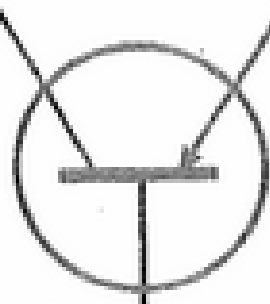


CENTRAL OKLAHOMA RADIO AMATEURS COLLECTOR AND EMITTER



50¢

Volume 9

FEBRUARY 1983

Number 97

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22-82 Severe Weather Warning Net

Oklahoma City Autopatch Association will continue to sponsor the Central Oklahoma Severe Storm Warning Net on the 146.22- 146.82 K5JL/R repeater.

In preparation for the tornado season, it is EXTREMELY IMPORTANT that all radio amateurs interested in participating in an emergency net attend the annual briefing on February 15 at 6:45 at the KWTU Channel 9 Studios on N. Kelley St.

The weather meeting will be hosted as usual by KWTU's chief meteorologist, Gary England, but the briefing this year will be conducted by Ken Crawford and Neil Marchbank of the National Weather Service, with whom we will be working closely.

Besides training in weather observation, there will be important instructions in new operating procedures of the Severe Storm Warning Net.

There have been many improvements made this year in net organization and operation, so don't rely on previous experience. Vital information can be disseminated more efficiently if every net participant is properly trained.

One of the new changes to be announced concerns required use of the coordinates of the new grid map, available at the meeting and at various public places around town. Net discipline will be tighter as severe weather threatens our area. More media centers have been added for better alerting the public.

Even before the net control station (N5IH, AD1S, K2GKK, or K5GL) calls the net to order, the total warning system will already be functioning through monitor stations at our "information center" and at the National Weather Service.

Radar is not the only answer in forecasting a potentially dangerous storm. The vital ingredient is a team of well-trained spotters to accurately observe weather conditions in local areas and report in an orderly manner to a central collection point where all the information is analyzed and acted upon as necessary.

If you decide to volunteer for one of these critical, exciting, and sometimes dangerous team assignments, you must come to the meeting on February 15. Your reward will be the satisfaction that you may have given your community the precious gift of time -- the minutes or seconds of warning that saves lives!



**Of all the
winds that sweep
this planet's
surface, tornadoes
are the
most violent.**

IT'S TIME AGAIN!

Who EVERYONE interested in storm spotting and severe weather net operation/participation

What ANNUAL TRAINING for identifying and reporting threatening weather conditions - accurate terminology, proper procedures, etc.

Where KWTU Channel 9 Studios, 7401 N. Kelley, Oklahoma City

When TUESDAY, February 15, 1983, at 7:00 sharp. Please be there at 6:45

NOTICE
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Time!



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THESE CORA MEMBER CLUBS PROMOTE AMATEUR RADIO

<p>1 AERONAUTICAL CENTER ARC MEETS: 8:00 pm First Friday at Flight Standards Bldg., FAA Aeronautical Center PR K5LDI Tom Mangham 677-5291 VP AF5X Jess McKenzie 329-1543 Se KA5JCX John Mooney 794-8519 Tr K5RJR Larry Vorheis 789-9629 EDITOR: John Mooney, KA5JCX 794-8519</p>	<p>13 KAY COUNTY AMATEUR RADIO CLUB MEETS: 7:00 pm Third Thursday at EOC Ponca City PR WA5UB0 Marsh Pronneke 363-2526 VP WB5NQT Pat Burnham 765-7229 S/T WB5YRN Delbert Foiles 762-4479 EDITOR: Marsh Pronneke, WA5UB0 363-2526</p>
<p>2 OKLAHOMA CENTRAL VHF CLUB MEETS: 9:30 am Third Saturday, Red Cross 10th & Hudson (Backdoor) Okla City. PR WA5HTL Paul Asplin 787-4286 VP KD5IS Jerry Wetmore 524-5080 Se K5JB Joe Buswell 732-0676 Tr W5KE Ellard Foster 789-6702 EDITOR: Joe Buswell, K5JB 732-0676</p>	<p>15 SOUTH CANADIAN AMATEUR RADIO SOCIETY MEETS: 9:30 am Second Saturday, Red Cross Bldg., North Campus, Norman OK PR K5KDR Bill Oliver 329-1311 VP KA5MIZ Bob Rabin 360-6996 Se KA5EFJ Ken Neptune 321-7789 Tr WD5GTC Gene Johnson 321-6759 EDITOR: Sam Barrett, WA5RPP 321-2601</p>
<p>3 MID-OKLAHOMA REPEATER, Inc. MEETS: 8:00 pm First Tuesday, Okla City EOC, 4600 N Eastern PR N5EPV Bob Allen n/l VP KD5DL Holly Stewart Se KA5CXW Fred Taylor 528-1537 Tr W5KQZ Sid Gerber 737-1050 EDITOR: Susie Atkinson, KA5FED 842-8014</p>	<p>16 EDMOND AMATEUR RADIO CLUB MEETS: 7:00 pm First Thursday. See club section for location and type. PR WD5DYI Mark Northcutt 755-4672 VP WB5MLX Glen Cochran 942-7148 S/T WB5UIY Stan Van Nort N/L EDITOR: Stan Van Nort, WB5UIY N/L</p>
<p>4 OKLAHOMA CITY AUTOPATCH ASSOCIATION MEETS: 7:30 pm Third Tuesday, Okla City Fire Dept Training Center, N. Portland Pr N5IH Henry Israel 722-3848 VP K2GKK D. C. Macdonald 672-4947 Se WB5NDO Kathy Whited 799-1457 Tr K5GL Guy Liebmann 787-9545 EDITOR: "Mac" Macdonald, K2GKK 672-4947</p>	<p>17</p>
<p>5 OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB MEETS: 7:00 pm Second Tuesday (Sep-May) 119 Wilson Center, 1334 S Jenkins PR KE5N John Hustenberg 325-2262 S/T KA5LZN Greg Smith 325-3218 EDITOR: Greg Smith, KA5LZN 325-3218</p>	<p>18 GREAT PLAINS AMATEUR RADIO CLUB MEETS: 7:30 pm First Tuesday, Civil Defense room Woodward Courthouse. PR WB0PGD Ron Tice 994-2138 VP K0CIO Larry Ellis (316) 582-2889 Se WB0QGW Carla Tice 994-2138 Tr NC5C Gerry Ford 256-5382 EDITOR: Carla Tice, WB0QGW 994-2138</p>
<p>6 ALTUS AREA AMATEUR RADIO ASSOCIATION MEETS: 7:30 pm Second Thursday North Main Fire Station (CD) PR KA5MPK Gary Alexander 482-0857 VP S/T KA6RTX Bill Flattery 482-1155 EDITOR: Bill Flattery, KA6RTX 482-1155</p>	<p>19 SOUTHEAST OKLA AMATEUR RADIO ASSN. MEETS: 7:30 pm Second Monday. Location varies. Contact a club officer. PR WB5TTU Ron Henson 326-5418 VP WB5ULI George Weldon 326-5672 S/T WD5FUE Orville Kaley 326-3650 EDITOR: Ron Henson, WB5TTU 326-5418</p>
<p>7 BICENTENNIAL (76'ers) ARC MEETS: 7:00 pm Second Tuesday, Air National Guard, Will Rogers Airport. PR N5BFD Jim Hopkins 947-0043 VP WD5JNT Ted Vanlaningham 262-1675 Se N5AUH Jerry Sproul 354-2061 Tr WB5VBE Dale Moore 721-6142 EDITOR: Bruce Goff, KC5CR 751-6276</p>	<p>20 ARDMORE AMATEUR RADIO CLUB MEETS: 8:00 pm First Wed. Red Cross Bldg Informal, 8:00 pm other Weds. 221 9th NW PR W5HJ Tom Banks 226-3350 VP WB5VBK Fred Innis 223-1709 Tr W5BLN Charles Dibrell 226-0589 Se WA5YOM Tim Vandagriff 223-3582 EDITOR: John Merlyn, WD5FZD 223-9543</p>
<p>9 WHEATSTRAW AMATEUR RADIO CLUB MEETS: 2:30 pm Second Sunday. Location varies. See club section for location. PR KA5FUU Tom Johnson (El Reno) 262-5631 VP KA5DUO Leo Peil (Canton) 886-2996 S/T WA5PFK Ralph Wilder (Watonga) 623-4521 EDITOR: George Maschino, K5GGL 263-7614</p>	<p>MANAGING EDITOR: Joe Harding, WA5ZNF Phone 737-1044 CIRCULATION MANAGER: Bob Graham, WB5NSV Phone 677-8685 ADVERTISING MANAGER: We need one.</p>
<p>12 SHAWNEE AMATEUR RADIO CLUB MEETS: 8:00 pm Second & Fourth Tuesday Shawnee City Hall (EOC) PR KD5NX Jay Tingler 273-3033 VP N5CGZ David Stanley 273-4226 S/T W5TQZ Herbert Holton 598-5984 EDITOR:</p>	<p>CORA Collector & Emitter (USPS 116-150) is published monthly by CORA, Inc., 1020 Arthur Dr. Midwest City OK 73110. SUBSCRIPTION: CORA members \$3.00 per year. Non-members, \$6.00 per year. POSTMASTER: Send address changes to: CORA, PO Box 15013, Del City OK 73155</p>
	<p>CENTRAL OKLAHOMA RADIO AMATEURS, Inc. MEETS: 7:30 pm Fourth Tuesday (Except Dec.) Red Cross, Oklahoma City PR WD5JNT Ted Vanlaningham 262-1675 VP K2GKK D. C. Macdonald 672-4947 Se N5BEQ Jin Buswell 236-0368 Tr K5GGL George Maschino 263-7614</p>

Salem

AND NOW A WORD FROM OUR SPONSOR . . .

February 1983 represents something of a milestone as C & E begins its ninth year of publication. It was in February of 1975 that the first issue of C & E appeared after discussions had occurred among a group of newsletter editors for the various local clubs. Return with us now to those days of yesteryear as the December 1974 issue of the MORI Newsletter details the birth of CORA's C & E:

The MORI Newsletter is due to undergo a bit of surgery sometime after the first of the year. First a new editor will be inserted and based on discussion that occurred at a meeting of all the editors of all the amateur publications in the OKC area, a new king newsletter will be issued under the auspices of CORA. . . . The results of the meeting will be presented at our regular meeting in either December or January, but in brief, here is what was decided. Under the auspices of CORA a master newsletter would be set up with an editor. Each club would have an associate editor who would prepare two pages of materials for each issue from each club. There would be about 6 pages of filler material which would be compiled by the editor and associate editors which would consist of technical articles, commentary, and other news items of general interests. One page would be taken for a calendar of activities which would indicate club meeting dates for each club and other special events as they occur. . . . Cost evaluations were made and it was determined that by sharing common postage and printing costs that effective savings could occur. In addition, Joe WA5ZNF has made arrangements for printing to be done at cost which would also include the use of an addressograph for mailing. Complete details will be fleshed out by the associate editors, but the advantages are obvious. Many clubs have a common membership. Printing costs and postage have gone up. Newsletter costs take a big bite out of every budget. In addition, each club's activities would be available for any amateur to read about which would provide a sense of cooperation among the clubs. It has been obvious that friction has developed on a friendly and not so friendly basis over the past many years. Amateurs don't need friction, they need cooperation and a common newsletter would be a start. We need to join together to sell amateur radio to the public. Many people don't know the difference between an amateur radio operator and a CBer. Common public relations efforts could arise out of this newsletter. . . . One group, serving a common purpose, for providing that element which each club has in common, public service, is what is needed. There is no reason why each club cannot maintain its identity whether as a matter of pride or because the historical context of the club, but there is no reason why we cannot serve a common purpose and that is public service.

MORI Newsletter, 12/24

Has CORA met this historical goal of cooperation? I answer yes, but could do better. The historical context of the C & E is one of unprecedented cooperation among a diverse group of clubs. Each of the clubs are different and personalities being what they are, there are people working together in CORA who would probably never consider being in the same club together. The overall interest of a few good people who are the club officers of the various member clubs is also an indication of the

level of cooperation and pride that people seem to take in the C & E. The level of cooperation is a little surprising to me, but it is happening. I was the editor of the MORI Newsletter in 1974 and believe me, putting out its 200 copies a month was quite a chore. When MORI decided to put out a newsletter in May of 1973 until December of 1975, I spent an average of 4 days a month on club business related to the Newsletter. The only help was an occasional story contributed by a club member and some writing assistance from WA5LTM, but otherwise there was no help, except WB5POW who helped in the production end by folding and labeling with me while we both were at work at KFNB. The total job effort involved writing anywhere from 4 to 10 pages of copy a month, typing it, arranging for it to be printed, folding and stapling and maintaining a mailing list by the use of XEROX labels. Don't get me wrong, it was interesting and occasionally fun, but the lack of assistance made me seriously doubt the viability of the C & E.

The difference was several. First, I lived in Norman, away from the geographical center of willing volunteers. Second, there were already a couple of newsletter editors who were ready and willing to help, but wanted to lighten their load also. A prime example of this was mentioned in the January issue of the ACARC original Collector and Emitter for 1975 which detailed W5JJ's resignation as editor. Under Carl's hand, C & E already had a fine reputation. The nice thing was that there already was a structure in place that had to be assumed and changed. And Joe Harding WA5ZNF, bless him, did just that. For no other reason other than he was just a good guy, Joe took up the mantle and found himself back at work after retirement. I have always felt that leadership and hard work can inspire help. And filling a useful purpose is more important still. I think that the growth of CORA is related directly to the interest and usefulness of the C & E. And getting people involved in the activity is the key. Not just a few people, but enough people to increase the division of labor. I have been asked by numerous clubs to submit materials to C & E under their name and in each instance, I have refused. It is not because I am not willing to help, but because if I did so, it would be one less person who would be involved. I also don't chose to limit myself to writing about particular subjects or getting minutes or even going to meetings. It has been eight years since the C & E hit the stands and there have been some birthing pains, but there have also been a lot of midwives.

I wax on this way for several reasons. First, this is the first time that I remembered about the C & E birthday before sitting down to write. Second, I gave a talk at the MORI meeting this past month which was really a subterfuge perpetrated by KA5CXW to get me to the meeting for the purpose of handing me a certificate of appreciation as well as others. I am quite flattered, but I must suggest that there are many other people who deserve this recognition besides myself. I think about Joe WA5ZNF, Joe K5JB, and Bob WA5NSV. I think about every club officer who is confronted with questions, criticism, disinterest and lack of cooperation. There are club members who make this their purpose in life. They are interested in making the life of club officers as uncomfortable as possible, yet all they offer is their flapping gums. I found this to be true when I was an officer in MORI and the OU Radio Club and I suspect that it is still true. But it seems to me that the pride that some of these people have in the C & E takes a lot of the sting out these jobs and C & E is a conduit of cooperation in that regard. It is really not difficult to sit down and write for the magazine, honest. Everyone should try it at least once. You might surprise yourself. I didn't think that I could do it and I was probably right. Anyway congratulations to all the club officers and editors

and my heartfelt thanks to Joe WA5ZNF. He has all my respect and admiration.

Micheal Salem N5MS

OKLAHOMA REPEATER SOCIETY - 1/15/83

I got the invitation to the Oklahoma Repeater Society about a month before the meeting and didn't really get a serious opportunity to talk to Joe K5JB about the trip until Friday, the night before. I had decided to roll the airplane out for the trip if the weather was good since it had been about 2 1/2 months since anyone had put any time on the bird. Just to make sure, I went out a couple of days before just to make sure that everything was OK and to get night current. Zowie, it started like a jewel and while shooting landings at nite, I called WB5YWO on the Stillwater repeater from the pattern, but had to stand by while somebody exchanged recipes or something and finally wound up talking to Jim on 147.03 and setting up a 40 meter sked later that evening.

Jim had been planning on my arrival, but fortunately he had Dan make the trip to the airport because he was still at the shop raking in those dollars. I thought that Joe K5JB would want to go, so I saved him a place on the flight manifest and solicited volunteers to fill the other places. WA5LTM volunteered one morning while drinking coffee with me and wanted to know if he could bring his 14 year old nephew along for a plane ride. I said fine. I don't discriminate on the basis of age, only first come, first serve.

My regular saturday morning ritual starts with coffee and doughnuts at the Doughnut Stop on Flood street in Norman. That generally last for three doughnuts, a buttermilk bar and two cups of coffee (large industrial strength size) or an hour and a half which ever comes first. The nice thing about the airplane is that this routine was not upset in the least and we would still make Stillwater in plenty of time. I had a bunch of last minute errands to make and the planned departure time of 11:30 a.m. slipped to about 11:50, but hey, baby, it's no problem. We stopped at Expressway in OKC to pick up K5JB and wave at Joe WA5FLT who had stopped by on his way to Stillwater.

Dan K5FVL came to the airport within minutes of arrival and we were at the City Hall with minutes to spare before the meeting. I didn't think that we would be late since Dan is the President and we were with him.

The meeting encompassed a variety of topics including an updated repeater list, the new FCC Communications Act Amendments and a rather lively discussion started by Dan Prater K5CAY on Repeater Linking. There will probably be a couple of other comments about this in this issue of the C & E, but I wanted to add a couple. Why has only one group (Altus) taken an active interest in repeater linking? This is something that could benefit all clubs and emergency operation. Discussions about links that have existed previously indicate that clubs eventually vote to take them down. The reasons varied, but the problems were generally social. Which points up a comment by K5JB that the problems with repeater linking are not technical, but social. We can solve the technical problems. In fact, if somebody wants to provide a simple control circuit or if there is enough interest, we can come up with a simple control circuit that works with my new touchtone decoder card to allow a simple add on for linking. If this linking is simplex instead of full duplex, no duplexers are required, but only a simplex transceiver. I again make a pitch for using a simplex frequency on 220 Mhz so we can link both two meter and 450 repeaters. This would

be in the fashion of a simple remote base operation. For multihop linking, you would have to go to duplex links. Anyway, once again, let's see if we can drum up any support.

The nice thing about ORS meetings is that they are not long drawn out affairs. The annual meeting held in conjunction with Ham Holiday only consumes an hour. The spring meeting is a little more chatty, but everybody was in and gone by 3:30 p.m. Not bad for a group that only meets once every six months you'd think that they would have more to talk about. ORS is the official frequency coordinator for the area. They have no sanction power, but it is an indication of amateur cooperation that over 95% of the repeaters in the state are coordinated. This is not just a convenience. Dan K5FVL spends quite some time investigating interference potential and intermod possibilities before issuing a coordination authorization. This is a useful service even for the scoundrels. In addition, it also offers some protection from someone unknowingly setting up shop on your frequency because the frequency coordinator told him you were there. Could save a lot of grief. Of course, there is always someone who squats on frequency oblivious to interference potentials. For these people, there is a place in Dante's Hades for them and I will buy their ticket for the trip.

Dinner plans were up in the air (no pun intended), but Jim suggested a ride to Drumright and a steak dinner at Joseph's restaurant. No one seemed to complain and we even picked up Joe Garland WA5FLT who postponed a quick dash back to the city for an evening out with just a mere mention of the invitation. Radio and food. Now, that young man has got his priorities in the proper order. Like I alway say, if wine, women and song start to tire you out, give up singing.

We caravanned in two cars with Mr. Garland bringing up the back door. The move was all coordinated on UHF. We arrived in Drumright just in time to beat the normal Saturday night crowd. An hour later, after suitable food processing, we waddled out for the trip back to Stillwater. Joe K5JB and Joe WA5FLT decided to go back together and Jim delivered Tim, John (his nephew) and myself back at the airport. It was starting to get a little chilly, but I don't think that the gas shrunk that much as the lineboy at the airport there had to convince me that my airplane had flown over two hours of fuel out in just a little over an hour in the air. This is the second time that I have been concerned over a gas ticket there. I know that the correct terminology is to fly "up" to Stillwater, but for some reason when I buy gas there it alway takes more gas to fly "up" there than back "down" to Norman. They charge \$1.95 a gallon, but it seems like the plane always "uses" more gasoline. I think that I will start making my trips there round trips without refueling.

It was a nice night for the flight back, but it did take a couple of minutes for the heater to warm up. There was a slight head wind on the way back, but no traffic of any significance.

We got back and Tim and I went for my sixth cup of coffee of the day. It is a good thing that the flight was not that long. Things could be really troublesome without some type of motorman's friend.

The trip was a successful expedition and the weather cooperated beautifully. John, Tim's nephew, swore that he was going to learn to fly (we had let him sit front seat for part of the flight) and I am sure that it gave him something for show and tell the next day in school. (Don't know what he took as a souvenir), Doughnuts? Of course, next saturday morning, on schedule.

Micheal Salem N5MS

REACH OUT AND TOUCHTONE SOMEONE
(Board and decoder division)

Just about all the touchtone decoder boards that I had made are gone. Several are operational around town and the only casualty was one recipient who ran 15 volts to the board. This didn't hurt anything on the board that ran on 5 volts since there is a regulator to cut down the soup for that. But the 15 volts did do a number (pardon the expression) on the S3525A prefilter which has an absolute maximum rating of 15 volts. We replaced the prefilter and modified the power supply to 12 volts and everything has been fine.

I ran some tests on the decoder set the other day to determine what the dynamic range of the decoders were and it was quite impressive. The decoder has just a single level adjustment for the input. The data sheet calls for this to be a 25K and I would stick with that. I am using 20K and that is OK, but I had put a 50K and the filter acted squirrely. The 20K was just fine.

I fed a regular touchtone pad with adjustable output into the fixed input and found that it would decode with just about anything going into it. With the gain of the pot set for maximum gain for the prefilter, I found that the decoder would respond from levels from .04 Volts peak to peak to 2.25 volts.

I readjusted the gain control to the minimum gain and found that it took a minimum of .8 volts peak to peak to decode and was still detecting up a storm clear up to 5 volts, the maximum output from my pad.

Some quick calculations based on the maximum gain shows a dynamic range as follows:

$$\begin{aligned} \text{Dynamic Range} &= 20 \log_{10} \frac{V_1}{V_2} \\ &= 20 \log_{10} .04/2.25 \\ &= 20 \log_{10} 56.25 = 35 \text{ db.} \end{aligned}$$

35 db of dynamic range, especially for a tone decoder is nothing to sneeze at. In fact I find it quite remarkable. These new breed of decoders including the Mitel and Rockwell are quite remarkable in this regard. The only reason that they begin to quit decoding on the high end is that the signal gets too distorted for zero crossing detection. These decoders must have a pure tone, there can be no clipping anywhere in the transmission. Clipping changes the duty cycle of zero crossings since the incoming signal is limited. Nonetheless, if you can keep your touchtone signals below 4 KHz and no clipping, you will have reliable and fast (33 ms) decoding.

While testing out the touchtone decoders, I had a need for a source of touchtones. This summer when I first got the prototype up and running, I used the earpiece from my telephone and ran it to the decoder and it worked like a champ. I had no level adjust but this was before I was interested in such things.

I solved the no touchtone source problem when John Graham picked up a couple of touchtone encoders with built in power supplies and all kinds of fancy relays built in at the Dallas Flea Market. This device is made by Secode and is designed for attachment to radios for selective calling and paging.

I wanted to make several modifications to the pad including external level adjustment and adding 1633 to the normal 4 x 3 matrix. Now for those of you who sport the new fancy chip encoders, that is nothing, but when you are working with a Bell type touchtone pad, and you have no instructions, then there can be trouble.

Now I know that there are not many of you who still use Bell type touchtone pads on your radios, but there might be a couple of you. Besides, this modification can be made on the touchtone phone that you purchased at radio shack so that you can use those special functions on the wire remote control from the house. Or you might have an auto answer on the unlisted line at the hacienda and use the specially modified phone at the office to dial up the line and have at the special functions. The possibilities are endless. I wouldn't have done it if I hadn't needed it, but I now have a complete mobile or base station encoder that provides all 16 digits. The encoders that I have are Secode TTE-12 Series and they make a nice addition to the desk. The base station model has a nifty little power supply built in and both have an automatic PTT relay that switches to transmit when you key the pad. Pretty nifty. Bramco also makes them. There are several of these types knocking around the flea market at unbelievable prices.

The first order of business was to look at the switches around the outside of the touchtone pad to see which switches were made when certain rows and columns were activated. These pads are mechanical marvels designed to produce the correct sequence of tones when only a single button is pushed and only a single tone when two buttons in any row or column are pushed. Looking at the front of the pad showed the following switches around the edge of the pad were activated when the tone showed by the switched was accessed:

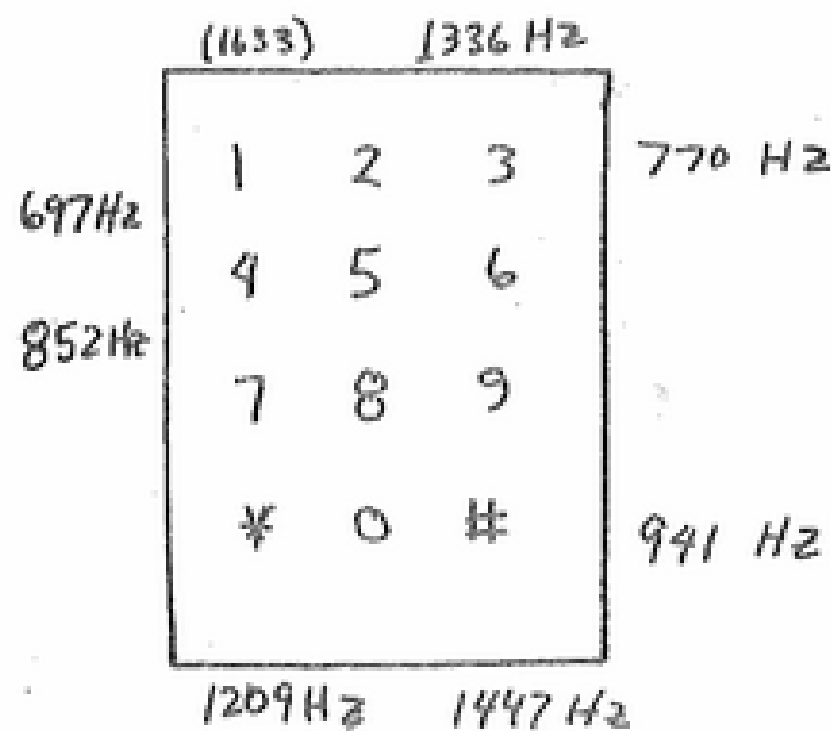


Fig. 1

We are talking about a regular Bell Type touchtone pad. Please note that there are six switches around the outside edge of the pad and each of those switches correspond to the appropriate frequency which found in the proper row and column. Please note that the low tones (rows) below 1000 Hz are located on the sides of the pad while the switches for the high tones (columns) above 1000 Hz are located on the top and bottom of the pad. It is expected that if there was a switch for the 1633 Hz column that it would be in the upper left corner of the pad opposite the 1209 Hz frequency on the bottom of the pad.

For the purpose of refreshing your memory, I reproduce the row and column information for the touchtone pad below:

	1209 Hz	1336 Hz	1477 Hz	1633 Hz
697 Hz	1	2	3	A
770 Hz	4	5	6	B
852 Hz	7	8	9	C
941 Hz	*	0	#	D

Figure 2.

After identifying these wire, I used an ohmmeter to identify the various taps on the two wound pot core inductors used to generate the tones. I reproduce below the results and the taps for each coil:

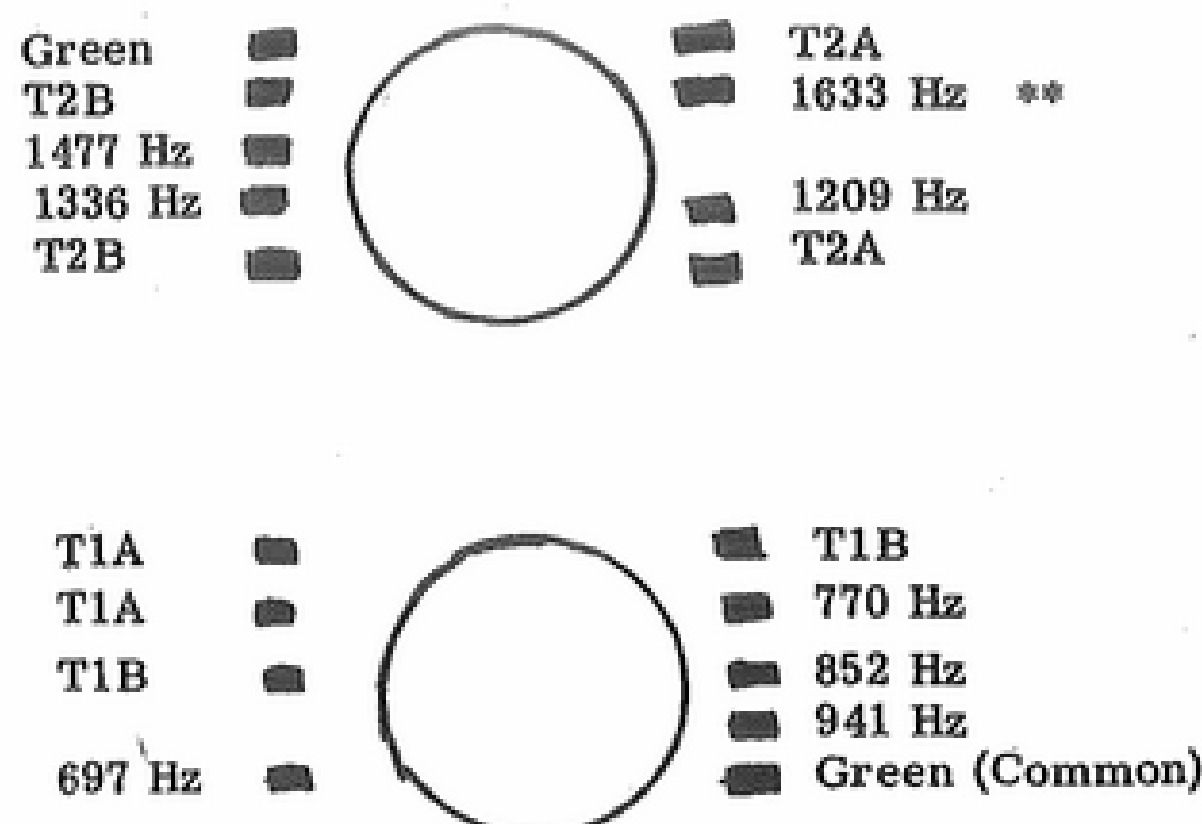
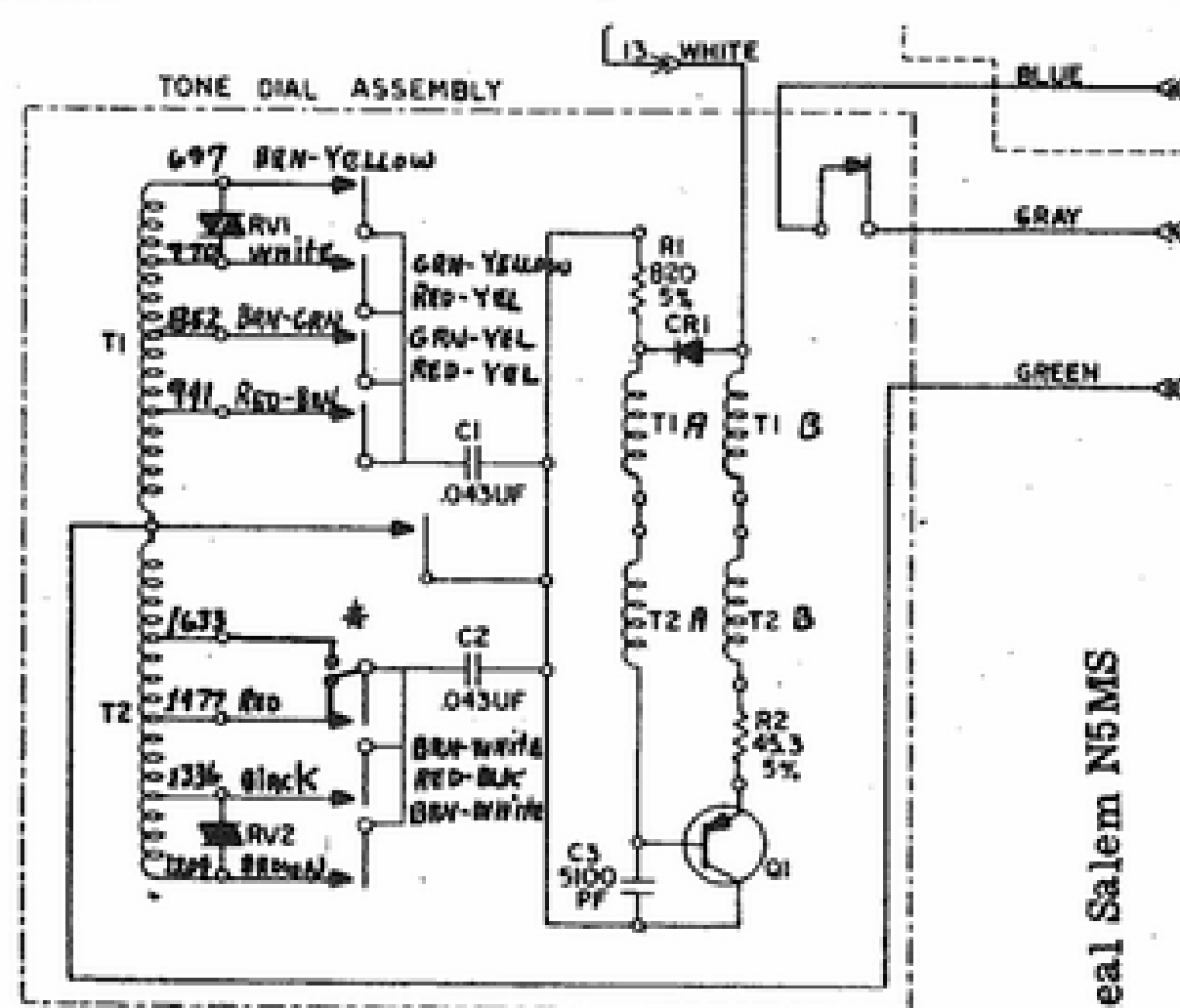


Figure 3. Pot Cores on back of garden variety TT Pad and the frequencies on tap. The absence of taps can act as a key. The upper core winding is for the High groups and the lower core winding is for the low tone groups. Green is a common wire on both cores.

After identifying the taps as to frequency, I traced the wire to the 1447 Hz switch on the bottom of the pad near the # sign. I ran a wire from the 1633 Hz tap (shown with a star above) and from the 1477 Hz tap to the poles of a SPDT switch (momentary contact) which I mounted on the plate that covered the box. I then ran another wire from the switch contact of the 1477 Hz switch that I had just disconnected so that it formed the wiper of the SPDT switch. I wired the normally closed contact to the 1477 Hz tap and the normally opened contact to the 1633 Hz tap so that normally the switch would select 1477 Hz, but if I pushed on the SPDT switch, then it would select 1633 Hz. The surgery is shown on the schematic diagram below:



* SPDT switch used to switch in 1633 Hz.

Figure 4. Touchtone schematic

NATURAL AND UNNATURAL LAWS

Jack Bickham and I have been collecting and presenting various homilies, hopefully humorous, and I think that it is now my serve. Alrighty, take this (from the forthcoming book Murphy's Son-In-Laws) with the appropriate modifications:

1. KA5OHU's LAW OF THE KITCHEN

Cleanliness is next to impossible.

2. W5OU's OBSERVATION

Everybody lies; but it doesn't matter, since nobody listens.

3. WD5FVI's COROLLARY

Virtue is its own punishment.

4. WD5HAM's POSTULATE

If the shoe fits, its ugly.

5. WA5JXX's HANDY GUIDE TO SCIENCE

If it's green or it wriggles, its biology.
If it stinks, it's chemistry.
If it doesn't work, it's physics.

6. BUSWELL's RAZOR

Never attribute to malice that which is adequately explained by stupidity.

7. K5SKA's LAW OF DEBATE

Anything is possible if you don't know what you are talking about.

8. SALEM's POSTULATE OF SOCIAL ACTION

For every action, there is an equal and opposite criticism.

9. WB5ISN's FORMULA FOR SUCCESS

The secret of success is sincerity. Once you can fake that, you've got it made.

10. WD5DYI's FIRST LAW OF LOCATION

No matter where you go, there you are.

11. N5AMV's LAW OF ORGANIZATION THEORY

In any organization, there will always be one person who knows what is going on. This person must be fired.

12. W5UZD's FIRST LAW OF SYNERGISM

The one day you'd sell your soul for something, souls are a glut.

13. WB5FZD's LAW OF RETROACTION

It is easier to get forgiveness than permission.

14. N5MS' SAUSAGE PRINCIPLE

People who love sausage and respect the law should never watch either one being made.

15. Q.R. ZEDD's LAW OF HISTORY

History doesn't repeat itself -- historians merely repeat each other.

16. WA5PPA's FIRST LAW OF UNIVERSAL RELATIONS

When we try to pick out anything by itself, we find it hitched to everything in the universe.

17. WB5UIY's LAW OF CRITICAL WORK SELECTION

When the going gets tough, everyone leaves.

18. WB5YWO's THEORY OF PEPPERMINT FLAVORED SHOES

A closed mouth gathers no feet.

19. WA5FLT's OBSERVATION OF DISTANCE

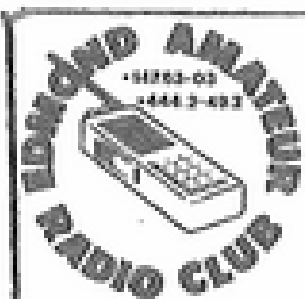
A Lover's Leap is the distance between twin beds.

20. KU5B's LAMENT

There will obviously never be an end to new laws which are made from old laws. I am sorry I brought the whole thing up.

That's all for now. Film at Eleven.

C/E MOTO: IF IT FITS, WE PRINT.
IF IT DON'T FIT, WE MAKE IT FIT.
THE STAFF



Edmond Amateur Radio Club
P.O. Box 76262 / Okla. City, Ok. 73147

Editor: STAN VAN NORT WB5UIY

CHRISTMAS DINNER 1982 or how to O.D. on stew

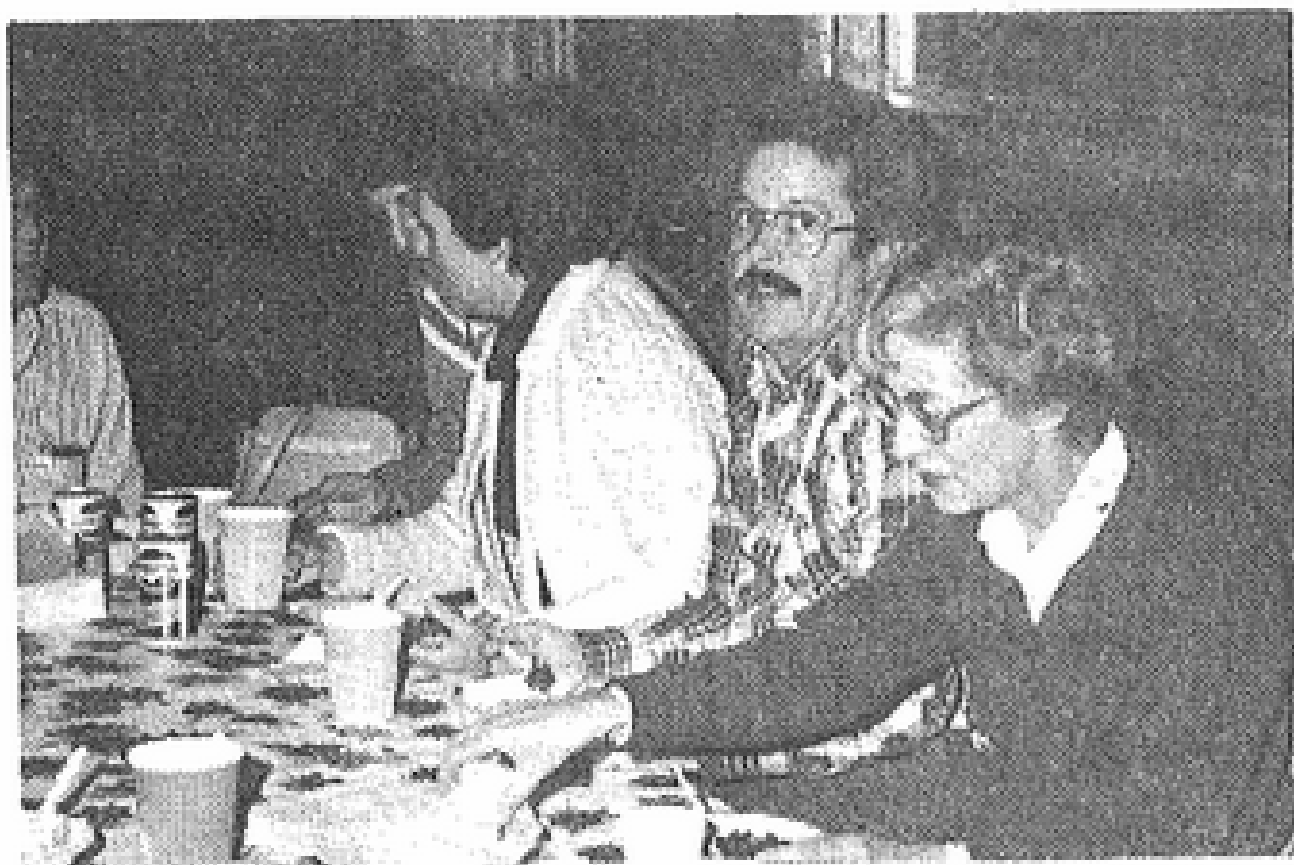
The EARC Christmas Dinner was held at the Harter Ranch, WB5MIF, near 220th & Council Rd. The dinner was inside a large enclosed gazebo that easily held the nearly 50 members and guests. The food was great, the fellowship heartwarming and the Harter hospitality superb.

Late fall rains revitalized MUDDY BLVD. that leads down to the Bigelow Ranchito. WB5ADN. Original plans were to have the dinner at Deed's place but with this in mind we looked else where. Deed's later commented he was relieved since he would have to clean and organize the ham shack. Dave Harter was willing to help out with his accommodations, but there might be difficulty in finding the place. It is out somewhere between the boon docks and Egypt, but almost everyone found it.

Deeds Bigelow provided excellant stew and the Chilli was home-made from a local butcher. Everyone ate hearty because the chilli pot was left clean. Other goodies were provided by Gwen Cochran-pies, Sandy Orcutt-pies, Northcutt family-relish tray, Harrison family-cookies, Doc Goodhead-crackers, Bill Moore-condiments, Art Roberts & Wendell Cochran-ice, Joe Garland-Cheese & crackers, and Annette Van Nort-cookies. I know several others brought cake and brownies and I'm sorry not to mention your name, but my notes were lost. All together we would like to say thanks to everyone that assited. Everybody agreed the food was excellant.

After dinner Dave gave a tour of his shop and "garage". To say garage was misleading because that building is too big. Inside was a ham shack (#1 priority), RC airplane shop (fully stocked with parts), dark room (color), motorcycle shop, and tack room. I think the restroom was left out, but it is all in there. Dave also has 80 acres spread out there for horses and also an RC airplane field complete with runway. Did I mention the lake and baseball diamond? Dave has a real nice place and are grateful he has invited us back. We appreciate Dave and his family's hospitality and now a big Thank You.

"FROM ONE THOUSAND FOUR HUNDRED FEET HIGH OVER
O K C ... THIS IS THE COMPLETE MACHINE ...
THIS IS WD5AII, REPEATER ... (female voice)-
GOOD MORNING!"



Chilli and Stew dinner: Bob Shaw takes a breather between bowl #2 and #3. To the right is Bill Moore's wife. Left of Bob is his wife talking to Leo Neyer, not in photo.

NEW COMPUTER ACCESS CODES

The repeater controller on 147.03 has new access codes for several functions. The changes were effective January 15, and all members should have received a letter detailing the changes. If you didn't get the letter or have misplaced it since then, contact Dennis I.D., listed as SPID. We will put meeting announcements and other information in this slot. To keep up with club happenings, give your call sign then enter the proper code and presto. Egor will say his program, and sometimes Natasha will help, however, she has a more limited vocabulary. This is our benefit, just how many women do you know with a limited vocabulary?

We were notified by ACC that new software will be out soon to update the controller. It will have about 10 new words and several new features which are quite novel. One feature is the mailbox. One amateur can leave a short message for another. Such as: "WB5HST call home."--"K5HTF call N5DWT."--"N5DZW stay off snow mobiles."--"WB5CWB contact H.T. on 3950 at 9:30pm"--(female voice)"WA5FLT my place or yours?"

At the last meeting the club voted to purchase a 10 meter FM radio to be linked to the controller. This feature will make it easy for any member, regardless of license class, to operate almost all over the country on 10 meters FM using his 2 meter handie-talkie in the easy chair. Certain restrictions will apply, such as having a general class or higher licensed control operator on duty.

Both items should be operational sometime this month, February.

FEBRUARY DINNER MEETING

HEY GANG! TAKE NOTE ON THIS ONE, IT WILL BE A SPECIAL TREAT!!! THE OKLAHOMA LINE

For those that have been there, I don't have to say anything else. Be ready for some fine barbecue and more. The first Thursday, Feb. 3, at 7:00PM. Bring the family, all dinners we have are informal social events for everyone. THE OKLAHOMA LINE is located just east of NE 63rd & Kelly, near the Cowboy Hall of Fame.

MISCELLANEOUS

A BIG SIZE GET WELL to Carol McLaughlin, John's wife, who was in the hospital after emergency surgery. She should be home by the time this issue is printed and mailed.

The club would like to express sympathy to Doc Goodhead, WA5CZN, whose mother passed away last month.

Bill Moore is on the move again and may have found a more permanent home. His new address is 2037 NW 44th. Bill says to come by and visit, however, you might take your tower climbing belt along. We understand he is ready to put one up.



Chilli and Stew dinner: This photo should be guess the caption. Jack Perry left is caught with a big mouthful. (No he doesn't chew tabacco) Right is the back side of his wife.

Dear Mayor:

This letter is to congratulate the City of Oklahoma City, its Public Events Department, the Myriad Convention Center Staff, and the Ogden Food Service Corporation for their excellent service and cooperation in making our 1982 Ham Holiday convention a huge success.

Perhaps the most instrumental person in helping organize the facilities portion of our Oklahoma City convention was Sandi Davis, events coordinator at the Myriad Convention Center. Mrs. Davis' highly professional direction, as well as her courteous and friendly advice, is a great asset to any convention, and to the City of Oklahoma City. Mrs. Davis is to be highly commended, and we thank her very much.

Another person instrumental to making our Oklahoma City convention a success was Myrna Brynes, representative of Ogden Food Service Corporation. Our organization and consequently our convention is a highly specialized non-profit effort, and Mrs. Brynes' willingness and ability to flex or bend to meet our needs helped make this perhaps our most successful Oklahoma City convention effort.

In view of the excellent help and cooperation that we enjoyed before, during, and after our Oklahoma City convention, it is with deep regret that I must inform you of our intention to seek accommodations for our convention elsewhere. It is most distressing that with such fine facilities, and excellent help, something as simple as parking should force us to move.

APCOA, Inc. parking at the Myriad, however, makes this move necessary. The \$2.00 charge for each entry to the Myriad parking area (even if entries occur within the same hour) was and is excessive! Our attempts to discuss alternatives to this situation with Mr. Bill Bowen, Operations Manager, APCOA, Inc., proved fruitless. Mr. Bowen informed us that "event" type parking, or even "daily" parking with some type of event validation was "out of the question." When asked about the parking passes (good for all day entry) sold by APCOA, Inc. at our 1981 convention, Mr. Bowen informed us that this type of pass will no longer be available for Myriad parking, and that the charge would be \$2.00 per entry. The nature of our convention is such that several entries to the parking area per day is not uncommon. Perhaps if there had been some other major function scheduled for the Myriad during the time of our convention, the \$2.00 per entry charge may have been justified. This was not the case. The parking lot was for the most part occupied only by our convention participants for the entire weekend.

The Central Oklahoma Radio Amateurs does not want to seek accommodations elsewhere, but we feel that we must unless unforeseen changes in the Myriad parking management occur.

Again congratulations and thank you to the City of Oklahoma City Public Events Department, the Myriad Convention Center staff, and Ogden Food Service Corporation for a tremendous job in helping make our "1982 Ham Holiday" convention a success.

Sincerely,

Robert E. Graham Jr.
Facilities Committee



CITY of OKLAHOMA CITY

MUNICIPAL BUILDING

200 NORTH WALKER

OKLAHOMA CITY, 73102

September 29, 1982

PATIENCE LATTING

Mayor

Robert E. Graham, Jr.
Facilities Committee
Central Oklahoma Radio Amateurs, Inc.
Post Office Box 15013
Oklahoma City, Oklahoma 73155

Dear Mr. Graham:

In regards to your letter of August 30, 1982, the Department of Public Events did investigate your concerns regarding daily parking rates at the Myriad Convention Center. The Central Oklahoma Transportation & Parking Authority (COTPA) and the Public Events Department work together to provide the necessary ingredients for making conventions at the Myriad Convention Center a success. Special parking provisions are available for conventions such as yours.

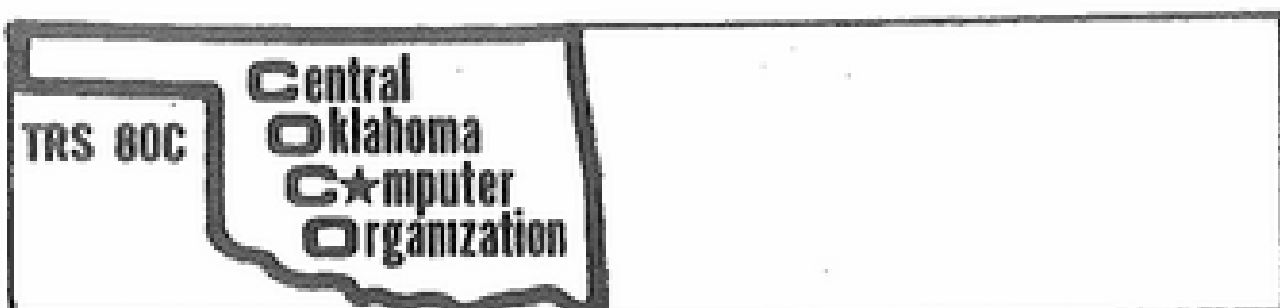
I would suggest that you communicate with the Public Events Director, JoeVan Bullard, and he can set up a meeting with both COTPA and APCOA personnel to resolve any future parking problems similar to the ones you encountered at your 1982 convention. APCOA has hired a new Operations Manager, Mr. Larry Hamilton, who has proven to be most helpful in resolving problems such as these.

It is our desire that your organization continue to use the Myriad Convention Center, and that we may have the opportunity to serve as the site of your "1983 Ham Holiday" convention.

If you have additional questions, please feel free to contact my office.

Sincerely,

Patience Latting
Patience Latting
Mayor



Minutes of January 8, 1983

The meeting was called to order by Hollis Holcomb and all members and guests introduced themselves. Over 100 were present.

OLD BUSINESS:

Members were reminded to submit articles or programs to the C&E for publication.

NEW BUSINESS:

Election of Officers: Commonly known as the COCO Railroad.

Bob Langmacher was nominated by the nominating committee for Chairman. Dee Mize made a motion to close nominations and Bill Schmitt seconded the motion. Nominations were closed and Bob was elected.

Nominations were opened from the floor for Vice Chairman. Jim Shipman declined the nomination. Tom Stott was nominated by Bill Holland and seconded by Bob Graham. Nominations were closed and Tom was elected. Bill Wright agreed to serve as Secretary/Treasury for the coming year. Bill was elected.

The railroad came through again.

Joe Harding introduced a motion to change the meeting starting time from 10:00am to 9:00am. Seconded by Dave Boneau. Motion passed.

Bob Graham stated that there is a BETA printer for sale. 300 Baud, letter quality, upper case only, RS232 compatible. \$125.00 Call Bob.

SOFTWARE PROBLEMS:

In Running DISK TEST be careful, you can destroy current information.

DISK TO TAPE; New program puts the programs in alphabetical order.

HARDWARE PROBLEMS:

CAUTION! CAUTION! Be sure to turn off computer power when removing or inserting the disk controller board.

Motherboards, software addressable are available from Frank Hogg Labs and Basic Technology. Consult CCN or RAINBOW magazines. Joysticks will break. Cases can be purchased separately.

PROGRAM: A FIRST CLASS, FIRST RATE program was given on the FLEX NET by Bill Holland. Bill hopefully has set a standard for all to follow. If any are interested in participating in the FLEX NET, get in touch with Bill. Maybe we can get Bill to write a short operations article in the near future.

Bill Wright
Sec'y/Treas.

NOTES FROM THE PAST CHAIRMAN:

I'm proud to have been among those, who have helped give birth to the best club in this state. Each of you have also helped, from those who have written programs to those who only attend meetings. The club needs everyone, for without the people who attend meetings, we would not need meetings. I say this not to take away from the ones who have done so much but to let people who may feel they have not done anything, know they're important also.

It was not long ago that I was searching for anyone who had a color computer. Someone to help me or I them. The key word here is "HELP". COCO will continue to grow and be strong as long as we all remember how it was to be all alone and help any and all new COCO owners.

I pass to Bob Langmacher the chairmanship of C.O.C.O., with the knowledge it's in good hands. Already I've heard Bob and Tom (vice-chairman) talking about many things this group needs that I never thought about, like incorporating and special classes for new people, to help them with some of things we all had trouble with.

See ya at the meetings. Take care and happy computing.
Hollis Holcomb

Many of you have heard the big boys talk about RS232 or seen the plug on the back of COCO marked SERIAL I/O. What is it and what good is it? In the November/December issue of Color Computer News, Andrew Phelps explained it as "your computer's link to the outside world.". The outside world consists mostly of printers, terminals and other computers. The connection to other computers may be either direct or through a modem (MODEM = MODulator-DEmodulator, it's a device which converts the RS-232-C signal for transmission over telephone lines or other media). In general you will need both Hardware and Software to use the serial port. Hardware being Modem, cable and any possible special interface device that may be needed. Software will consist of a machine lang. program that will not only operate the RS232 port but possibly the interface, modem and equipment you intend to use. Unless you're very good in machine lang. programing you'll buy the software for the job you need to do. Word processing programs for printers ect..

The serial I/O plug on COCO is a "four pin den plug", den plugs are different from audio plugs. When buying plugs it is wise to check for a proper fit as soon as possible. The pin out (connections) of the computer are as follows:

PIN #1--Carrier detect: This is a control input to COCO telling it that the equipment at the other end is on line. It is connected to a pin interrupt channel in the color computer, but ignored by color basic. It may ,however, be used by some communications software not supplied by Radio Shack.

PIN #2--Data into the color computer. This line is used as a printer NOT-BUSY signal by color basic, but will generally be used as a data line by most communications software.

PIN #3--Ground

PIN #4--Data output from the computer.

Equipment that is to be connected to the computer may have different pin-outs as well as different types of plugs. In fact most equipment you'll interface with the computer will have a 25 pin connector. This connector is call a DB-25 connector. You should always check the manufacturers instructions on the proper connection of this plug. The standard connection for a DB-25 is as follows.

#	Name	Function	DTE dir	DCE dir	COCO
1	PGND	protective gnd	-	-	-
2	TMI	Tranmit data	out	in	2
3	REC	Receive data	in	out	4
4	RTS	ready to send	out	in	-
5	CTS	clear to send	in	out	-
6	DSR	data set ready	in	out	-
7	SGN	signal gnd	-	-	3
8	RSL	received line signal detect	in	out	-
9-19	not needed for color computer				
20	DTR	data terminal READY CONTROL	OUT	IN	1

DTE=data terminal equipment (Terminals and Printers). DCE=data communications equipment(modems)

Since standards are not rigorously enforced, there is no guarantee that any particular cabling scheme will always work. If you do run into difficulty you may want to try one of the following variations: Always, but ALWAYS consult your owner's manual for specific signal requirements.

(1) Some equipment will use pin 1 for ground rather then pin 7

(2) To satisfy handshake requirements you may have to install jumpers. The most commonly used ones are: Pin 4(RTS) to Pin 5(CTS), Pin 20(DTR) to either or both of pins 6(DSR) and pin 8(RSL)

This for the most part came from Color Computer News, Feb. issue, page 59 an 60. Typed and and reworded somewhat to shorten it, by Hollis Holcomb

COLOR COMPUTER DISK OPERATING SYSTEM
MACHINE-LANGUAGE PROGRAMMING OR DSKCON
BY

Hollis Holcomb

The very first thing you should know is I'm not now and at the speed I'm learning may never be, a machine - language programmer. The truth of the matter is, that while trying to backup a disk with a bad sector, I had occasion to use the DSKCON command in color disk basic. My thinking was that dskcon could read a bad sector by ignoring the error message being sent to basic. Well needless to say it didn't work that way at all! Also I should warn you not to use any of what I'm about to tell you unless you FULLY understand it.

DSKCON is the ML counterpart of DSKI\$ and DSKO\$. If you know where to poke the drive #, track #, sector # and then do a jump or JSR (Jump Sub-Routine) to the right address in disk basic you can read or write to any sector on the disk. But most important the data does not come in as string data. It is entered into memory as hex and you can pick where to load it.

Page 60 and 61 of the COLOR COMPUTER DISK SYSTEM book explained the workings of DSKCON quite well and after reading those two pages at least ten times, I still knew no more than when I started! Not one to give up I loaded C-bug, (a ML monitor program that everyone should learn to use) and started poking around in some of the address's they were talking about in the book. WELL, Low and behold, the book was right I had just read it wrong, all ten times. Instead of telling you the address's for you to poke your data into, they tell you where to find it. Very unfair!

First the ENTRY address: this is address of the JSR into disk basic. If you look at address C004 and C005, again using C-BUG, guess what you'll find? AH, you're ahead of me, but you're right, it's the entry point into disk basic \$D66C. But don't JSR to there yet! Before you go off half baked, you better tell it what track, sector and all that, right?

DSKCON parameters: Reading the book says these address are contained in address C006 and C007 and sure enough in C006 was 00 and C007 EA. So adding two and two I got six memory locations. These locations are where disk basic looks to see what you or the DSKI\$ command wants done. The address's are as follows:

\$ Address	Function
\$ EA	-----If an 02 is stored it will read If an 03 is stored it will write
\$ EB	----- drive # 0 to 3
\$ EC	-----track # 0 to 34 (hex 0 to 22)
\$ ED	-----sector # 1 to 18(hex 1 to 12)
\$ EE	-----first part of buffer #
\$ EF	----- second part of buffer #
\$ F0	----- status or errors

The read/write, drive, track, sector should be easy but maybe a little more should be said about the buffer and error addresses.

The buffer is simply where you want the data to go. If you put 40 in address EE and 00 in address EF, your data from whatever track and sector you entered start loading in memory at \$4000.

The Error: any errors encountered while reading or writing will be stored in location \$ F0. The number stored here is in hex, you will have to convert it to base two(binary).

Base 10	Base 16(hex)	Base 2(binary)
# 16	=	# 10 = 0001 0000 Each

number in binary form means something to the status report. starting from right to left they are called bit 0, bit 1, ect.. Status report is as follows:

- Bit 7= drive not ready
- Bit 6= write protect
- Bit 5= write fault
- Bit 4= seek error or record not found
- Bit 3= CRC error
- Bit 2= lost data

All bits zero= no errors which ever bit has a one is the error that was encountered. In the example above the fourth bit contains a one so the error was , seek error or

record not found.

Remember anything entered into address's EA - EF must be in HEX.

OK, now what? Forewarned is forearmed, right, so you can go forth and read or write those disk. BUT BE CAREFUL!!

Dskcon was intended to be called up from a ML program but C-BUG can use it quite well. Use the "M" command to put you track, sector ect. in \$00EA, \$00EB and so-on, when all that is right ENTER to get back to C-BUG. Next use the "J" command (this is a JSR, so it'll return to C-BUG after the read/write), put D66C and ENTER. The disk should have come on and you were returned to C-BUG. If you did a read and would like to see what you did, use the "M" command again and look into the address you set in \$00EE and \$00EF.

You should have the general idea now so I'll wish you good luck with this new part of COCO to learn about. Oh yeah, I did copy the disk with the bad sector, thanks to the help of Lewis Sample and Ron Hilbun.

Take care and happy computing.

FOR SALE: The KIM I Microcomputer System, Complete and serviceable with:

- 1 Power Supply (worth what asking for all)
- 2 6501 micro & 6530 chips, 2048 ROM, 128 RAM,
- 30 I/O pins, 2 Timers, expansion options,
- display, keyboard, TTY & cassette interfaces,
- 1024 byte RAM. Full set of manuals -- Kim-I user manual, programming manual, microcomputer systems, KIM hints & the First Book of KIM. Expandable mother board with manuals. An extra auxiliary key board w/46 keys. Call Joe, WA5ZNF, 737-1044. ONLY \$125.00.

WANTED: An antenna tuner, MFJ-949B Versa Tuner 11. Call Virgil W7JTG, 721-8411.

TULSA REPEATER ORGANIZATION HELPS
DURING TELEPHONE OUTAGE EMERGENCY

Just before 1:00 am on Jan. 1, 1983, vandals cut telephone cables at a Southwestern Bell switching office, affecting phone service to more than 30,000 customers. Telephone, alarm and other services were out for what was expected to be several days.

The TRO was asked by Civil Defense to aid on Saturday evening by patrolling the affected areas, particularly watching apartment complexes and 24-hour stores, whose alarm systems were out. The TRO responded, and 28 amateurs helped out in what was to become an all-night operation.

The next SIGNAL should have more details; including KA5ALNs many reports of suspicious activities. The suspicious-looking TRO operators who were themselves stopped several times by police officers, and other interesting incidents. At least we are now better known by some folks out there - when I pulled up to the pickup window of a 24-hour restaurant at 3 am, the attendant looked at my antenna and asked, "Are you with the TRO?" He said I was the sixth member through that night.

Tulsa Repeater Org SIGNAL

CHESS PLAYERS! Chess & Amateur Radio International - CARI - is for you. CARI has one purpose, to make chess playing by ham radio readily available to anyone, anytime. For details write CARI, P.O. Box 682, Cologne, N.J. 08213.

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TRS-80 Color Computer--Service & Repair
TRS-80 is a trademark of Tandy-Radio Shack



ACARC

Don, K5SJV gave the CORA report containing the following items:

2. CORA agreed to allow the Central Okla. Computer Organization to submit articles and receive the C&E with a fee of \$3.00 per COCO member. So look for computer news in the C&E.

Old business - Since Leonard Hollar became a silent key last year, the ARRL has a need to fill the post of State Section Manager. Rob Runyon recommended our club endorse Art Roberts, W1GDM for the job. Art gave a short but persuasive speech describing how he could serve us as Section Manager. Don, K5SJV made a motion to endorse Art and the motion was quickly seconded and carried by a large majority.

The nominating committee proposed the following slate of officers to head up the ACARC for 1983:

A motion from the floor was made and carried to allow associate members the right to vote for officers. All the proposed officers were voted into office by acclamation. Congratulations guys!... and good luck!

Jim Seignious WB5LHW

I went to work at Tinker in January 1952 and was drafted into the Army in March 1952 for 2 years. Upon my discharge I returned to Tinker until January 1962 when I transferred to the FAA Aeronautical Center. I worked there in the Avionics shops until I retired on an early out in September 1979.

I want to thank the members of the AGARC for having the confidence and trust to elect me as their president. I will strive to be a good president and serve the club as best I can in the coming year.

See you at the February meeting.

File # 60-879 Sub G Vol 1 Page 211

After the meeting, I thought of a lot of things to say, and determined I'd correct that problem in the next issue of C&E. After writing several versions of remarks, I've decided the space could be put to better use by others.

Suffice it to say that we've had a good year, and I'm extremely grateful to all the officers who served the club with me, and to the membership as a whole for your unstinting support. There was no way I could be other than what I promised you last year, and that was to be a "caretaker" president while we located someone who would take the job on an active basis. Well, the club survived, and we now have a good group of officers for the ensuing year. I, for one, am looking forward to an active year with plenty of club activities.

K5LDI Tom, has consented to my staying on as the W5PAA station manager, and I'll continue as a director, and license trustee. Those two jobs are enough for one person in an organization as big and active as the ACARC. I just don't aspire to much more at present.

Speaking of holding office. During the past year I've also served as president of the local chapter of the Morse Telegraph Club. We only meet twice a year, but I've done a lousy job in that position simply because of extreme time limitations. And, that organization is one in which I have more than a passing interest since I made my living for a while that way. I guess you might say that insofar as the codes are concerned, I'm bi-lingual. I never could learn to copy baudot code though.

And, speaking of codes... I read an interesting piece the other day concerning the no-code license controversy. One of the moresensible approaches to the arguments was put forth in the article. The author made the point that in the final analysis, the human ear/brain/hand system is far superior to anything else when conditions are bad. When the chips are really down the binary nature of hand-sent ear-copied cw is often the only way communications can occur.

I've been eavesdropping on an interesting group of highspeed operators who hang out on 40 and 20 meters somewhere between 30 and 40 kHz up from the bottom of both bands. These guys are fun and often informative to listen in on. They call themselves "CFO", and they all have "CFO Numbers" assigned. They usually operate at around 50 to 60 wpm, and sometimes higher. One of the prerequisites for getting into their group is to be able to operate at least 60 wpm, plain text. The word "Operate" is key in their requirements. That means sending and receiving at that speed. I can copy plain text that fast provided the "fist" is decent, but have a hell of a time sending at that speed (or anything near it). It's common for this to happen to a lot of operators, so they will allow machine assisted sending such as with a keyboard, but will absolutely not brook any kind of copy assistance, at least for the certification runs. While that kind of operating isn't my cup of tea for enjoyment, the challenge is, so I eavesdrop on 'em occasionally. I've gotten into QSO with a few of these high-speed guys a few times, and they have tolerated my single-paddle keyer with good nature. They are practicing CW as an art form, and trying to keep it pure. It's just another facet of our avocation, but it is one that uses that ear/brain/hand human computer to the fullest. I'd hate to see those skills lost in the future.

* * * * *

Having waited until the last possible moment to get this final version ready, I've run out of time to do a little piece on the new officers of the club. Maybe I can postpone that for later.

* * * * *

Remember, storm season is just around the corner. I got a call from Neill Marchbanks at the Weather Bureau the other day on that very subject. The fact that it was during a snow storm impacted me even more. The traditional weather meeting under sponsorship of OCAPA at Channel 9 is coming up in February, so make sure you read their column and mark down the dates. We've had a relatively easy two or three years with respect to severe weather, but Mother Nature has a way of evening things out, so let's keep our guard up, and keep working on those severe weather skills.

* * * * *

WSPAA operations are normal. The station is getting more use these days. We have an influx of ATCS trainees who are hams, and are taking advantage of the facilities. WSPAA/R is looking good also, and the new equipment is on schedule.

73, Rob AA6A

Sec's File

Need to get three bits of info out:

1. The February meeting will begin at 7:30 PM in order to allow Bill Brodie K3TGY time to present a program on the topic of "Computer Controlled Satellite Tracking". Please pass the word on this.
2. We would like to extend our special thanks to Jack Iman WB5SVN and Marc Lewand KB5IT who were #1 and #2 in repeater raffle ticket sales respectively and were awarded turkeys for their efforts.
3. Tom K5LDI has a six foot equipment rack that he is trying to give away. If you're interested contact him.

John KA5JCX

The officers and members wish to extend their deepest sympathy to Charles Couffer K5RRQ for the loss of his wife Virginia K5BXZ.

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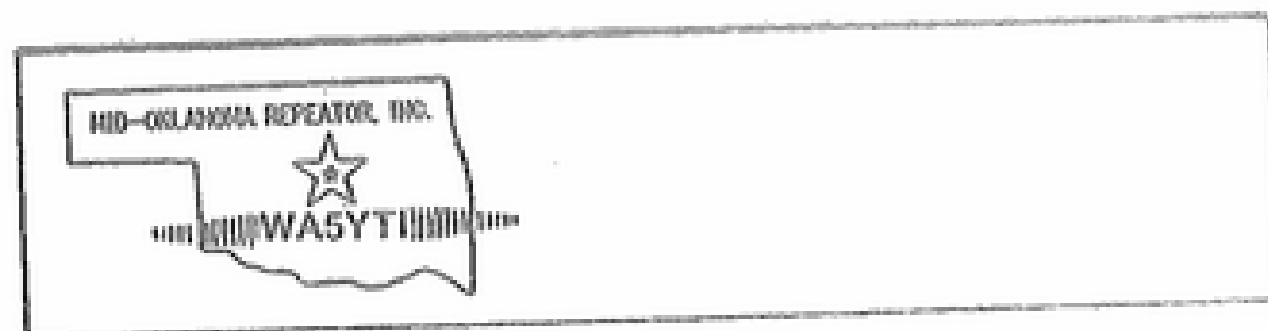
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Hi Everyone!

I attended a meeting the other night that the officers of the board had the other night, and I can tell you this much, it sounds like MORI will really be doing a lot in 1983. There were discussions on things like MORE Public Service, perhaps code practice sessions along with theory for the women who are interested, swap meets to clear out space(s) for more good gear -- HI! or whatever. I know one couple who recently had their living room expanded and added more shelving in a closet. There were more discussions about various other things, which will either be published in C&E or heard on the 07/67 repeater. It sounds like it will be a very progressive year ahead. Also I would like to mention our slate of officers for 1983 (just in case you are wondering, Bob, N5EPV is our President, Stew, KD5DL is Vice-President, Fred, KA5CXW is Secretary, and by popular demand for another year, Sid, W5KOZ is our treasurer and membership secretary. I remain your Editor (Susie, KA5FED) or at least that is the way Bob and Stew see it. I will make a resolution now to feature more articles or whatever you want in C&E. Put your thinkin' caps on, because I am sure a lot of you know something that can be published.

I was going to try and prepare a schedule of activities for 1983, but I haven't got in touch with the "big" guys to find out when everything is, but if I do, I will do my best to either publish it or Fred will probably will have it announced someday. There is one thing, our meetings are every first Tuesday of the month, so come along and get yourself in the act, we would be glad to have you as a member, friend, we need your participation, because YOU are what MORI is all about -- you can make things happen for sure, and if you have any questions concerning membership or whatever, grab one of us and we will help answer any questions we can.

Before I close, I just want to thank everyone for last year. I have truly enjoyed everyone's friendship, loyalty and devotion, etc. I hope to keep it and look forward to many more. YOU are really great people. Thank you! Happy 1983!

Susie KA5FED

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On 13 January 1983, the Altus Area A.R.A. (the "R" stands for "Railroad" Hi! Hi!) met in the basement of the North Main Fire Station at 1930 hrs. Gary Alexander, the new club president, opened the meeting. There really didn't appear to be any old business, as none was discussed. Deanna McEndree made a motion that the club officers receive free entry into the club for the duration of their term. This motion was seconded by Steve Sappington and several others. A verbal vote by those present affirmed it. We assume this also includes an annual subscription to C.O.R.A. Unless we hear different at the next meeting, this business will be closed.

The Annual Weather Watch Meeting is scheduled for 1930 hrs, 15 February 1983 (Tuesday). It will be held in the Municipal Auditorium in Altus, Ok. All members and anyone interested in weather watching are invited to attend.

Dwight Dennis procured two films on tornadoes. One was filmed by KOCO TV in Oklahoma City, circa 1966/7. Even though it was black and white, the contrast was very good. The formation was well defined and it was easy to see that the tip of the funnel was actually transparent. This is probably due to the funnel not actually coming all the way to the earth, but due to its proximity, the air nearest the tip of the funnel begins to rapidly increase in speed, much like the air very near to the inlet of a vacuum cleaner. The other film was titled "Twister", circa 1970. It concerned the tornado that struck Lubbock, Texas. The films were both interesting and informative.

We also had a short discussion on E.O.C. operations in the Altus area. With only one repeater in the local area and many more new hams, it would be most appreciative for all weather watchers to use restraint and be conservative if and when it becomes necessary to make a report. Please let the Net Control Station be in charge. Remember, it's your program and it will be up to each of you to make it work smoothly. Deanna McEndree will most likely be the N.C.S. again this year. Thank you, Deanna, for all the hours you have given us.

Anadarko, Oklahoma has a new repeater on 147.87/.27.

We still need your inputs/suggestions for any programs you might be interested in seeing. I received one request for a RTTY demonstration. A good friend, Charlie Davis has offered to give a demonstration at either the February or March meeting. Charlie is a pilot for a well known airline in the local area. Hopefully, he won't be flying on a meeting night. Anyone else interested in helping, please contact Bill Flattery, 482-1155.

Thank you, Joe McDonald, for the tasty goodies. We broke for refreshments at 2100 hrs and then reconvened long enough to adjourn the meeting at 2135 hrs. Thank you to all who attended. It was a very good turnout. The following were there: Bill Flattery KA6RTX, Dwight Dennis WB5KRH, Loren Simms WA5CBF, Richard Haas, Herbert Meds, Clyde J. Smith W5ZDI, Rosa Willsey WB5UEB, Robert Willsey W5VRA, Les Brown W5UVX, Don Hayes WB5NRQ, H.J. Moore K7BSY, Dennis E. Ratzlaff K5KVU, Paul W. McEndree WD5BBO, Deanna McEndree WB5UMH, Charles S. Nichols WD5BBN, Gary Alexander K5MPK, Delayne Randolph N5EST, Joe P. McDonald W5CCV, Oliver G. Meeks WA5OGC, Ida Ruth Meeks, Steve Sappington N5EOZ, Hurshel L. Pruitt WB5MEX. 22 attendees.

Anyone who would like to have an article printed in C.O.R.A., please see your club secretary at the next meeting which will be on 10 February 1983 (Thursday), 1930 hrs, in the basement of the North Main Fire Station, Altus, Ok.

Speaking of inputs for the paper... I'm not really sure of some of the information I receive or else I should probably consider the source.

Dwight WB5KRH, has been seen parking on the sidewalk at the E.O.C. Wonder what he got for Christmas?

The best news is that Delayne Randolph N5EST, earned his Amateur Extra Class License, last month, at Dallas, Texas. All that code paid off.

See you next month. 73'... Bill

Looks like a good time to sit down and jot down a few lines. Since the snow is covering the phone lines. Not that I need to phone home, but the snow is falling on the out side and theres no YLS inside to snuggle up to around the fire. That leaves a good time to write this article.

Last months meeting was a dinner meeting held at the Rusty Nail in PoncaCity. Was attended by about 45 hungry people that seemed to all get filled up and enjoy them selves. A Buss. meeting was not held for they had a band that night and wouldn't partition us off but nobody seemed to care.

The Auto-Patch is back on the air again! Yes, a few days before the meeting we moved the Repeter to the Hospital and installed the auto-patch. We cured the intermittent noise problem we had by the move and since we had never moved the phone lines it was quite easy to put back on the air. The auto-patch members were given the 3 diget acess code and briefed on the operation of it. Will also remind you that it has a 4 seceond delay on the drop out, give it time it will drop out.

We still have some changes to be made on the system but it all up and working and every one seems happy about its operation.

January's meeting turned out great! We had 29 warm bodies show up with cash or checkbook in hand. Yes club dues were due. We also sold more club caps, that's great for we need to get some money back into the club Tres. For it took a good chunk out of the Bank to purchase them.

We also had a very good program from Dean Feken KL7MA all the way from Perry, America. I cant even spell what it was about but told about his great adventures shooting Rokets here there and around.

THANKS DEAN!

Starting Feb.9 6:30 pm at the Vo-Tech Bob Stark W5IPN will conduct an advanced theory class (any thing above Novice) So if you are low in the ranks and need to upgrade then get yuor act together and take this chance and receive some good free help! who knows you might learn something!.....

While on the subject of upgrade Vern N5ANV has a copy of the 83 skedual from the F.C.C. for exams.

We have 3 new Novice in Ponca, Next month will try to have their names and calls ready for print and I think 3 more should have tickets by then.

I need to get to work and the smoke is just rolling out of this typewriter since Ive beat it so hard and long. So see you next month.

73' Marsh WA5UBO

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Q. R. Zedd

ZEDD GIVES PROGRAM AT SCARS MEETING

Members of the South Canadian Amateur Radio Society were thrilled out of their minds in January when the post-business meeting program was given by the incomparable Q. R. Zedd, A5A.

Zedd, who holds the coveted Worked All Stations award with a 220 handheld endorsement, brought along Tondelayo Schwartz, his blonde, nubile, 20-year-old QSL secretary from the Harvard Business School who recently celebrated the birthday that took her out of her teens forever. As has been noted in earlier reports, Tondelayo was seldom taken for a teen-ager in recent years, especially since being featured in the Playboy centerfold midway through 1982.

For the SCARS meeting, Zedd came with only four radios, two walkies on his hips, an FT7 under his left armpit, and the usual TR7 attached to his South Padre Island tee shirt with the customary velcro tape. Tondelayo, smashingly attired in a pink hotpants outfit with black leather boots and matching whip, handled the computer logbook operation while Zedd, operating on battery power to his inductively tuned Oklahoma oilman belt buckle, worked a hundred countries in thirteen minutes to show how easy it was for one of his talent and prestige.

As Zedd explained it, "Boys, any nerd can work a few hundred countries, but it takes a good op to work a few hundred every day. You have to stay right with it."

Among the questions asked by SCARS members, and the answers given, were the following:

(From W5MCN): Is it true you can send and receive CW at 135 words per minute?

ZEDD: Lee, I don't like to brag. No sir, I sure don't. All I can say for sure is, the last time I got in a ragchew with a computer, I was still going strong when its little Z80 started sending out smoke signals. Seriously, I am purty fast.

(From W5SQJ): What was the most memorable QSO you ever had?

ZEDD: I would have to say it was a few years ago when I got in a three-way with Bill Blast and Mao Tse Tung. You know, Mao Tse Tung only ever made one QSO after he licensed himself. Bill arranged it and when I came up on frequency, old Mao said he was going to send me a copy of his red book and he was going permanently QRT because after talking

to me in his first QSO, everything would be anti-climactic. I thought that was real nice of him and said so at the time. Henry Kissinger was impressed.

(From N5DWN): Why aren't you ever on our local repeater?

ZEDD: Linda, I would like to be, I shore would. But so many people are always after me for another QSO, I just would tie it up all the time, so I just stay off most of the time and work DX and stuff.

(From KU5B): Would you like to clarify the situation between yourself and Tondelayo? We keep hearing that you might be engaged.

ZEDD: Well, let me say this about that. Tondelayo and I, I think we got a right to a personal life just like everybody else, right, boy? Okay, then. If that's true, what we do when we are away from the rigs is OUR business, right, boy? Okay, then. I guess I could best answer your query by saying none of your beeswax.

(In a separate interview, the darling Tondelayo later said that any romance between herself "an' that DARLIN' man" would have to be confirmed by Zedd. She turned a darling pink when someone suggested that nuptials might be in the offing.

(In Moose, Okla., however, where Tondelayo's parents live, it was reported that the precious girl had taken "a tall, handsome, graying, marvelous-looking man, with a radio stuck on the front of his shirt," home to see momma and daddy. This clearly could only have been Zedd.)

In other highlights of his appearance at SCARS, Zedd --

Revealed that his bust will be unveiled in the science pavilion of the Smithsonian on February 16;

Announced plans for a DXpedition to Sumatra in April;

Said he would pay for the doughnuts.

Nothing further about his possible romance with Tondelayo could be gotten from the great man. Meanwhile, as all amateurs know, the subject has now become a constant preoccupation of all hams on the airwaves.

We can only hope that Zedd will honor SCARS more often with his august presence (even in January)... and that he and Tondelayo will either go ahead and announce some sort of significant plans, such as engagement or wedding, or else cool it. It's getting -- if we may be allowed an editorial note -- to where a man can't even have a decent QSO on the bands about antennas or the rig or weather or things once the QTH has been named; everyone else will talk about nothing but whether Zedd and Tondelayo are going to get hitched.

Listen; WE DON'T KNOW EITHER, SO SHUT UP ABOUT IT!

-- KU5B

Woodward Radio Operators Track 'Suspicious'

by Louise James

WOODWARD-- During a season when most Oklahomans watch the clouds for signs of a white Christmas, a small group of Woodward area amateur radio operators are preparing to track thunderstorms next April and May.

A 1960s airport radar system recently acquired by the City of Woodward for \$1,500 will allow them to work more efficiently in the coming storm season.

With the acquisition, Woodward becomes one of the first towns in Oklahoma to own such an extensive system for weather surveillance, said Bill Wyatt, assistant civil defense director.

"In fact, we are the only town in Oklahoma that has its own radar watching the skies during a storm," he said.

The new system replaces a World War II

aircraft radar system which had been used here since the spring of 1979. It was first manned by a citizens band radio group, but recently has been monitored by the amateur radio operators.

Woodward natives understand the value of early storm warnings. A tornado in 1947 traveled on the ground for over an hour before hitting Woodward, killing 95 residents and wiping out 110 city blocks of property. It was the most deadly twister in state history.

Wyatt regards the present weather watch-posts as an extension of National Weather Service coverage. "When we spot a suspicious storm, we make two phone calls. First to the community directly involved and then to the National Weather Service."

Towns as far away as Coldwater, Kan., and Elk City rely on Woodward's tracking sys-

tem.

Finding the radar was harder than tracking the thunderstorms, he said. "We contacted 20 people before we got somebody willing to help." A Federal Aviation Administration representative "agreed to work with us on his own time."

They sought a radar which could scan a 100-mile path around Woodward and had the potential of being converted to more powerful Doppler radar.

But initial efforts to find the radar were discouraging. Finally, they learned the Air Force had three surplus systems in Sacramento, Calif.

Wyatt, Woodward's City Manager Ed Dawson and two FAA officials flew to California to see the radar.

After weeks of cutting red tape, Wyatt and



RAY MILLER, W5REC
ASSISTANT SECTION COMMUNICATION MANAGER

GREAT PLAINS A.R.C.

Since this may be my last input to C&E as your Assistant SCM, I wish to sincerely thank everyone in the OK Section for putting up with me as your acting SCM.

Knowing of the responsibility of recommending a successor, I had thought of the possibility long before WA5FSN became sick and had asked him to replace me as ASCM. He chose to keep me on so I, in my inherent sense of fairness, devised a system of selection and evaluation that precludes, as nearly as possible, my personal relationships, friendships and emotions concerning any specific person. This type of objectivity required my resorting to management philosophy, a philosophy that I do not like to apply to my hobby, to result in a fair recommendation for all of the OK Section. It carries an evaluation system with it that provides the Director of the West Gulf Division and the General Manager of ARRL a capability to judge my reasoning. With their appointment of the new SCM, the new concept, outlined in June QST, will go into effect.

Upon approval of the Director of the West Gulf Division, I will transfer my Field Operations Guideline to the SCM. This Guideline contains my recommendation of each of the seven unfilled leader positions.

Also, I have been asked to recommend persons to become Assistant Directors for Areas 3, 4, and 5. That will be done simultaneously with the SM recommendation.

Ladies and Gentlemen, I ask and pray that you will support the appointments, whether it is of your choice or not, as I will whether it is or is not my recommendations.

OK SECTION NET REPORT FOR DECEMBER 1982:

NET	SESSIONS	QNT	QTC	WEATHER
EATWN	31	277	4	0
NWOSN	14	214	12	0
OFON	23	435	117	0
OLZ	31	185	75	0
ONON	31	481	112	0
OPEN	4	216	47	0
OTWN	26	493	401	377
STN	27	536	132	0
QCWA #63	4	145	13	0



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Storms With New Radar

a group of volunteers made arrangements to bring the radar to the state.

It was hauled back to Woodward recently by Jack Wilson Trucking. "They had a load to Los Angeles and Wilson agreed to send his driver to Sacramento and haul the radar back if the city paid his fuel," Wyatt said.

"We still don't have an antenna or a pedestal for it, and it's stored at the public works building until we construct a small block building."

Wyatt believes the radar was originally used at an air base in Germany in the early 1960s.

But the volunteers and all Woodward's city employees seem determined to have the radar in place and converted to storm watching by spring.

Last spring, Woodward's radar was turned

on 38 times for an average of three or four hours at a stretch. Wyatt, Doug Maupin, civil defense director, and Dwayne Buck of the water department, man the radar.

The new radar will measure the intensity of raindrops. Once a severe storm is indicated, ground spotters are sent to that area to visually locate funnels and relay the message. Wyatt said that it takes special training from the National Weather Service to visually detect dangerous clouds.

"We are not in the forecasting business. We just report what we see. We have the support of the city officials, the Oklahoma Highway Patrol, the Severe Storms Lab (in Norman) and the National Weather Service.

"It is our obligation to provide sound, reliable information in order to keep that support."

Well Christmas has come and gone for another year and I apologize to GPARC members. I sent in the article last month but it must have been delayed in the Christmas mail. The NWOSN was treated to a visit from Santa Christmas Eve. KØCIO kept the group updated throughout the day from the North Pole. The reindeer, he reported were in peak condition and ready to go especially Rudolph! Then just before Santa started his long journey he visited the net via KØCIO. We heard his bells as he came in with a big "Ho, ho, ho" Five kids got to visit with Santa and tell him what they wanted. The eighty year old "kid" (K5OJ) wanted the clock turned back 60 years! Santa said that was out of his jurisdiction, he might see Superman about that! The kids ranged in age from two to six years and I'm sure they won't forget visiting with Santa direct from the North Pole on daddy's radio! Many thanks go to Al Ellis for playing Santa.

On December 5 KD5JR, KØCIO, WBØPGD, N5EPO, NC5C, N5CCV, and Jim Ginrich met to move blocks for the new building to house the radar. I know it was lots of work but from the sounds of things they had lots of fun seeing which group could load or unload the fastest! I think KD5JR had the right idea, he drove the loader! The building is now up and KD5JR has been moving equipment in. The new building is to house the new radar. The amateurs worked in conjunction with Woodward city officials to acquire the radar. There is still lots of work to do but we hope to have it operational for storm season. This was all possible to the efforts and hard work of KD5JR!

Congratulations go to the newly weds KA5DUO and his new bride Ann. There are certain amateurs that have made sure there has been no quiet moments when they are around. Ann has warned them, however. She is storing all the teasing up so watch out fellows, your turn is coming! It will be fun to watch and I may even help her!

On January 4 the new president WBØPGD called the GPARC meeting to order with 22 members and guests present. The treasurer's and secretary's reports were read and approved. KD5JR gave an update on progress on the radar. He reported that WBØPGD had donated 3000 feet of steel to put in the roof. He said the city of Woodward is very appreciative of any and all donations to help with the building.

WBØPGD appointed N5CCV to compile the list of club equipment. Ron also reported that KAØKEK had donated a copier to the club. He asked for volunteers to work on the club history. Lance Richmond was voted on and approved as a new club member. Welcome Lance! N5CCV was appointed as ARRL club affiliate. He will report all ARRL news to the club.

It was advised that the section manager had not been assigned yet. After discussion a motion was made for the club to back WA5OUV as a candidate for S.M. Motion was approved by all.

KD5JR has the Emergency Plan endorsed and it is now being put through the word processor. He stated that he needed two stations, one as an emergency station and the other as the official traffic station. He asked how the club wanted to proceed and in the discussion that followed it was decided that the E.C. should set up the plan. KD5JR asked that anyone wishing to handle one of the stations to please get in touch with him.

N5CCV asked for ideas for activities. KD5JR suggested a work day on the radar with a club supper to follow. Sounds great!

The meeting then adjourned with most re-gatherin at the Pizza Hut.

73 Carla WBØQGW



BICENTENNIAL AMATEUR RADIO CLUB

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MINUTES FOR JANUARY MEETING

The meeting was called to order by President Jim Hopkins at 7:00 P.M.

Introductions followed, there were 23 members and guests present.

Treasurer report: Since we had no meeting in December there was nothing to add to treasurer report. Besides the Treasurer was not present.

Secretary Report: No report for same reason

C.O.R.A. Report By Jim Buswell : CORA is thinking about charging for flea market tables at HH83 and is seeking the clubs suggestions on the matter. Some other discussion was held on HH83. A motion was made that our clubs recommendation should be to CORA that we not charge for flea market tables, motion was seconded. Question was called and passed by a simple majority.

OLD BUSINESS: No old business was discussed.

NEW BUSINESS: The committees need to be formed for our duties at HH83 of pre-registration and this year the added responsibility of Programs. Dale Moore has volunteered to head up the program committee. One suggestion was made that a video recording be made of the programs so they could be replayed at other times or at future club meetings. Suggestion was made that we approach CORA with the idea and find out if funds are available to buy tapes and such.

REPEATER REPORT: Tech committee is still hard at work on the new control circuit for the repeater. Some equip has been donated by an organization if we will just go to pick it up. Our plans are to sell this equip at Ham Holiday.

Don Jones K5UKP asked if any one knew how to renew the special ID issued by the State. Jim Buswell said he had some blanks at home.

At this time a break was called.

Meeting was resumed and the Special program was introduced by our Program Chairman Tom Childers N5GE. The Program was held by Frank McCollum N5FM on the Weather Net Procedures. He handed out some maps. The regular weather meeting will be held at Channel 9 the last Tuesday of February.

The meeting adjourned at 8:12 and a short technical session and bull session followed.

N5AUH

There haven't been many articles written for the club in awhile, mainly because the writers have either been out of town, working, or just plain loafing. That should change from now on though. Please excuse the odd gaps between words; computer 'justified text' isn't all it's cracked up to be. Neither is dot-matrix printing, for that matter.

I also want to say I was shocked when I walked into the January meeting. For the first time in a long while, the room was full! Those of you who had left us for dead during the past two years may be in for a surprise. This is a good sign that we can get the club functioning back to old standards. B.A.R.C. will rise again!

Reasons for the recent turnaround in attendance are many, not the least of which is the new meeting place (downtown OGE bldg.). It seems to be better for attendance since it is more centrally oriented. Those of you not living in southside might have a better chance of showing up now. Also, our new program director Tom N5GE has been lining up some good programs for after the meeting. They seem to add a lot to what would normally be nothing but Field Day, repeaters, Christmas dinners, old business, etc.

Last month the program was on that important public service subject of weather spotting. Our guests gave us a good rundown of the changes in the spotting network this year.

Those of you who missed it will have to take my word for it; you ought to catch this information one way or another if you're planning to help out this spring. By the way, thanks go to Frank N5FM and Dennis WD5CSM for coming out and giving us the scoop.

It's about time to start thinking about Ham Holidays again, and Dale KD5SX could sure use some help in getting programs lined up. For pre-registration, I could use the assistance of a few computer genius types who really know what they're doing. No actual software necessary, but I'd like to know what you've got if it works.

And now for the Oklahoma radio amateur's favorite subject, DXing. It has come to my attention that the main DX writer for this magazine is no longer receiving as many of those valuable bits of information as he used to. In an effort to help fill in the gaps, I thought I'd give it a shot just this month on a trial basis. Actually, this is sort of out of place in the 76ers club section since our average club member considers Enid to be rare DX (no offense intended guys). Generally, the idea is to pass on various tips on upcoming and current events in the DX world.

BV-BY: China - China continues to make radio news. Both Chinas, in fact. Tim Chen, BV2B, reports that soon there may be some sort of new licensing program that may allow for any qualified party to operate a radio. This would certainly be a switch from recent policy. Aside from Tim, no other activity has been heard from here since the BV1US fiasco of the 60's. On the mainland, look for BY8AA on 15 and 20 meter CW around 0200Z.

1A0KM: S.M.O.M. - Chief op Mario (I0MGM) says not to look for any activity from this one until after spring. Remember that the boys from Rome are deliberately trying to keep this one rare to increase their contest scores.

VK0HI: Heard Island - The NCDXF/IDXF group should be operating any day now. Get them now. Don't wait for the next expedition.

VK0JS: Heard Island - The VK9NS group was on their way, but turned back with fuel pump problems. They set out again, only to return once more with 'contaminated fuel'. I couldn't help but laugh when I learned of this one. Somehow, you knew that it would never get off the ground.

C9M: Mozambique - Recently much activity has been heard from here and is even rumored to be legitimate. But don't you believe it. This military governed communist nation has about as much use for ham radio as it does for the South African guerillas that are invading it.

UA1P: Franz Josef Land - Look for UK1PGO on the W7PHD net around 1430Z weekdays on 14.225 MHz. QSL's go to UK3SAB. Actually, getting a QSO should be a simple task compared to getting the pasteboard. Which leads us right to:

UJ8: Tadzhisky S.S.R. - Famous QSL manager W3HNK is rumored to have 'connections' to this one. Supposedly he can get you a card from any UJ8 or UK8J-R station. No promises from yours truly on the validity.

Bruce KC5CR

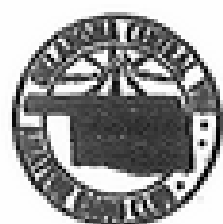
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Club
NEWS

VOLUME
The Oklahoma Repeater Society
Bulletin

Minutes of January Meeting

Meeting was called to order at 8:00 P.M. by Secretary Joe, K5JB, with 11 members and guests present. President Steve, W5VCJ, was out of town attending funeral services for his sister-in-law.

Ellard, W5KE, gave the Treasurer's report and advised that 21 members were paid up to date.

The CORA reps were given the Club's opinion that the non-commercial flea market tables at Ham Holiday should remain free.

Elections were held with the following results:

President is Paul Asplin, WA5HTL
Vice President is Jerry Wetmore, KD5IS
Secretary is Joe Buswell, K5JB
Treasurer is Ellard Foster, W5KE

Directors were elected as follows:

Jim Williams, K5VRL
Charlie Greene, WA5JGU
Steve Stevens, W5VCJ

(See you don't have to be at a meeting to be elected...)

These Directors join W5HXL and WA5FWD who were elected last year and are carried over.

Motion passed that the meeting time be changed to the third Saturday of each month, at 10 A.M. until further notice. It will be held at Red Cross headquarters. Our new By-Laws provide for meeting arrangements changes at any regular business meeting.

It was sadly announced that Ginnie Coffey, K5BXZ, spouse of Charlie, K5RRQ, passed away this month. Funeral was held in Yukon Jan 14 with DeWitt, K5CLS officiating. She had been sick for quite a while and the club expresses sympathy to Charlie for his loss. Flowers were sent by the Club.

We are glad to have WA5JGU back from So. Tex. (That mobile whip ain't so hot Charlie)

Meeting was adjourned at 8:40 P.M. for coffee. (No donuts...be glad to have W5HXL back too!)
Joe, K5JB, Sec'y

Okla Repeater Society Meeting...Linking

The Oklahoma Repeater Society had it's winter meeting at Stillwater January 15. One of the subjects addressed was the linking of repeaters. Dan, K5CAY, from Enid, brought up the subject and initiated discussion regarding why there hasn't been more enthusiasm for linking repeaters in the state.

At one time, Bob Pace, WA5CJG, who has been active in repeater linking, presented a program and proposal describing a network of repeaters that could tie the whole state together with 2-meter repeaters. The idea never did take hold. There has been some linking in the Northeastern and Southeastern parts of the state but nothing on a large scale.

Unfortunately, Loren Simms, WA5CBF, from Altus, was not present because of sickness in his family. He could have contributed some comments from his experience. He also happens to be on the ORS technical committee. (The technical committee consists of Joe Garland, WA5FLT; Dan Bates, N5TM; Charles Dibrell, W5BLW; Ken Isbell, W5QMJ; Loren Simms, WA5CBF; and myself...others are welcome.) The consensus of the group was that the problems associated with linking of repeaters were not technical,

but rather, operational. Before it is advisable to link repeaters, conditions under which they are to be operated have to be decided.

In the past, whenever I was asked for an opinion, I said that the right chemistry wasn't present. Those who know how to do it have not been the same ones who want to do it, or they have not put their heads together. One of the repeater trustees present put it this way, "...I would want to know what they were going to use it for...before I would be in favor of linking."

Very simply, it is not a technical problem. I refer to it as a social problem (that's why I am involved in the technical committee doncha see...).

In order to make a little progress in solving the problem, the Oklahoma Repeater Society is going to send a questionnaire to the repeater trustees and ask for opinions on what operating conditions should repeater linking be established, what controls need be placed, what provisions for testing, etc. Dan, K5FVL, will prepare and send out the questionnaire and I will help him prepare it. We would both like your input.

We hope that Bob, WA5CJG will provide technical guidance, perhaps putting on a program at Ham Holiday. In any case, the subject will come up again at the ORS meeting at Ham Holiday and perhaps some progress will be made.

On the technical side, the concept of repeater linking sometimes is made more complicated than it needs to be. Consider this: Suppose the operators of the repeater in Boondock City on 146.16/.76 wanted to link up with the 146.25/.85 repeater in Metropolis City 60 miles away. Now, for you and I that is a long way to hit a repeater, but for the repeaters, with the height of their antennas, it is not all that great a distance. If, when the .85 repeater transmits, it can be heard with significant signal strength at the .76 repeater site, it may be possible to use a commercial grade receiver at the .76 repeater site and hear the .85 repeater even when the receiver is desensitized by the local .76 signal. With a separation of only 90 kHz, this would be a tough case and might require some tricks with the antennas, but it is not impossible. My own experiments involved much greater frequency separation (300 kHz or so) but the equipment wasn't so hot either and desense was not much of a problem. (That's where I started saying "If they can't hear you, you can't work 'em.")

The .76/.85 example is probably not a good one because those frequencies are so close, but with availability of frequencies in the 144 & 145 region used on one end of the link, it ought to be a piece of cake.

To carry the example a bit farther, suppose each repeater site is equipped with antennas and receivers to hear each other's signals. Now, when an operator on one end wants to bring up the repeater in the other town, he uses DTMF or CTCSS (Touchtone™ or PL™) tones and causes the repeater to transmit a control tone. The repeater can be enabled to repeat what it is hearing from the distant repeater so the operator won't blunder into an operating system. The distant repeater, on getting the control tone, connects audio and the keying line to the link receiver. Whatever one repeater says, the other one says also.

Primary control still must be maintained by wire line, radio frequencies above 220 MHz, or local finger on the switch, but there is nothing wrong with this kind of secondary control on the 2 meter band.

Whenever people talk of linking, they always start by discussing the merits of 220 and 440 and get bogged down in the problem of avail-

ability of equipment. The fellows in Altus thought of linking their system with the OKC .22/.82 system for weather purposes and a receiver was considered at the OKC terminal to make it two-way but I don't think any trials were made. That system was going to use 2-m for the links.

One of the thoughts that occurred to me was that it might be better to link the smaller range repeaters rather than the "big boss" because it would be a little easier to supervise the things. However, it really depends on the desires of the group and the real purpose to which the system will be put.

The obvious advantage of using 220 MHz is the room there and the freedom from interference by other users of the band. Duplexers are smaller and antennas are small so it might be easier to make more complex linking arrangements. The big disadvantage, of course is the lack of commercial grade equipment.

The 440 band is getting a bit crowded on the upper end but there is a bunch of room in the 420 to 430 region. Commercial equipment usually tunes up down there pretty easily, duplexers are no sweat, and with a little bit of luck, commercial equipment for the government 406 to 420 band can be found and pressed into service.

Any system, even the simplest of repeaters, has to have some control circuits. The linking of repeaters is an opportunity to really go wild on the controls. It is difficult to debug controls when they are connected to equipment located on some wind-swept hill in the middle of nowhere. For this reason, those involved in putting the controls together will spend tremendous amounts of time building and testing the things before they go on the system. Some of the circuits are already designed for the purpose and used in the Texas inter-city system. They would serve a good basis and starting point, avoiding some of the design start-up problems of developing a system from scratch. It would be an opportunity for those who are interested in the technical phases of the sport to get some first-hand experience and reinforcement in the theory of electronics.

Let's review the equipment requirements of the simple, single band linked repeater system described earlier. Starting with the basic repeater systems, each will already have the necessary controls for ID, time-out, shut-down, etc., and they will either have separate antennas or duplexers. Each system will need another receiver and either another antenna or a splitter off of the receiving antenna system. Antennas for point-to-point use are pretty cheap, but the feedline could be an expensive item, depending on where the receiver is going to be located. Lines have to be run from the receiver to the control point to carry audio and a carrier detect signal. If sub-audible tones are used, a line needs to carry the tone or a detect signal from the receiver to the control point. I don't know if the '07/67' repeater is still using it, but it was designed with a balanced pair carrying audio and DC switching superimposed thereon so only one pair was needed from the receiver and one pair to the transmitter. DC return was provided by the power ground return. Touchy and hum has to be tuned out but it works.

The existing receiver at each site has to have either a sub-audible tone decoder added or DTMF decoders have to be connected to the audio to receive the command signals from the other system. Each transmitter has to be provided with a sub-audible tone encoder that can be commanded on, or if DTMF is used, nothing need be added to the transmitter but the controls become a little more complex. The commercial equipment being used on most repeaters has sockets for the sub-audible stuff so you just buy 'em and plug 'em in. Sub-audible tones are a much neater and quieter way to go but there is a little bit of delay each time they

come up to speed. The commercial operators don't seem to mind the delay though.

Each repeater would have to have a command circuit added. It would consist of some kind of decoder that would accept a control sequence from an operator. At a minimum it would have to have two commands: Talk & Listen. It should have an "Off" function but that could be provided by an inactivity timer. To use the link an operator would send a command sequence that would enable the receiver tuned to the distant repeater and it would key up the local repeater transmitter if it heard anything from the other system. If the system is quiet, the local operator would send a command sequence that would send the control tones out on the repeater transmitter. The other repeater receiver, upon hearing this, would key its transmitter and repeat the audio from the local operator and local repeater. At this point, an operator in the distant town could answer without sending any control tones. If the system designer wished, he could provide the receiving operator with the ability to disable the system so he could shut off the operation from the remote site.

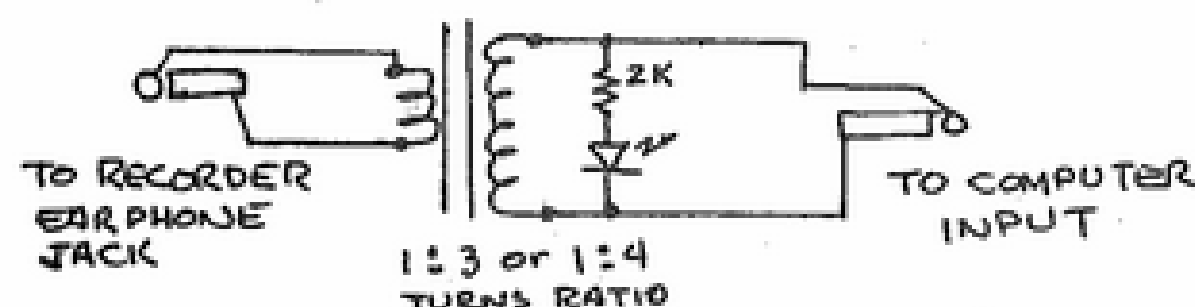
This is not a technical question. Who should be able to turn it on and who should be able to interrupt the link are operational questions that are entirely up to the decisions of the groups building, maintaining and supporting the systems. Unfortunately, answers are not simple and there are a number of operators who think they should have some influence on these decisions even though they are neither building, maintaining or supporting these systems. They may be right. Nobody has any exclusive right to the frequencies involved so the veneer of civilization wears quite thin at times. Some repeaters have become almost public utilities with the operators getting really excited when they are out of order.

Well, enough soapbox. I think the point has been made. Technical solutions are fun to find. Some people are experts at finding social solutions. All that is needed to get the repeaters linked is to get both solutions together. Joe, K5JB

Simple Project of the Month Club

I don't know how hard it is for you folks out there with the Color Computers to get successful cassette tape loads of your programs, but in the past, I have always had a real problem on various computers I have messed with. 'Cuz of Sid, W5K0Z, I had to come to grips with the problem. He made me the proud owner of his Sinclair ZX-80 and if I was going to save any of the fruits of my labor, I was going to have to save and load from tape. He had thoughtfully modified the thing with a little LED that flickered when the level was right but I still had a problem getting the audio right. The problem was that my tape recorder couldn't develop the 4 Volts p-p required by the computer without going into distortion.

After going through my junk box I came up with the circuit shown below. Any transformer of 3 or 4 to one turns ratio should work. I built two and both worked great. I could do no wrong even on the Apple, which refused earlier attempts to load reliably from tape.



Computer Tape Loading Adapter

The LED I included didn't seem to bother the operation of the thing though it would do some clipping. It makes proper level setting a snap and program loading foolproof. Joe, K5JB

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1/4 Wave	2 PORT	\$50.00
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2 METERS

(Connectors available TEFLON SO-239 or TypeN)

1/4 Wave	2 PORT	\$36.00	1/2 Wave	2 PORT	\$48.00
1/4 Wave	4 PORT	\$43.00	1/2 Wave	4 PORT	\$55.00

1 1/4 METERS

(Connectors available Type N only)

1/4 Wave	2 PORT	\$35.00	1/2 Wave	2 PORT	\$46.00
1/4 Wave	4 PORT	\$41.00	1/2 Wave	4 PORT	\$53.00

70 CM

(Connectors available Type N only)

1/4 Wave	2 PORT	\$34.00	1/2 Wave	2 PORT	\$45.00
1/4 Wave	4 PORT	\$40.00	1/2 Wave	4 PORT	\$50.00

1296 MHZ

(Connectors available Type N only)

3/4 Wave	2 PORT	\$39.00
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(Low loss TEFLON and Air Dielectric construction)

50 Ohms IN 50 Ohms Out	50 Ohms IN 100 Ohms OUT	50 Ohms IN 200 Ohms OUT
50 " " 75 " "	50 " " 150 " "	75 " " 75 " "
2 METERS \$42.00	1 1/4 METERS \$41.00	70 CM \$40.00

OTHER IMPEDANCES AVAILABLE (Call)

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WB5DSH

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The South Canadian Amateur Radio Society

SCARS JANUARY MEETING.....

The South Canadian Amateur Radio Society held its regular monthly meeting for the month of January on the eighth of the month at the Red Cross building in Norman. Small quantities of business were discussed during the coffee drinking.

N5ALG, Bob, volunteered to look for a different place for next years Christmas dinner.

The repeater is still coming. Work goes on to obtain crystals and re-tune the new SCARS repeater so that some time within the near future it can be put on the air in Norman. Present plans call for the machine to be installed in the Court House where the old repeater is now. The club is still short of money for the repeater fund, however a short term loan has been obtained to cover costs until the club can decide on the best means to raise the money. Anyone with an idea should contact one of the club officers.

SCARS HAPPENINGS.....

Not much news of members has passed my way during the last month, and therefore I apologize for the scanty offering. However, we hear that W5SQJ has his linear working on some bands and that W5MCN has his homebrew vertical working on some bands. It should be mentioned that the amplifier is not working on any of the bands that the vertical works on and vice versa.

Also, we hear that Ken, KA5EFJ, has a new miniature HF mobile antenna on a mag mount base. He says he had a lot of fun with it on his trip to the Fiesta Bowl.

-wa5rpp-

WANTED: 2 NEW 572B tubes. Also..
For Sale: Viking Ranger; Messiner
Signal Shifter.
For either of the above, contact
W5SQJ, Jess Speer, Phone 321-7302

"AMATEUR RADIO" FOR NOVEMBER

There are three very good articles in this issue. One is for that rare bird, the builder. It concerns easily-built crystal filters for transmitters or receivers. For the Radio Amateur who likes mobile operation, there's a discussion of the effect of antenna location on radiation patterns. And, for the radiotelegraph operator, there're wise words on operating practices. W5JJ

YES, VIRGINIA And He Comes From Texas

Charles P. Chilton from Pampa TX brought a 130 watt 2 meter repeater with him when he moved to Oklahoma.

Charles and the Grady/Caddo County A.R.E.S. got it on the air just before Christmas. It is located near Anadarko on 147.87/147.27 MHz. The call sign is WB5KJD/R.

All hams are encouraged to use this machine. Input is needed from distant stations in all directions and under all different condition, from all different antenna systems with all different power levels, to learn the overall capabilities of the system.

Your suggestions for changes or corrections needed, are sincerely solicited. So please report any weakness of the system that comes to your attention.

A dependable communication link, ready for any emergency, is a major goal.

YES VIRGINIA, there really is a "Santa Clause".



AMATEUR RADIO EMERGENCY SERVICE

Art Roberts W1GOM
Emergency Coordinator

NET - 34/94, OKC, 9 pm. Mon.
In-Person Meeting - 3rd Mondays, 7:30 pm.

Those of us in Central Oklahoma have been fortunate the last two months. We have enjoyed good weather and no serious problems requiring the aid of ARES.

We had a good meeting in January. Projects and directions for 1983 were discussed. The highlight of the evening was the report by N5GE, Tom Childers. We were told about changes in the storm net organization and procedure. Tom needs dedicated volunteers to help at the National Weather Service. This is interesting work and you will be appreciated by the staff out there. If you want to help or get more information, get in touch with N5GE or W1GOM.

Tom is taking over the duties of Assistant EC with the NWS. I received a letter from AE5N, Don Duck, the former AEC. Don is relinquishing the job to Tom due to a change of commitments.

Don has done a superior job with the crew at the Weather Service. Our thanks to him for the years of dedication to an important service.

We will be calling all ARES members during the next month. This is to update the card file and roster. Any one wishing to join us, please call W1GOM.

It was a Monday evening. It was November, 1981. As a matter of fact it was the third Monday in November. The scene is the informal meeting of the Oklahoma County Amateur Radio Emergency Service (ARES) at the Oklahoma City Emergency Operations Center (EOC) 4600 Eastern.

The Radio Officer at the time asked the group then assembled if ARES could assist in the semi-monthly testing of the Civil Defense sirens - we said we'd try!

This meant we had a list of 36 locations scattered about the metropolitan area to be watched and listened to twice a month, every month, at high noon on the first and third Saturdays. A year later that would be expanded to 50 and rumour has it now that this number is about to grow to either 60 or 62 and soon!

In these 14½ months since asked, ARES members have followed through with consistency and reliability. Kudos are due and hereby presented to the following:

WB5PWZ Bob White	KA5ETA Bob Moore
K5UKP Don Jones and wife Bea	
N5EPV Bob Allen	NB5ZKV Larry Langer
N5ARV June Allen	W5GEZ Guy Stratton
WA5RAQ Bill Rogers	WB5TMW Dick Baker
K5LDI Tom Mangham	WB5ZKZ Jack Muse
KH6JUM Fran Galway	N5BUH Jay Watkins
KH6JTE John Galway	K9JTW Vern Douglas
K5AHU Bob Lutz	WA9AFM Tom Webb
K5SJV Don Rooker	WB7UIY T. Frampton
K5VRL Jim Williams	N5BFD Jim Hopkins
WA5DTL Ken Goddard	KD5IS J. Wetmore
WA5TAR Sid Rose	WB6GMI Bob Jones
N5BNW George Lee	K5SKA Bill Demand
KA5HRH John Feddersen	WB5UBB J. Warriner
N5CTT Sue McGlynn	K5QDR John Huckaby
WB5RUP Al Hall	WA6CMJ Bill Murphy
K5HQP Marvin White	K5HFN Fred Wright
N5ANG Mike Woods	N5EWF Jerry Welch
KD5AW Karl Williams	KASCXW Fred Taylor
NCS: N5BEQ Jim Buswell	KC5HU Jim Beasley

We take great pride in the efforts of these people and want the world to know of it.

You can be on this list and be counted one of these "public servants" by helping out with the siren in your neighborhood - check on .94 about 11:45 am 1st & 3rd Saturdays, if the weather permits a test.

For a siren list, see the AUG '82 C&E, or contact EOC, N5BEQ, or W1GOM.

24 January 83 *Art Roberts W1GOM*

ARDMORE

When a club does not do anything, when a club is inactive, it is most difficult to write a column or report on it's activities. I can think of nothing any duller or space wasting than the minutes of our last meeting. Our club members do not know what minutes are. In the last twenty five years I would be surprised if the minutes have been read twenty five times. It is not unusual for some one to say, "anymoney in the treasury"?, answer "yes" or the treasurer will say, "If we are to do that we may need more money". In which case everyone says, "When did I pay my dues and how much do I owe?" Payment is made and everyone goes on about their business. As you can see we operate in a most business like manner.

If we have four or five at the official business meeting, everyone would think we were serving coffee and cake. All in attendance would be most suprised. If we did not conduct what business is at hand at the monthly breakfast we would never have a quorum. For some reason, business meetings just do not have the flavor that my Mother told me they would. The other weekly get together at W5BLW's draw from six to a dozen. There is more haming and computer talk at these unoffical get togethers.

Being new we were not aware of the early November and December deadlines, which are certainly understandable, consequently we missed both issues. Truthfully we had nothing to offer anyway. Our November breakfast was well attended and we had a most interesting talk by Burl Lowe, a Red Cross person and CPR Instructor. We are to begin CPR training soon. I was somewhat dissappointed that we did not get 100% participation. Maybe we should have established a slogan such as: "LEARN CPR and LIVE TO FANTASIZE (hallucinate) WITH TONDELAYO". We might have gotten a larger participation. We will take what we can get.

Our December breakfast brought out 31 people. After a good meal and a short business meeting, Russ Anatubby, W5RFX and Howard Robinson, WB5FAJ, slow scan and computer devoties, gave a very interesting demonstration on slow scan T.V. They both have received interesting pictures from many DX locations. Many of our members had children and grand children home for the Christmas Holidays.

We are very proud to announce that TOM W5HJ and LUCILE BANKS are celebrating their fiftieth wedding anniversary. They have just returned from Porto Rico, and will be home for a coffee and cake congratulations, given by this club at the Red Cross at 2:00 pm Sunday January 23rd. Ellen Innis XYL of FRED WB5VKB and FRAN MILLER W5SNL, will host the celebration.

Have any of you written to the HAMRAMA ASSOC. or to the governer, about the lodge situation at Lake Texoma. It is still not to late to do this. Let us not wait until it is necessary to begin next years meeting arrangements.

More and more COMPUTORS are pushing their way into the shacks of Ham Radio Operators. As their costs fall more of us become interested. Tables and desk either become larger or more crowded. Haming has become more complicated in the last twenty five years. Home built rigs are just about a thing of the past. Hallicrafters can hardly separate the present QRM and the courtesy of the thirtys and fortys is long gone. IF THERE IS ANY WAY WE CAN BE MORE KIND TO THE JOKER WHO JUST TUNED UP ON OUR QSO AND STARTED CALLING CQ, I would like to know what it is! John WD5FZD. Jan.82

WILL TRADE: ICOM 2-AT for Azden 3000. Call Al, 390-2983.

FOR SALE: Fuses, many sizes, many types, low prices. W5JJ, 789-3788.

Shawnee Amateur Radio Club



W5SXA

I hope we are all happy with the accomplishments of 1982. If not, we have a new year in which to try again.

We had some problems with the repeater during the last storm watch. The problem was in the interconnect cables at the duplexer. Tommy W5NMN, Herb W5TQZ, and myself got together and worked over all the connections. This work seems to have done the trick. December is the wrong time of the year for a tornado watch anyway.

Mel K5KXL announced on the Pottawatomie County net the other night that we now have two new hams in the area. Dale Pallern KA5PQZ and Linda Roberson KA5PRA. Welcome aboard!

From the talk I hear on the air, Santa sure was nice to the area hams.

Our new club president, Jay KD5NX, has a heavy winter growth covering his face to protect from the cold Oklahoma winter. He can wear a hat to cover what the hair doesn't on top of his head.

I have asked Tony Mullins to be thinking about a wx class for the area hams in March. Tony is the young man who has conducted our classes the last few years.

Herb W5TQZ passed along the amplifier schematic that he used on the phone line at the repeater and I found it works great on H.F. to amplify the telephone audio on your phone patch.

Jay asked if I would take the job of placing an article in the C&E each month. OK guys, get out there and do something exciting or spectacular each month so there will be something to write about.

The first club meeting of the new year was a very interesting and productive one. Eleven members and one guest attended. The guest was Bill Johnson who is the chief technician with the Shawnee Cable T.V. Bill came to the meeting to discuss problems that can arise between cable T.V. and amateur radio. He expressed a desire to work with the hams to solve problems between the two communications. We were impressed with Bill's interest and his desire to solve problems as soon as they were discovered.

Jay KD5NX gave a summary of the things he and the other club officers had discussed for their goals in 1983. An H.F. station at the E.O.C. will be one project. A flea market later in the year to raise money, but mostly to clean out the club's storage building, is another. Updating the by laws of the club was mentioned.

By the way, I overheard the club president tell the secretary-treasurer at the end of the meeting that one of his goals was to finish the business meeting in one hour. I sure hope the XYL doesn't hear about this.

73 and be nice to one another.

Earl WB5ZBA

FOR SALE: Heathkit tube driven stereo amplifier Model AA-50. Will throw in two unmatched speaker speaker enclosures, with speakers and manual. \$25.00. Joe, WA5ZNQ, 789-8587.

FOR SALE: Gibbs reverberation unit for use with guitar, or as a replacement in Hammond organ. \$5.00. Joe, WA5ZNQ, 789-8587.

1982 C&E INDEX

Prepared by Bill Rogers, WA5RAQ

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More Index, next column →



by

WD5JNT Ted VanLaningham

The Jan. meeting of the Wheatstraw Radio club was in Kingfisher on Sunday the 9th. It was a nice summer day to be out. There were about 36 members and guests present. We had quite a discussion on some jackets but it was tabled untill next month, since absent minded LEO did not bring along a sample that he said he would. He promised not to forget it next month. Perhaps he had about as good an excuse as he needed though. Seems he has a new wife and that made him forget everything else. After the business part of the meeting we saw the film on the Ballengrath Gardens of Alabama. It was a good film. After that we saw a video tape that included a bit of Leonard WA5FSN in action. The tape was later presented to the Hollar family. We also had the usual goodies and eyeball QSOs. Thanks kingfisher for a fine meeting place. The next meeting will be at Okarche High School--second Sunday of February at 2:30 pm. The net control for our Wed. Nite Net will be Johnny, K5GBN. It seems like the same few are always doing it. I wonder if I might have to try it sometime. I wonder who else hasnt done it for a while???

I was talking to Ralph the other day [Monday?] He said that he was calling to let me know he was back. I had to ask where he had been. I hadnt even missed him. Ralph I later heard someone asking if you had got back yet, so it looks like somebody missed you anyway. I heard that Ted lost the speaker in his radio. It seems that somebody turned the IDER so it wasnt any where near as loud as it was. Ted had to turn the volume up to where he could hear it all over the house like always and it happened that when somebody used the repeater, the audio was louder than, instead of lower than the IDER.

I dont know much else that is worth printing, so lets hear you around the repeater and the Net Wed Nites at 8:30 on 01-61.

George K5GGL

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9-2

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+ + + INDEX BY BILL ROGERS, WA5RAQ - - -

OK DX

EGAD --- Could it be CHAD ?? That is the latest rumor we have heard and personally I hope it 'comes true!' That list-hating DXer, Carl Henson, WB4ZNH and his wife Martha, WN4FVU have left Atlanta for Central Africa. AFTER they arrive, they hope to gain permission to operate from IT, CHAD. Before you scoff, remember that Carl and Martha were the folks who successfully received permission to operate from 3C0, Annobon, back in January 1982! I wish Carl the best and hope he lives to feed his ego on many more DXpeditions. If the Hensons are able to get permission to operate, listen for them on the usual DX frequencies. Do NOT tail-end, as this practice will gain you a prominent place on Carl's blacklist and you'll never get a QSL.

Have you HEARD from HEARD? More rumors - had Jim Smith turning back last week, but we now understand he completed repairs on his ship and is back underway toward VK0. VK0HI should be operating from January 24 through February 20, 1983. Jim Smith's VK0JS is now expected from January 28 through February 10, 1983. I hope everybody works 'em both!

Let me make this CHINA-clear... I need another 50 feet on my tower, because BY8AA has been impossible from my QTH. I hope you are having better luck! I have heard the signal, but the pile-up is horrendous. BY8AA works around 14.045 Mhz listening up and has been heard (weakly) from 0100--0200 UTC. Keep listening to 147.900 Mhz for local DX gossip and announcements.

What a BANG-up month for DX!! Two Japanese operators are due to operate from S21, Bangladesh, between February 28 and March 1. One of the operators speaks only Japanese --if you know what that means... I plan to take a few days off work during that time and give 'em a try anyway!

MIDDLE EAST is BUSY with a trip by Yasme team of W6KG and W6QL. They are scheduled to operate from A71 until February 10, 1983 and the next spot is supposed to be A9, Bahrain. Are you listening, out there? Maybe these folks could arrange a brief hop to A6X!!

LU3ZI has been quite loud here for the past several days from the South Shetland Islands. Listen around 14.025 at 0100-0300 UTC. The operator works quickly and listens 2-3 Khz up.

I hope that Karl Renz, K4YT got that KC6WS QSL that I sent him for a new CW DXCC country! It might help if he shows up in A5, Bhutan (as rumored) I am one of the many who have NOT worked A51PN, so K4YT/A5 would be music to my ears! Karl is traveling throughout Asia during the next few months... His stops include BY and A5; not much chance for the BY, but Dxers always think positive!

Speaking of "positive thinking," pictured in this article is a QSL received here recently! How many worked SUITLAND ISLAND for a new country when it came up on September 18 & 19, 1982? Suitland purportedly was located 1000 miles northeast of Hawaii and was claimed by the United States, thus qualifying it as a new and separate DXCC country! Before you get too excited, the back of this QSL reads, "Suitland Island, 9/18 & 19/82... The Island surfaced for two days in the minds of DXers seeking a 'new one' - You cracked the pileup..."

The ARRL was not amused that over 2,000 of these QSLs were funneled through the League's bureau- (See January QST editorial.) Too late for April fool! Woe is me...



KJ6DO/KH7S

We used the TRS-80 Color Computer and a "Propagation Forecast" program to come up with the approximate readouts for the OKC area and Heard Island. First, despite what N5IH says, the short-path beam-heading is 165 degrees. (Who says 11,070 miles is SHORT path?) Second, we can expect propagation during SOME of the following time periods in Oklahoma:

0000-0700 UTC- 14 Mhz band
0700-1700 UTC- SLIM to NO chance
1700-2400 UTC- 14 Mhz band

Note my careful use of SLIM in the above forecast. No doubt there will be alot of SLIMS about during the next month!

We receive alot of QSLs in conjunction with our duties as QSL manager for DX stations. Some of the cards are very unique and interesting. If our editor has room, we will publish one or two 'good' ones each month for your enjoyment. We hope you enjoy them as much as we have.

The KC6WS QSLs have been mailed. AD1S/KH0 should be completed by January 31, 1983 with the KX6OS cards finished no later than February 15, 1983. Thank goodness for the computer!

Tuning across 20 meters, we hear a tremendous pileup at 14.219 Mhz (2135 UTC) and pause to determine what exotic DX deserves such a large following... PT7ZZ??? Good grief, what is the band coming to? Surely it MUST be the rumored Trinidad station, but no, just another Brazilian ham with a good signal. I think it's time to hook up the RTTY!

NEXT MEETING will be held on February 7, 1983. Note that this is the FIRST Monday of the month, thus avoiding any conflict with VALENTINE's Day, which falls on Monday the 14th. (You've been warned.) The meeting of OK-DX will be held at our usual meeting place, the WATERHOLE RESTAURANT, 3333 N.W. Expressway, Oklahoma City. The Waterhole is located across the Expressway from Baptist Medical Center. The first diehards show up around 6:00-6:30 P.M. and you are welcome to stay as long as you wish... Bring your favorite QSLs, DX Bulletins, and any other DX information you would like to share with other members... Remember, there are no officers, no dues, no minutes or business to conduct. We just relax, exchange DX information and tell lies about our DXCC country totals! This month as a special treat we may learn how K2GKK blew the 8877 in his Dentron linear amplifier! Don't miss it if you can...

Hope to see you there. 73 de AD1S.



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1-3

NEXT MEETING:

ANNUAL WEATHER BRIEFING: 15 FEBRUARY

(NOTE DIFFERENT PLACE AND TIME)

The February OCAPA meeting will be the annual briefing for participants in the Central Oklahoma Severe Storm Warning Net. This meeting will be at the KWTU (Ch 9) studios at 7401 North Kelley. The briefing will start at 7:00 PM. Please be there not later than 6:45. This briefing will be hosted by KWTU meteorologist Gary England and will be conducted by Ken Crawford and Neil Marchbank of the National Weather Service. Many changes from past net procedure are being instituted, and it is **EXTREMELY IMPORTANT** that YOU attend to get the correct information.

All of our repeater systems seem to be working fine again. Art Roberts, W1GOM, is now our 440 tech committee honcho, and he did a very extensive servicing of that equipment. He laboriously cleaned several years of weather corrosion from the circuit boards, then applied a weatherproof acrylic coating to preclude any recurrence of the problem for a long time.

Since trying to keep rain out of the hardline coax had proven futile, Henry Israel (N5IH), Larry Griffin (W5NYX), and Buddy Kidd (KA5AQY) developed and installed a method to continuously drain the moisture from the coax just above the connector. Quite a few hours of work in the cold and wind at the 650 foot level of the tower were required, and we appreciate it! Both 82 and 21 are working very well now, even though we have had quite a bit of precipitation.

Perry McWhorter (K5URJ), head of the 6 Meter repeater technical committee reports that our "low" frequency machine is alive and well, but not exactly overcrowded.

Sunspot activity continues to slide toward the bottom. WWV reports of solar flux below 125 are beginning to show up. The 40, 80, and even 160 meter bands are demonstrating far less D layer absorption, and consequently stronger signals from DX stations. It is definitely time to think about antenna improvements for these bands. The twenty meter band will, as usual, remain the workhorse for DX, but propagation is degrading rapidly there too. Ten and 15 meter bands have really gotten spotty. Openings are shorter and quite a bit weaker than those of even a few short months ago. Time to start looking for contacts using ionospheric backscatter and other "non-normal" modes of propagation.

See you at the February 15 weather meeting at 6:45 at KWTU Channel 9, 7401 N. Kelley. Don't miss it!

Best regards,

Mac K2GKK/5

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GENE NAILON - K5DLE
Avionics Manager

OFFICE 405-681-2331
HOME 405-341-8289

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Late News On ARRL Section Manager

Ray Miller, W5REC, Enid, has announced the results of his analysis of the attributes of ARRL Section Manager candidates and the recommendations he is forwarding to Ray Wangler, W5EDZ, West Gulf Director.

Under the ARRL's reorganization plan that de-centralizes the ARRL Management, the position of Section Communication Manager no longer exists. In its place is the position of Section Manager. Since Leonard, WA5FSN passed away, Ray has been keeping business matters of the League going and has conducted a systematic analysis of people recommended to him for the Section Manager position, considering factors such as geography, performance history, various capabilities, etc. He is making the following recommendations to Ray Wangler:

Section Manager:
Art Roberts, W1GOM, Okla. City

Area 3 Assistant to the Director:
George Adkins, AD1S, Okla. City

Area 4 Assistant to the Director:
Joe McDonald, W5CCV, Mangum

Area 5 Assistant to the Director:
Charles Dibrell, W5BLW, Ardmore

Existing Area Assistants to the Director are Pat Devlin, K5BPS, Tulsa, Area 1, and Ray Miller, W5REC, Enid, Area 2. Area 1 is the Northeast part of the state. Area 2 is Northwest, Area 3 is central, Area 4 is Southwest, and Area 5 is Southeast.

Decision on who holds Section Manager will be made by Dave Sumner, K1ZZ, General Manager of the League, after consultation with the Director. The Director decides who his Assistants will be.

Ray had a large number of very able candidates to evaluate. I am familiar with the impartial rating system he used and appreciate the effort he went through to obtain a conclusion unbiased by his personal feelings.
Joe, K5JB

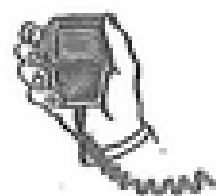
INSURANCE BEING DROPPED FROM LACK OF INTEREST

The first of March will mark the end of insurance coverage for amateur equipment locally. The policy was first brought out at the work of Oklahoma City Autopatch Association. This was later expanded for all area amateurs. Word did not get around, so the company wants to drop the policy. If we can get alot more people involved then we can keep this coverage intact.

For a better picture of policy you can look up the December 1980 issue of C&E, or better yet call Bill Orcutt at 521-0071. If we can get together a big enough group we will be in good shape. Think about it!

WANTS: AVIONICS TECHNICIANS FOR REPAIR AND INSTALLATION OF AVIONICS EQUIPMENT (NAV/COM, PULSE FLIGHT CONTROL) IN IN GENERAL AVIATION AIRCRAFT.

EXPERIENCE IN GENERAL AVIATION AVIONICS PREFERRED - BUT NOT REQUIRED



THE ZANY NEWS FREQUENCY

By JOE, WA5ZNF



Betcha didn't figure out that the above drawing was of a birthday cake with eight candles! This is the 97th time I have edited the C&E. That is since its birth as CENTRAL OKLAHOMA RADIO AMATEURS Collector & Emitter. For lots of years before that C&E was the excellent publication of the Aeronautical Center ARC. It was turned into a CORA publication to ease the financial burden on the four original clubs that incorporated mainly to start HAM HOLIDAY. Editorial and financial support from those four clubs made it work - and now there are 15 clubs.

There have been many changes in the last 97 months. The circulation went up from 318 to over 1000 for this issue.

ACARC was mailing First class (now 20c). We have Second Class mailing now (3.4c) and they seem to get delivered just as quick.

Now the paper is delivered ready for labels. Remember the days when we met and pasted it up, then I made the plates and printed it on a friend's press - then we borrowed his collator and stapler and a bunch gathered and along with a lot of eyeball QSOing we got it assembled and ready for addressing. Then came the Addressograph, one at a time. For three hundred it wasn't too bad - BUT THINGS CHANGED.....

In coordination with ACARC and lots of work by Bob Graham, WB5NSV, and spending some C&E money for a good printer we went computerized for maintaining the mailing list, printing labels, billing clubs and preparing a roster for printing in C&E.

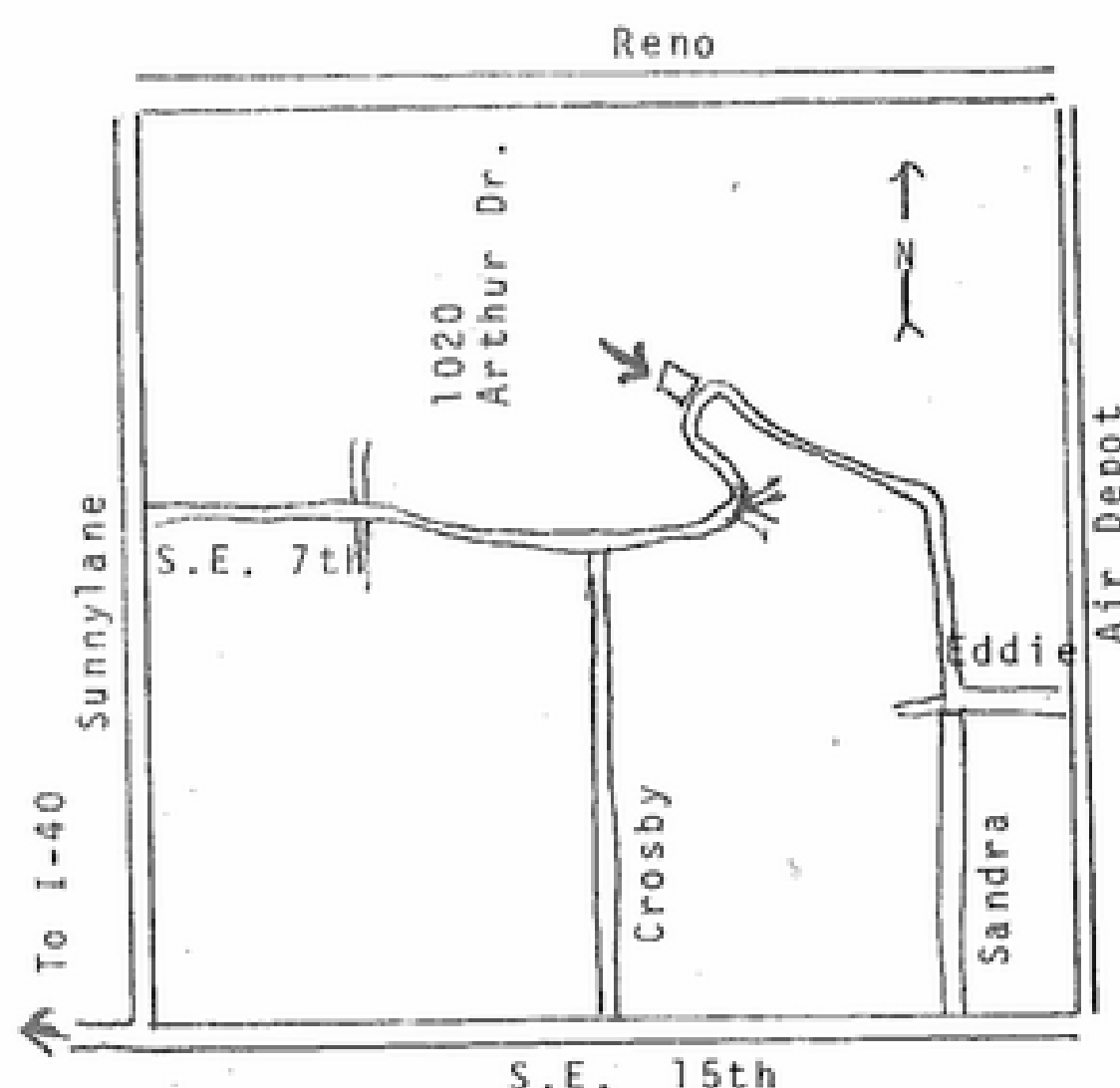
The printing, collating, folding and stapling was replaced with a newspaper format when we needed 10,000 copies for the West Gulf Convention/HAM HOLIDAY.

When that reduced the time that I spent on the C&E by at least one half, I got lazy, and

since then the present format has been--and will be--used. Mailing is so simple now that Frances and I just mail it ourselves most of the time.

Now let's talk about the editing operation. With the experience we have gained it's not that much of a problem. -SO-because of the stolen battery, broken car windows to steal radios, and other night incidents at the Red Cross bldg. I feel I must change the paste up place. GUESS WHERE? To my house at 1020 Arthur Dr. Midwest City. I know it is hard to find if you don't mail your copy in. I will monitor .94 that night to help if you get lost. There is a special MAILBOX on my front porch labeled C&E.

EDIT TIME, Monday night before CORA meeting. Forms close at 8:00 pm, hopefully but let's talk. I have a typewriter and COCO if needed.



The Shape Of Things To Come...

THE REVOLUTION —
You Might As Well Join It,
Because You Sure Can't Beat It!
(PART I)

Whether you know it or not, you are in the midst of an honest to goodness Revolution. It's happening all around you, and hiding or trying to ignore it won't make you less a party to it. As sure as you are reading these words, it is not only going to change the rest of your life, but is also altering the destiny of the world.

No — no army is trying to overthrow our government. I'm speaking of a different kind of revolution. It's a quiet and subtle kind — one similar to the Industrial Revolution of the 1800's. What is it? It's the Computer Revolution. Now don't make the mistake of underestimating its impact. Before it's over, you'll possibly own a dozen or more computers serving you in such areas as monitoring and controlling vital functions in your house and car, in numerous appliances and, of course, for personal use.

The state of the art of digital and computer technology is expanding in explosive proportions. If you are associated with electronics as either a career or a hobby, you'd better join the revolution right now or be swiftly left behind. In a short time, nearly every electronic device we touch will be "processor" oriented.

Ever since the end of World War II when the University of Pennsylvania invented ENIAC, the first "large scale" digital computer, the advancement of digital technology has been accelerating. The ENIAC weighed 30 tons, had 18,000 vacuum tubes and consumed 130,000 watts of power. Today, less than 40 years later, the Radio Shack vest pocket computer has more computing power than did the ENIAC.

To help enlighten and keep you abreast of the expanding state of computer technology, we are going to publish a series of articles about computers. The first article will trace the history of computers. We will follow

the evolutionary development from its humble beginnings to the present state of the art.

The subsequent article will discuss the present state of computer technology. We will talk about 8 and 16 bit microprocessors. We will also discuss who's who in the personal computer industry, and who is using what microprocessor chips in the design of their systems and why. We will classify the types of microprocessors into family groups and talk about the different design philosophies used in developing microprocessor IC's. We will wrap up the article by pointing out good and not so good features of today's 8 bit microprocessors, and will discuss what is clearly the best 8 bit microprocessor on the market today. We will address who is using it and what makes it so good.

The next article will address where the world of computers is heading. We will not only discuss powerful integrated circuits that are in the final stages of development but will also include concepts like "Josephson's Junction" and UHSIC (very high speed integrated circuits) that make today's processing standards archaic. Many exciting and amazing things are happening which challenge the very limits of our imagination. Using these developments to build on, we're going to make some predictions that would make the days of Flash Gordon look like small peanuts.

Finally, we are going to wrap up the series with a typical design example of a small 8 bit computer. The computer will have 2K bytes of ROM, 1K byte of RAM, 5 parallel I/O ports, a 14 bit interval timer and a serial I/O port with cassette interface. The total hardware cost of this "Microframe" is less than \$50.00. Although we won't go very deep into the programming aspects, we will discuss each of the component chips involved and develop a general discussion of their function.

See you next month when we talk about the history of computers.

Allen Bailey, ADØZ

ZERO BEAT Pikes Peak Radio Amateur Association

10 MHz - JUBILATION (and a few) TROUBLES

On November 3 the FCC released the details of the Notice of Proposed Rulemaking regarding the elimination of most Amateur Radio logging procedures.

FCC's PR Docket No. 82-726 proposes to delete all logging requirements that "serve no regulatory purpose" in the Amateur Radio Service.

Logs for routine station operation are intended to determine whether or not the Amateur's communications are in accordance with the rules, and to verify when the station was in operation. The Commission has rarely used the station log for this purpose.

Logs of routine station activity would no longer be required. Specifically, these items would be deleted:

- 1) Description of third party traffic.
- 2) Information that appears on the station license, such as the call sign and signature of the station licensee.
- 3) Entries specifying the dates and locations of portable or fixed station operation.

The only routine logging information that serves a regulatory purpose to the Commission involves situations where the control operator is not the station licensee. In this case, the required information can take any form the station licensee feels is adequate. For example, the licensee could write a statement indicating that the station was operated by a different control operator, during a certain time. Even a tape recording of the information would suffice. If this record did not exist, the Commission would assume that the station licensee was the control operator.

Certain technical documentation regarding repeater, auxiliary, and remotely controlled stations that the FCC requires in station logs would still have to be kept as a part of the station records:

1. Repeaters transmitting with an effective radiated power (ERP) of greater than 100 watts on frequencies between 29.5 and

Activity on the new 10-MHz band has been tremendous -- the hams have been there, and so have the FCC monitoring stations! FCC has issued a number of Notices of Radio Conditions (no reply necessary) advising Amateur stations that they have strayed into the 10.109-10.115 MHz forbidden zone. ARRL Official Observers have also been out in full force assisting hams inadvertently transmitting in this segment.

W1AW began sending the welcome news on RTTY (regular bulletin frequencies) at 3 p.m. EDT October 28 -- the very second the FCC order took effect. This was followed by bulletins on ASCII, CW and phone. Within minutes, stations began appearing on the band to share in the jubilation. Several Canadian and European stations were heard offering kind words of welcome to the many happy Yanks making their first appearance.

First reports are that the propagation characteristics of this band are at least as good as anticipated. Several U.S. amateurs have already worked all states and dozens of countries on 10 MHz. Because the band is allocated to Amateurs on a secondary, non-interference basis, the ARRL Board of Directors wanted to take precaution against anything that might result in improper operation on the band. They decided, therefore, that for the time being 10-MHz con-

tacts will not count towards any League sponsored awards or competition (e.g., WAS, DXCC and contests).

Those who did not plan ahead and were caught by surprise with the speed with which the FCC acted found that a transmatch coupled to an 80- or 40-meter antenna worked just fine on 30 meters. W8TN reported that his tube-type finals did not seem to mind the 7:1 swr of his 80-meter dipole, and the antenna worked just fine. If you haven't been on 10 MHz yet, what are you waiting for? Just remember U.S. amateurs holding General, Advanced and Extra Class licenses may use up to 250 watts input and A1 and F1 emissions in the band segments 10.100-10.109 and 10.115-10.150 MHz. These emissions include CW and RTTY operation; voice modes are not permitted. The segment 10.109-10.115 is reserved for use by a priority government radio service -- FCC is monitoring, and they are issuing citations! Amateur stations must avoid interfering with stations in the Fixed Service, because the band is allocated on a primary basis to the Fixed Service, and these stations have priority. Enjoy!

Last Time for Six?

Since Cycle 21 peaked in December 1979, we have had mostly good band conditions for DXing, even though the solar flux has been trending down gradually. Six meters has shown some remarkable openings over the past couple of years, but we may be nearing the last chance in this solar cycle for working East-West DX on six. The highest muf of the season, and perhaps the last chance until 1990 or later for working East-West DX on six, should come between the 23rd and 25th of November. During the past week we've had almost daily transequatorial openings. This may continue through the month, whenever the WWV K index is 3 or higher. The solar flux level is not critical for the transequatorial mode, but the flux must be high for East-West DX at this frequency. If you miss it now on six, you may have to wait until the peak of cycle 22 in 1990 or so.

Currently pending in the U.S. District Court for the Western District of Oklahoma is a case, "Guschke vs. City of Oklahoma City," that could establish dramatic precedent affecting Amateur Radio operations. That probably isn't news (see September 1982 QST, p. 58), but the second *Amicus Curiae* Brief filed by the ARRL in support of Guschke is.

In a legal proceeding characterized by mazes of cited precedent and issues of fact, law, and specificity, the League *Amicus* emphasized several points. (1) The crux of this case is Guschke's need for an antenna exceeding 50 feet so that he can have reliable, effective communications. (2) Engineering data was not presented in previous Motions. This valuable technical information, offered in this *Amicus*, does support Guschke's need for a higher antenna structure. (3) In a conflict, Federal interests in "unencumbered communications" must supersede local regulatory interests. (4) Denying Guschke an antenna height above 50 feet would be an "unlawful interference with express Federal objectives and would be a *de facto* modification of the Amateur Radio license granted by the Federal government."

The League is of course hopeful that a judgment favorable to Guschke will soon be forthcoming. Such a conclusion could have far-reaching, positive affects on our hobby. We'll report further developments as they occur.

Psssst!

CONSTITUTION

ARTICLE 1 - NAME: The name of this organization shall be the Central Oklahoma Radio Amateurs, Incorporated, a non-profit organization hereafter referred to as CORA.

ARTICLE 2 - PURPOSE: The purpose of CORA is to coordinate group activities in the public interest between the Amateur Radio societies in Central Oklahoma. These activities consist of a statewide meeting of Amateur Radio operators to be held annually in the Oklahoma City metropolitan area (Amended 23 Oct 79); better use of communication skills in support of the American Red Cross, Civil Defense, and the American Radio Relay League; and the seeking of solutions to problems facing Amateur Radio licensees throughout the state.

ARTICLE 3 - MEMBERSHIP: Membership in CORA shall be as follows:

A. SUPPORTING

- Each of the several constituted Amateur Radio societies in the Central Oklahoma area, endorsing the purposes stated in Article 2 above and providing financial or other support to this organization shall be a SUPPORTING member of CORA.

B. ASSOCIATE

- By virtue of an individual's membership in a supporting member Central Oklahoma Amateur Radio society, s/he shall be an ASSOCIATE member of CORA.

C. DIRECTORS OF CORA

- A Board of Directors shall be established as follows:

1. Each SUPPORTING member of CORA shall duly appoint or elect three Directors to serve on the Board of Directors of CORA for a term of one year beginning in September of each year. Each director shall have one vote.

2. The immediate past President of CORA shall serve as an advisory member of the Board of Directors for a period of one year. He shall have a vote.

ARTICLE 4 - OFFICERS AND THEIR DUTIES: The officers of CORA shall be the President, the Vice-President, the Secretary and the Treasurer. The Directors of CORA at the annual September meeting shall nominate and elect the above officers to serve for a period of one year. Nominees for the above offices are to be only from the members of the CORA Board of Directors. They shall be elected by a majority vote and shall hold office beginning on 1 October (Amended 22 Nov 81) for a period of one year. There is no restriction on the re-election of any individual to an office s/he has held in the previous year so long as s/he remains a Director of CORA.

a. The President shall call and preside at all meetings and represent the organization in all official matters. S/He shall appoint all committees that may be necessary in the administration of the organization's business.

b. The Vice-President shall take over the duties of the President in the President's absence. S/He shall have all the authority of the President when acting in the Presidential capacity. S/He shall assist the President in performing all activities of the organization.

c. The Secretary shall keep a written record of the minutes of each meeting of CORA and originate correspondence as directed by the President.

d. The Treasurer shall receive and disburse all funds entrusted to CORA and keep an accurate record of such, shall be personally responsible for all funds entrusted to him/her and shall give an accounting of the disposition of all funds at each meeting of the organization.

ARTICLE 5 - FINANCIAL MATTERS:

A. CORA will receive financial support from each supporting Amateur Radio society as approved by each individual society. Funds for a specific activity shall be requested by the President from financial supporting societies upon approval of the Director membership.

b. Upon final completion of a specific project or activity by CORA, the financial supporting societies will be repaid their financial support if possible. Any liability for loss shall not exceed the amount allocated for that activity.

c. A complete accounting of the financial matters of any CORA activity or project will be made available to the financial supporting societies when funds are returned.

d. The CORA fiscal year shall be January 1 to December 31 (Amended 26 May 80).

e. In the event of dissolution of CORA, all wind-up expense, payment of outstanding obligations and distribution of excess assets shall be made as provided by law. In no event shall distribution be made to individuals (Amended 26 Aug 80).

ARTICLE 6 - EXPENDITURE OF FUNDS: The President shall authorize any expenditure up to an amount of \$25.00. Expenditures of funds above \$25.00 require the majority concurrence of CORA's Officers and Board of Directors in attendance.

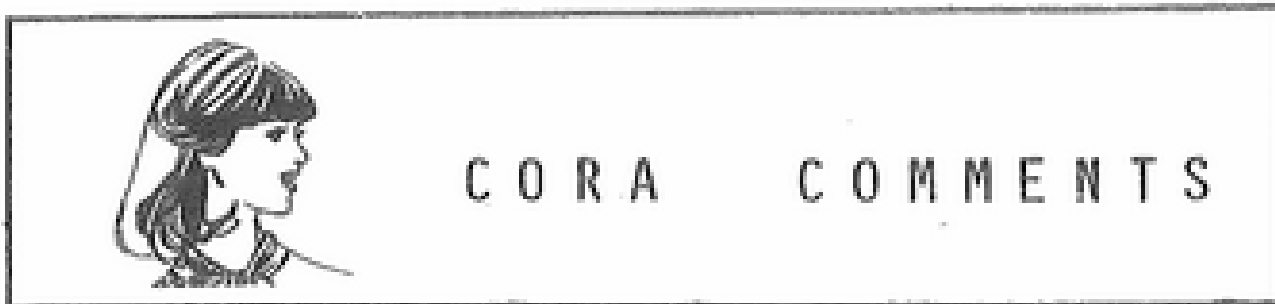
ARTICLE 7 - VOTING: All matters of CORA shall be decided by a majority of the Director Members present at a meeting.

ARTICLE 8 - MEETINGS: Meetings of CORA shall be called by the President as may be necessary to conduct activities meeting the several objectives stated in Article 2 above, usually the fourth Tuesday of each month. advance notice of meetings including time, date and location, shall be given all Director Members.

ARTICLE 9 - CHANGE OF CONSTITUTION: This constitution may be amended by a majority vote of the Director Members present at any regular meeting provided that Director Members have received thirty-days-advance notice of the proposed change.

Approved and Adopted 28 May 1976.

Amended 23 Oct 79, 26 May and 26 Aug 80 and 22 Nov 81.



CORA COMMENTS

As I sat down to start on this account of what I think happened at the CORA meeting last night I looked at the logo above and thought, "I surely don't look like that, but then Dustin Hoffman doesn't look like himself in the role of Tootsie."

Although the weather wasn't too bad there was a small but energetic group that attended. One major decision was made. Because of abuses reported in the use of flea market tables it was decided that after nine years of offering free tables to anyone who registered that there will be a charge this year. The new rules (not the exact wording of the motion) are: There will be a \$1.00 charge for the first table which is reserved on the pre-registration form and paid for along with the pre-registration fee. Additional tables may be rented for \$5.00 each. If a individual does not pre-register and wants a table he/she will have to register at the door and pay a fee of \$5.00 per table if there are any available at that time. The Chairman who handles the dealers and flea market tables (K2GKK) is to determine whether an individual is commercial or not. If they are determined to be in business they will be invited to display their wares in the dealers section and pay the same fees. This will be fully explained in all information issued to advertise Ham Holiday.

To eat and dance or notto eat and dance, that was/is the question. Yhe committee looked at a bunch of places -- away from the Myriad -- to have a banquet and dance. After looking at menus, prices, conditions imposed by the places earlier suggested and some discussion it was decided to go to the Quality Inn at Reno and Eastern, hire The Midnight Express to play a variety of types of music (they play requests) a have a ball, no make that banquet and dance or eat and dance. The menu, which will govern th banquet ticket price, will be decided upon at the next meeting which will be on the fourth Tuesday of February.

The president is aware that there are some cold nights in February but it is hoped that every metro club, at least, is represented by their three Directors so all clubs will be in on what is done. For those clubs too far away to make a trip to "town" a letter to the president:

Ted Vanlaningham
2454 Townsend Drive
El Reno OK 73036 expressing your clubs views would help.

The other business accomplished was to move the meeting place for next months meeting from The Red Cross. This was done to allay apprehension on the part of those who valued their car windows, tires, radios and person.

The meetings in the foreseeable future will be held on the Fourth Tuesday of each month at the OKC FIRE TRAINING CENTER, 800 N Portland, theat is between 10th and Reno, which is just off of I-40. Go in on the South driveway and park at the rear of the building. Go in th East door. The seats are upholstered so be in one by 7:30 pm and enjoy the meeting.

Outside of some eyeballing and "joshing" this is all that my notes show.

Joe, WA5ZNF

FOR SALE: Many feet of 72-ohm transmitting twin-lead; it'll handle a kW with ease. Just the thing for those whose superstitions forbid feeding balanced antennas with unbalanced feed lines! W5JJ, 789-3788.

STOLEN: Yeasu FT 227R FM Transceiver SN-8DC60148, November 28, 1982 from Randy Williams, WB5CNM, Phone 942-8938 if you find this rig.

USA Communications Forecast for 1983

	1981 ACTUAL	1982 ESTIMATE	1983 FORECAST
Telephones in service	181,551,300	185,300,000	189,500,000
Telephone plant expenditures	\$23.3 billion	\$25.7 billion	\$28.2 billion
Radio stations	8,748	8,850	8,975
Television stations	1,021	1,045	1,060
CATV systems	4,697	4,750	4,900
Radios in use	460,000,000	468,000,000	476,000,000
TV sets in use	162,500,000	169,000,000	176,500,000
Homes with TV	77,251,800	81,454,500	85,000,000
Homes served by CATV	23,600,000	25,000,000	28,000,000
Radios manufactured, auto	12,883,000	11,900,000	12,700,000
Radios manufactured, AM	6,808,000	6,900,000	6,500,000
Radios manufactured, FM	24,668,000	25,400,000	26,700,000
TV sets manufactured, black	6,056,000	6,100,000	6,200,000
TV sets manufactured, color	12,423,000	12,700,000	13,100,000
Personal radio stations	9,319,422	6,739,933	6,200,000
→ Amateur radio stations	388,949	406,626	415,000
Aviation radio stations	237,285	237,329	239,000
Industrial radio stations	619,550	634,940	675,000
Public safety radio stations	162,412	164,280	167,000
Marine radio stations	414,530	422,752	445,000
Transportation radio stations	33,465	33,844	35,000
Total electronics market ...			
Consumer	\$11.4 billion	\$12.2 billion	\$12.7 billion
Communications	30.4 billion	38.5 billion	45.5 billion
Industrial	43.5 billion	49.5 billion	53.5 billion
Components	25.4 billion	30.1 billion	32.0 billion
TOTAL	\$113.8 billion	\$130.3 billion	\$143.7 billion

Recent Call Signs

This list (released January 10) shows the last call sign in each group to be assigned for each district, as of the first of January.

Dist.	A	B	C	D
0	KW8T	KD8AF	N8EKN	KA8PKL
1	KN1K	KB1FD	N1CNC	KA1JSQ
2	KY2E	KC2VR	N2EAO	KA2RAW
3	KM3L	KC3FO	N3DFE	KA3KIU
4	WJ4O	KF4QX	N4IDZ	KB4DKN
5	ND5V	KD5VJ	N5FOI	KA5PVO
6	NQ6Z	KF6IT	N6HYE	KA6YKP
7	KY7Y	KD7FH	N7EUU	KA7OXP
8	KZ8H	KD8CC	N8EPF	KA8RFJ
9	KS9B	KC9WP	N9DRR	KA9OSN
HI	WH6G	AH6EO	KH6WI	WH6AVG
AK	WL7Q	AL7EP	KL7ZE	WL7AYL

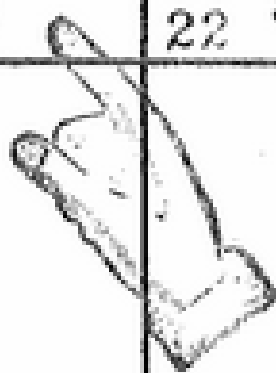
COMPUTER MODEM PROBLEMS

MODEM PROBLEMS. Computer communications problems can often be traced to the modem--a device that translates a computer's digital signals into analog signals (and vice versa) for telephone line transmission. Generally, acoustic couplers--a special type of modem--give the most trouble. An acoustic coupler attaches to the ear and mouthpiece of an ordinary telephone handset via protruding rubber cups. The cups can pick up electrical interference, which can result in broken connections and transmission errors. If these become a nuisance, a simple solution is to get a modem that connects to a telephone wall receptacle (\$300 and up). An added advantage of these hard-wired modems is that they can transmit data at higher speeds.

PHONE LINE PROBLEMS. A faulty phone line connection can be as troublesome for two computers trying to communicate as it is for people. Computers are sensitive to phone line problems that people ordinarily do not notice. The only way to guarantee a good connection is to lease a private digital line from the Bell System. But this is an expensive and complex step. Most small computer users are able to live with a simpler--and far cheaper--solution: Hang up and dial again if there is excessive interference on the line.

HAM HAPPENINGS

REFER TO CLUB SECTION FOR SPECIFICS

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		Great Plains M O R I 1	2 ARDMORE	3 EDMOND Club	4 Aeronautical Center ARC 7:30 PM	5 CONGRATULATION to Frances & Joe - 50 years and still going strong! 9 am COCO
6	7 OK-DX	8 Okla Univ SHAWNEE 76'ers	9	10 ALTUS AREA	11	12 SCARS
13 Wheatstraw Okarche High	14 SEOARC	15 AUTOPATCH WEATHER MEET AT CHANEL 9 ALTUS Weather Watch Meeting	16	17 KAY County	18	19 VHF Club NEW DAY & TIME 9:30 am
20 SEE PAGE 28 →	21 ARES EDIT Central Oklahoma Radio Association COLLECTOR - EMITTER 	22 CORA SHAWNEE	23	24	25	26
27	28					FEBRUARY

Can you wear

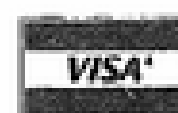
SOFT CONTACT LENSES ?

Find out if *you* can wear soft contact lenses. Just drop by for a *free computer analysis* using our System 6600 Autorefractor.

If the signs are right, we'll place soft contact lenses on your eyes and make a further evaluation. Bring your written prescription if you wish. Patient normally gets lenses **IMMEDIATELY!**

Dr. Robert Goodhead
Optometrist, Inc.
2821 N.W. 57th St.

840-1234



Ask Doc, WA5CZN, about his fantastic contacts!