer Report

1. COCO, Inc. is in very good financial shape.

2. I've received five letters since the last meeting. The main one was from David Graham of the Enid chapter. The Enid group wants to set up a bulletin board using an OS9 BBS package. Chuck West knew of such a program and volunteered to answer some of David's questions. Bob Pace volunteered to supply David with some files from CoCoNet.

Vice-President's Report

VP Ronn Folk has instituted a monthly swap cassette

little more work to be done to the communications trailer. I'll be setting up some work days in late February and March. As soon as it warms up a bit. Check into the Monday night 9 pm nets on .97 for details.

PACKET NEWS...

Well, the WDOHCO-1 digipeater is up at a pretty good height now and makes a good path from WA5BQX-1 to AEOA-1 in Wichita. Soon, we'll be moving HC-1 to an even better location so look for it. WA7UIB is back in Enid and put a D.P. out west of there called CEDAR. It makes a good path up north too. That's about all the Packet news from up north.

KENWOOD TM-2650A...

I just got a new one and I'm very pleased with it. The built in auto-dialer is very nice and the full 50 watts output ain't bad either! I am looking for information on ways to open up the frequency range on it. If you know of a way please drop me a note at the address below. Thanks, and G'Day Mate!

Dave Land, KD5FX
2515 Bonnie
Ponca City OK 74601

program in the same vein as the swap disk program. Those wishing to participate should bring a blank cassette one month and pick up the finished product the next.

Old Business

1. Herb Reed reported no interest among the other user groups in the OKC area for a joint computer festival. The Apple club is planning its own festival for March and a swap fest for later in the year.

2. David Coburn moved that we investigate putting on another CoCoFest this year. David volunteered to serve as chairman of the committee. The other members are Paul Pape, Ronn Folk, and Martin Schiel.

3. Although the Red Cross is moving to a new location in May, the building at 10th and Hudson will be available to us for the rest of this year. Possible future sites for our meetings include:

- a. Sam Murr's school at 36th and Coltrane
- b. OKC Community College
- c. Lee Lash's church on Northwest 36th Street.

4. A motion passed to have a swap meet in the Red Cross parking lot in May.

New Business

1. We had a dozen or so new attendees at this meeting.

2. Paul Pape canvassed the audience and learned that only 2 were tape users, the majority owned modems, and about 30 to 40 % had CoCo 3s! Impressive!

3. Bob Pace reported on CoCoNet.

a. Bob is almost ready to install the hard disk.

b. Someone is maliciously deleting files from CoCoNet. To prevent this in the future, the sysops will discuss proposed solutions and present them to the club next month.

4. Jack Cochran moved that we donate \$100 to the Red Cross. The motion carried.

5. Next month we'll set up programs for the rest of the year.

6. Sam Murr volunteered to present some simple programs aimed at newcomers to the world of computing.

7. Let's welcome new members Jay Lee Becker, Bob

Continued Next Page

Leary, Glen Leon Little, Frank McCollom, Dennis Patterson, John C. Rudnicki, Jimmy Scruggs, Jock Thompson, and David Waller. This brings our total membership to 228, 100 of whom are dues-paying.

Software Problems

1. Delphi has patches to make the following programs work on the CoCo 3:

Teleterm
Colorterm
Telewriter 64.

2. Larry Boettcher reminded everyone that a subscription to RAINBOW qualifies you to one free hour on Delphi.

3. Chuck West has programs to transfer files from the CoCo to the Atari ST or to the Macintosh.

4. Greg Marzec was having trouble passing printer commands from ELITE WORD to his Panasonic 1091 printer. His printer, as do most, requires some three-digit commands, but ELITE WORD only permits two-digit commands. Nonetheless, through perserverance Greg found a way to turn the underline on, but he can't turn it off. The consensus of opinion was that he should embed the printer commands within the text.

5. David Coburn discussed two topics:

a. He mentioned a program on CoCoNet called either TRANSFER 32 or 64, which will transfer multiple files at up to 450 baud when using a 300 baud modem. The person on the receiving end doesn't need to specify the file names because they transfer also.

b. David's looking for a copy of Superdupe, a disk copy utility for a single drive system. David wants to copy from side 0 to side 2. Al Ward suggested that he use KDISK and specify drive 0 as the source and drive 4 (yes, drive 4) as the destination.

6. Ron Sonheim would like a boot program to allow selection from drive 2 or 3.

7. Paul Asplin wanted to know of a program which could use all 128K available on the CoCo 3. Chuck West mentioned a RAM disk driver which used all 128K.

8. Has anyone modified JDOS to access the back side of diskettes?

9. Mike Weigel is having a problem with PAN, a Radio Shack music program which uses

the Speech/ Sound Pack. He experiences an incessant droning whenever he runs the program.

10. Mike is also looking for a public domain OS9 disassembler.

11. Sam Murr is looking for a screen dump program for the SG-10. GEMPRINT works well, Sam. Give me a call.

Hardware Problems

1. Bill DeMand had a solution for one attendee who wanted to turn his TV into a monitor.

2. Al Ingle needed a manual for a Radio Shack Quick Printer. Bill Holland offered to loan Al his Southwest Tech printer manual. Evidently, those two printers are virtually the same.

3. Joe Harding needs documentation for a Tandy 1200 computer.

4. Chuck West is selling a big power supply capable of powering two disk drives. Call him if you're interested.

5. Chuck just ordered an RGB monitor from Spectrum Projects and asked if anyone knew whether it came with a cable.

6. Clyde Mapes has been having trouble with Autoterm ever since he blew his SAM chip. Suggestions included unplugging his joysticks and replacing his SAM chip again--this time with a newer version.

7. Bill Warren had a question about component TV and Bill DeMand answered it.

8. I just bought a touch pad from Radio Shack and expressed my dissatisfaction with it. Doug Bell recommended that I use Micro Illustrator. Does anyone have a copy?

9. Alan Kaiser is looking for a Commodore disk drive.

10. Tom Mangham just ordered a cabinet and power supply for \$39.95 from Howard Medical. The power supply would purportedly run two DS/DD disk drives. When it arrived, however, Tom found it to be woefully underpowered.

11. Be careful of static electricity now that winter is here.

Doorprize Winners

Modem - Joey Stinnett
Modem - Erik Petrich
Modem - Paul Gates

Mickey's Alpine Adventure - Lewis Sample
Mickey's Alpine Adventure - Tommy Morris
Trivia Fever - David Coburn
Space Probe - David Burklee
Atari radio controlled joysticks - Ron Goff
Hot CoCo on tape - Bob Leary
OS9 - Patrick Roberts
Used diskette - Ray Scruggs
CoCo 2 dust cover - Tom Mangham

diskette box - Nubbin Holland
diskette box - Tony Parker
diskette box - Louis Russell
diskette box - Paul Pape
diskette box - Merrill Scott
diskette box - Jim Scruggs
diskettes - John Flick
diskettes - Howard Wilson
diskettes - Jeff Landrith
diskettes - Sally Wiggins (of Orlando, FL!)

Special thanks to the Radio Shack on 59th Street for donating some doorprizes again this month.

Program

Bob Pace gave a presentation on binary and hexadecimal numbers. At the same time, Lewis Sample led a group of OS9 enthusiasts.

Ronn Folk displayed his CoCo in a PC XT pop-top box. The mother board, Multi-pack Interface board, and disk controller board were all neatly packaged inside the case, with plenty of room for maneuvering. It was a masterpiece.

See you at the next meeting.

- Martin Schiel, 670-6891

JUDGE: "My boy, you have been found not guilty."

BOY: "Thanks, Judge. Does that mean I can keep the ham rig even if I'm a CBer?"

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What's the latest with EARS?

!! Have you heard we are #1 !! What's the big deal; so we are #1? The big deal is that we (EARS) met the challenge. And we are one of three clubs out of 2,600 ARRL clubs that won the ARRL Club Challenge award for 1986.

So what's the Club Challenge, anyway? The club to sign up the most wins a HF rig from the ARRL. We have done just that.

There was a lot of hard work from a lot of people to make this happen. Thanks to everyone that made it possible. I'm proud to be a part of a club that can work together to reach such goals. Thanks again to all.

We will receive our rig some time in the near future. There are three rigs to be awarded; they are the Kenwood TS-430S, the Icom IC-735 and the Yaesu FT757. The large club will get first choice of the rigs, the medium sized club will get next choice (that's us), then the other rig will go to the small club winner.

The new rig will be located at our club station. Didn't know we had one, did you? Our club station is at the Edmond EOC. David Van Nostrand, Director of the Civil Defense, is working with us to make the space available to the club. We are in the process of working out all of the details at this time. You will be kept updated as things progress.

Our dinner meeting will be held the 27th of February at the ST JOHN THE BAPTIST CATHOLIC CHURCH at 9th and Littler at 6:30 PM. The EARS ham class will have their Graduation at the dinner meeting. In conjunction with the dinner, Bill Goswick K5WG, the ARRL section manager, will be on hand to present the students their awards.

This should be a fantastic meeting! I hope every one will plan to attend. This will be a great time to meet all of the members of the club and welcome the new hams to the world of amateur radio.

Lee Vaughn KA5WIS, 73 to all!

A Reflection of EARS in 1986...

This is probably the most difficult C&E article I have written. How to possibly cover everything the society accomplished without leaving out something. This writing will focus on the accomplishments of the society as a whole rather than individuals.

First, a bit of information about Edmond Amateur Radio Society, EARS. We are an organization dedicated to the promotion of amateur radio and public service. We are not a repeater club, although; we do maintain a VHF repeater, KC5GN/R on 147.735/.135. Our organization is governed by a board of directors elected by the membership as provided by our constitution. The board meets every month to discuss society business and take action when needed. Business meetings for the general membership are held every other month (Jan, Mar, May, ect) to bring the members up to date on club activities as well as board decisions; these meetings are void of heated debate because most issues are handled by the board of directors. Dinner meetings are held every even month (Feb, Apr, Jun, ect) for the member's families and guests. What does all this have to do with 1986? I believe that our structure is part of the reason we have been so successful.

Early in 1986 EARS started a Monday night information net at 8 PM on 735/135 for the general amateur radio community. The net is still a great success and provides a method for timely information to be announced.

Although EARS had been an ARRL club in the past apparently our status with the ARRL was not current, toward the end of 1985 EARS became reaffiliated with the ARRL. Yea I know I am suppose to be writing about 1986 but one thing leads to another. Why be just an ARRL club when you can be more. The July issue of QST confirmed that we had been approved for Special Service Club status. The SSC status is not free, we (EARS) committed to a variety of tasks to improve amateur radio. The SSC tasks

will continue as long as we maintain that privileged SSC status. The requirements include:

- public relations
- emergency communication
- training
- technical advancement
- operating activities
- ARRL membership recruitment
- miscellaneous activities

EARS has met commitments in each of the aforementioned areas.

A major accomplishment of EARS was the purchase of 23 ARRL books and code tapes for the Edmond branch of the Oklahoma County Library. What finer way could possibly be available to make such excellent material available to hams or could be hams. EARS challenges other clubs to do the same.

Many members worked together to design a logo for EARS. The finished product was a patch that can be sewn on a shirt or ballcap. EARS has a logo that all members are very proud to display.

EARS is a Central Oklahoma Radio Amateurs, Incorporated, CORA, member. Sure, most clubs in this area are. EARS is proud to be a participating CORA member. EARS members can proudly say that they were represented at CORA monthly meetings. EARS handled the registration at the door during Ham Holiday 1986. This was a task that many different EARS members participated in.

Say, now would be a good time for you to go get that cup of coffee because there is more. Hard for you to imagine a group so busy... Read on friend...

Club growth... The number of members grew from 49 to 75 by years end; actually our roster shows 80 members because some of the new members joined in 1986 for the 1987 calendar year.

One of the greatest benefits for EARS has been the amateur radio classes. 43 people have been introduced to the fun and fellowship of amateur radio as a result of the 1986 classes. The classes offer more than just new hams, participation

Continued Next Page

and involvement of hams to provide the hours of training and planning. The classes offer even more than the above described fellowship. I will try to point these extra benefits out as I progress.

A free (yea FREE) seminar on amateur radio was scheduled to precede the Fall classes. Two different TV stations promoted this event. Television and FREE, how could there be a better combination? Just to be safe the local newspaper covered the event as well. The seminar provided the attendees enough information so that they could decide if ham radio was worth further study (or class).

Yes the classes have been good for EARS in many ways. Edmond Amateur Radio Society, Inc. won the ARRL 86 Club Challenge of the 80s contest for medium size clubs (more than 20 but less than 70 members). EARS recruited 50 new members to the ARRL. EARS was second place overall in the number of members recruited. EARS was responsible for 27.6 % of the ARRL membership growth in the westgulf division. The real eye opener is that the students were responsible for more than half of this feat. We will be awarded an HF rig by the ARRL that will be used to start a club station. That is not all folks, EARS will receive a total of nearly \$250 in rebates for the fifty new members. Part of that money has already been spent on library books but I'll bet the rest will be used to buy the extras for EARS's new station.

Publicity of amateur radio is a high priority of EARS. We had 5 photos in the local paper last year covering our activities as well as a photo of the 1985 class in QST. We had an operating HF station set up at KTOK radio's Family Fair. Scouts saw our operators handling traffic on HF at the Scout-A-Rama. Members provided a live 2 meter packet radio demo for a local computer club. Numerous announcements of EARS activities were provided by the local newspaper on the average of once a month. We even had a panel of Edmond's finest (hams) on a KTOK radio talk show January 2, 1987 (this had been arranged toward the end of 1986).

Field day was another fun public event. EARS members and many guests made an impressive number of contacts with total emergency power.

Several of our members handled communications during a motorcycle race and found that to be an exciting challenge. EARS members contributed 68 hours working with other OKC area clubs handling the communications for the Sooner Games.

One of the most important functions EARS provides is support for Edmond Civil Defense; of course Edmond CD has been good to us providing a meeting place and other resources. EARS continues to monitor the sirens tested monthly in Edmond (weather permitting); we manage to cover all requested sites. EARS provides severe weather spotters and usually two operators at the EOC to keep it all together. EARS provided many hours of public service during the tornado disaster last spring in Edmond. There were two training sessions on severe weather last year, one by Don Devore of the NWS and another by Rick Tasetano of KTOK radio. EARS had our own simulated emergency test with a well developed written script. The S.E.T. was performed with the CD explorer post and Edmond agencies. EARS members participated in an overnight search & rescue exercise at Tishomingo along with CAP, Edmond CD, and Explorers. EARS calling committee was put to test when Edmond CD requested our help to search for a 6 year old girl that had been missing for 4 hours; we had 20 volunteers on the way within 10 minutes. Yes EARS gives public service high commitment and is proud to work with the Edmond Civil Defense.

EARS has helped with the Edmond 4th of July parade, watermelon feed & other fun, and fireworks for many years now. This year we also had a float in the parade. The float had an operating HF station with some of our members on the float making contacts while progressing down the parade route. Wow!

Recently EARS along with the American Red Cross (OKC) began

sponsoring a new explorer post. This is a coed post and you will hear more about it in the future.

We had several good programs at our meetings one being on radio operating etiquette. This was an excellent program for all.

EARS is also proud to point out that 7 of our 1986 members were ARRL field staff members and other members are involved in the management of VE exams and RACES. Yes it can be said that our members are concerned with the future of amateur radio.

EARS has members involved in many facets of amateur radio, from UHF to HF, CW to Packet, and rag-chewing to passing traffic. I probably left out something?

The repeater.. The 735/135 machine saw many improvements in 1986. The troublesome transmitter was replaced, a remote receiver at 1100 ft added, and a voter to select the best receiver installed.

Fund raisers.. In late 1985 it was decided to consider purchase of an ACC RC-850 controller for the repeater. 1985 was the first project santa for the club. EARS arranged for santa to visit homes (for a fee). Project santa was repeated in 1986 along with other fund raisers: an arts & craft sale and a garage sale. All the fund raising projects were a success but we still don't have enough money for the ACC RC-850 controller. The special fund has been used to fund other improvements to the repeater.

The purchase of the controller for the repeater is a carry over from 85-86 to 1987.

We don't wish to sound as if we are bragging but it does serve a useful purpose to reflect on what has been accomplished.

Well I hope I mentioned everything. Please pardon my switching from past to present tense, the changing of person, and lack of chronological order.

Continued Next Page

ORIGINS OF RADIO REGULATIONS

After a DX session highlighted by ops using "liddy" procedures, hams often CL, lean back and do a slow burn. "Oh," they weep, "for the spark gap and coherer days when courtesy was the byword of the airways."

Dream on, OM.

During the early days of this century there was no legislation limiting the use of radio frequencies. Each QSO was an experience in high adventure.

If a commercial station wanted to transmit, it was often necessary to ask local amateurs to stand by. This "self policing" was only as effective as the individuals involved.

In 1906 twenty-nine nations, including the United States, met in Berlin to consider the matter. The group adopted a list of basic regulations including the assignment of specific frequencies to certain services. The rules that were adopted were limited in their scope and dealt primarily with military and marit

Radio equipment improved rapidly and by 1909 the coherer had been largely replaced by the crystal detector. In 1922 De Forest's Audion became available for use. The scramble for the airways was on.

As the first decade of the present century ended there were about 10,000 amateurs on the air. Spurred on by popular articles in the magazine MODERN ELECTRONICS, their number increased rapidly.

As the equipment and skills of amateur radio operators improved, so did the distance of their contacts. QSOs of several hundred miles were common. It became apparent that some type of regulation would be required.

In 1912 the United States Congress passed a Radio Act that addressed itself to the problem. Regulation Fifteen of the new law provided that:

"No private or commercial station not engaged in the transaction of bon fide commercial business.....shall use a transmitting wavelength exceeding 200 meters, or a transformer input exceeding one kilowatt....."

Many thought that this was an attempt to destroy amateur radio since wavelengths of 200 meters and down were considered worthless. Actually, this restriction caused amateurs to innovate. Many developments in radio can be traced to this ruling.

WW I forced amateurs off of the air. Hundreds of amateur radio operators joined the military services and served with distinction in radio capacities.

With the end of the war the Federal Government delayed lifting the ban of amateur operation. Hiram Percy Maxim, one of the founders of the American Radio Relay League, launched a crusade on behalf of the amateurs to have the restrictions lifted. He was successful and amateur radio was opened up again in October 1919.

Equipment became more sophisticated. As the use of the vacuum tube expanded narrow transmitting signals became possible. New methods of operation required bandwidths only about 1 percent as wide as those previously used by spark.

In 1925, after ARRL negotiations with the Department of Commerce, amateurs were authorized to use 80, 40, 20 and 5 meter bands. With the opening of these radio spectra, the practical use of the "skip distance" became apparent. True DX operation had dawned.

LIVING WITH THE FAMILY HAM

In many situations a ham marries a non-ham. Realizing there is a scarcity of information on how to cope as a non-ham in a ham world, I have compiled the following information dedicated to greater harmony in the lives of hams and their spouses.

1. Do learn the radio vocabulary:

- PTT & CW are not real estate agencies
- XYL is not an abbreviation for xylophone
- 73 & 88 are not just lock combinations
- DX is not just a brand of gasoline

2. Remain calm while as many as 5 antennas are installed on the roof. Describing to a stranger that you live in the house with 5 antennas is easier than telling them that your house has blue shutters. Lots of people have blue shutters.

3. Don't panic until the utility room gets turned into a ham shack.

4. Plan to serve meals at times that do not interfere with nets.

5. If possible, try to schedule the birth of children in midweek so as to not interfere with hamfests.

6. Don't get upset if your spouse can not coordinate 2 articles of clothing in the closet, but he is able to spot a new transceiver in a store window across the street.

7. Don't get alarmed if the side of the broom closet is cut out to make room for a new amplifier.

8. Even if they look like funny postcards to you, don't throw away QSL cards.

9. Do your homework. Have ready for curious friends and grocery bag boys, at a moments, clear and logical answers to the following questions:

- a-What kind of CB is that?
- b-Why do you have those funny license tags?
- c-Can you hear police calls on that?
- d-How far can you talk to people?
- e-Can you talk to my friend in Guatamala?

10. Learn to reassure the neighbors when they ask if being a MARS member means you report activities of the neighbors to the FBI

11. If possible, study radio code and theory for your own license. Never, under any circumstances, comment that code sounds to you like a confused woodpecker.

12. Relax and enjoy the benefits of your spouse's hobby. It does, after all, keep him (her) home much more and is usually less dangerous than auto racing or scuba diving.

AFTER ALMOST 6 YEARS OF MARRIAGE TO A HAM, I took the test. I am now WA4WXI, Joyce Holland, Radisonville TN.

From SMOKE TEST, CAROLINA ARS

Further steps to codify and regulate the airways occurred in 1927 when the United States established the Federal Communications Commission. Present day operating procedures have been developed via the FCC, the ARRL and similar groups elsewhere.

And so, OM, when you pull the switch on your rig and start to do a slow burn, stop and think. We are the proud inheritors of the hard work of a long line of predecessors. Without their efforts, amateur radio would not be the great experience that it is today. By W/COV

ICOM BATTERY CLONE FOR 2-AT AND 02-AT

How many times have you heard the phrase, "A piece of equipment is only as reliable as its weakest part?" If you are like me, you hear it often. This phrase started me thinking about a problem that many Icom 2-AT and 02-AT owners have. It seems that you spend hundreds of dollars on their talkies because, "It has all the features you need." When you get your new radio, you are quickly saddened by the fact that if lucky, after a good fifteen hours of charge, you will get "almost" eight hours of "squelched" run time. (Less if somebody kerchunks the repeater you are listening to!).

After further calculations, using the official specifications, you reveal that on low power, you have an estimated thirty-six minutes of transmit time before sacrificing your BP-3 to the great battery god (or wall charger--whichever comes first). Pretty frustrating after just spending all that money.

Reluctantly you grab the calculator and figure the battery life if you were forced to run high power. (Which none of us ever do). After seeing this number -only fifteen minutes of transmit time- you run for the radio room and grab the latest issue of any ham-related magazine you can find and quickly look for somebody selling the most reasonably priced Icom batteries. GOOD-LUCK! I wore the print off several pages of my magazines and many pages of friends magazines also. I looked and looked for some alternative to my dilemma but came up empty-handed. Then it finally came to me. (Here comes the good part)

I would try to build my own battery packs. Why didn't I think of it before? Being an active R/C airplane flier I had plenty of extra ni-cad cells laying around. The ones I used happened to be 550-mAh cells. I then ordered the case parts, and complete hardware for a BP-5 without the cells. These parts ran me less than five dollars, plus shipping. I wanted to utilize a variable rate, pulse charger

I use to charge my airplanes. It is made by M.E.N. and comes in many output voltages to accommodate most battery packs. It charges a 500-mAh battery pack to 80% in 45 to 60 minutes. Mine happens to be 9.6 and 4.8 volts made to charge my transmitter and flight pack of my r/c airplane.

It just so happened that 9.6 volts worth of cells, (8), fit snugly but without any problems into a BP-5 case. You do have to do some widening of the inside of the case but this is easy work with the help of a Dremel Moto-tool. If done right you can still use the Icom charger contacts.

****WARNING** YOU NEED TO MAKE SURE YOUR BATTERIES ARE FAST-CHARGEABLE. NI-CADS CAN EXPLODE!**

That was the voice of experience speaking. I have used AA-cells with solder tabs bought from Radio Shack and have worked out very well with the M.E.N. charger. The cost of the cells were about two dollars and I have seen them in mail order houses for as little as one dollar and fifty cents. This makes the cost of a high capacity battery less than twenty-five dollars. Roughly half the price of the manufactured version. The mail order or the Radio Shack batteries however have not been tried with the Icom drop in charger so I cannot comment on that setup at this time. However many variable rate charging circuits are available. Most any of these would be suitable. Just make sure and check the maximum charging ability of your batteries.

The performance of my battery was surprising. I can go roughly three days between charges. I checked the power output with the new battery and it was pushing a full 5 watts. Overall I am very pleased and no longer have to worry about dying in the middle of a transmission and can run high power if I want without worry of battery failure.

I hope this article will be of use to other Icom owners. I am also working on an 800-mAh pack using either a BP-5 or BP-8 case and possibly a 1.2-Ah pack. MARSHALL KF5RQ

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

LICENSE RENEWAL PERIOD

The ARRL has received a number of inquiries about renewing an amateur license and it's grace period. If you have a license good for five years, it's grace period, should you fail to renew, is five years. After two years of the grace period has elapsed, you will lose your call sign and will be assigned a new one. The new ten year license, which have been issued since January 1984, have a two year grace period. To renew an amateur license, use FCC Form 610, which is available from the FCC or ARRL Hq. There is no fee for renewing your license.

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The drama critic returned to the newspaper office after viewing a new play. One of his colleagues asked, "Did it have a happy ending?" "Well, yes and no. People were very happy when the play was over."

A pair of tourists were having difficulty with the menu in a French restaurant. "You speak Romance languages," said one to the other. "Will you please call the waiter?" With a grin, the lady leaned back in her chair, raised her hand and cooed, "Ooooh, darling"



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