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Volume 18
May 1992
Number 207

Oklahoma City Autopatch Association

Howdy! This is NJ1V. WHEW!! I get a little break this month, with contributions from Mac K2GKK, and Chuck K5NK. TNX guys!

(The following from K5NK):

Many moons ago I would occasionally have articles in the C&E, some not so good and others fairly good, and now and then a real doozie. Our good editor, John NJ1V, has been after me for some time to spell him and I have run out of excuses for not submitting something for him. So, good or bad, here comes something!

Now I don't intend to take his place as the club editor at this time, for I feel he has done an outstanding job. How about those articles he has been having? Wonderful, aren't they? Newsy, interesting to read, and well written. Wonder where he got his training?

It takes alot of time and patience to come up with something that you think might be of interest to not only members of the club, but to others, especially those who might be thinking about joining our club. I have sat in front of the computer for hours sometimes trying to think of something to write. And, at other times, I have had an idea hit me while motoring down the highway.

Guess who has finally made a couple of entries in the log while making contacts on packet? With the help of some friends, I finally have the packet station working. I would like to personally give a big thank you to Jim KA5PSF for lending me a computer to hook the KAM to and see what this was all about.

And Lee N5KXI and Hank WA5JRH have been very patient with me and given me alot of instruction and help in configuring the KAM so it will work properly. I have spent several hours watching the tube to see what goes on with this medium. The biggest portion is still Greek to me, but I keep my nose in the manuals, so perhaps one of these days I will get up enough nerve and try to connect with Mac! Kinda reminds me of the day I got my Novice ticket and trying to get my nerves settled down enough to hit that key and make the first contact.

Now I need to figure out a way to put up an outside antenna so I will put out a more potent signal. Antennas in the attic lack a little something! After seeing that there might be some merit to this sort of communication, I made a visit to see my friend Roger Kissner, AA5ER, who just happens to work at one of the local establishments that sells computers and had him design a machine for me with a few bells and whistles, so I could return Jim's to him. The first time I met Roger was when he lived in Cordell, and he tried to run me off the highway. He was a little kinder this time!

The last time I heard Mac say, we now have almost three hundred members in the club. I can remember years ago that most folks who had gotten their tickets wound up on another repeater in town, but now it seems they are all migrating to the .82 machine. That's fine, for the more members we have, the more funds we have to improve the club repeaters. Most of our members are fine folks and we should feel fortunate to have them.

Even though they are fine folks, some do deserve to be picked on now and then, and I know of no better place to do the picking than in the C&E. [Listened to the repeater lately, Chuck?.....nj1v]. The following was meant to be in the April issue, but John failed to goad me enough and I just never got around to submitting it. So, rather than wait until April 1993, just pretend that this is April 1992.

Was that B.R. WA5BQX the cops kept trying to arrest a few weeks ago for being a jail escapee? Bob Robert has been known to wear bright orange colored overalls similar to inmates. B.R. owns a business where he attempts to keep the world level, but rumor has it that he has a sideline, that being a facility to recycle toilet paper. If this business booms and with extra money he will have since it is no longer a long distance call from his QTH to the city, maybe B.R. will have enough to finance his campaign!

Congratulations to Baron N5PQK, for passing his Extra Class. He is now learning how to copy the code in his head, and once he gets that conquered, he plans on mastering the art of copying packet and RTTY in his head. The first thing he is going to need to learn is how to wear his cap on that head!

I heard someone say that Tom N5TCG was moving to California. It seems no one can find a replacement for Jim Backus to do the Mr. Magoo cartoons, and Tom feels he has the laugh for the job. Several other folks do too! Did you ever know anyone who had so many friends as Tom? I guess he is like the fellow who said that he never met a man he didn't like.

After making such a terrible showing at last year's golf tournament, talk is going around that Mike N5VTT is now taking lessons at a local club. One thing about his game, he gets more for his money than anyone else for he gets to hit the ball more! Anyone ever notice what Mike's favorite word is?

With the oil industry being on the down side, we have enjoyed having Lee N5KXI in town more than usual. Lee has decided that not working is alot more enjoyable and is looking forward to the day his wife finishes nursing school so he can put her to work full time and he can retire permanently. Sounds good to me! He can then spend more time at the Candy Store and on the golf course with Hank. [If we want to put Lee back into a busy work schedule, just remember to pour a little gasoline on the ground every time you fill up! Hank will like that too!.....nj1v].

Did you hear that John N5SAM has a sideline other than herding that eighteen wheeler around all day? He finally decided that truck farming wasn't very profitable, so he dug up his garden and planted a building on

Continued page 2

the site. Now he is raising baby buildings to sell!

Ruthie N5RJM is having a terrible time raising her rabbits, so she has decided to try her luck at raising dawgs! Heard her fighting the traffic across town to get that little gal fixed up. Hank has a dog, but I don't think it would have done her any good.

Now a little more on the serious side. I was visiting with Ron KE5M a couple of weeks ago about a new business he is starting which he feels will turn into a gold mine. We read advertisements about all types of antennas and how much gain they have, such as 7db. Well, Ron has never heard of any brand of coax that has a gain, so with the help of some engineers at one of the local television stations, he is developing a coax that will have a gain rather than a loss. As you know, most coax has a tremendous loss at certain frequencies if more than a few inches is used. The first type he is working on will have various ranges of db gains, depending on which band the coax is used on. Presently the coax can show gains ranging from 3.5 to 4.0, 7.0 to 7.3, 14.0 to 14.35, 21.0 to 21.45, and 28.0 to 28.1. It will come in regular 50 ohm coax or hardline, which ever is desired. He plans to later develop the same type of coax for vhf. He as applied for a patent and plans to start marketing his product in the fall.

Enough for this month. Perhaps more next time if John will let me and I don't get run out of town by those who appear in this article. 73.....K5NK

[By the way, for anyone that might be interested, Chuck also has a bridge for sale! TNX Chuck...nj1v].

Technical Tips

From Mac K2GKK:

<u>Beacon Use and Interval</u>

Beaconing on a busy packet frequency (BBS or not) adds to the overall level of clutter on the frequency and reduces the effectiveness of ALL use of that frequency.

Basically, the decision whether to beacon should be based upon whether there is a VALID reason to beacon

A BBS puts out a "MAIL" beacon periodically to list the addressees that have mail waiting. This feature is included in the software used to run the BBS. The software allows the SysOp to set the periodic beacon interval as desired.

Some BBS software causes the MAIL beacon to be sent whenever a user signs off from the BBS. The SysOp may not be able to disable this feature, even when desired. The BBS SysOp also may post "pointer" bulletins so that the MAIL beacon announces to users (especially NEW users) what special categories of bulletins may be found on that BBS. If the user is interested in any of these types of bulletins, all he/she has to do to find them is to issue the "L> ----" command where the ---- is the category shown in the MAIL beacon.

It is also considered proper for DEDICATED digipeaters and nodes to beacon to announce their existence for the benefit of users. However, even these should beacon no more frequently than every 30 minutes. It is even more appropriate (at least for those that have been operational for awhile) to set the beacon interval at the longest possible time.

It is generally held that individual stations should not beacon at all on any frequency which can be considered a "forwarding" frequency. Beaconing on a LOCAL rag-chewing frequency without digipeaters and nodes would at least limit interference to the local area.

If you MUST continue to beacon from your home station, PLEASE set your BEACON INTERVAL to its MAXIMUM possible value to improve spectrum efficiency.

73 de Mac, K2GKK
Alt SysOp @
WA5BQX.#OKC.OK.USA.NOAM
SysOp @
K2GKK-5 (GKK5) Digi &
K2GKK-4 Mailbox
[TNX for the packet tip Mac.....nj1v].

Other OCAPA News

On Thursday evening, April 16, we experienced our first big taste of severe weather, and the Weather Net was activated. Leonard W5MEL did a superb job as Net Control, and Tom WA9AFM was "Radar" at the Channel 9 facilities. And of course the mobile teams were marvelous, being directed into position with the help of "Radar" and direction from Net Control. It is quite an operation for those of you that have never listened. It was obvious to listeners that some of the mobile crew were alot closer to certain aspects of Oklahoma weather than they had ever been..especially lightening! I overheard one such comment from Scott N1IRB - "WOW - Instant daylight!" - in a somewhat meeker tone of voice than his usual! Don't blame you Scott!

Nice Job guys, and Leonard, don't let them get too close to that stuff!.

- -

Just some quick comments about the April meeting, from which I just returned home:

- -

We had a great turn out for the meeting, with approximately 85 members, their families, friends, and guests! TNX to all that attended.

Please come regularly, meet your fellow club members, and help your club become the best club in 5 land!

- -

Our raffle was a tremendous success! The grand prize winner was Mike N5VIT, who walked away with a brand new Alinco DR-112 2M mobile rig. CONGRATS Mike! Looks like you have a great packet rig now!

Your club did well financially from the raffle. We collected $445 from ticket sales, and the cost of the radio was $297, leaving the club treasury $148 to the good! Thank you everyone who participated. We will start another raffle soon. And don't forget to donate any items that you feel may be good candidates for future raffles.

- -

The OKDXA KC6 DXpedition was presented at the meeting, and seemed to be very well received. Members of the group present were KC6SS (WV5S) Jim Hood and his wife Karen, KC6OK (N5OK) Coy Day and his wife Judy, KC6OO (KB5BOB) Craig Wright, KC6MM (N5RJM) Ruthie and KC6VV (NJ1V) John Guida. The group presented a slide show of their recent trip to Palau

One of our own OCAPA members was regretfully omitted from the acknowledgments that were given of the great folks that helped make the trip possible. Dr. Charlie Womack K5VYU provided us with drugs (the good kind) and medication to ward

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OKLAHOMA PACKET
RADIO ASSOCIATION

OPRA is now affiliated with CORA. Many thanks to Joe K5JB for including OPRA news in his column up to now. By the way the membership drive still hasn't taken off. Get busy and talk OPRA up. We need the support so we can start to improve the network.

Also thanks to K5JB, N5KXI, and WD0AJG for extra donations to OPRA.

We are looking forward to the Green Country Hamfest in Tulsa on May 23. We will have a packet forum at 10:00 AM and a meeting at 1:00 PM. The subject of the forum will be how to use Net/Rom, ROSE and TEXNET. This should be of particular interest to new packet users.

The state wide network map will be available at Green Country. Hope to see you all there.

There is now an informal get together of packet users on or about 3880 khz on Saturday mornings at 7:00 AM. Regulars are K5JB, W5JDH, WA5JRH, W5ZKK, and WB5HLR.

OPRA has aquired a dozen Johnson PPL radios for use as backbone radios. These units work very well for 9600 bps and are available for $75 each to any member planning to use them to improve the state packet network. Also contact me for special deals on other equipment to be used for network.

Anyone interested in contributing to this column in the C & E please send info to my packet address or OPRA, P.O. Box 20081, Okla. City, Ok. 73156. Anything related to packet will be appreciated. Anyone interested in joining OPRA may also contact me.

73 Hank WA5JRH @ WB5FWE

PLEASE help us keep your information up to date. What time, where, when, who are your officers, editors, and their phone #. Check YOUR entry, it can be changed.

If there appears to be a mistake - check with your club official. We can't do anything about it. Below is a sample label.

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1234 W 49
McCLOUD OK 74851

The "4" means Autopatch Club, 92/01 means he is overdue. The "2" is for postal rates.

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Vol. 18 MAY 1992 No. 207

Edmond Amateur Radio Society — Reaching out to Oklahoma and the World

REPEATER FREQUENCY

147.135/735

Hi, this is Jim N5OHL with a few news items about the Edmond Amateur Radio Society. First , I must take 20 lashings with a wet noddle for leaving out two very important people that helped to work on the St. Patrick's Day parade. Shelby KA5YPE and Dee WD5FHR were on the east side of 7th street staging the Shriner's group. Thanks for your help!

**** QUAD FOR 160 ? ****

A couple of months ago I talked about designing a cubical quad for 160 meters. To make the driven element I will need 529' of wire. Each side will be 132' long with spreaders that are 186'in length. Reflector element will be slightly larger. For the boom I will need something that is 62' long. Does anyone know of a way to splice together two telephone poles? Now, where did I put that QST article on loading coils?

*** LAWTON HAM-FEST ***

A small group of us went to the Lawton Hamfest April 11th. It was my third year in a row. We had two tables filled with lots a great radio stuff that we just hated to part with , and with the notable exception of Alton KB5LIC, we managed to sell more than we bought. Alton had his eye on a new dual-band unit from Ok Comm. Lee KA5WIS picked up a great buy on GE manuals for only a few green stamps. It was the only purchase he made. At about noon most hams had left and we were ready to eat some lunch. Emily, my youngest daughter was about to starve (like the rest of us) for some great home-style cooking that I promised, but we had to wait for you-know-who to strike a deal on the rig. Anyway,lunch was super-fantastic at Calico's Corner.

*** DINNER MEETING ***

By the time you read this we will have already had our April Dinner Meeting. If you missed this one, our next dinner meeting will be at Field Day on June 27th. Hope to see you there!

*** HOW'S DX? ***

I have talked with several hams that have confirmed DX contacts with over 300 countries. I like to chase DX, but I often wondered at what I would do if I actually worked all the DX possible on the DXCC list (currently there are 323). Two guys I know are only waiting for the card from XY - Myanmar(Burma) to have all of them. Well, my next step would be to see if I could work all DX on all 5 bands. That would certainly keep the old tubes warm in my rig. After that was complete, it would be nice to have all DX countries on CW only - 5 band of course! Then if that was not enough, turn down the power and work them all over again QRP! And if I lived long enough to do all of this DXing, I could do it all over again from a mobile rig! Then if I was still not satisfied, I might try to work all DX countries making contacts with only YL's. Maybe if I did all of this, perhaps it would be time to set back and take it easy! It might be time to try out a long yagi on two meters just to see how far it could go.

**** NEXT MEETING ****

Our next club business meeting will be on May 17th at 2 PM at St. John's Church. Field Day plans will be one of our main topics so please be sure to try attend. We have had more than 80 percent re-new their club dues. That's great. However, if you have not paid by now this will probably be your last C&E issue because the club must take you off of the roster. Next board meeting will be on May 13th at the EOC. 73 and CUL Jim N5OHL

Teacher: Why are you late?
Sam: I was dreaming about football.
Teacher: Why would that make you late?
Sam: The game was tied at the end of the fourth quarter, so it went into overtime.

Diner: Do you have crepes Suzette?
Waiter: No, sir, and my name is Ralph.

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CIMARRON

The March meeting of the Cimarron Amateur Radio Association was held at the Playhouse, 827 South 13th in Fairview OK on March 12, 1992.

Those in attendance were: Ray AB5Z, who called the meeting to order Curt N5RHO, Denny WK5V, Terry N5MLT, Ruth WX5Y, Nadine N5FMH, Edith N5XYH, John N5WVU, and a visitor, Kenneth Monahan.

Curt has the antenna he purchased erected, with a new antenna on top of it. No one should have any problems hearing N5RHO from now on.

Plans for an antenna party for Ruth have been put on hold until she returns from her visit to California.

We then watched a video on "Ham Procedures", it was interesting and a good refresher. Thanks Denny!!!

The next meeting will be at the Playhouse. Be there or be square.

Be there or be square!!!!!

73 N5WVU

Terry: Why is that dog chasing his tail?
Jerry: I guess he's trying to make ends meet.

Dad: Sam, your report card says you were last in a class of 20. That's disgraceful!
Sam: Well, it could have been worse. There could have been more kids in the class.

MORE OCAPA

off tropical ailments as well as air and sea sickness!. Thanks Dr. Charlie for your help!

Well I guess that's it for now. I hope to be bringing you some news from the Dayton Hamfest in next month's newsletter!

73 de NJ1V ....."victor"

MEMBERSHIP UPDATE

The Oklahoma City Autopatch Association welcomes our NEW members who are listed below:

CALL	NAME	QTH
KG 5 OE	Bob	Okla City
N 5 TAL	Gerald	Okla City
N 5 TYO	Kevin	Okla City
N 5 XJL	Jay	Mdwst City
N 5 ZZN	Mary	Okla City

We regret the failure to renew by the following:

N 6 CL — N 5 MPS
WA 5 RAQ — KI 5 VH

The April 12 meeting was held on the caravan enroute to Mooreland. There were 14 present going up. Some of the members went up on Saturday. Meeting was called to order by our president, Leo WZ5H

Every one seemed to have a good time and a very good dinner. During the meeting there were not too many decisions to be made. The next meeting will be as covered dish dinner at Red Rock Canyon, south of Hinton. Anyone is welcome. K5GBN Johnny reminded the club that the regular meeting date would fall on Mothers Day. A motion was made and seconded that we move the meeting to the 3rd of May to observe Mothers Day. Motion carried. When the president asked for as volunteer to be net control for the next month, WA5PFK said he would control the net.Back ups will be K5LLX Ray and N5IKN.

WZ5H Leo reported on his Novice School. I can't name all who have passed and are awaiting their Novice license and call letters. So I will not try to name them this time. I couldn"t drive and take notes.We congratulate all of them. I think two or so passed their 13 word code. Leo has had quite a busy schedule teaching mixed classes each week. He is starting another class soon for Technician and I think possibly for upgrade to General. He is making quite a contribution to Amateur Radio and to the radio club. We congratulate you!

With no committee reports the meeting closed. Then it was back to rag chewing.

For some months the birthdays of the club members have been turned in to the Watonga radio station, KIMY 93.5 FM on your radio dial. They are announced approximately 6:30, 7:05,and around 8:00 am. From 6:00 to 7:00 am is the MAN MOUNTAIN and SIDE KICK RON hour. They give the menus for Calumet, Okarche, Kingfisher, Thomas and Watonga. They announce all of the school activities and non profit organizations in the listening area if they will turn them in. It was surprising the number of people in the listening area who do not ever listen to MY93. Perhaps it was unknown.

The latest on the clubs sick: WA5A-Carl is working, but gets tired at the end of the day, and goes to bed early. Missing the Net, I haven't talked to him for a while. K5VRL Jim of Bethany had six by passes, is home and on the radio, says he is feeling fine. N5EMD Virginia has had bypass surgery and the veins on her neck cleaned out. It took two major operations. It took two major operations. She said that the second was real hard on her. She is home and improving, but slowly. She is not on the air now, she has no antenna up. N5KQU Alvin has had tests run for him lately. I don't know what the results are. We wish all of them a quick recovery.

New members and visitors are welcome. If you wish to join the Wheatstraw club contact WA5FLT, Joe Garland, PO Box 176, Calumet OK 73014. Or better yet, come to a meeting, you might like us.

From the W5YI Newsletter: The FCC is shifting focus to causes of RFI and TVI. Due to reductions of spending the complaints, on the individual basis, will be more difficult to obtain. On the other hand the FCC is apparently raising its expectations of industry to manufacture products that are more immune to interference. "Rather than investigating individual cases of interferences to home alliances, the FCC is redirecting its resources to appliance manufacturers, exploring future regulatory action, and taking steps to reduce the likelyhood that interference will occur in the first place" according to FCC Baltimore EIC Robert Mroz, in a standard letter sent to RFI complaints.

It is my personal opinion that if the FCC has had a reduction of $7 million from the commissions FY 92 appropriation request passed by Congress after the fiscal year started, a lot of time and money has been wasted trying to solve home electronic devices. Instead I feel that their standards should have been set/enforced to the manufacturer.

The W5YI report shows that while code free hamming had an effective date of Feb. 14, 1991 the first codeless Technician ticket was not issued until March 12, 1991. The year following has produced the greatest inflow of hams into the Amateur Radio Service in history. An increase of some 73%. There were nearly 47,000 newcomers to ham radio in the year ending February 1992 versus about 27,000 for the year ending February 1991.

The FCC is cracking down on private radio user violations. Donald W. Bishop N0EA (Amateur Extra Class) of Overland KS was fined $10,000 for illegal pirate radio operation.

I raed a story of a family who homesteaded in Western Montana. The daughter who wrote the story said they all wore cut down clothes, handed down from their mother and an aunt. She said that the girls all looked like miniature versions of the older people.

She wrote a recipe (PAPA'S HOMESTEAD CAKE): 1 cup sugar, 1 cup raisins, 1 cup hot water, 1/2 cup shortening, 2 heaping tablespoons cocoa, 1 teaspoon cinnamon,1/2 teaspoon nutmeg, 1/2 teaspoon allspice, 1/4 teaspoon ginger. Boil above ingredients 3 minutes and cool. Add 1 scant teaspoon soda mixed with a little hot water. Beat 2 eggs and add. Sift together 1 1/2 cups of sifted flour and 1/2 teaspoon salt and add. Fold in 1 cup of chopped walnuts. Pour into a greased 9"x9" pan and bake at 350 degrees for 35-45 minutes or until done. I may get Goldie to try this recipe some time.

73 Ralph

The South Canadian Amateur Radio Society

SCARS met at the usual place at the usual time (Cleveland County Chapter of the Red Cross, 2nd Saturday of the month) to the surprise of some. W5UZD made a cameo appearance before the gavel fell at 14:28 UTC to call us to order. President KI5TP, Don, called us to order with introductions. There were 32 members and guests present at the meeting.

The President gave us a report about the Aeronautical Center club's Novice class and it did sound like a good class. In old business, WB5ULK, Gary, gave a report on the SCARS Novice/Tech class. Attendance has been averaging 14 with ages ranging from 10 to 68. All in all a good class. NI8W, Steve, requested more volunteers for the 89er Stage Race (bicycle races) to be held in Norman on May 2 and 3. Volunteers, especially those with pick-ups and mini-vans equipped with mobile rigs, are needed and if you can help, Steve can be reached on .06 or through autodial 57. N5UMH, Bill, asked about the status of the in-town link equipment and N5KUK, Ken, told us that things were mostly ready except that the ider for the link needs to be integrated into the system, and this was proving to be a non-simple task. In the midst of this, Treasurer, N5LCL, David, appeared and gave us the report. We do have money and we voted to pay the bill for the repair of the main site amplifier (we were going to pay it anyway, but this made it official -- WB5ULK).

In new business, the chair mentioned that Field Day is just around the corner, June 27-28. New rules are in effect for reserving pavilions at Reeves Park. The pavilion must be reserved through the Parks office rather than just showing up and sitting on it. The chair said that he would reserve it for us. After a brief review of last year's weather-induced fiasco, we moved on to other business. N5SAL gave us a 7 day-in-advance forecast for the coming weekend. He noted that he beat the 'other' (read 'Media') forecasters with his week-in-advance forecast (this is being prepared after the said weekend, and he was RIGHT. Chalk another one up for the NWS -- WB5ULK).

There being no further business, a 1948 vintage Navy receiver was raffled off to N5FIH. Several suggestions on how to get it into the house past the wife were given. Door stop, traction weight for car, etc., but we were told that it actually works -- mostly. As a last gasp, questions were asked as to whether anyone had received a flyer about HAMCOM in Arlington. The only response was from W5MCN who had received his and already reserved his flea market table (not one, but four (4) HAMCOM flyers came in the mail late the next week -- WB5ULK).

There being no further business, the chair entertained a motion that we adjourn at 14:51 UTC. de WB5ULK

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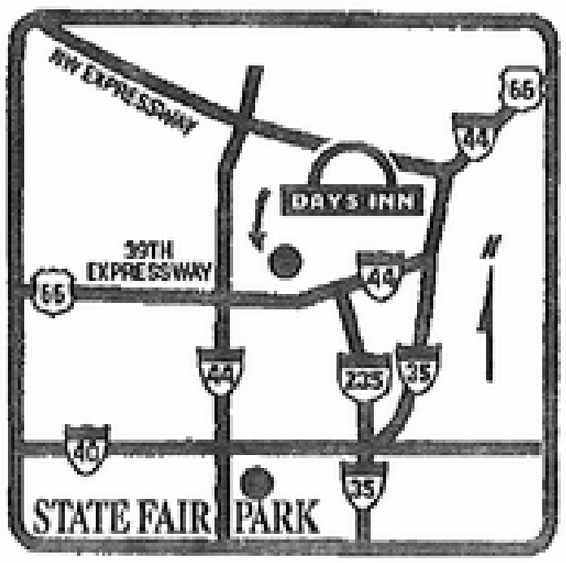

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CITY, STATE _____ ZIP _____

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Reserve ____	FLEA MARKET TABLES		@ $5.00 ea.	$ _____
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W5LOW
Elmer Goekler Memorial Station

Minutes of April Meeting

Meeting was called to order at 12:00 p.m. by President Jack, WB5ZKZ, with 14 members present. Treasurer Ellard, W5KE, was absent so there was no report. The Secretary read the minutes from the last meeting and they were accepted, in spite of their frivolity.

There was no old business, and no pressing new business, except to award the Turkey of the Month award to Sweet Old Bill, WA5FWD. (See you at the gate Thursday Bill; note that I didn't vote for you on this one!) Meeting adjourned at 12:06 so Bob, W5HXL, could show a video tape of the Blue Ridge and Smokey Mountains. (Like that music!) Joe, K5JB, Sec'y

Painless Packet Monitoring

One of the most difficult things to do on packet radio without special software is to monitor what is going on and extract interesting things from all the packet traffic that goes on. Since I started in packet radio at the beginning, I developed the habit of monitoring what was going on and as my interests changed I changed my methods of monitoring. When the AX.25 Statistics program became available for analyzing packet performance I adapted it to filter uninteresting things out of the packets I received and leave only the keyboarded stuff. I called my modification to STATS, MON, for monitor.

MON uses the KISS mode from the TNC so it can tell more about the packet than is normally yielded from the usual TNC's DISP command. Specifically it can recognize different kind of Netrom, TCP/IP and ROSE frames and extract useful information from them. The Netrom capability was already in STATS, as was the structure needed to identify most duplicate frames. The most annoying thing about monitoring packets is trying to keep up with the thread of a conversation when all the frames are received multiple times. I added the TCP/IP frames to enable diagnosis during the early days when TCP/IP was buggy as Maine in June.

I also made a stripped down version of MON that could get sufficient information from DISP presentation from normal TNCs but there was no interest in it so I discontinued that project. The MON program lives on, running continuously at my house.

Recently, with the addition of ROSE to the networking bag of gadgets, MON needed an update so I went over the program in the last couple of weeks to add some better ROSE information extraction features and do some general program cleanup.

With that done, I thought I would capture some of the screens and share them with you in case you are interested. Figure 1 shows a table that is displayed on command. It shows the last fifty circuits registered by MON. In looking for duplicates, MON checks to see if a circuit pair is in the table, and then checks if a frame with this same number has been heard before. If so, it is flagged as a dupe. At the bottom of the display is an abbreviated table of statistics. In this context, LIDS is not a "Poor operator", but a call that matches one I put in a "Lid List", a list of undesirable calls that I don't want to monitor, like "BEACON", or "ID".

There are a number of switches (shown in Figure 2) that I can throw to mark which kinds of packets I want to monitor. I normally disable duplicates, supervisory frames, Netrom frames, etc. With one command, I can turn all these on if I am really curious about what is happening (or bored!)

```
Current circuits (from>to):

Most recent heard-->KI5OM     >BEACON     WB5GCL    >WB5RZX     WB5RZX    >WB5GCL
K6VPE     >CQ         N5TWF     >AA5WJ     AA5WJ     >N5TWF      KC4HH-15  >ELRCHT
N5TMH     >WB5RZX     WB5RZX    >N5TMH     WB5NBA-1  >NODES      WB5CQU-5  >N0ELS-5
WB5NBA-1  >ID         N5BEV     >BEACON    N5KUE-2   >EDMEOC     AC5C      >N5UTF
N5UTF     >AC5C       W5YJ-1    >NODES     WD5HJL-1  >W5YJ-1     W5YJ-1    >KD5FX-10
W5YJ-1    >WD5HJL-1   KD5FX-10  >WA0JBW-1  KD5FX-10  >W5YJ-1     WD5HJL-1  >WB5FBU-1
N0ELS-5   >WB5CQU-5   AD1S      >KD5FX     <--newest circuit     N5PLV     >BENNIE
N5OWK-1   >W5GFE      W5GFE     >N5OWK-1   N0ELS-5   >K5JB-5     K5JB-5    >N0ELS-5
WJ5Y      >RON        WB5IEK    >BEACON    WB5IEK    >N0OSV-15   WJ5Y-5    >WB5CQU-5
WB5RZX    >MAIL       AC5C      >OKC       OKC       >AC5C       KB5JHW-15>OKC
OKC       >KB5JHW-15  AC5C-15   >ELRO7     WD5HJL-1  >NODES      N0ELS-5   >AC5C-5
AC5C-5    >N0ELS-5    AC5C      >N5NYY     N5NYY     >AC5C       N0ELS     >AC5C
AC5C      >N0ELS      WD5HJL-1  >ID        K5JB-5    >N0ELS-3    N0ELS-3   >K5JB-5

Elapsed time since zeroing stats is 44 hours, 46 min, 10 sec
Total:    15032, Keepers:      663 ( 4%)
Dupes:     7626 (50%)
  N/R:     2251 (14%)
 Rose:     1382 ( 9%)
 Lids:     3881 (25%)
```

Figure 1. Circuit Display

```
MON:?
Commands are:
ALLFLIP   BASE      BAUD      BUFCHG    CKSUM     DUPE      EDLID     EXIT
HELP      INETROM   IROSE     ISIZE     IMAX      KGOLD     LID       LOGNAME
MASK      MEMORY    NETROM    NRCONN    NRNODE    PEEKLOG   PORT      QUIT
ROSE      ROSEIP    SCREEN    SPECIAL   SPECCHG   STATS     SUPV      TCP/IP
TCPDIAG   TIME      TOTEST    TYPES     VIEW      WRITE     -CLRBUF   XMIT
```

Figure 2. MON Command List

I won't go through the whole command list, but most of them have to do with selection of the packets I want to see. ALLFLIP toggles about six of the options at once so I can see all kinds of frames. An interesting recent addition is the KGOLD command which I added when I discovered that the new KaGold program used with Kantronics TNCs had spurious nulls in its information frames. I clean up these nulls so they don't spoil files containing them. Another addition was the IROSE and INETROM commands which cause MON to extract and display information contained in ROSE and Netrom frames without displaying all frames from those sources.

```
K5JB-5>N0ELS-5{i,S3,R6,c(60)}
ROSE: {10 01 0b(57)}{aa3100405771 3100405732}

N0ELS-5>K5JB-5{i,S6,R4,c,dupe(5)}
ROSE: {10 01 0f(2)}{0000}

N0ELS-5>K5JB-5{i,S7,R4,c(69)}
ROSE: {10 01 00(66)}
ROSE Switch 911130 - W2VY.
Maybe hit RTN if nothing's happening.

K5JB-5>N0ELS-5{i,S4,R0,c,dupe(3)}
ROSE: {10 01 21(0)}

N0ELS-5>K5JB-5{rr,R5,c}

K5JB-5>N0ELS-5{i,S5,R0,c(4)}
ROSE: {10 01 20(1)}
(This  contained my carriage return)

N0ELS-5>K5JB-5{i,S0,R6,c(123)}
ROSE: {10 01 22(120)}

User List for N0ELS-5   3100405771
Memory Size is:  27788 Bytes
Memory Used is:  19350 Bytes
EPROM Checksum: BEh

N0ELS-5>K5JB-5{i,S1,R6,c(259)}
ROSE: {10 01 24(256)}
AC5C-5     X.25 Trunk (R1) with no connections.
WB5CQU-5   X.25 Trunk (R1) with no connections.
K5JB-5     X.25 Trunk (R1) with the following connections:
K5JB-11    @ 3100405732 (1 P4 D1) --> USERS @ 3100405771
K5JB-5     X.25 Trunk (R1) with no

N0ELS-5>K5JB-5{i,S2,R6,c(132)}
ROSE: {10 01 26(129)}
 connections.

There are no calls Pending.

The Following X.25 Trunks are listed as Out of Order:
<None> - All Links Operational

K5JB-5>N0ELS-5{i,S6,R1,c(3)}
ROSE: {10 01 41(0)}

N0ELS-5>K5JB-5{i,S3,R6,c,dupe(3)}
ROSE: {10 01 21(0)}

K5JB-5>N0ELS-5{rr,R4,c,p}

N0ELS-5>K5JB-5{rr,R7,r,f}

K5JB-5>N0ELS-5{i,S7,R4,c,dupe(3)}
ROSE: {10 01 81(0)}

N0ELS-5>K5JB-5{rr,R0,c}
```

Figure 3. Exchange between ROSE switches

Figure 3. is a sample exchange between two ROSE switches. I used the K5JB-5 ROSE switch to ask the N0ELS-5 ROSE switch who was using it. The first two frames deal with setting up the circuit between K5JB-11 at 405732 and USERS at 405771. The "3100" is in all ROSE addresses though you normally don't see it. It represents the USA.

One thing I discovered while working out the ROSE information frame extraction was that the ROSE code is cavalier with the AX.25 specification. It has 4 octets (bytes) in its protocol identifier field, or 3 octets between its PID and the information field, whichever way you want to describe it. I was surprised to see 259 byte information frames from ROSE, when the AX.25 specification calls for a maximum of 256. Whatever, it seems to work and who cares about protocol anyway?

I made this discovery when I used MON to diagnose some possible problems with my TCP/IP scheme where I trap frames from suspected IP stations using ROSE and restore the correct protocol identifier. I was concerned that fragmentation of the frames to fit the 256 byte limit could be a problem so I ran tests using MON to examine transmitted frames and determine that the IP program could successfully restore fragmented frames.

On the next page, Figure 4 shows what a Netrom nodes broadcast contains. This is part of the original STATS program and I retained it as a rather nice thing to have.

Also on the next page, in Figure 5, are some frames that represent an exchange between Netrom stations. (I deleted some WD5HJL-1 RR frames to save space.) Normally Netrom frames are ignored but if I am interested in what is going on in the Netrom world I can make some sense out of the inter-node traffic I hear.

The Netrom connect frame is the only one that contains the call of the original station making the connection. I have one switch set up to enable watching Netrom connect frames in case I am curious about who might be initiating Netrom traffic. Notice that in this case, NF0A-12 was initiating a connect with WB5FWE and got a busy response so the circuit was disconnected.

Even though some of the frames are marked as duplicates, they weren't. There is a simple test I added to handle the conference bridges that make many

(continued after next page)

```
W5YJ-1>NODES{ui,c(238)}
Routing table broadcast from OSU
#HOHUM:WB5FWE-4 v WD5HJL-1 quality: 157
#IPFWE:WB5FWE-10 v WD5HJL-1 quality: 157
#IPJB :K5JB-10 v WD5HJL-1 quality: 167
#NORM :WB5FWE-3 v WD5HJL-1 quality: 167
#OKC2 :WD5HJL-2 v WD5HJL-1 quality: 191
4E0014:KB0QJ-10 v WD5HJL-1 quality: 167
ARFYV :W5XH-1 v KD5FX-10 quality: 60
BVL   :N5JST-1 v KD5FX-10 quality: 143
FSM   :W5ANR-1 v KD5FX-10 quality: 80
KSARK :WA0JBW-1 v KD5FX-10 quality: 146
KSCEN :KZ0P-1 v KD5FX-10 quality: 91
```

```
W5YJ-1>NODES{ui,c(175)}
Routing table broadcast from OSU
KSMRG :N0MRZ-1 v KD5FX-10 quality: 68
KSWCH :KZ0P-3 v KD5FX-10 quality: 92
OKC   :WD5HJL-1 v WD5HJL-1 quality: 192
OU05  :WB5FWE-1 v WD5HJL-1 quality: 167
OU09  :WB5FWE-2 v WD5HJL-1 quality: 167
PNCDX :KD5FX-11 v KD5FX-10 quality: 191
PONCA :KD5FX-10 v KD5FX-10 quality: 192
TUL   :WA5LVT v KD5FX-10 quality: 107
```

Figure 4. A NODES Broadcast
(Two frames displayed side by side)

```
W5YJ-1>WD5HJL-1{i,S4,R4,c(35)}
{netrom>KD5FX-10>WB5FWE-1, ttl:31, cndx:1, cid:199, tx:0, rx:0, Conn, win:4}
user:WF0A-12 node:KD5FX-10

WD5HJL-1>W5YJ-1{i,S4,R5,c(21)}
{netrom>WB5FWE-1>KD5FX-10, ttl:61, cndx:1, cid:199, tx:0, rx:65, Conack, win:4}

W5YJ-1>KD5FX-10{i,S0,R1,c,dupe(21)}
{netrom>WB5FWE-1>KD5FX-10, ttl:60, cndx:1, cid:199, tx:0, rx:65, Conack, win:4}

W5YJ-1>WD5HJL-1{rr,R5,r}

W5YJ-1>WD5HJL-1{i,S5,R5,c(29)}
{netrom>KD5FX-10>WB5FWE-1, ttl:31, cndx:0, cid:65, tx:0, rx:0, iframe}
C WB5FWE

W5YJ-1>KD5FX-10{rr,R2,r}

WD5HJL-1>W5YJ-1{i,S5,R6,c,dupe(20)}
{netrom>WB5FWE-1>KD5FX-10, ttl:61, cndx:1, cid:199, tx:0, rx:1, iack}

W5YJ-1>KD5FX-10{i,S1,R2,c,dupe(20)}
{netrom>WB5FWE-1>KD5FX-10, ttl:60, cndx:1, cid:199, tx:0, rx:1, iack}

W5YJ-1>WD5HJL-1{rr,R6,r}

WD5HJL-1>W5YJ-1{i,S6,R6,c(52)}
{netrom>WB5FWE-1>KD5FX-10, ttl:61, cndx:1, cid:199, tx:0, rx:1, iframe}
OU05:WB5FWE-1} Busy from WB5FWE

W5YJ-1>KD5FX-10{i,S2,R2,c,dupe(52)}
{netrom>WB5FWE-1>KD5FX-10, ttl:60, cndx:1, cid:199, tx:0, rx:1, iframe}
OU05:WB5FWE-1} Busy from WB5FWE

W5YJ-1>WD5HJL-1{rr,R7,r}

W5YJ-1>WD5HJL-1{i,S6,R7,c,dupe(20)}
{netrom>KD5FX-10>WB5FWE-1, ttl:31, cndx:0, cid:65, tx:0, rx:1, iack}

W5YJ-1>KD5FX-10{rr,R3,r}

W5YJ-1>WD5HJL-1{i,S7,R7,c,dupe(20)}
{netrom>KD5FX-10>WB5FWE-1, ttl:31, cndx:0, cid:65, tx:0, rx:0, Discon}

W5YJ-1>KD5FX-10{rr,R4,r}

WD5HJL-1>W5YJ-1{rr,R0,r}

WD5HJL-1>W5YJ-1{i,S7,R0,c,dupe(20)}
{netrom>WB5FWE-1>KD5FX-10, ttl:61, cndx:1, cid:199, tx:0, rx:0, Disack}

W5YJ-1>KD5FX-10{i,S3,R4,c,dupe(20)}
{netrom>WB5FWE-1>KD5FX-10, ttl:60, cndx:1, cid:199, tx:0, rx:0, Disack}
```

Figure 5. A Netrom Exchange

duplicate packets. If any of the seven prior information frames received have the same checksum as the current frame, it is flagged as a dupe. This raw checksum test can be disabled with one of the commands.

In summary, it isn't Windows, and it isn't elegant, but it works, and if anyone wants to have a copy of the program I can make it available on the PC here for downloading over the phone, or get to you on a disk. Contact me for details. Joe, K5JB

(The following is from a file prepared by Paul Williamson, KB5MU, containing a Blow-By-Blow account of the 1992 TAPR annual meeting that was held March 7 at Tucson AZ. I got it off of Compuserve's Hamnet. This portion was a paper presented by Bill Henry.)

Clover II

Several articles about Clover II have appeared, and more are on the way. The last two Proceedings of the ARRL Computer Networking Conference had papers by Ray Petit, W7GHM: 1990 about Clover I, and 1991 about Clover II. A July 1990 QEX article featured Clover I. Several articles have appeared in The RTTY Journal. A series in Communications Quarterly and another in QST will lead up to Clover II.

Clover is still experimental - it isn't a product yet. It was invented by Ray Petit a year and a half ago. It was an outgrowth of earlier coherent CW experiments, which used phase coherent detection with very stable oscillators (a few parts in 1e8) and detection bandwidths as narrow as 0.01 Hz. Such equipment can demodulate signals that can't be heard by ear. The early Clover articles in QEX caught Bill Henry's attention, and they teamed up to make a product.

The particulars of Clover II are derived to counteract what the ionosphere does to corrupt a data signal. One basic limitation of HF propagation is signal to noise ratio. Earlier RTTY designs have concentrated mainly on this problem, by optimizing bandwidth and using adaptive AGC or good wideband limiters.

Another difficulty with HF is the existence of multiple propagation paths of different lengths. The differential delays result in selective fading. On voice, this is merely annoying, but on data it is a disaster. Out of phase signals cancel. On FSK, the mark and space tones fade separately (a good RTTY demodulator handles this). What's worse, the bits can get smeared out in time by up to several milliseconds. This is what's wrong with HF packet: 300 baud is too fast. Most experts agree that about 100 to 150 baud is the limit for usual HF conditions. Now and then, conditions are "like a wire" and there's no problem with multipath. Such conditions are quite rare - and that's the only time HF packet works! AMTOR users can tell you that sometimes even 100 baud is too fast.

Clover copes with this problem by using a signaling rate of 31.25 baud. That's pretty slow. To get a reasonable data rate with such a slow baud rate, Clover packs more than one bit in each pulse. Clover uses PSK with two, four, eight, or sixteen distinct phases to encode 1 to 4 bits of information on each pulse. Clover then uses this scheme in a time-staggered scheme with four different carrier tones, resulting in a total bandwidth of 500 Hz, which is a good match for available CW filters. When conditions are good, Clover goes further by adding two-level or four-level amplitude modulation, for even higher maximum data rate, without changing the basic modulation rate of 31.25 Hz.

PSK modulation can be a problem, because its bandwidth is usually very wide. Clover avoids this problem by pulsing the four tones on and off with a very carefully-chosen pulse shape called a Dolph-Chebychev function, and performing the phase changes while the pulse is completely off. The result is that the energy of a four-tone Clover signal is very tightly contained within 500 Hz. With a 60 dB limit imposed by the quantization in the digital-to-analog converter, the Clover transmitter's sidebands are down 50 dB outside the 500 Hz. Two Clover signals can be spaced just 500 Hz apart (edge to edge) with 55 dB rejection.

Graphs of the spectra of Clover, HF packet, and AMTOR show that Clover is a *lot* tighter. The standard rule of thumb says that two AMTOR signals need to be 1 kHz apart, and HF packet signals need 2 kHz. The spectra clearly show why: poor sideband suppression. Clover is effectively much narrower. Not only that, but Clover is faster on real channels. Ignoring the question of 5-bit characters versus 8-bit characters for now, both HF packet and AMTOR have typical real-world throughputs of 5 to 7 characters per second. In tests on the air, Clover typically achieves 50 to 80 characters per second.

Another weakness of HF packet is the error control scheme used. With packet, a long frame of up to 30 seconds is sent, and every single bit in the frame must be received correctly, or it is discarded. Because of this limitation, HF packet operators must run small packet sizes of 32 or 64 characters. This makes the packets short enough to get through (sometimes), but increases the cost of packet headers and waiting between packets. That's how a 300 baud mode gets down to 5 or 7 characters per second. Clover uses a forward error correction technique called Reed-Solomon coding. This technique transmits a few extra bits, and uses the carefully encoded redundancy in the data to correct the received data without requiring a retransmission. For example, a R-S code that is 60% efficient can correct 25 errors in a block of 255 bits. Because the R-S code can correct some errors in each frame, Clover is able to send longer frames without losing too many to errors. Of course, sometimes long frames just don't get through due to fading conditions; in this case Clover can fall back to shorter frame lengths.

As W3IWI has pointed out, HF calls for adaptive modems. Clover is about as adaptive as you could want. There are 8 basic modulation modes to choose from (different numbers of phases and amplitudes for each pulse), times 4 frame lengths, plus 4 different Reed-Solomon codes of varying efficiency and error-correction capability, for a total of 128 different modulations. Every one of those 128 modulations has the same 500 Hz spectrum. The Clover modem also controls the transmitter output power. Obviously, mode and power selection has to be automatic!

The receiver measures the phase, time, and frequency dispersion of the received signal and picks a mode. It sends an order to the transmitter specifying which mode it wants. It can change modes within a second if a short block length is in use. The modes range from 2.3 characters per second to 94 characters per second, theoretical throughput. The field tests have shown a typical range of from 28 to 62 characters per second. Note that the receiver doesn't just move up to higher speeds when conditions are good and down to lower speeds when conditions are bad. It can figure out by listening to the signal what exactly is wrong with the signal and request the mode that best fits current conditions. For instance, if it notes that phase dispersion is bad, it can fall back to a mode with fewer phases. If it notes that it has excess signal to noise ratio, it can command the other station to reduce power. (This can lead to the rather disconcerting situation where the transmitter's meters are not moving, and the receiver's

audio has no audible tones, yet characters are still moving through the link!)

The implementation is DSP, DSP, DSP. The input jack goes to a transformer and a 16-bit A/D converter, and the rest is digital. The A/D converter is a 16-bit sigma-delta oversampling converter like the ones used in digital audio applications. It doesn't need any anti-aliasing filter, and it has lots of dynamic range. It currently costs $20, but should get cheaper. The transmit audio is also a 16 bit oversampling audio component, followed by a simple filter to get rid of the residual 100th harmonic. A Motorola 56001 DSP processor supplies the signal processing horsepower. The original design used a 6809 microprocessor for general control functions, but it ran out of gas. The current prototype now uses a 68EC000 processor at about 30% utilization. The board contains only bootstrap ROMs; the Clover code is downloaded from the PC.

Vic Poor is writing a Clover driver for Aplink. The Clover board has FIFOs on the input and output to relax real-time requirements, which is expected to be especially helpful for PCs running Windows.

Two working prototype Clover boards will be displayed at Dayton. On initial release, the card will do only Clover. If anybody wants to write other modems for the board, the door is open. A more pressing need is a new protocol suitable for HF work. Anybody who writes network code and wants to write drivers for Clover, we can set you up with hardware and provide assistance. The command protocol will be defined by next week.

Question: Isn't frequency accuracy and stability still a problem?
Answer: With the faster CPU, the DSP no longer has to do Reed-Solomon decoding. That means it has enough spare horsepower to do more frequency acquisition and tracking. Clover can now handle frequency errors of up to 40 Hz, which is similar to the guidelines for HF packet.

Question: What about intermodulation distortion in the transmitter?
Answer: Measurements of high-end rigs show very good IMD. A worse problem is broadband noise, which is about 40 dB down. That doesn't seem to hurt, either.

Question: What's the price?
Answer: The introductory price will be $995. This is a lower price than announced before, because it's now a PC plugin board rather than a box. The parts are expensive, even the socket for the DSP chip is expensive. The board is 4 layer.

Question: What is the peak to average power ratio?
Answer: 3 dB for all modes.

Question: Is it legal?
Answer: Yes. It's not multiplex because the four tones are sent serially rather than in parallel. The emission designator is 500HJ2DEN. The Chief Engineer and Chief of Enforcement of the FCC have both agreed verbally that this modulation is legal.

Weather and Profound Knowledge

One of my biggest concerns about technology in our country is lack of understanding of fundamental principles, or "profound knowledge" about science of why things are the way they are. On my way home from work the other day, a local radio talk show had a couple of weather men on as guests.

Unfortunately, the program was flawed when one of the experts answered two technical questions wrong. Now I am not a weather person, but I read the same books that are available to anybody else and I can't believe the mistakes I heard. (On an earlier program similar mistakes were made but they dealt with obscure things, like rime ice, the kind in the freezing compartment of your refrigerator, or the frost on your windshield.)

First correction: Frost and dew form on surfaces because they are colder than the surrounding air. They get colder because they radiate heat to outer space on a clear night. The air in contact with these surfaces is cooled by them and if there is more moisture present than the air can hold at the lower temperature, some of it condenses on the surface, dew if above freezing, frost if below (even if the recorded air temperature is above freezing).

Second correction: Relative humidity is not the ratio between dew point (wet bulb temperature) and air temperature (dry bulb temperature). It is the ratio between moisture content in air and the amount that would be in saturated air at that temperature.

Significance of dew point is that it is the temperature at which air is saturated with moisture. It is measured with a thermometer that has a moist sock over its bulb. If the dew point is close to the dry bulb temperature, there is a good chance of fog and low visibility. (Take the difference between the dew point and dry bulb temperatures, divide by 4.5 and you can estimate the heights of cloud bases in thousands of feet.)

Of springtime interest to us, is what causes thunderstorms. When moisture condenses out of air, it gives off heat energy (called latent heat of vaporization). This heat raises the air temperature which makes it less dense and causes it to rise. If it has the right environment it draws more moist air into its base, condenses more moisture, gives off more energy, and keeps up the cycle until water droplets are too large to remain suspended in the cloud. When they start falling, they drag air down with them and all kind of interesting things start happening. The fundamental principle that makes this "heat engine" work is the energy yield from condensing moisture.

Air flowing into this engine follows a pattern not unlike the pattern you see when water is going down a drain. It follows a curved pattern because of an effect called "Coriolis effect". The Coriolis force is an inertial force caused by the earth's rotation. A mass moving north or south in the northern hemisphere has inertia that makes it want to deflect to the right. (Hint: Think of the equator moving faster to the east than Oklahoma.)

Air flowing into a thunderstorm may want to go to the right, but the air pump in the thunderstorm is going to make it go inward and upward, so when air moves toward the storm the combined inward pressure and Coriolis force push the air in the counter-clockwise spiral you are familiar with. Same process is what causes air to flow counter-clockwise around low pressure centers and clockwise around high pressure centers.

The energy in a thunderstorm is mainly mechanical energy contained in all that air that is moving around. The energy in lightning is insignificant by comparison (even if it does kill more people than at moving air). I wish I had a copy handy of a paper I once read called "A Storm's Incalculable Energy" (I think), written by Dr. Edwin Kessler, the first director of the National Severe Storm Center. It ran through the calculations resulting from condensing a given amount of rain and equated it to equivalent atom bombs! Truly impressive!

Now when your kid asks what makes thunder, don't tell him that it is angels rolling potatoes across heaven. Go to the library and get some profound knowledge. If you don't, you deserve what the EPA does to you.

Now how is the Dayton weather going to be? Joe, K5JB

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MAY					1	2
3 WHEAT STRAW GREAT PLAINS	4	5 M O R I	6	7 AERONAUTICAL CENTER ARC	8	9 SCARS
10 	11 EDMOND CLUB	12 BICENTENNI/ (76ers)ARC	13	14 ALTUS ASSOCIATION CIMMARON ARS	15	16 V H F
17 E A R S	18 VE TESTS 6:00 PM *SALVATION ARMY* 50 & PENN	19 AUTO PATCH	20	21	22	23
24	25 	26 C O R A 7:00 PM *SALVATION ARMY* 50 & PENN	27 Edit C & E	28	29	30

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Why Use a Stone When an Olive Branch Will Do Just Fine

by Joe Lynch, N6CL

The hardest thing that anyone of us as hams or humans can do is walk in the other's shoes.

Some of you are aware of the negative publicity one of the members of our fraternity experienced recently. While it is difficult to keep from forming judgements about the subject, I suggest that it is not impossible to do.

A long time ago there was a story written about a group of men who found a woman doing what they considered "wrong." In their quest to prove their point they took this woman to a very well known leader. To him, they accused this woman of the terrible deeds. They had stones in their hands ready to take her life for what they were accusing her. They felt very sure of their position and stated it with judgement in their voices. They were looking to him for permission to proceed.

As time passed the leader said nothing but began writing something in the sand.

Then an odd thing happened. One by one her accusers dropped the stone in his hand and left her. Finally, she was alone before the leader. Only then did he look up at her. Then he looked around and asked her where were her accusers. The question had an obvious answer.

So, again, he looked at her and told her to go because he could not be one of her accusers.

In effect, the leader was saying to the woman that what was in the past was in the past. It was up to her to pick up the pieces and get on with her life in a positive way.

To those of you who know of the situation that I am referring to, I ask you to keep this story in mind. What is in the past is in the past. Rather than pick up stones with the idea of inflicting more hurt as these men were about to do to the woman, we need to pick up the olive branch and extend it in a way as to say "peace to you, my friend."

A suggested further reading on this subject is the story "An Inside Job at the 5-9 Club Repeater" in the May issue of QST.

Not found in Webster's.
VALOROUS: a large animal that lives in the vater. (Think about this!)