SECOND CLASS MAIL
Postmaster, see page 2

VOLUME 12
NOVENBER 1986
NUMBER 142

CENTRAL OKLAHOMA RADIO AMATEURS
COLLECTOR AND EMITTER

50¢

GREAT PLAINS A.R.C.

WSHGN Repeater 146. 13/73

The monthly club meeting for October was held this time back out at the old stomping grounds, The Woodward Public Works Building. We had eleven members and no guests present. Our President Windle, WA5PLW, reported that he was making some progress on the .73 and .36 machines but weather and just finding the time was delaying him somewhat. Other than the repeater discussion, there was not much to report except the discussion of the upcoming Christmas Party. It seemed that everyone had food on the brain! We are planning to have a covered dish dinner this year, but finding a place large enough and not already booked is causing us some problems. We do have several more options which are being investigated at this time. All we know for certain, is that the date has been set for the 6th of December. Listen to the net for further details. Invitations will be sent to neighboring clubs and to some of our members who live a considerable distance away from our repeater coverage. The GPARC will furnish the turkey and ham which will be prepared by the experienced and delicate hands of Freida, N5EOX. My taste buds are over-reacting already. The rest of us will just need to show up with an appetite and bring the trimmings. I think we can handle that.

QUARTERLY BOARD MEETING

The Club Board of Directors met Sunday evening October the 12th in the home of Lewis and Freida Patterson. They have been so gracious in providing their home for these meetings that probably a little rent would be appreciated. During this meeting, further plans were

See GPARC on Page 2

THANKSGIVING

It's coming soon! Next month we will put the C&E together on the 21st of November. Get your copy in as soon as possible after your club meeting. How about E V E R Y CORA member club sending in "some" copy for the next issue.

Technical articles by anyone are welcomed. If you can't type write it by hand. We will convert it.

Make your copy BLACK (a copy machine will blacken).

Keep copy 3 inches wide.

The calendar is prepared a week before paste up. If you have cnanges - let us know.

Same rules apply for the club listing, tell us of your changes.

GOT ANY SUGGESTIONS

CIMARRON

My copy for the C&E m.y be late this month but I wanted to include the results of the V.E.C tests given by CARA, Saturday October 18th.

Congratulations to Ruth, N5FUR, who has acheived one of her fondest (and toughest) goals - the 20 WPM code test for the Extra Class license. When she passes the theory test, we believe she will be the senior woman Extra class in the U.S.. We are all rooting for you, Ruth!

Steve, N5FUP, (our president) passed the Advanced Class test as did Ed, N5GOR. We are proud of you all.

One more item...CARA will have a dinner party November 7 at Feed Lot #2 in Fairview. We will meet at the restaurant at 6:00pm that Friday night. If you will attend or bring a guest notify Vern Brewer, if you are not already committed. This is a Ditch Treat affair.

News seems to be scarce, so for now 73 and 30!

Central Oklahoma Computer Organization

President Sam Murr called the meeting to order at 9:10 AM on October 9, 1986. 81 soggy members and guests attended.

Old Business

1. It's nearly time to elect officers. Four hardy soles volunteered to serve on the nominating committee. Expect to receive a call from one of them in the near future. However, if you'd like to run for office, feel free to call one of them and make your feelings known. The committee members are

Bob Pace (376-3569)
Tom Mangham (677-5291)
Harold Todd (685-3685)
Ronn Folk (737-5580).

2. Some cretin appears to be maliciously deleting files from CoCoNet. Some people will do anything for attention.

3. Several people remembered to bring their RAINBOW labels, but not enough, unfortunately. Ten labels won't instill any fear into Falsoft, Inc. It would only give them a good laugh. I'll just send them a letter asking them to reinstate us on their club listing.

4. Sam Murr mentioned that my competitor, MEI, is still selling diskettes for $29 per hundred plus $4 shipping. The phone number is 1 (800) 642-3475. If you've already placed an order with MEI, but haven't received your diskettes yet, you might want to give them a call. They had a hard disk crash and lost all trace of some orders. That just bears out the importance of periodically backing up critical files.

5. A very distinguished individual (who will remain nameless because of modesty)

Seee COCO on page 2

COCO CONTINUED

resurrected the subject of CoCoFests. The time is ripe to begin planning for the next one. Herb Reed volunteered to contact the Atari, Commodore, IBM, and Apple users groups to see if they'd like to collaborate on a giant get-together. The other groups are allegedly amenable to such an idea.

New Business

1. A Tandy representative offered the club a "special" price on the new CoCo 3. Although we sincerely appreciated the gesture, the price wasn't attractive enough. A more earnest offer of $150-175 would have stimulated some serious business. As it was, only a few people were half-heartedly interested.

2. Our satellite chapter in Enid appears to be well on its way. With only $23 in the treasury they're not exactly thriving, but they have 15 dedicated members at their core. It's only a matter of time before the Enid gang outnumbers us. But, will they ever descramble HBO? Only Holly knows for sure.

Hardware Problems

1. More on the continuing saga of the Disto Super Controller: The problem appears to be in the 80-column display card. When Jay Fields uses his controller without the 80-column card, the controller seems to work fine.

2. Beware of static electricity as the weather turns cooler.

3. Rob Runyon needs a single-sided "flippy" disk drive for his used disk operation. If you have such a drive that you'd like to sell, please notify Rob.

4. Al Jakubowski had a new method of creating flippies. First, hold the diskette upright. Slit the top of the jacket completely across so that you car remove the diskette from it Slide out the diskette witnout touching it and place it on a lint-free surface. Cut a hole and a notch in the jacket, blow out any residue, and replace the diskette in its jacket without touching the surface.

5. The enhanced EPROM works in the CoCo 3 disk controller.

Software Problems

1. Howard Wilson had a problem with the 64K version of ADOS, which he has burned into an EPROM. He's not able to save MUSICA 2 or ELITE WORD files. According to Sam Murr, Howard shouldn't have any problems if he uses the 32K version instead. Harold Todd offered another solution. The DISABLE command will allow the above programs, as well as others, to run as they should.

2. Sam Murr was having trouble with VIP CALC. Either there's a bug in the program, or Sam's multiplying by zero.

3. Erik Petrich has modified DATALINK, the precursor to MABEL, to include a 40K buffer, hi-res upper- and lower-case display, 32 - 64 characters per line, faster transfer from the buffer to disk, and 2400 bps capability. In addition, hitting the <BREAK> key at any filename prompt (such as when uploading or downloading) will abort the command and return you to the main menu. This brought up a touchy issue. Since Bill Holland wrote DATALINK and donated it to the club to generate revenue, how could Erik legally sell his version of the program? Paul Pape moved that the club license DATALINK to Erik to market. In return, Erik will contribute 10% of the gross to COCO, Inc. The motion carried.

4. Jeff Loeliger has discovered how to get past the second spider that you'll encounter when playing TREK BOER. Put the spider to sleep somehow and move him to another room, where you can vaporize him.

5. Sam Murr recommended using DISK ZAP to uncover clues for those of you who'd like an edge when playing adventure games.

6. Rose English wants to string together all the CoCo Cassette introductions to produce one long "movie". If anyone would like to tackle this project, call her.

7. Byron Hutto had a solution for his KEEPTEXT problem reported several months ago. He wanted to print out two columns of text with a minimum of effort. Bob Striegel recommended that Byron use TELEWRITER 64 to save the file with a 32-column width, then

Continued On Next To Last Page

GPARC CONTINUED

made for the Christmas Party and Possible candidates were discussed for the upcoming board election which will take Place at the December meeting.

PERSONAL PROFILE

We were intending to do a Profile this month on Lewis, W5KFK and Freida, N5EOX, but can't seem to find time for a decent interview. We did take our tape recorder over to Lewis and Freida's and at least made a start on visiting about this most outstanding couPle. HoPefully, we will be more successful by next month.

RADAR BILLY NEWS

Not much!! We're all just keeping our fingers crossed. There has been a lot of support for Bill, the radar and his crew from many of us in this area. We feel that his efforts are outstanding and Provide a very necessary service. Hang in there Bill- We're behind you!

PACKET RACKET

John, N5AVV, and Rod, WB5OVT are certainly excited at the Prospect of Bill, KD5JR, getting his Packet station on the air. John claims that Rod sends the same old thing over and over, night after night. I could have told him that a long time ago. Talk about boys and their toys (actually, the Packet station is mine)! At any rate there seems to be a lot of folks in our club who are interested in learning more about Packet communications. Maybe John and Rod could someday give a demonstration on this interesting mode of communication. We received a very nice letter from J. F. Fields, KB0QJ, wanting to know about our Packet activities in the far northwest. He also brought us uP to date on Packet happenings in the Oklahoma City area.

Watch out for the Halloween Goblins!

73

Lois, N5JGG

1 AERONAUTICAL CENTER ARC

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

PR BOB PACE, WA5CJG 376-3569
VP
S/T JACK IMAN, WB5SVN 677-8537

EDITOR: BOB PACE, WA5CJG 376-3569

2 CENTRAL OKLAHOMA VHF

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

PR JERRY WETMORE, KD5IS 524-5080
VP HUGH BENSON, KA5DGY 946-0023
SE JOE BUSNELL, K5JB 732-0676
TR ELLARD FOSTER, W5KE 789-6702
EDITOR: JOE BUSNELL, K5JB 732-0676

3 MID-OKLA REPEATOR

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

PR TIM RAUSCHER, KA5NUG 848-9910

SE MIKE SAMBUCO, KA5TSD 672-9176
TR SID GERBER, W5KOZ 737-1050
EDITOR: MIKE SAMBUCO, KA5TSD 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, N5FMU 340-4468
VP DAVE HOLDER, N5GQY 524-4711
SE DAVID CARAM, KF5EB 751-5672
TR ART HERNANDEZ, KF5DK 354-9724
EDITOR: DAVE HOLDER, N5GQY 524-4711

5 OKLA UNIVERSITY ARC

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

PR FRANK DONALDSON, N5IQJ 329-4172
VP JOHN WUSTENBERG, KE5N 325-2382
SE PETER RICHESON, KA5COI 329-3217
TR GREG SMITH, KA5LIN 366-1641
EDITOR: GREGG SMITH, KA5LIN 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, KB5XN 482-1797

EDITOR: MIKE SCHENKLE, KB5XN 482-1797

7 BICENTENNIAL(76er) 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, N5AUH 354-2061
TR
EDITOR: JIM SEALS, KB5XN 381-2005

9 WHEATSTRAW ARC

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

PR JOE GARLAND, WA5FLT (CALUMET) 893-2660
VP JOHNNY FISH, K5GBN (CALUMET) 893-2227
S/T GEORGE MASCHINO, K5GGL(OKARCHE) 263-7614

EDITOR:VIRGINIA BENEDA,N5END(WATONGA)623-7935

10 CENTRAL OKLA COMPUTERS

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

PR SAM MURR 324-6443
VP TOM MANGHAN, K5LDI 677-5291
S/T MARTIN SCHIEL 670-6891

EDITOR: MARTIN SCHIEL 670-6891

11 EDMOND AR SOCIETY

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

PR BOB MCCOY, N5BUJ 348-2032
VP LEE VAUGHN, KA5WIS 348-2961
S/T AMBER THOMASON, KA5VEK 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, AA0D 373-1818
VCH GENE NAILON, K5DLE 341-8289
S/T HOWARD BAKER, W5AS 721-5453

EDITOR: ROBERT RUNYON, AA0D 373-1818

13 KAY COUNTY ARC

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

PR DAVE LAND, KD5FX 762-8616
VP STEVE SCOTT, KA5SGK 762-0117
S/T HARRY BEATTIE, WD5DPR 765-3862

EDITOR: CHARLES NORTH, N5EYD 762-8136

14 CIMMARON ARS

MEETS: 7:30PM THIRD THURSDAY, N5FUO SHACK 827 S 13, FAIRVIEW

PR STEVE SCHOONMAKER, N5FUP 886-3274
VP BILL SIMPSON, W5HQK 883-5523
SE NADINE PAINTON, N5FMH 764-3599
TR BETTY DAY, KA5RTW 227-3462
EDITOR: JACK DAY, NN5Z 227-3462

15 SOUTH CANADIAN ARS

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

PR JEFF WYKE, KE5EB 329-6762
VP FRANK RIZZO, W2OCH 321-2899
TR MONTE BATEMAN, WB5RZX 329-7485
SE LINDA BRANDT, N5DWN 321-5081
EDITOR: DAVIS EGLE, KD5IT 321-7570

16 EDMOND AR CLUB

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

PR MARK NORTHCUTT, WD5DYI 755-4672
VP BOB MOORE, KA5ETA 799-1765
S/T KAY NORTHCUTT, WA5DYJ 755-4672

EDITOR: MARK NORTHCUTT, WD5DYI 755-4672

17 OK CPM USER GROUP

MEETS: 7:30PM SECOND THURSDAY OSU, 900M 307

PP WILLIAM COOTER 360-2141
VP JIM WHITE 364-5289
S/T JOY MELTON 789-6280

EDITOR: WILLIAM COOTER 360-2141

18 GREAT PLAINS ARC

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

PR NINDLE HATCHETT,WA5PLN(FT SUPPLY)766-3561
VP LEWIS PATTERSON, W5KFK 256-2111
SE LOIS FORD, KA5PYA 923-7683
TR FREIDA PATTERSON, N5EDX 256-2111
EDITOR: LOIS FORD, KA5PYA 923-7683

19 OKLA INDEPENDENT ARC

MEETS: 7:00PM SECOND TUESDAY SOUTHWESTERN BELL OFFICES, 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 359-0069

20 ARDMORE ARC

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

PR GLENN HAMILTON, KE5ES 226-4379
VP KEN FRAKES; WB5WPC 226-1950
SE ROBERT GRIFFIN, WB5VKA 223-8741
TR JOHN MERLYN, WD5FZD 223-9543
EDITOR: JACK GANT, W5GM 223-2619

21 TRI-CITY ARC

MEETS: 1ST THURSDAY OF THE MONTH.
PLACE:

PR LLOYD WILLIAMS, KA5UKG 382-3231
VP RON PHILLIPS, WB5UPU 382-1856
S/T J. B. BILLS, KE5MU 379-3992
P.O. BOX 655, HOLDENVILLE OK 74848
EDITOR:

CENTRAL OKLA RADIO AMATEURS

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

PR DON SAUNDERS, WD5ISS 751-0404
VP JIM BUSWELL, N5BEQ 236-9368
SE KATHY WHITED, WB5NDQ 799-1457
TR SUSAN ST LAURENT, KF5LG 324-8180
COM/COM: CHARLES HOFFERBER, N5FMU 340-4468

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CIRCULATION: BOB GRAHAM, WB5NGV 677-8685

FROM the PRESIDENT....

I would like to welcome all our new members to EARS. We are proud to have you in our organization. EARS is an ARRL Special Service Club. We (you and I) support: amateur radio classes, ARRL books for the Edmond library, public events, Monday night information net, tornado spotting (& training), Edmond Civil Defense, and a 2 meter repeater. On odd numbered months we have a business meeting and on even months we have dinner meetings for the whole family. EARS is a big family, WELCOME to the fun.

What is the purpose of the repeater? Priority will always be given to emergency traffic or operations regarding public service. Emergency means the loss or immanent loss of property or life. Public service includes storm spotting and other events as required through the Civil Defense or other emergency agency or group. Any individual may take over our repeater for emergency traffic per FCC rules. Should public service activities require that the repeater be closed to normal communications then a net control operator will take control of the frequency. You should then direct all your calls through the control station, usually at the Edmond EOC or remote command vehicle. Should there be a case of public service traffic on the repeater but no controlled net you are asked to leave plenty of time for the priority public service stations to use the frequency between your conversation. You should keep QSOs short.

The use of BREAK on VHF/UHF should be limited to emergencies only. Should you require more information on the use of BREAK I suggest that you review the operating practices chapter of the ARRL FM and Repeaters book. If I hear a BREAK I am going cease operations so that the breaking station can handle their emergency. If you need to break in a conversation simply use your callsign, if there is time for you to say "BREAK" then there is time for the use of your callsign. No, I am not picking on anyone in particular; I have recently heard quite a few stations improperly using BREAK.

Another bad habit; I am even guilty. Quick Draw Keyers, QDK, (my own little FM Q signal?!). The repeater has a courtesy beep that sounds about 2 seconds after someone unkeys, if you are not waiting on that beep then you are a QDK. The two seconds is to allow someone to break in to your QSO for whatever reason with their callsign. Of course the other side of the story is that you should be ready to key the radio the instant the transmitting station unkeys; even if you double the station listening will usually give you another chance because he will hear the double. Are you waiting? Check yourself, are you guilty? I know that I have been.

Repeater Update: Where to begin? We now have a remote receiver located at 1100 ft. on KOCO-TV's tower. Edmond Amateur Radio Society, EARS, wishes to thank Edmond Amateur Radio Club, EARC; KOCO-TV; and Dennis Orcutt, WB5ISN, for making the location available to EARS. We certainly appreciate the outstanding help we have received from Edmond Amateur Radio Club; use of their repeater(s) when ours has had trouble, a presentation on the ACC RC-850 repeater controller to our club, and now the sharing of their resources.

Who did what? You via EARS footed the bill or most of it anyway. The following items were purchased: VHF-MICOR transceiver without control head, UHF transmitter, UHF receiver, enclosure for tower mounted equipment (which went in weather proof cabinet on tower), crystals, and misc hardware. We used an existing UHF corner reflector antenna at the repeater site. The 6 element Cushcraft UHF antenna used at KOCO's tower along with 60 ft. of RG-8 was donated by Ron Moore, N5DEW. Ron also donated several connectors required to match the various feedlines.

Bob McCoy, N5BUJ, assembled the UHF rcv & xmit kits as well as assembly of the Micor receiver, UHF transmitter, COR & timeout board, and power supply for the tower mounted 17" x 11" x 3" package.

Chuck Holbrook, WD5BKT, took the UHF link equipment and tuned same. Chuck also found a faulty 455 kHz ceramic IF filter on the receiver board.

Mike Smith, KA5MJT, has access to a fancy HP signal generator and nice electronics environment for checkout of equipment. Lee Vaughn, KA5WIS, and I met with Mike to check out (and figure out) the wiring on the MICOR receiver with the original commercial frequency channel element installed. We wanted to make sure that the wiring jumpers to make the deck work were ok while we knew that the radio was tuned ok; if we had waited until after the channel element was changed the radio would have been dead anyway due to tuning -- this way we took it one step at a time. We also fine tuned the UHF link receiver after replacing the faulty ceramic filter.

Next step was to change the helical resonators and a few capacitors on the receiver to convert it to our portion of the VHF band from the commercial frequency. The coils were silver soldered in place. Ron Moore to the rescue again! as he had a micro torch using the small butane and nitrous oxide cylinders; worked great after we non-smokers managed a way to light it! I don't know if Motorola uses silver solder for the additional mechanical strength (it was a mobile tranceiver) or to improve the Q of the resonator cavity. I have read that the Q is improved if they are silver plated. I think it was probably for the strength in this case. The before mentioned capacitors were located under IF transformer cans of course, but we managed.

The channel element was sent to ICM for our frequency crystal to be installed and

Continued NEXT page

EDMOND ARS

temperature compensated. Tune-up of the radio went OK if you ignore the fact that one of the IF iron-powdered cores was frozen. This wouldn't have been so bad but the IF cans had no hole at the opposite side to allow the drilled out material to easily be cleared. The receiver tuned ok otherwise.

The receiver was used with the original audio and squelch board intact. In fact we used the original chassis and shields. The receiver was isolated from the UHF transmitter and power supply by double sided PC board. Feed through capacitors were used for the UHF transmitter. The COR-timeout board is a home-brew printed circuit board by yours truly using the super 555 IC.

The UHF receiver was installed at the repeater and the audio level adjusted using my UHF talkie for input. Our audio mixer uses a receiver selection circuit designed by Martin Vinson, WD5FEI, many years ago for the Guthrie auxiliary receiver we use to have in operation. Having the UHF receiver operational allowed me to match audio levels from the remote receiver and UHF transmitter assembly at my house using a scope on the repeater output frequency audio.

The UHF corner reflector at the repeater site was swung around to the south one afternoon by Lee Vaugn and myself. Tommie, KA5WAV, was our ground crew; Bill, K5SKA, got us in gate with the key to the fenced in area -- Thanks WILD BILL. The rotation of the antenna was uneventful with the exception of Lee's Blazer emitting a lot of electrical smoke from under the hood when he and WILD BILL pulled into the parking lot; seems a wire got snagged on the steering shaft that had unfused 12 volts.....

T H E T O W E R . . . . . .
It was raining the Saturday morning we had planned for this excursion. Around 3 PM it seemed to be clearing. Dennis, WB5ISN; Lee, KA5WIS; and Bob, N5BUJ; took to the KOCO tower. This would be a first for Lee and I. It was not raining when we started up but we could see rain over the Hefner lake when we were about a third of the way up. It takes about 16 minutes to get to the 1100 ft. platform. Once at the platform it was just starting to sprinkle. Dennis and Lee were out on the platform while I stayed in the elevator handing them items as requested. Boy was it windy, I knew it would be but it was more so than I expected. The view was fantastic (ignoring the dark clouds coming from the northwest). No I wasn't chicken to get out of the elevator, there just wasn't room for three people on the platform. About the time Dennis finished mounting the receiver and connecting the cables it started to rain. Lee and I rode in the elevator while Dennis rode on top of the elevator and routed the coax down the tower for the UHF antenna. Dennis also braved the rain and wind to mount the UHF yagi at about 1050 ft. We then rode the elevator back up to 1100 ft to power up the receiver and insure that it worked, it worked! The wind and rain picked up even more on the 16 minute ride down the tower. Dennis stood halfway in the elevator and halfway out; Lee and I weren't complaining because we figured he made a great door to block the rain and neither of us wanted to ride on top of the elevator car.

Back on the ground at last, it was cold and wet. Dennis used his R-2000 to perform some checks of our receiver to see how it was working while we dried out! What a day....

The remote receiver would not have been possible without the guidance, advice, and encouragement of Dennis Orcutt, WB5ISN. THANK YOU

Yes there is more to the story but let me close it here as I have gone on quite a while. Perhaps next month.

The club had a great turnout at the October dinner meeting. Dennis, WB5ISN, had his Motorola R-2000 service monitor available for radio checkout. Quite a few took advantage of the opportunity. After the dinner several of us met at the repeater site to iron out some problems and fine tune some other items (regarding the repeater of course!)

The board has approved purchase of a audio voter for the repeater. This will allow us to use four receivers, it can be expanded. Current plans call for the ACC RC-850 controller first then completion of the Guthrie auxiliary receiver. The VHF receiver for use in Guthrie is assembled and tested, we will have to purchase a UHF receiver and hope to use a UHF transmitter donated by Ron, N5DEW.

Although we are very grateful for our remote receiver site we are also very thankful of the main repeater site furnished by Central State University, CSU.

If you received the club logo patches and haven't paid for same then please contact Amber Thomason, KA5VEK, to arrange payment. The patches were $2.00 each. Several have not paid, if you are not sure of your status Amber will clue you in. Thanks.....

73 de N5BUJ-Bob McCoy

****
* *
* Weiner Roast! *
* *
* The Oklahoma Central VHF ARC *
* wishes to invite *
* all area radio amateurs *
* and their families *
* to a Weiner Roast *
* at Will Rogers Park *
* Saturday Evening *
* November 8, at 6 P.M. *
* *
* Yum Yum! *
* *
****

MORE Q.R. ZEDD

TRIFLE not with radioactive tubes and substances lest thou commence to glow in the dark like a lightning bug, and thy wife be frustrated nightly and have no further use for thee except as a nightlight.

COMMIT thou to memory the works of the prophets, which are written in the instruction books, which giveth the straight poop and which consoleth thee, and thou canst not make mistakes, all the days of thy life.

-- KU5B

Salem

REPEATER, REPEATER, FREQUENCY FREQUENCY COORDINATOR COORDINATOR

The mail the other day brought some interesting correspondence from Dan Schroeder, Frequency Coordinator for the Oklahoma Repeater Society.

With the formation of the ORS in 1977, came the assumption of the duties of frequency coordination of the old Mid-States VHF Society. This was a loose affiliation that arose in the early 1970's that met for the purpose of discussing repeater vhf/uhf use in an effort to coordinate band usuage. I don't remember getting involved until about 1974 or 75 by attending a couple of meetings around the state and I think that we even hosted one here in Norman.

Patrick Devlin WA5BPS was the original frequency coordinator (at least, he was the first one that I met) and I had coordinated a couple of frequencies from him a long time ago. He always used to make it clear that he did not assign frequencies, but rather would list your frequency and cross it against his files to determine if there were any interference potentials. I would have to say that it probably was a thankless job and Pat, being an old timer to repeaters, gave it up in 1979 and turned over all his documentation and materials to the Oklahoma Repeater Society for reassignment to another individual.

It really was a thankless task and Dan K5FVL looked all over for someone to take the job. Finding no volunteers, he undertook the duties himself having to set aside other hobbies and interests to accommodate and help frequency selection during what has become perhaps the largest period of growth of repeaters and repeater users.

The reason that I mention this is a recent series of events that occurred in which a group of individuals by fiat and declaration established themselves as "frequency coordinators" for all frequencies "excluding two meters at this time." Their manifesto stated further:

"The reason for forming a second repeater coordination body in Oklahoma is to insure the proper and unbiased coordination of repeaters. This council will serve non-members as well as members as all amateur radio operators have the right to coordination in view of recent FCC rulings regarding repeater coordination."

"The Oklahoma Repeater Society has proven to be unreliable and derelict in its responsibility to coordinate repeaters in the State of Oklahoma. This has been proven by the apparent lack of interest of the present individual acting as the repeater coordinator in coordinating any frequency other than two meter frequencies. The lack of keeping a current record of frequencies available in the greater metro areas of Oklahoma, and the lack of parlimentary procedures at the Oklahoma Repeater Society Meeting."

"The governing body of the Oklahoma Repeater Coordinating Council will be elected by the members and consist of five area representatives representing central Oklahoma, northeast Oklahoma, Southeast Oklahoma, Southwest Oklahoma, and Northwest Oklahoma. These areas will consist of certain counties as specified elsewhere. A minimum of three officers signatures will be required to validate a coordinated repeater certificate which will be sent to the sponsor of the coordinated repeater. Nominations for area representatives will be solicited by mail not more than 90 days before elections. Election ballots will be by mailed (sic) not less than 15 days prior to election to insure that all members have the opportunity to vote. Elections will be held every two years."

"The Oklahoma Repeater Coordinating Area representatives will make prudent effort to determine that frequencies are being used. In the event that assigned frequencies are not being utilized and notification in writing has not been given to the Oklahoma Repeater Coordinating area representative the sponsor will be notified that loss of frequency coordination will occur within 14 days unless a written request for an extension is received."

"Again, it is the intent of this council to coordinate and serve all amateurs fairly, whether a member or not."

"The Oklahoma Repeater Coordinating Council is a service to the amateur community. At no time will it act as a law governing body. By coordinating frequencies for repeaters the O. R. C. C. is stating that by operating a repeater on a certain frequency in a particular area the sponsor of that repeater can expect to have relative freedom of interference from repeaters on the same frequency in other areas. The O. R. C. C. will make itself available as a sounding board for the wants and needs of the amateur community and relay those wants and needs to the F. C. C. and the A. R. R. L.. It will at no time make decisions that affect the amateur community as a whole in Oklahoma by and of itself to be set forth as the wants and needs of the amateur community in Oklahoma."

There are six names attached to the document, but no signatures. Accordingly, I do not list the names. Judging from the calls, it seems that the six represent each of the various areas plus an apparent "coordinator."

I have always felt that decisions are always easy to make unless you have the responsibility for making them. And the "heady" guarantees of interference free repeater operation is both an elixir and a fairy tale. So, come, let us reason together.

The duties sought by the

ORRC are already being met by the only historically established frequency coordinator in the state of Oklahoma. Quite frankly, if the efforts of these six individuals did not point up some disatisfaction with the current system, the accusations and personal innuendo would be extremely offensive.

The formation of a second repeater coordination body to "insure the proper and unbiased coordination of repeaters" with the intent to "coordinate and serve all amateurs fairly, whether a member or not" belies the actual facts. Dan K5FVL has coordinated over 100 systems since 1979 with most of them belonging to non-members. I suspect that this accusation finds its roots in the actions of the coordinator in doing his job and denying a coordination to a group or individual where that coordination does not meet minimum separation or good engineering practice. The coordinator does not prevent the placement of repeater in service, he merely determines its viability and potential to receive or cause interference. For the most part, this can be fairly cut and dry, but in some instances, it might involve a judgment call. I have personally known of Dan's interest and concern in coordination to ensure the proper placement of a frequency.

Additionally, Dan is not suppose to assign a frequency. For goodness sakes, this is a technical hobby. People who think they have the ability to build and maintain a repeater should also have the ability to do most of the coordinator's work and present him with a frequency that should be satisfactory. A coordinator can suggest a frequency, but an "assignment" would be in violation of §97.63 which prevents the assignment of individual frequencies to individual stations. Besides, the first time a coordinator assigns a frequency and a local interference problem pops up with a commercial station or broadcast, the first person to be blamed will be the coordinator.

All amateurs do not have the "right to coordination", but have the right to seek coordination. In any case, the signature of three individuals will no more guarantee "relative freedom of interference" unless there is an expectation that they will also suspend the laws of physics. It may be that a few of these individuals have felt denied a right or access to coordination. To that extent, there may be substance, through inadvertance, to their complaint. Dan has indicated that he has married recently and as a result moved into a new house. In this process, some requests were misplaced requiring some followup by Dan or the requesting party. Having just moved (I say that although it has been over a year), I can understand this problem. I still have boxes that have been simply stacked and forgotten. I have also dropped items on my desk at the office or at home and not found them until they surfaced weeks or months later. In any case, Dan has attempted to follow up on these matters and candidly admitted the error.

I don't see any "rump" organization operating any more efficiently, especially when three signatures are required instead of one. Besides, coordination is more than just looking at a map and using a ruler. It requires some judgment and knowledge of radio systems as well as access to coordinators in adjacent states when a request is made that could cause interference outside Oklahoma. If the coordination is available, Dan indicates that when he has time, he will complete the coordination within 30 days, a typical time with other coordinators. When adjacent state coordination must be done, it is inevitable that a delay of greater than 30 days will occur. There is no magic wand.

It is also difficult to understand the complaint of "the lack of keeping a current record of frequencies available in the greater metro areas of Oklahoma, and the lack of parliamentary procedures at the Oklahoma Repeater Society Meetings" is also difficult to understand. First, parliamentary procedure has no relationship to the job of coordination. Second, for an organization that doesn't intend to act as a "law governing body", its interest in the procedure of the meetings is curious, at best. While it is true that proper procedure ensures an orderly process, the parliamentary method is not the only method of guaranteeing access to the meeting. The ORS is a voluntary organization. People don't attend unless they want to. Yet, I have attended many of the meetings over the past several years and it appears to me that every person who had a viewpoint to present to the group was permitted to do so. An agenda is established, yet flexibility is permitted. One problem is that the summer meeting is always held in conjunction with Ham Holiday and there never seems to be enough time for discussion as might occur in the winter meeting. Perhaps a solution might be a request for an expansion of time slot to permit greater discussion. Yet, if the problem is the complaint that somebody did not get heard at a meeting, I have no real recollection and if it was a comment that was spoken and rejected by the group, then the implementation of strict procedure will not increase the chance that such a viewpoint will get wide latitude in discussion, but may actually decrease some discussion through the use of "calling the question" or other mechanisms. Besides, it appears that only one of the organizers of the O.R.C.C. is a member of the ORS although some of the others have attended during the past several years. Nevertheless, if it appears that stricter procedure will at least ensure less disatisfaction with the meetings, it would certainly be useful to implement it now.

I also don't understand the complaint of "lack of keeping a current record of frequencies available in the greater metro areas. ." since at almost every ORS meeting that I have attended, I have received an updated copy of the repeater listings. In fact, one of the more useful functions of the ORS meeting is a request from attendees for information correcting or supplementing any of the contained information

If any of the six have any questions, they certainly can check with the coordinator or request a copy of the list to read. However, there are some frequencies coordinated that are not available for public dissemination since they are kept secret by request. These include auxilarly link stations, links and private repeaters. While many of these are not secret anymore in the days of synthesized radios, the maintenance of privacy ensures that persons who operate on those frequencies will at least coordinate with the assurance that their frequency will remain confidential.

Quite frankly, I think that this is a necessity since some hams are not grown up enough to be trusted with this information. Only a repeater operator who has maintained a patch or other special function on his system knows of the nuts, fruits and squirrels who will incessantly blast the repeater with touchtones at all hours of the day or night looking to discover the codes. Many is the night that I woke up at 3:00 a.m. to listen to some midnight skulker keying up a repeater without identification and trying a touch tone or two, or three, or four, etc. . .

Such infidels will probably only obtain their reward in the next world unless you can get the DF loops fired up. In fact, I have thought about installing one of those DF devices on the repeater that reads out a heading directly. It can be done by dropping the transmitter carrier long enough to get a reading, not an especially difficult task. But, the question is, should the entire coordination table be made available to the public? The answer clearly is and should be no. Only when someone who has a private purpose knows that his coordination will remain confidential will he undertake to coordinate and that is the name of the game. Coordination becomes complete only when everyone participates.

The FCC in Docket 85-22 issued a Report and Order concerning repeater coordination. They imposed certain priorities regarding coordinated versus uncoordinated repeaters in recognizing the repeater operation "inherently requires operation on established fixed frequencies."

"Amateur repeater operation is not frequency agile, as are other types of amateur station operation. As a result, most amateur operators have been willing to voluntarily cooperate to avoid interference to frequencies designated for repeater operation in the Amateur service in favor of the greater good, particularly since many amateur repeaters are open to all amateur operators who desire to use them. This cooperation has taken the form of adherence to the determinations of local frequency coordinators. While no amateur operator or amateur station 'owns' a frequency, this type of coordination is the minimum joint effort by the amateur community needed to facilitate repeater operation in the Amateur SErvice."

The Commission left many issues on the table regarding coordination or refused to deal with them until a problem arose. It also chose not to get involved in the functions of local repeater coordinators and called upon the resolution of problems by cooperation at the local and regional level. "it is important to support the decision of the local coordinator."

Nor did the Commission officially select or determine a coordinator for any particular area leaving the matter again to amateur self-regulation and resolution to achieve and ensure that frequency coordinators "respond to the broadest base of local amateurs and consider the concerns not only of repeater owners, but also of those users of spectrum affected by repeater operation."

The Commission amended its Rules with a new §97.3 which took effect on July 12, 198? and defines the following:

Coordinated station operation - The repeater or auxiliary operation of an amateur station for which the transmitting and receiving frequencies have been implemented by the licensee in accordance with the recommendation of a frequency coordinator.

Harmful Interference - Interference which seriously degrades, obstructs or repeatedly interrupts the operation of a radiocommunication service.

Frequency Coordinator - An individual or organization recognized in a local or regional area by amateur operators whose stations are eligible to engage in repeater or auxiliary operation which recommends frequencies and where necessary, associated operating or technical parameters for amateur repeater and auxiliary operation in order to avoid or minimize potential interference.

The Oklahoma Repeater Society is the only body or group that has historically and actually served as frequency coordinator for Oklahoma. The arrival of a coordinator-come-lately will not serve either the needs or proper purpose of frequency coordination and will only invite further FCC action to resolve disputes, an action the Commission declines to do until necessary.

So, if there are two organizations coordinating and a harmful interference results, what will be the net result? Probably, it will invite FCC intervention.

The solution is not really complicated. And proscribed in a similiar fashion by the Commission. Cooperation. If there is an element of the population disatisfied with the efforts of the ORS, offer to help. Or at least bring any problems to the attention of the group. A blind-side attack and establishment of a "rump" organization will not engender good feelings among ORS members any more than ORCC has apparently experienced. Personal attack and innuendo also have no place. Finally, I personally believe that there is no more highly qualified person to act as coordinator than the present ORS coordinator, but Dan is willing to accept assistance. Who wouldn't want a division of labor and it may be a better way to keep him willing to assist as coordinator. Cooperation and volunteerism are definite keys to self-regulation.

Micheal Salem N5MS

The South Canadian Amateur Radio Society

SCARS

held its regular monthly meeting on Saturday, October 11, at the Norman Red Cross. The meeting was called to order by President Jeff, KE5EB, at 9:50 am. Secretary Linda, N5DWN, read the minutes of the September meeting. There were about 35 members and a couple of guests present.

Monte Sed

there was now $156.32 in the club treasury. The increase was from dues; there were no disbursements during the month

Andi KA6PKJ Gav

a report from the fund raising committee which was appointed last month. There were eight recommendations from the committee:

I. Raffle at the Meetings

The club would purchase an object to raffle for $1 a chance at the business meetings. The object would be raffled when income was twice the cost of the object. A straw vote indicated that this was a popular idea.

II. Raise Membership Dues.
III. Incentives for Grads of SCARS Novice Class

These two ideas were discussed at length and the following dues structure was approved:

$10 for grads of SCARS class,
$12 for 16 yrs and under,
$16 for 17 yrs and older.

IV. Recruit New ARRL Members

For every new ARRL member recruited by the club, the ARRL will donate $5 to the club treasury. No action needed on this one; just go out and recruit new ARRL members.

V. Voluntary Contributions

Several members expressed a desire to get away from this type of fund raising.

VI. Club Logo Sales

A contest for the best logo to be used by the club was initiated. Selection of the winner(s) will be at the Christmas dinner. Get your entries in soon. The logo will be put on a patch and sold to generate funds.

VII. QRZed

Ask A5A to donate his autobiography "Trials and Tribulations of the World's Greatest DXer and Other Sordid Matters" to the club for publication and sale to millions of eager ARO's and aspiring savants. High level and secret negotiations though a Afgan financial advisor are underway. More on this later.

VIII. SCARS Swapmeet

Organize and hold a good, old fashioned swapmeet to be held in Norman. After some discussion, a committee was appointed to study the idea. The committee is: Frank, W2OCM; Andi, KA6PKJ; Ken, KA5EFJ; Ken, N5BEW; Gary, WB5ULK; and Davis, KD5IT. The pres did not mention who would chair the committee.

TNX Andi

A resolution thanking the committee for the good work was offered but one of the committee members volunteered that Andi did all the work. Thus the resolution was changed to thank Andi for the report and reprimand the rest of the committee for not producing more ideas. In the confusion that followed it was not clear if that resolution was passed or not.

A Christmas

dinner meeting will be at the Jack Santee lounge high atop Owen field on the OU campus. The club selected the date of Saturday, December 13. The affair will be pot luck with the club buying the meat dish(es) and others bringing the fixings. Dorinda, N5IUA; Andi, KA6PKJ, and Ken; KA5EFJ are in charge of this affair.

OOPS! It

was Jeff, KE5EB, who gave the info abt the Moore repeater, not Gary, WB5ULK, as reported last month. Sri, Jeff.

The Fixst

novice class was held on Wednesday, October 15, at the Red Cross. There were 11 persons studying for the Novice ticket and 8 for the 13 wpm code group.

VE Exams

will be held in Norman on Wednesday, December 3, at 6:30 pm. The exams will be held in room 140 of Kaufman Hall on the OU campus. All levels of exams will be given. The fee for exams other than Novice is $4.25 and you must bring a copy of your present FCC license with you and some form of ID(driver's license is OK). Walk-in OK but preregistration preferred. To preregister, send completed form 610, $4.25, and copy of license to: Sam Barrett, Box 5362, Norman, OK 73070. For more info, call Sam at 321-2601

We Meet Agn

on Saturday, November 8, at the Red Cross building, 1205 Halley Drive, in Norman. Meeting time is 9:30 am. See u there!

>>>>>>>>>> KD5IT <<<<<<<<<<

FOR SALE: KLM 2/80, two meter linear, 2 watts in 80: watts out. Perfect for hand helds. Asking $50. Available after 4 Nov. 737-6716 after 6 pm.
WA9AFM/5.

IS THIS ALL THERE IS?

de WB5ULK

We all know how some subjects get bantered about on the repeater and, normally, everyone has their say and that is the last of it. Well, the other day KD5IT and myself got to the subject of education in general and if it is really doing the job it is suppused to be doing. Dave had his point of view, what with being a college prof and all, and of course, I had mine. I have more college and graduate level hours than I care to admit (the wife, N5IUA, asks what do I want to be when I grow up? "So who wants to grow up?") so I have a little background in college level education. Dave allowed that since I have an opinion I should put it in print and he would submit it to the C&E. (Yes, this has to do with Amateur Radio! Have patience).

One of the most recent controversies in education revolves around what some educators call "dumbing down". This involves bringing the subject matter down to the level of the student and not the student up to the level of the subject matter. For a number of years, text book publishers have been using "reading formulas" to establish guidelines for the texts that they publish. The publishers did not establish these, the individual states did. The publishers follow these dogmatically. They have to. If they don't, the states will not buy their texts.

"Dumbing Down" has its beginings back in the 1920's when standardized testing began. The "lords that be" determined that the curriculum was too difficult and they made it easier.....and easier.....and easier. Texts are the basis for curriculum content and they were the most affected. Readability formulas were devised that are based on three factors: word length, sentence length and the number of uncommon words.

Cerytain words and phrases became taboo at certain levels For instance, the word "because" does not appear in most schoolbooks before the eighth grade (goodbye McGuffies). The following is an example of "dumbing down"that was included in an article about this subject in TIME, December 3, 1984. "Tap, tap, tap. See me work. I make good things. See the red ones. See the blue ones. See the yellow ones. No, no, no. I do not want red ones. I do not want blue ones. I want green ones." This is Modern Curriculum Press's text of a story for first graders. Can you find who is working? What are they working on? This is a butchering of the fairy tale The Shoemaker and the Elves. Note the words elves, shoemaker, and shoes do not appear and cannot be used. Pretty smart, huh?

One of the many taboos that cannot be addressed in California text books involves junk food. Now I'm all for promoting good eating habits, but the lobbyists really cracked a good one here. In texts that California uses, a child having a birthday cannot have a birthday cake!

Again, this began in earnest in the early part of this century. Robert A. Heinlein wrote that his father took the following coursesd in a 19th century back country school (he never went to "college"): Latin, Greek, physics (natural philosophy), French, geometry, algebra, 1st year calculus, bookkeeping, American history, World history, chemistry, geology. Heinlein himself in the early 1920s took (in a much larger school): Latin, French, (Greek not offered), physics, chemistry, (geology not offered), geometry, algebra, (calculus not offered), American history, and Ancient history, (no comprehensive history offered). (From Expanded Universe: The new worlds of Robert A. Heinlein, Ace Books, 1980, p.520-ff), I myself suffer deficit in some of these areas. I took Spansih in high school (Latin was offered, but no more...French and Russian were offered, but Greek was not). I had geometry and algebra (calculus not offered). I did not take chemistry and physics, nor bookkeeping, but I did have a General Biology course. World history was offered but it was "World history" only in that it moved up the branches toward U. S. history. For the most part, Asian, African, and Middle Eastern history was ignored.

To a great extent, we are a people ignorant of our own language. Most foreign nationals that learn English as a second language know it much better than most of us, I fear. Case in point: To enter the University of California system, you must be in the top 8 per cent of your class in high school and score well on entrance exams. If you are from out of state, you must score better. As recently as the early 80s, 50 per cent of those entering the UC system had to take "bone head english

That is, english, for no credit, to get you to a point that you can understand college level work! Must really be dummies in California, right? pMaybe, but where I went to graduate school, the percentage was the same.....50 % in bone head english.....in graduate school. Pretty grim.

I worked with young people, junior high and high school kids, for a number of years. I read many notes, papers, and messages from these kids during this time, and I can't believe that these young people were being promoted year after year. If life or death depended on conjugating the verb "to be", then the population would be mich smaller. Their knowledge of mathmatics was just as small. Where did we go wrong?

I personally think we have put too much emphasis on standardized tests. I lived in Arizona with my daughter for about a year and during that time, Leesa attended one of the top 20 elementary schools in the country. One of the many ways that the school was measured was by standardized tests. The entire week before this battery of tests was given, they drilled, brought home work aimed at this test and just, generally, ate, slept, played, and consumed this test. Leesa was a wreck. I didn't blame her. I was too. And I told her teacher so. I ended up not being very popular. Leesa and the school did well and the school got it's award and they all lived happily ever after. Right? I don't know. They spent a week getting ready for a test that their education to that point should have prepared them for.

One of the most cussed and discussed topics of late has been the NCAA's Proposition 19 that says, briefly, "If you don't score well on standardized tests, you don't play your freshman year". The University of Colorado has a Freshman running back sitting

Continued NEXT page

KEYER

use to do so until the proper time has elapsed so the operator can't crowd dits and dahs together with improper spacing. It does not have Iambic keying.

With the component values shown the keyer has an almost ridiculous speed range. I would estimate it ranges fro 2 WPM to over 100. You may want to compress some of this range by trying series parallel combinations of fixed resistors with VR2 or use a 10 turn pot for VR2.

None of the component tolerances seem to be critical and the diodes can be 1N4148 or any small size silicon signal diodes.

WI5W

1. Work hard and you'll go left to the top.
2. Always know your leftful place.
3. Never be right holding the bag.
4. Remember that right makes left.
5. Attend churcn to hear the Left Reverend Smith.
6. Strive to lead a leftious life.
7. Exercise your birthlefts.
8. Be left as rain.
9. Economize by eating rightovers.
10. If you want it done left, do it

yourself.

Those of you who are left-handed sould appreciate the above.

By the way, the word sinister comes from the Latin sinistra meaning left handed. The Romans felt that the left hand was the weaker of the two and that left handed people were less moral than right handed persons. The French gauche means left and in English some one who is gauche is considered awkward and whose company is not enjoyed. Also the French for right is adroit which in English has been taken to mean well coordinated. From my experience, there are more intelligent left handed persons, percentage wise, than there are intelligent right handed persons. I think it comes from having to live in a right handed world. No, I would not advocate changing our driving to left side ogfthe road, but I would love to have a left handed moustach cup!

BREAK, BREAKER AND BROKE

The Webster dictionary defines the word 'breaK' in 18 different ways. Let me give you a few: (a) To cause to come apart by force; (b) To make unusable or inoperative by disrupting; (c) to disrupt the order or completeness.

What can you break? You can break a glass; you can take a break; you can have breakfast; you can break a conversation. If you do that, you are the breaker.

What kind of breakers do we have? We have circuit breakers, ice breakers and 'ham-breakers.

Most people let the ham breakers get into a conversation because they don'tknow what they are going to say. (It's like answering the phone; you do it because you don't know who is calling.) So to say 'break' in the middle of a conversation shows lack of consideration for your fellow amateur.

Let me suggest a concept. The word 'break' implies importance; we should use such a word to report emergencies only. A traffic accident justifies the word 'break'; a 'break-break' implies a serious emergency like someone bleeding to death.

If you feel like getting into an existing repeater conversation, wait for the talker to drop his carrier and before the beep, say your call. You are now telling those fellow amateurs that you want in. You are also saying that you do not have an emergency to report. Common courtesies will be the executive ingredient for such action.

If someone decides to 'break', be prepared to help him immediately. If someone double-breaks be prepared to go into full emergency conditions.

In both cases the 'breaker' should have priority, and further conversation should cease.

You will find that by just saying your call before the 'beep', people will greet you by name (if they know who you are), will let you in on the existing conversation, and will not be extremely upset that you broke into their conversation.

So, in simple but strong words: "Thou shall break no more: big breakers become eventually - broke".

The FM Scanner, Dayton

IS THIS ALL?

on its bench who can't play this year because he did not score well enough on his SAT to be eligible. He had a 3.5 out of 4.0 grade point average in high school!

Now, gather up the lynch mobs. Yes, the standardized tests have study guides and even courses that one can prepare for them, bit we in the Amateur ccommunity have gone one step further, we have issued the questions! Yes, I know classes are being taught and my own club teashes one of the best, but if you can memorize, you can pass the amateur written exams. Now, if teh FCC were to haul me in and make me sit for an exam today (and they can!), I couldn't pass. But if they gave me a week or so, no problem.

Well, what is the answer? I don't know. The FCC dumped it in our laps and this is what we have come up with. And, yes, I know that the general radiotelephone exam is conducted in much the same way. But that doesn't make it the best way.

Should we have general electronic apptitude tests? Code only? Periodic testing? No code? I do know that the amateur radio exams were only designed as a beginning point. But, alas, we have many, many, appliance operators. We have "dumbed ourselves down".

"Get a rope! Hamg 'im high!" I can hear it now. So be it. We must push ourselves onward toward the state of the art. We made our reputation in that and public service. The goverment can not, and should not, cover for, and give valuable spectrum to, a number of people who cannot do anything more than screw that thing on there push that button and talk."

You may have gotten your license through this testing method, maybe not, but you can learn! Code, Packet, UHF, VLF, Digital, Spread Spectrum, Computer Applications, Traffic Nets, all of these and much, much more need to be explored, not atrophied. Let's get with

DUAL OP AMP KEYER

The keyer described here has been used at my station and portable locations for almost a year and I thought some CW operators who are looking for a keyer might consider this one. It is very inexpensive and it can be an opportunity to gaoin some experience with the theory and practical use of OP Amps and Field Effect Transistors.

The timing and logic circuits built around a TLC 272 Radio Shack Dual Operational Amplifier intigrated circuit. One OP Amp is used as an oscillator. The other is used as a latch to lengthen the "ON" time of the oscillator changing the mark from "Dit" to a p"Dah".

One of the characteristics of an OP Amp is that it has a very high gain when used with no negative feedback. This means they can be used to switch the output terminals from lo voltage (or no voltage in some OP Amps) to supply voltage with a very small change in input voltage. The non- inverting input with the + symbol will cause the output to become more positive (have a higher positive voltage) if it is made more positive. (See Fig. 1) The inverting input will cause the output to become more negative (have a lower positive voltage) if it is made more positive. Since OP Amps have very high gain when used with no negative feedback. They usually have a resistor connected between the inverting input and output terminals when used as an amplifier.

The fact that OP Amps have two inputs which have opposite effects on the output means they are also differential amplifiers. They amplify the difference between the two inputs. If both inputs were at exactly the same voltage and the OP Amp were perfectly balanced, the output terminal would be exactly halfway between the + and - extreems of its supply voltage. In an ideal OP Amp the gain is infinite. That means if even a very small difference between the two voltages occurs the the difference will be amplified as far as possible which will be the + or - power supply voltage. The keyer works this way by comparing voltage levels at the OP Amp inputs. If the inverting input has the highest voltage, the input goes to ground. If the non-inverting input has the highest voltage, the output goes positive. They are being used as voltage comparators.

In Fig. 2 IC1A has a positive voltage applied to the non-inverting input when switch "S" is closed. If we assume IC1 output is low when switch "S" is closed then little or no voltage will be present at the inverting Input. With much more voltage at the non-inverting input, obviously the output will have to go high. It will stay this way even after switch "S" is opened because R7 will keep applying positive voltage obtained from the output terminal. This self perpetuating or latched condition will persist until the inverting input becomes higher. The inverting input voltage will become higher when capacitor C1 charges up through VR2. When this happens the output will go to ground discharging C1 through VR2 and removing the source of positive voltage for the non inverting input via R7. This condition will persist until the inverting input voltage falls below the non-inverting input voltage. If switch "S" is kept closed or is closed again, IC1A will latch "ON" and repeat the previous sequence. The "ON" time or mark occurs when C1 is charging through VR2. The "OFF" time or space is determined by C1 discharging through VR2.

Since dits and spaces are of the same length the circuit of IC1A has its timing adjusted by VR1 to make the "ON" and "OFF" time lengths equal. But dahs need to be three times as long as dits so when a dah is called for the non-inverting input is raised even higher in voltage so that C1 must charge for a longer period of time before IC1A turns off.

IC1B is used for this extra voltage to lengthen the timing of IC1A. IC1B is "told" to turn on and off by IC1A. Positive pulses from the output of IC1A go through R6 and C2 to the non-inverting input of IC1A. Negative pulses, which are generated when IC1A turns off, go through D4 and force IC1B off. When dits are generated IC1B is not used. It is disabled by sending a positive voltage through D3 and R3 to the inverting input of IC1B (pin 6).

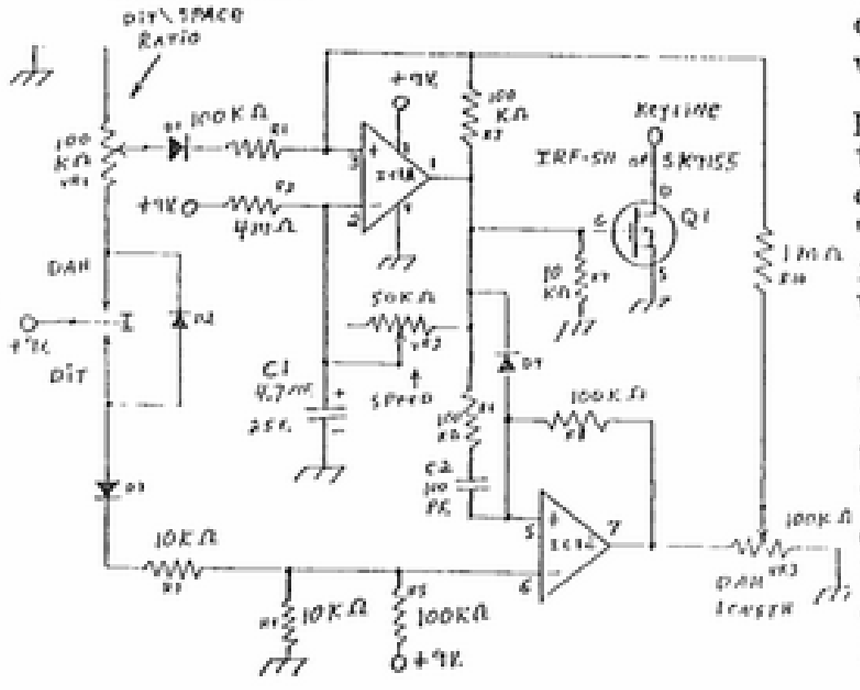
The output keying transistor can be a Radio Shack IRF-511 or an RCA SK9155. Actually almost any VMOS enhancement mode N-channel field effect transistor should work. If you use the SK9155 the lead arrangement looks like the drawing of a bottom view of the transistor but its really a top view looking down on top of it. Drawing on package is incorrect.

The current drain on the keyer is very low. About .1 milliamp in standby and about 1 milliamp operating. A 9 volt battery should last a long time. The keyer should be built in a metal box to shield it from RF. Paddle leads should be shielded also. If you still have problems with RF try a 1 millihenry choke in series with the key line and a .05 microfarad capacitor in parallel with it. A good idea would be to include and on/off switch in the battery lead. Perfboard construction should be fine.

The keyer must be used with rigs having a positive voltage on their key jack. Solid state rigs and some cathode keyed tube transmitters can be used directly with this keyer as long as you don't exceed the voltage and current rating of the keying transistor. Rigs with negative grid block keying can be used by making the keyer drive a relay which keys the rig.

The keyer has self completing dits and dahs. In other words you can release the paddle early and the dit or dah will go ahead and complete itself. If after completion, we attempt to start another dit or dah the keyer will ref-

Continued NEXT page



CENTRAL OKLAHOMA CHAPTER #63
CHARTERED MARCH 19,1973

<<FILE ZERO/ZERO>>

Our President & News Editor is still in trouble-sort of "Work-Aholic" status. Anyhow the deadline for C&E is at hand---and so now comes some last minute copy. Have agreed to take on the task as Interim News Editor & PR person until our January Meeting-then, hopefully, some "Person" will take over this most rewarding task.

Please send your copy, handwritten, typewritten or other method to:

Fred Boardman,W5NL
2900 Bird Drive
Oklahoma City, Ok.,73121
Tel.427-2505

<W5AS INFO>

QCWA, Chapter 63 operation on the air for Sept. 1986:

SESSIONS	4
CHECK-INS	155
TRAFFIC	21

Here is our birthday list for November 1986. It is a long list that might invoke some sort of comment (ED).

04	Lynn Scott		N5FMO
05	Joe McKinzey		W5YPN
05	Gene Nailon		K5DLE
06	Laura Cash	YL	W5PML
07	Ken Jessup		W5EIC
08	Sam Isaacs		W5UGA
11	John Dalby		W5COE
16	Norma Wilson	YL	W5FLO
17	James Russell		WK5Y
19	Virginia Scott	YL	N5FMO
22	George Bunce		W5DKC
23	Sophia Ard	YL	W5JME
24	Al Rauscher		K5CXP
**			
26	Raymond Willis		W5ATO

**TRIVIA-Rcv'd info that Al is off the air on 75 Meters. Al's 100 watt rig has been clobbering the telephones in his area & efforts to cure same have not been completely successful. Help!!

It is not well known that many many Chapter 63'ers are very active in Amateur Radio activities-local & wide area. Somehow we will try to identify & cover in a future issue.

<<MORE INFO>>

Chapter 63 has three (3) "SILENT KEYS" that many are aware and know, but have not been reported in past C&E's. Our very sincere condolences to the families of:

CARL H. HARP	W5NVJ
PAUL KOVAR	W5CDG
DONALD MORRIS	W5TMM *

* Howard, W5AS spotted this notice in the Nov. QST (Page 67). Howard tried to contact the family, but telephone has been disconnected. Anyone with info. please let Howard know??.

Many probably are not aware that Bob Ard, W5JME has agreed to serve the unexpired term of Doc. Bowers, KX5W & will be our new Director till Jan. 1988-if not longer. Congratulations Bob-know you will perform in your usual super manner. Also Midwest City now has two Directors (Yourself & Norm) & we expect great results (ED).

Last Sunday's meeting & program was excellent. Special thanks to Sam & Mary Stephens for the super gifts they bestowed & which were awarded by three different drawings. The mustache category was unique & sorry that Charlie Greene,WA5JGU & Marie were not present to try their "luck of the draw". We learned a bunch about Locks, Locksmithing-the finer points to look into.

Vy 73, Fred, W5NL

<MINI TRIP REPORT>
<OCT.9-16,1986>

Written language can often be confusing to the reader---and to the writer. Case in point-Was our recent Foliage Tour a "Mini Trip"(1200 miles), or is this rendition a "Mini Report"??. But, strike Foliage-think we were weeks early,ie-the countryside, trees, etc. were still green in Oklahoma & Arkansas.

This trip (usually our annual foliage tour) included stop-overs @ Arrowhead Lodge, Ok., Fayetteville, Ar.,Mountain Home, Fairfield Bay (Greer's Ferry Lake), Hot Springs and thence home.

Confining this report mostly to QCWA doings our main thrust was Razorback Chapter 90's annual fall meeting, Mountain Home, Ramada Inn (Sat. noon,Oct 11th). We almost did not make it on time. Driving early from Fayetteville we were snagged at Yellville-annual Turkey Drop Festival,including parade. A "samaratan like" lady escorted us by a devious back road route; completely around Yellville & just maybe saved us an hour. Wish now we had her name for a "thanks" note. Anyhow we made the meeting on time.

The meeting attendance was down from prior years-partly due to a multitude of festivals & Razorback football game @ Fayetteville. Attendance, enticement, etc. became a discussion item at the Business Session. Space too limited to list all attending. Leland Smith, W5KL & YL Helen, WA5WAR were present. Helen is closing in on QCWA eligibility. Will cover two main items from Leland.

(a) From FCC/ARRL: Under Volunteer Licensing there exists 20 VEC's in USA.& the number may be expanding. The exams are not uniform; this is an item of some concern that needs to be explored & hopefully resolved.

(b) QCWA LOGO: The old LOGO will stay!! We still have the Key (alone), our OT's beard & pipe (Ed. note & Tnx). Decision based on many write-ins & connclusion that Copyright expiration not as serious as once thought.

After considerable discussion, the 1987 spring meeting will convene at Harrrison-probably May 9th.

Stan Ball, N5BQC & YL Dorothy were not present-they were in the midst of a "Festive/Festival" observation of their GOLDEN ANNIVERSARY at Fairfield Bay Baptist Church. Yours truly brought an appropriate card to the meeting-which same was passed during the meeting for "well wishers" signature greetings. Sunday morning Margaret & myself journeyed to Fairfield Bay, delivered the card & made off with some of the left over goodies-enroute to Hot Springs. Many of our Sunday Net check-ins will recognize Stan as a mostly regular along with Ray Yarbrough,W5YGX, Razorback Chapt. Sec., & infrequently Sid Pokorny,W5UAU plus Leland Smith, W5KL.

Continued NEXT page

We're Back!

Things have been so hectic that I have not had a chance to write the old column here in the C&E. Well, where should we start since so much has been happening lately?

Well officially the OIDAR meeting for October was called on the 14th at 7:00. The first topic of discussion was the outstanding success of the second annual HAM HANGOVER II. The Club and I would like to thank each and every one that attended, especially the dealers. If you missed it you missed out on a lot of fun. The turnout was very good from all throughout the area. The fact that Ponca City is centrally located between Tulsa, Oklahoma City amd Wichita shows that this area has a good potential for an even larger Swapfest. So with that Lin Jackson KA5ZJM suggested that we might start planning for '87 a wee bit earlier. So the official Swapfest committee will plan to meet this March for some real early brain storming. Are we taking this stuff seriously or what?

Anyway more coordination with the Ponca City computer clubs (Atari, Apple and Commodore) will be required for an even bigger computer jockey turnout. All three computer clubs were very impresed with what hams were doing with their computers (especially Packet Radio) so they plan to be there next year...Hmmmm think maybe we can get some hams out of this crowd?

We also had the Tulsa ARC up to give VE ham exams and Harold N5HIB passed his upgrade to Advance Class. Congrats, Harold! Can you believe this guy goes on to win a T-Shirt from Dandy's... arghh. Anyway thanks to the Tulsa ARC for coming down to give the tests as we only have 2 Extras in the area. Perhaps one day yours truly will give up operating his radios, hang up the old climbing belt, unplug the soldering iron and get down and study that code and get that Extra....ahhh I wouldn't hold my breath! Anyway, thanks to everyone who made it possible.

Next order of business was the new repeater machine OIDAR was getting ready to put up. Dave White WN5LUI and Glen Bishop WN5J reported that the receiver was realigned from it's business band frequency to 144.71 and sensativity falls well within specs while the transmitter is putting out a solid 250 watts to a dummy load. Dave then showed the club how the COR circuits and the link radios will be hooked up and how they would be interfaced to a COMSHACK remote base unit. I still don't understand it but if he says it will work...

The meeting ended in an upbeat note as we discussed the philosophical differences between Iacoca and Ghadafy.

Biz, WD0HCO

HAIL: A W4 says, "Hail is where all those dad-ratted Yenkees will end up....

END OF MINI-MINI

The main program and the total meeting, I judge excellent. Kenneth Ramos, K9DSJ, Mountain Home discussed & demonstrated a super piece of equlpment. An IFN INC, Div.of Regency, AM/FM Frequency & Spectrum Analyzer. The range is 250KHZ to 999.9999 MHZ. Includes a multi-function micro-processor, built in screen monitor & even built in battery for portable use. Still better it is made in USofA (Wichita,Ks). Price tag is rooughly $8000.00. Ken said that if it were built with vacuum tubes by older technology it would occupy about the size of our meeting room. Tnx Ken for a most informative program.

To Les Edmonds, W5GOO. After the meeting we stopped to see & visit Clyde Stewart, W5RFD & his YL in Mountain Home. Both is good health & both send very best to yourself & YL. Info: Les & Clyde worked together @ Collins, Cedar Rapids, Ia many years ago (ED.).

The last part of trip @ Hot Springs. Margaret & myself partook of Sauna, Whirlpool, indoor swimming and a FB round of golf @ Hot Springs Village. Being sort of a golf widower and rather poor @ the game, it was really great.

Back to the Yellville Turkey Drop Festival. Some controversy involving the SPCA in years past. But, they do acquire flying turkeys (wild variety) & apparently no mistreatment is ever intended.

Club NEWS

WSLOW
The Elmer Geddes Memorial Station

Minutes of October Meeting

I was unable to make it to the meeting so Bob, W5HXL, took the notes for these minutes, thanks Bob:

Meeting was called to order by President Jerry, KD5IS, with eight members and guests present.

Minutes were approved as published and Ellard, W5KE, gave the Treasurer's report.

The arrangements for the weiner roast were discussed. It is planned to be held November 8, Saturday evening at 6 O'Clock at the North shelter of Will Rogers park. All of our amateur radio operator friends and their families are invited to join us for the fun.

It was announced that the Novice classes started on schedule Oct. 9. They will be continuing on Thursday evenings and it is not too late to enroll. Check with Jerry, KF5MB, at 677-7251, or just show up.

Our club wishes to all a very happy Thanksgiving! Joe, K5JB, Sec'y.

Packet Antics by Others

I was unable to attend the formation meeting of OPRA, a new statewide packet radio organization whose purpose is to develop and coordinate networking in our state. The following was prepared by J, KBOQJ and transmitted to me via packet radio ...neato!

Packet Radio Organization Meeting

On September 27, the first packet radio organization meeting was held at the Oklahoma City Red Cross building located at 10th and Hudson. There were 25 amateurs in attendance with the following distribution by region (we used the lines of demarcation as I-35 and I-40):

11 from Metro OKC (Bethany, Edmond, MWC, Norman, OKC);
2 from NE (Fort Gibson, Tulsa);
9 from SE (Ada, Ardmore, Hugo, McAlester, Shawnee, Valliant);
3 from NW (Calumet, El Reno).

Note that those from the NW region could almost be considered as being in Metro OKC.

Since Gary Skaggs, WB5ULK, and J. Fields, KBOQJ, were charged with arranging for the meeting place and Gary was unable to attend, J. Fields acted as the chairman and guided the discussion through the agenda as follows:

The meeting was introduced by a discussion of the Packet Radio Meeting at WSFO held September 8th and the results as outlined by Dr. Ken Crawford, Area Manager of NWSFO. Dick Baker, WB5TMW, presented a proposal prepared by him; by Larry Ruthie, NWS; and by Jim Seals, KB5XN. (This item was placed first on the agenda because Dick had a prior commitment and had to leave early.) This was a proposal for the acquisition and use of a computer, hard disk mass storage device, printer and terminal to replace the dumb terminal as the interface between the NWS computer and the packet radio Terminal Node Controller used in the March 1986 experiment.

The computer would be programmed to function much like a Packet Bulletin Board System with a menu-driven program enabling the down-loading of NWS products which consist of 1. Warnings; 2. Watches; 3. Radar Maps and 4. Field Reports. (note: this is not a product of NWS, but a report from amateurs to the NWS). This is intended for use with a network on another frequency other than the national calling frequency of 145.01 MHz, as 145.03, 145.05, 145.07 and 145.09 MHz have been designated as for the use of packet radio operations. With such a network of digipeaters in place, any of these products would be available for down-loading by the designated amateur for any local area network (LAN). The need for these assumptions is evident as one considers the number of operators on 145.01 Mhz and the time required for BBS operations causing a tendency to overload a frequency. Since 145.01 Mhz is already heavily used in several LANs, it is already evident that collisions and retries now cause problems in communication. The attendant problems with the establishment of such a network may not be as serious as it may seem at first glance.

The authors of this proposal had envisioned the funding of this computer system a either being borne, a. by the amateur community, or b. shared equally between the amateur community and NWS, with the programming provided by NWS and the maintenance by KB5XN. After the meeting, KBOQJ learned that there is also a third possibility, at least during the short term ending with the 1987 spring tornado season, which would be the loan of the requisite computer system from commercial entities. This is only made possible through the organization as a non-profit group of the packet radio amateur community.

The topic of organization suitable for such a large state-wide organization consumed a great deal of time. Obviously the meetings could not be the same as a typical amateur radio club since that would inhibit many of the members from attending except under special circumstances. One recommendation was to have a representative from each LAN for the nucleus, but that, too, seemed to constitute a rather large group. Then a scheme was proposed whereby the state would be apportioned into four large regions which would each appoint a regional representative. Then each region could use a round-table via packet radio for group discussion as guidance to its representative. Meetings of the representatives could be called on an ad hoc basis to conduct the business of the club and get the guidance from the membership. The temporary executive committee would consist of a member-at-large (for which KBOQJ volunteered), and a representative from each region: NE (Don, KB5VP, of Tulsa was chosen), SE (Joe, KE5SA, of Ada was chosen), SW (since no one was present from that region Don, WB5HAK, was selected, subject to his acceptance), and NW (Joe, WA5FLT, of Calumet was chosen because there were few from that region). It was then proposed that a meeting be held at the Texoma Hamorama, Oct 24th, 25th and 26th, for the purpose of approving this decision, defining all of the officers and electing permanent officers. Also, there should be a determination regarding the traditional positions of President (or Chairman), Vice President, Secretary/Treasurer or have the regional representatives have dual responsibilities. Gene South, WA5IJA, of Ardmore was selected to make the necessary arrangements with the Texoma Hamorama Association for suitable accommodations. If this were to prove to be not possible, then the meeting would merely become a 'tailgate' affair in the parking lot.

(Ed. Note: After J. prepared this, we received word from Don, KB5VP, that arrangements had been made to have the meeting in room "A" right after the ARRL forum. It would be scheduled for 4 to 5 P.M. on Saturday, October 25)

The next item was the funding which was soon proposed to be in the form of annual dues. The figure of $20.00 per annum was first suggested as were other amounts. Finally, the discussion settled on $12 per annum as the most reasonable amount. There were no provisions made for

any collection of this money. (In view of the fact that numerous operators wished to send in their money and join OPRA, KBOQJ, unabashedly, selected himself as acting Treasurer and gave the address of 3820 N. Riverside Dr., Bethany, OK 73008).

After the organization was tentatively defined, then it was suggested that a name be given to this organization at this meeting. Since the suggestions were merely acronyms, the author has taken the liberty to 'reconstruct' the full name. First was OKRA (taken to mean Oklahoma Packet Radio Assn.), then OPRA (Oklahoma Packet Radio Assn.), OKAPA (Oklahoma Amateur Packet Radio Assn.), and OPS (Oklahoma Packet Society). A vote was held which showed that OPRA won hands-up!

There was some discussion of the packet radio band plan that should be followed and it was suggested that we adhere to the band plans endorsed by neighboring states. However, no one could be specific about any band plan although it was known that TEXNET had been discussing such for their own use. Bob, WB5AOH, stated that he was a member of TEXNET, but that he could not recall what their band plan contained. Given that there might be a change prior to establishing any network of DPs, it was decided that the frequency of 145.09 Mhz be adopted until further notice. Also, if the Network Node Controller should become available in the near future, then these DPs may be subject to change to a higher amateur band.

After the meeting was over, N5JMG, Ralph, mentioned that he might be able to acquire twelve UHF radios and KA5WLB, John, said that he had five radios that could be made available for OPRA (if memory serves, these were VHF radios). Also, I queried WA5MWD, Dave, via N5BFD, Jim, in North Dallas on packet and received a note dated 10/7/86. Jim said that Dave told him that TEXNET only planned to put some nodes on 145.05 Mhz for the backbone across that state, and there was almost no coordination on 220 and 450 Mhz bands, but there is some activity there.

Pass the word regarding the October 25 meeting at the Texhoma Hamarama to all of your packet friends and lets have a big turnout as the December NWS experiment and the packet use during the spring weather season could very easily make history as the first time packet radio has been used in an organized manner to assist in weather emergencies and to report events back to NWS!

73 and happy packeting, de KBOQJ

Packet Antics by Me

Last month, I mentioned how I had encountered a dealer in the Washington, D.C. area, EGE, who was bitter about experience with Advanced Electronics Applications, Inc., (AEA) which makes the PK-232 and other radio gadgets. I mentioned that I would test their responsiveness to the customer by writing them about a problem I have with my PK-80 TNC, the TAPR TNC-2 copy. Remember that I do not have a warranty on the thing, having picked it up in a flea market, used.

I got my reply very shortly after sending my letter. Brett Graham, KB7G, wrote that by shorting L3, located on the bottom of the PC board, the AEA folks have found that the birdies go away. He suggested that I try that and contact them if that fix does not work on my unit. He also invited me to call if I have any more questions or need assistance. Now I ask you, is that the response of a company that is unresponsive to the customer? (I shorted L3 and, sure enough, the spurs went away.)

After relating the story to Hoss, WA5ZAI, he reminded me that he had also picked up an AEA device in a flea market and had success with AEA on a repair problem. He said he purchased a CP-1, which does RTTY and CW. He said it didn't seem to be working worth a hoot so he sent it to AEA which fixed it, tuned it up and returned it for $35.00. What else can I say?

I have had very little time to do any packeting with the new PK-232 this month so last month's observations are the best I can do at the moment. I am still amazed at the way the thing handles packets on HF. Sandy, WB5RRR, has the AEA add-on demodulator for HF, the PM-1, and reports similar good performance. Maybe, If I get some more time at home next month, I will be able to learn how to use AMTOR and explore that a bit.

During extended absences I have had a problem satisfying my curiosity about what went on while I was gone because I discovered my method for saving all the unproto packet traffic has its limitations. If I leave monitor on I can only save about 250k of stuff before my program quits saving. My solution has been to make a BUDLIST and add the calls of those who have been doing the most interesting things. This has the disadvantage that someone new who pops up doesn't get logged, sigh!

An alternative is to use the lid list, which ignores the sources of clutter like bulletin boards and beeks (those who beacon incessantly). Unfortunately, every newcomer has to try all the new features, including beacons, so I get a load of cutsey beacons to review when I get home.

This weekend I think I have figured out a temporary solution. I can now save up to the capacity of my little disks, which is 800K. Next step would be to run the 10Meg hard disk, naa! I have enough trouble scanning what I save now!

On the weather service project, the proposal to install a computer interface to permit handling severe weather traffic is a good concept but it has a serious problem. Writing the code to make it work is not a trivial matter. There are good bulletin board programs that understand the packet radio environment. (I recommend the WA7MBL code for the IBM) but it was not intended to do the job proposed in this case. If someone has the knowledge of assembly language programming the IBM and would like to tackle the project, contact Dick Baker, WB5TMW. I may be able to get someone started but I don't have the time, nor ambition, to tackle the project. I expect it would be a 40 to 80 hour project for a skilled hacker and a 160 to 240 hour project for a professional programmer, har!

As I understand the requirements, they want the PC to automatically handle certain data from the weather service computers and put it in bulletin form on a packet radio bulletin board. This requires a second serial port on the computer and a driver to interface it to the BBS program. An alternative of typing the bulletins manually is already available in the MBL code but I don't think that is what Dick wants to do.

Jeff Jacobson, WA7MBL, wrote the code that acts like the popular WORLI PBBS but does it on an IBM. The latest version of that code is 2.04. Version 3.2 is being tested by Wes, K7PYK, and is expected for release in late October. I don't know what Jeff's policy is on releasing source code. It might take some convincing persuasion, at least. Hank. WORLI, is in the process of re-writing his PBBS program in C which might make it a bit easier for some programmers to modify but it is not yet available in that form. His is currently available only for the CP/M environment, operating on the Xerox 820. He recently moved to Santa Cruz, CA and has a test version of his new program on the air, running on an Amiga.

Hank's policy is to make the source available along with the executable code.

According to an article by Pete Stone, KOVLD, in the Packet Radio Magazine, he has a CP/M emulator for the IBM-PC that will run the WORLI program. Sometime after November 1, He will supply the code if you send a blank disk and a prepaid mailer. Send it to Andy Freeborn, NOCCZ, 5222 Borrego Drive, Colorado Springs, CO 80918. You will need at least 256K bytes of memory, One or two serial ports and one or two TAPR compatible TNCs. He advised that the emulator source code could be made available. The WORLI source code is available but you would need a CP/M development system to reassemble it after making modifications.

If you understand the problem and followed what I have said so far, and are interested, call Dick, WB5TMW, and talk it up.

By the way, TAPR is no longer publishing its newsletter, Packet Status Register. Beginning with the September 1986 issue of Packet Radio Magazine, the PSR is included as a section. This magazine includes newsletters from several packet radio groups, much like the C&E serves us. I had heard a lot about the magazine but had not seen one until this issue. It looks good. This issue has 24 pages, plus cover, and contains some packet specific advertisements as will as a variety of packet related articles. To subscribe, you have to join one of the contributing organizations, for example FADCA (Florida Amateur Digital Communications Association) or TAPR. Dues in either organization are $15.00 per year. FADCA's address is 812 Childers Loop, Brandon, FL 33511. TAPR's address is P.O. Box 22888, Tucson, AZ 85734. Recommended! Joe, K5JB

What Antenna? Who me? (Part 1)

When I bought my house, restrictive antenna covenants and zoning ordinances were of utmost importance to me. I wouldn't have bought the house if there were going to be unreasonable restrictions to antennas, thus preventing me from enjoying my favorite hobby. Many folks I know weren't so fortunate to realize in time the importance of these kinds of things in their home selections and thus had to work out technical solutions to a serious legal (social?) problem.

Recently I was discussing with one of my Washington buddies MacChuck, N8ADN, what he would have to think about to get a respectable signal going on the low bands after he moved into a town house in the suburban Washington D.C. area. He basically asked what would be the "best" antenna he could put up while under restriction that he not have any antennas visible.

About the best I could do at the time was cover some antenna performance fundamentals in terms of what he could get away with without being seen.

It occurred to me that we haven't discussed antennas much lately so this month I thought it would be fun to review some of the experiences I have had with clandestine operation. After I started writing, I realized that the article was going to be to long to run in one issue of the C&E so I saved the second part, a description of some of my antenna experiences, for the December issue. This part will deal with some of the basics and theory that are necessary to develop an "intuition" about good, practical antennas.

There is no such thing as the "best" unnoticable antenna configuration. Depending on the conditions, there may be a "best" setup as far as efficiency, a "best" setup for ease of installation, a "best" setup for concealment, a "best" setup for radiation performance, and a "best" setup for durability. These setups will likely not be the same.

For example, a 40 meter half wave dipole installed a half wave above electrical ground would offer much better performance over a 1000 mile path but would certainly be more difficult to install than a shortened dipole strung over the peak of the roof or worse, in the attic. A quarter wave vertical mounted on the ground would be easier to install and perhaps better on the thousand mile path but it is much more difficult to achieve a high degree of efficiency with typical ground losses. Let's look at some simple fundamentals.

Feed point impedance of a half wave antenna is high on the end and lowest in the middle.

As the length of a monopole antenna fed against ground varies, its feed point impedance, varies as follows:

If it is very short, it has a low resistance component and a high capacitive reactance component.

If it is a quarter wave length it has a medium resistance component and zero reactance.

If it is a half wave length, it has a high resistance component and zero reactance.

At other points, not covered above, it is reactive. Between zero and 1/4 wave length it is capacitive. Between 1/4 wave length, and 1/2 wave length, it is inductive. Beyond 1/2 wave length, it becomes capacitive again and the reactance cycle repeats itself. Because of the wire already connected, the added wire acts like a lossy transmission line and does a impedance transformation, as well as radiating. Just beyond the half wave point, the resistive component is high and as the wire lengthens, the resistive component decreases until another 1/4 wave length is reached. (Look up 'Q' section in your antenna book.)

Antenna currents and voltages:

In a half wave antenna, current is highest in the middle and voltage is highest at the ends. I squared R losses are most likely to be a problem in the middle while dielectric losses will be most prominent at the ends. Just to see if I could do it, I took a shot at a crude graphics representation of current and voltage distribution in Figure 1.

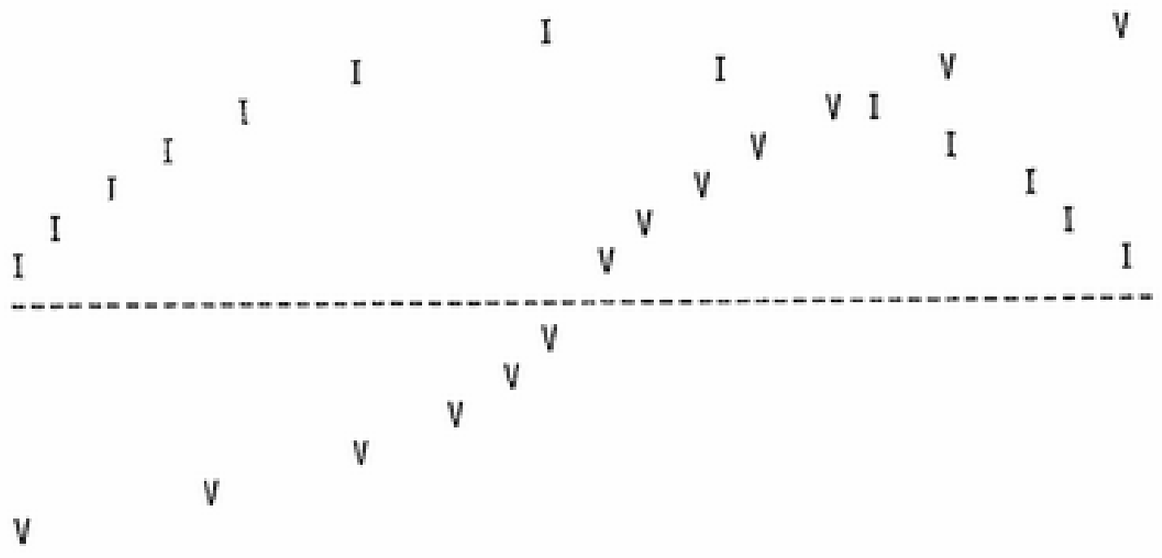


Figure 1. Voltage and Current on a Half Wave Antenna

Note that there is no feed line shown in Figure 1. The feed can be placed anywhere on the antenna you want as long as you are prepared to deal with the impedance you will find there. The most common feed points are in the middle or on the end. In the middle, you break the wire and series feed it with low impedance feed, such as coax. This is referred to as current feed. On the end, you feed it with a single wire or a transformer that will step a low impedance coax feed up to the high impedance of the antenna. End fed in this manner is a voltage feed.

Antenna lengths:

There is no such thing as a 1/4 wave length antenna, there is at least another electrical 1/4 wave length lurking out there somewhere. Normally it is a ground plane. An antenna consisting solely of a 1/4 wave length of wire is like a light bulb with only one contact.

An antenna doesn't have to physically be integral multiples of 1/2 wave length. If it is not, it only needs some kind of compensation to make its length appear to be an integral multiple of electrical half wave lengths.

Conjugate matching consists of adding a reactance of the opposite sign to cancel the characteristic reactance in the circuit. By clever manipulation of reactances the circuit can also be made to convert resistances.

Radiation:

Radiation resistance is not the same as antenna feed point impedance. It is established by physical laws relating to the "ether" while feed point impedance is established by antenna shape and size and where on the antenna you are measuring the impedance.

Radiation patterns are predictable only in text books, anechoic chambers or antenna test ranges. Dipoles mounted close to the ground are omni-directional. Polarization is every which way because of combined fields from the antenna and the ground plane beneath it but it radiates effectively in all directions. Long wires, Vee beams and rhombics are another matter. I don't think I will discuss them except to say that a long wire is a lot longer than what most people call a "long wire". Just because you don't know how long the wire is doesn't make it "long". HF long wires which exhibit directivity are several wave lengths long and they won't fit on a city lot.

Radiation Polarity depends on the plane in which the antenna lies and its proximity to the reflecting ground plane under it. Polarization has to do with the electric field and is parallel to the part of the antenna having the most current.

On HF, Polarity doesn't mean anything to the operator at a distant place because it will get rotated going through its ionospheric journey anyway. A "direct wave" contact, say within 5 miles on 40 Meters, might have problems reading you if your polarities are crossed.

TVI:

Television interference doesn't have anything to do with antennas. I just thought I would mention that it is illegal for your neighbors to be listening in without a license. Tell 'em that you are going to report them to the FCC if they don't quit it. Same thing goes for stereos, clock radios, telephones, waffle irons, and all that junk stuff. (If you want to keep your operation secret, use CW. In your back fence discussions with your neighbors, blame the "static" on the power company.)

Next month we will get down to the nitty-gritty and discuss some real life experiences and some results of some basic design decisions that have to be made. Joe, K5JB

And Another Hamfest

October 5 found me in the Washington D.C. area again and I was able to take in another hamfest. That area has a lot of hamfests, perhaps one every two weeks. This one was put on by the Columbia (MD) Amateur Radio Association (CARA) and was smaller than the last one I visited at the Howard County Fair grounds. Chris Imlay, N3AKD, said it was the fourth one this summer at that location. Naturally, I went with Hoss, WA5ZAI, and was joined by Chuck, KC0JP, and Tom, WB8JPP, and his wife Barbara. The latter two are becoming regulars in the area, having abandoned the Dayton area for the greener working pastures in the Washington area, doing fine tuning on elevators.

We met in Gaithersburg for breakfast at 7 A.M. and headed out to the fairground in the rolling hills of Maryland. It was a beautiful day which, as it turned out, was to be the last day of Indian Summer. A cold front hit the next day, causing the locals to break out the sweaters and jackets. Anyway, I was glad old man summer was able to hold off the blustery weather until we finished our flea market pickings. I was not able to find the only thing I don't have an abundance of, 28 pin machined DIP sockets. I was also unable to find the FP-101 speaker cabinet Bill, WA5FWD, put on order when I left Oklahoma City.

The only thing worthy of note I picked up were genuine 3M electrical tape and a 12 Volt brushless fan motor. What is unusual about the electrical tape, you say? This wasn't electrical insulating tape, it was, for real, electrical tape, made from copper foil. I got a great yuck out of it back at the office where the specification writers thought they knew how to specify electrical tape, har!

I had always been fascinated with the 12 Volt brushless motors, mainly because I wondered how in the heck they worked. If I can figure out how to take this one apart I will report on that later. I did find out that it ran pretty well on the TH-41, 7 Volt battery, the only portable power source I had available for experiment.

The following weekend was going to bring the Richmond, VA hamfest but with luck, I could avoid it and spend a weekend slogging around in my yard, perhaps mowing the mush for the last time this summer, sigh!

Good Book Department

This has nothing to do with Amateur Radio. I read a couple of good books on my recent intombments in great silver birds. Both were written by Tom Clancy, an insurance man with a fascination for submarines. Hunt For Red October is his first book and it is so realistic he set the navy folks on their ears wondering out how he knew all that stuff. His style is such that the action jumps from scene to scene without the reader having any difficulty keeping up with the people and situations. It involves a renegade Russian submarine and the antics of both our and the Russian governments involved in trying to find it.

The second book, a first in a contracted series of three by Clancy, is Red Storm Rising, which deals with a hostile situation involving the Russians and the NATO countries. He gets to involve some submarines, and everything else, in the action. Both books are easy reading, and hard to put down, never the less, if you must, you can resume reading without having to re-read the last chapter to refresh your memory of what was happening, and who all those people were, when you last put it down. Recommended, particularly if you have to spend a lot of time on those Great Silver Birds. Joe, K5JB

load it back into KEEPTEXT. Byron successfully printed out two columns of text, but now he wants to print out three columns. Any ideas?

8. Harold Todd reminded everyone that a program called WRITER ZAP allows you to tailor VIP WRITER to your liking.

9. Tom Mangham warned the attendees about the potential errors inherent in floating point calculations on the 6809. He recommended using this formula in any programs you might write: N = INT ((N*100 + .5)/100).

Doorprize Winners

Many thanks to Bob Jetton, who donated a CoCo as a doorprize.

CoCo - Marc Bosley
OS9 & PASCAL - Michael Williams
printer labels - Ray Barton
500 Peeks, Pokes, & Execs - Paul Pape
paper - Bill DeMand
stapler - Jim Stover
stapler - Bob Pace
used disk - Aaron McCollum
antique keyboard - Sam Murr
Flip-N-File 50 - Paul Asplin
Assembly Language Programming book - Billy Gill
Assembly Language Programming book - Rob Runyon
Color Graphics - David Coburn
blank disks - Larry Boettcher
blank disks - Nathan Roberts
blank disks -Ruth Ann Roberts
Flight Simulator -David Sands
cooling fan - yours truly (I broke my streak!)

Bob Pace introduced the CoCo 3 to all the attendees. (I was beginning to wonder if Tandy was ever going to release one.) Bob only got his hands on one the night before the demo, so he didn't have enough time to delve too deeply into the mysteries of this new machine. Still, Bob did learn a great deal about the CoCo 3, and he imparted that information to us.

A casual glance at this long-awaited computer won't disclose any obvious differences from its predecessors. Closer inspection, however, reveals a new keyboard, or at least new keys. Tandy has added <CRTL>, <ALT>, <F1>, and <F2> keys. More importantly, they've clustered the arrow keys into a diamond pattern on the right side of the keyboard. The keyboard, however, is essentially a spinoff of the most recent CoCo2 variety. You remember. That's the one that Spectrum Projects was trying to unload for $9.95. I prefer the feel of the original CoCo 2 half-stroke keyboard.

The real improvement is inside the case. The GIME chip, the 1.7 megahertz clock-speed, and the 128 kilobytes of memory (expandable to 512K) demonstrate that even the best low-priced computer of all time can improve itself.

Bob dispelled a misconception that many of us shared. There is no "CoCo 2" mode or "CoCo 3" mode, as the advertisements suggest. Rather, to use the full capability of the CoCo 3, you must use the CoCo 3 commands. Tandy added two dozen new commands to Extended BASIC. Some of these are the "H", or hi-res, commands, which fully exploit the 640 X 192 resolution.

What incompatibilities exist between the CoCo 2 and the CoCo 3? Many are just now surfacing. The PMODES have changed and so have the locations of many subroutines. Consequently, programs which jump directly to an address in memory rather than going thru the "jump table" may not work properly. Such programs include TELEWRITER, VIP WRITER, GRAPHICOM, MIKEYTERM, and many others. (See the October RAINBOW, p.104.)

The high-speed POKE has changed location, also. Now POKE &HFFD9,0 will speed things up and POKE &HFFD8,0 will slow things down. Note that the CoCo 3 is in the slow mode when you power up, so you have to enter the high-speed POKE.

Another annoyance is that the CoCo 3 still only has 64K addressable. despite having 128K total. Therefore, you or someone you know must write software to get to the other 64K. Such software should soon be widely available, however.

Thanks for the good presentation, Bob.

After Bob finished, Sam Murr demonstrated some educational software designed to get kids to think abstractly and have fun while doing so. The games were well designed and easy to play. I wish I had things like that when I was growing up. Once again, good job, Sam.

Enough rambling. See you next month.

The handwriting on the wall often means you should keep a notepad near the phone.

NOVEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
			The managing editor assumes no responsibility for the data contained herein.			1
2	3	4 GREAT PLAINS MORI	5 SCARS NOVICE CLASS	6 NO MEETING AERONAUTICAL (SEE WED)	7	8 ARDMORE SCARS COCO
9 WHEATSTRAW	10 EDMOND CLUB	11 76'ers OU OIDAR	12 SPECIAL MEETING (See page 4)	13 ALTUS AREA OKC/PM	14	15 VHF CLUB
16 EARS	17 VE EXAMS Red Cross 6:00 pm	18 AUTOPATCH	19 CIMARRON KAY COUNTY	20	21 EDIT NIGHT for C & E	22
23 / 30	24	25 CORA 7:30	26 SCARS NOVICE CLASS	27	28	29

Q. R. Zedd

WORDS THAT ZEDD LIVES BY

The words are not original with him, and have even... we think... appeared in C&E some time in the past. But during this early holiday season it seems fitting to share with our devoted readers a bit of philosophy that is displayed prominently, in needlepoint, in the living room of the greatest DXer of them all, Mr. Q. R. Zedd, A5A.

It was Momma Zedd, the darling of Mena, Ark., who prepared the wall hanging for the living room of the great man's ranch, which is just a hoot and a holler south of town.

"I don't know who first came up with them words," Momma told us on 40 meter phone the other night. "But whoever it was, he was great. It might have been my late husband, Zepp."

At any rate, with apologies to those who have read the original in Zedd's living room, or somewhere else, here are the immortal words of advice.

BEWARE of the lightning that lurketh in an undischarged capacitor, lest it cause thee to be bounced on thy buttocks in a most ungentlemanly manner.

CAUSE thou the switch that supplies large quantities of juice to be opened and thusly tagged, so thy days may be long on this earthly vale of tears.

PROVE to thyself that all circuits that radiateth and upon which thou worketh are grounded, lest they lift thee tp high frequency potential and cause thee to radiateth also.

TAKE care that thou useth the proper method when thou taketh the measure of high-voltage circuits so that thou dost not incinerate both thee and the meter; for verily, though thou hath no account number and can easily be replaced, the meter doth have one, and as a consequence, bringeth much woe to the supply department.

TARRY not among those who engage in intentional shocks, for they are surely non-believers and are not long for this world.

TAKE care thou tampereth not with interlocks and safety devices, for this will incur the wrath of thy seniors and bringeth the fury of the safety officer down about thy head and shoulders.

WORK thou not on energized equipment, for if thou doeth, they buddies surely will be buying beers for thy widow and consoling her in other ways not generally acceptable to thee.

VERILY, verily I say unto thee, never service high-voltage equipment alone, for electric cooking is a slothful process, and thou might sizzle in thy own fat for hours before thy Maker sees fit to drag thee into His fold.

See Q R Z page 4