The South Canadian Amateur Radio Society

The December meeting of SCARS was held at the Norman Red Cross on the 8th of December. The meeting was called to order by president Ken, KA5EFJ at about 9:30. It was reported that we had about $982 in the account.

About 40 people have signed up for the Christmas party so far.

N5MAF reported that about $50 in pledges have been received for the field day kit. A list of needed equipment is still being circulated for donations and members are encouraged to suggest other items needed on the list.

The novice class was a success this fall. Eight people passed the novice test. When the VE testing session concluded five people had passed the technician test and two upgraded to general

The main thing the new repeater is awaiting now is a new connector for the controller board and some physical work on the enclosure.

A suggestion was made that the club investigate participation in the so called "hobby day" held occasionally at Sooner Fashion Mall. A station could be set up do demonstrate ham radio and possibly interest new people that are not familiar with the hobby.

Andi, WU5W, suggested that we circulate a questionnaire type of form to members to allow them to describe their interests and what course they would like the club to follow in the future. The group voted to do so.

The nominating committee presented the following names as their nominations for club officers for the coming year: President, Dorinda Skaggs, N5IUA. Vice-president, Steve Wolfe, NI8W. Treasurer, Charles McCown, WB5UUX. Secretary, Ken Brown, N5KUK.

Central Oklahoma Radio Amateurs

The meeting was called to order at 7:44 pm with President Frank AA5GI in the chair and the following Directors and guests present representing 7 of the 16 supporting clubs:
ACARC, W. C. Greene, Tom Mangham. MORI, Ellard Foster, Robert Moose. OCAPA Baron Bieber. 76ers Jim Buswell. Wheatstraw Joe Lynch. EARS Steve Hamlin. EARC Phil Wolfenbarger. C&E Joe Harding. Visiting were Shondreya Hamlin, Jack Conley AA5VU and Bob Ashby W5HXL.

The October minutes and the Treasurers report were accepted as distributed.

The Editor announced the next edit date for the January 1991 issue will be 19 December.

The VE reported activity as usual.

HAM HOLIDAY 91

On motion by Phil and seconded by Joe N6Cl, it was agreed to hold Ham Holiday 26-28 July 1991 in the Hobbies, Arts and Crafts Building on the Oklahoma State Fairgrounds.

Programs, Flea MArket, Scholarship Fund and Breakfast Committees still lack chairpersons. All others have been claimed but report no activity yet save Facilities and Non-Technical programs.

In new business it was decided that CORA could not expect to host a National Convention before 1995.

Tee-Shirts will be representative of Ham Holiday yet unique to 1991.

Joe, N6CL announced his request of local clubs and their support for replacing the 146.65 mHz repeater on Monterasset which was wiped out by Hurricane Hugo in 17 September 1989.

It was announced there would be no December 1990 meeting. The next meeting is scheduled for 22 January 1991.

This meeting was adjourned at 8:47pm.
Secretary   Jim N5BEQ

There were no nominations from the floor. The slate of nominated officers were elected by acclamation. Andi moved that the 1990 officers be thanked for their service to the club this year and the club so voted.

The meeting adjourned at 9:55.

Ken, N5KUK

BICENTENNIAL AMATEUR RADIO CLUB
"To Promote Radio Communications"

The December meeting was called to order at 7:30pm on December 11 with president Bill KB5BS in the chair and the following members present: Jerry N5AUH, Hank KB5XM, Jerry N5HTF, Chad N5QIQ, Dustin awaiting call, Jack AA5VU and Jim N5BEQ.

In the absense of the secretary it was agreed to dispense with the reading of the minutes of the previous meeting.

On motion by Jack, seconded by Hank the Treasurers report was accepted as presented: balance of $431.84 and no liabilities.

In the manner of old business, elections were held for 1991 officers to begin service 1 January: unanimously elected Secretary was Jack AA5VU and Vice president was Chad N5QIQ.

November's motion to withdraw from CORA was brought from the table and, after thorough discussion, soundly defeated with one abstaining vote.

In the manner of new business it was announced that there is a possibility of the donation of a 180' tower of four foot face, to the club. It was decided to offer it to the Bridge Creek Fire Department with the preovision of including a club repeater on it. Bill agreed to investigate for the club.

After some discussion it was decided to operate next Field Day as a club for the fun of it to which end all members will search out likely sites and additional interested operators.

In the manor of announcements Hank circulated copies of a block diagram and described in some detail his idea for an open Autopatch and VHF/UHF links as an experiment for the club.
It was enthusiastically agreed to support Hank and this experiment.

In a final matter of business, it was agreed to offer the use of the 146.76 mHz repeater as a backup to EARS 147.135 mHz repeater backup for the Oklahoma Nite Owl Net if 146.67 and 146.94 mHz repeaters are unavailable.

The next meeting is scheduled for 8 January 1991. This meeting was adjourned at 9:38.

For the Secretary, N5BEQ Jim
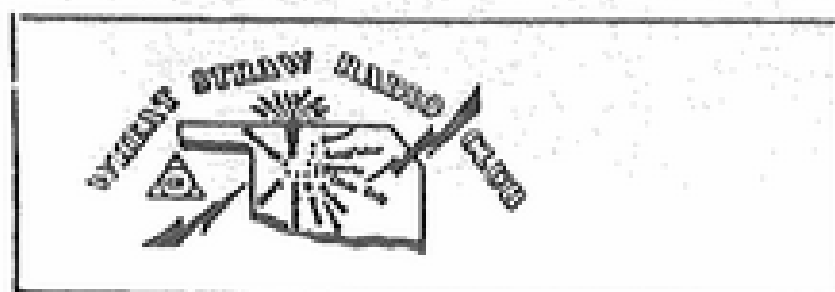
Meeting was held at the Brass Apple in El Reno. It was late for some of us, we ate at two thirty. They serve three buffet a day, all you can eat. Everyone enjoyed the dinner. The waitress who served us was very efficient and nice. There were forty present.

After the regular business was taken care of a couple of reports were made. N6CL Joe gave a CORA report. After considering three locations for HH 91, the group voted to have it at the Oklahoma City Fairgrounds. As Ham Holiday increases there is room galore, along with lots of free parking space. The Fairgrounds is close to motels and eating places. A good place to have the banquet.

Joe talked to the club about the desperate need of a new repeater for the radio amateurs on the island of Monserrate. The repeater was destroyed by Hurricane Hugo. From the donations that have been made, he deeds some more money. N5IKN Tom made a motion that the Wheatstraw Club contribute one hundred dollars. The motion was seconded and passed. Hopefully they will have it by Christmas.

The clubs annual hat was passed and collected $77 for the crippled children at the Childrens Memorial Hospital.

The next meeting will be held in calumet. It will be January 13, on Sunday. I just want you to know that it is not on **friday**. At this time the location has not been verified, but possibly at the City Hall, one block south of the red light and half a block west on the north side. Check into the Wednesday night net for confirmation.

Yes, the last of the agenda was election of officers for 1991. WO5B Edgar was elected president. N5KCO was elected vice president. WA5FLT was elected secretary/treasurer. WA5PFK was elected club reporter.

I wish everyone a Merry Christmas and a happy, healthy New Year. It is that time of the year again, and a lot of memories run through my wee brain of the years past. My mother had seven sons. One died at a young age. We always lived on a farm and the older brothers would sometimes bring in a pine tree for all of us to decorate. Most of the decorations were paper dolls and other cutouts of our imagination. We did use a lot of strung popcorn.

Me mother would beg our father for some money so she could buy the kids Christmas presents. Usually she could get one dollar out of him for six boys. About the most was a pair of socks. Sometime mother had a flour sack she would cut and sewed us some handkerchiefs, one a piece. Any way we knew mother did the best she could. There was
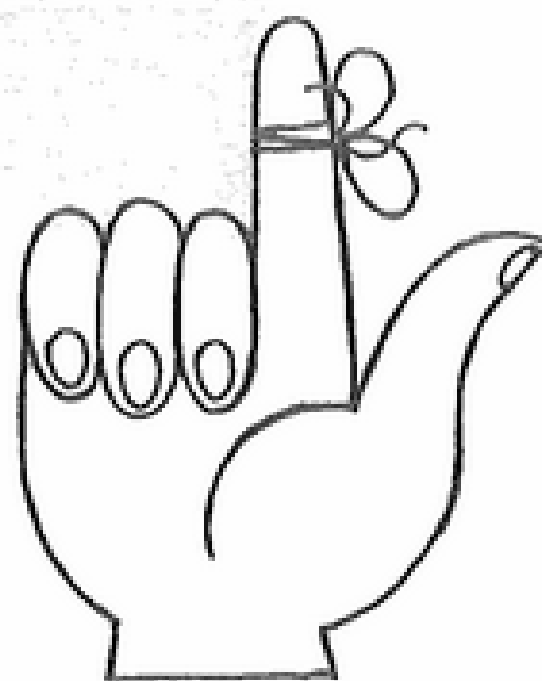
editor without
your help.

never no candy or fruit. This is enough of my memories, what brought this to me was the following article I read and I don't think my mother was mean.

SANTA WAS MEAN

Away back in the 30s when Christmas time was near, old Santa was at the courthouse passing out some cheer.

So down to earth he was, for one of such noted fame.

He talked like Dad or Uncle Jim, his accent was the same.

Now across the road on the village green, Was the biggest tree I had ever seen.

It was 20 feet tall with hundred 'lectric lights.

Most children of the country had never seen such sights.

At home on Christmas, our goodie boxes numbered three, one for my brother, my sister and me.

But where were the toys? Why was Christmas so lean?

We came to the conclusion old Santa was mean.

There was a book, a puzzle and a ball, and an assortment of hair brushes for one and all.

Maybe they were brought on the lay-away plan, or old Santa, like dad, was a Fuller brush man.

Now three broken hearts mama tried to console, saying, "That terrible Depression has reached the North Pole".

Hard times did pass, there were better Decembers, but that long ago Christmas, This heart still remembers.

Keep your chin up, be thankful we are all loved.

Merry Christmas, WA5PFK Ralph

kay

The December Christmas Party was held a little earlier than our normal club meeting this year to avoid all the other Christmas parties. We had a very good attendance, I heard there were around 25 there this time. The dinner at the Marland Mansion was very good and the slide show and talk about Bermuda was also very interesting. A big thanks goes to WA5UBO, Marsh and his helpers for setting it all up. Too bad Marsh had to be out of town after all on that night.

We didn't have the usual club business meeting so I don't have any minutes to go over this time. I will remind everyone that club dues are due the first of the year. So, bring some money with ya to the January meeting. The third Thursday is the 17th in January, so mark your calendar now for that night.

The Ponca City CD folks now have an HF rig to talk down to OKC on. C.L. W5ZWM and Mark KS4W got busy and put the vertical up in one of the worst wind/cold storms we've had so far this year! It seems to be working pretty well. We'll probably plan a meeting down at the Ponca City EOC before spring so we can get together with Norman Coffelt and Harold Fisher. We'll also see about holding a meeting over at the new Kay County EOC in Blackwell sometime before spring too.

NOTE TO AUTOPATCH USERS- We haven't had anyone messing around with the patch is several months so I will leave the access code set to the December code for next year. It will no longer change from month to month.

Here's the latest on the 6 meter OKC link. The 6 mtr beam is up at the digi site east of Ponca and ready to go. A word of thanks goes to Shawn KI5GX for helping. I sent a 6 mtr radio, beam, and the TNC down to Glen today (12/11/90) via W5ZWM. I'll see when he may be putting it up next time I talk to him on the phone. I hope to have another radio for the PONCA end of the link going by the end of this week, ready for Glen's testing.

That's all for this month, see ya at our January meeting! DE KD5FX

1   AERONAUTICAL CENTER ARC
Meets: First Thursday, Flight Standards
Building, FAA, South MacArthur 7:30 pm
PR	Ted Anderson, NY5W	685-4016
SE	Doug Teachman, W0DXA	392-5458
AsPR	Harold Todd, WA5VAQ	685-3685
AsVP	Charlie Greene, WA5JGU	943-5631
Editor	Bill Oliver & Luke Ellis	329-6333

2   CENTRAL OKLAHOMA VHF
Meets: 11:00am 3rd Sat., Favorite's Cafe,
3701 S. Western, OKC
PR	Jack Muse, WB5ZKZ	691-1152
VP	Fred Boardman, W5NL	427-2505
SE	Joe Buswell, K5JB	732-0676
TR	Ellard Foster, W5KE	789-6702
Editor	Joe Buswell, K5JB	732-0676

3   MID-OKLAHOMA REPEATER, INC.
Meets: First Tues, 8 pm, listen to KA5TDA
for location.
PR	Steve Cornman, KB5CDF	
VP	Jim Buswell, N5BEQ	
S/T	Linda Moore, KA5NAV	799-1765
Editor		

4   OK CITY AUTOPATCH
Meets: 7:30 pm, Third Tuesday, Salvation
Army, NW 50 & Penn
PR	Jim Bartlett, KA5PSF	359-1299
VP	Baron Bieber, N5PQK	557-1664
SE	Ken Goddard, WA5DTL	946-4973
TR	Mac Macdonald, K2GKK	672-4947
Editor	Baron Bieber, N5PQKU	557-1664

5   OKLA UNIVERSITY ARC
Meets: 7:30 pm, Second Tuesday (Sep-May)
119 Wilson Center, 1334 S. Jenkins
PR	Frank Donaldson, N5IQJ	329-4172
VP	John Wustenberg, KE5N	325-2382
S/T	Jim Greenshields, WD5HPU	321-9981
Editor		

6   ALTUS ASSOCIATION
Meets: 7:30 pm, Second Thursday, North
Main Fire Station, (CD) Altus
PR	James Molledahl, KB5LS	
VP	None	
S/T	Mike Schenkel, W5VXU	482-1797
Editor	Mike Schenkel, W5VXU	482-1797

7   BICENTENNIAL (76er) ARC
Meets: 7:30 pm Second Tuesday,
1801 N. Lincoln Blvd., Parking in rear
PR	Hank Stokes, KB5XM	376-1067
VP	Bill Skipper, KB5BS	392-4612
TR	Bill Skipper, KB5BS	392-4612
SE	Not filled Editor Not filled	

9   WHEATSTRAW ARC
Meets: 2:30 pm Second Sunday, Location
varies, see Club Section for details
PR	George Maschino, K5GGL	
	(Okarche)	263-7614
VP	N5JWK (Leroy)	
S/T	Joe Garland, WA5FLT	
	(Calumet)	893-2660
Editor	Ralph Wilder, WA5PFK	
	(Watonga)	623-5421

11   EDMOND AR SOCIETY
Meets: Odd Months, 3rd Sunday, 2:00 pm,
Edmond EOC; Dinner, even months,   3rd Fri.
PR	Tommie Guinn KA5WAL	341-3886
VP	Mike Delany, KB5HXT	341-7847
SE	Jim Richardson, N5OHL	524-0456
TR	Aldon Sage,	
Editor	Joel Beasley, KB5FCF	348-1614

13   KAY COUNTY ARC
Meets: 7:00 pm, Third Thursday, Sep-May,
Pioneer Vo-Tech, Ponca City, OK
PR	John Spoon, WB5YSX	
VP	Marsh Pronneke, WA5UBO	
S/T	Gary Robison, WB5WMD	765-9727
Editor	Dave Land, KD5FX	762-8616

14   CIMMARON ARS
Meets: 7:30 pm, Second Thurs., WX5Y
Playhouse, 827 S. 13, Fairview
PR	Curt Briggs, N5RHO	(405)227-4641
VP	Terry McCall, N5MLT	(405)227-3672
SE	Dennis Painton, WK5V	(405)764-3599
TR	Nadine Painton, N5FMH	(405)764-3599
Editor	Jack Day, NN5Z	(405)227-3462

15   SOUTH CANADIAN ARS
Meets: 9:30 am,   Second   Saturday,   Red
Cross Bldg, North OU Campus, Norman
PR	Dorinda Skaggs, N5IUA	799-5363
VP	Steve Wolfe, NI8W	329-0203
TR	Charles McCown, WB5UUX	
SE	Ken Brown, N5KUK	
Editor	Ken Brown, N5KUK	

16   EDMOND AR CLUB
Meets: 7:00 pm, Second Monday, Various
locations.
PR	Mark Northcutt, WD5DYI	755-4672
VP	Wendell Cochran, WB5ISO	943-4308
S/T	Kay Northcutt, WD5DYJ	755-4672
Trustee	Dennis Orcut, WB5ISN	340-0034

18   GREAT PLAINS ARC
Meets: 2:15 pm, First Sunday, Woodward
Public Works Bldg.
PR	Bob Bayless, WB0GAX	
	(Ft. Supply)	254-3561
VP	Windle Hatchett, WA5PLW	766-3561
SE	Rod Ford, WB5OVT (Gage)	923-7683
TR	Freida Patterson, N5EOX	
	(WDWD)	256-2111
Editor	Tammy Bowman, KB5CZU	994-5381

19   OKLA INDEPENDENT ARC
Meets: 7:00 pm, Second Tuesday
Southwestern Bell Offices, Ponca City
PR	Vernon Treiber, Jr., N5ANV	767-1571
VP	Truman Stiner, WB5MRE	
SE	Glenn Coker, N5NFC	
TR	Jim Del Torto, K5FLL	762-1221
Editor	Mike Morriss, N5JJR	765-6260

20   CENTRAL OK COMPUTER ORG.
Meets: 9 am, Second Sat, Midwest City
Community Center, Reno & Midwest Blvd.
PR	Dorothy Roberts, KB5FDS	681-5220
VP	Patrick Roberts, KA5ZYM	681-5220
S	Donald Fox	733-8480
T	Dale Goad	341-8525
Editor		

CENTRAL OKLA RADIO AMATEURS
Meets: 7:00 pm, Fourth Tuesday, Red Cross
Bldg, 10 & Hudson, OKC, (Back Door)
PR	Frank Tassone, AA5GI	341-1124
VP	Dorinda Skaggs, N5IUA	799-5363
SE	Jim Buswell, N5BEQ	
TR	Tom Mangham, K5LDI	677-5291

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

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

4	90/01	2
WILSON, MIKE WA5RTY		
1234 W 49		
MCCLOUD OK 74851		

The   "4"   means   Autopatch   Club,   90/01
means he is overdue.   The "2" is for postal
rates.

Copy should be 3 inches wide.   If you can
not meet that dimension, send it anyway, I
will reset it.

POSTMASTER:

Send form 3579 to:

CORA,

9211   N.   Council,

Apt. 216,

OKC, OK 73132

Minutes of December Meeting

Meeting was called to order at 12:02 p.m. by President Jack, WB5ZKZ, with 22 members and guests present. Ellard, W5KE, gave the Treasurer's report. Motion was passed that the Treasurer's reports for this year will be accepted without auditing. Charlie, WA5JGU, reported that the nominating committee was going to recommend the current officers; Jack, WB5ZKZ; Fred, W5NL; Ellard, W5KE; and Joe, K5JB, be re-elected next year for President, Vice-President, Treasurer, and Secretary, respectively. The President will accept additional nominations from the floor at the January meeting. Ken, K5VFN, said he would put a taped reminder regarding our next meeting on the 145.41 repeater.

Jim, K5VRL, was appointed to serve as CORA representative. Meeting adjourned at 12:16 p.m. Joe, K5JB, Sec'y

ROSE Happenings

I received this from Doug, WB5HLR, Sallisaw, while I was preparing this month's column. It contains thoughts on routes east of OKC:

Hi Joe, I was able to connect to your bbs via ROSE this morning, it disconnected before I was able to complete the message to you. We have MENA up on the ROSE system now, and some of the things we have discussed about ROSE follow:

We would like to place a DR-200 at MENA allowing MENA to switch from the present 145.01 to an off frequency backbone that would go from MENA to Ft Gibson. At Ft Gibson it would also have dual port capabilities, one on the backbone and one on TEXNET, it would go from there to Okemah on the backbone frequency and that is where you guys come in, if you could have a DR-200 on your end that would enable someone to switch to 145.01, 07, etc. there in OKC. It also will allow the OKC group to have a secondary path into Texas via MENA-SHV, it will allow OKC group access to TEXNET. The guys in Fayetteville can access ROSE via TEXNET, or the backbone frequency. The Tulsa group would have access to ROSE at Ft Gibson.

I would like your ideas, and if you and any of the OKC guys are in agreement, it would allow you to tie to the network just described with only the addition of a DR-200 at say Midwest City, and the network should be complete.

Give me your thoughts, Bob Morgan (WB5AOH) is going to go through the Frequency coordinator to see if it would be possible to get a 2 meter odd ball frequency in the 145.6XX frequency area, that would be ok to use for the backbone. This should give a big boost to the established 145.01 Net/ROM network over here, as it will take some of the pressure off of 01 through the FSM/MKO/TUL/FYTVL routes.

Missed you Sat. morning, and also on OPEN this morning, see you next weekend if you can make it, you can return me a message via WB5AOH-9, especially if you have any reservations on the way we are proposing for the ROSE via Okemah etc.

73 Doug

I am sending Doug a reply that I see nothing wrong with the plan he is proposing. I have never wired up a switch with two frequencies on the same band, except for short tests, and I don't know what interference the two frequencies might have on each other. (My ROSE switch is on VHF and UHF.) How about lending Doug your thoughts (WB5HLR@WB5AOH) or meet us on 75 Meters (3883) on Saturday mornings, 7:00 a.m. to discuss it.

I only have the ROSE switch on at my place to provide people something to test with, but there are enough ROSE switches on the air now that I was thinking of shutting it down. I don't have a good enough antenna system to provide useful network function except between premium stations.

New ROSE switches have popped up at Rush Springs and one for Ardmore is undergoing test at Yukon. Gary, KG5FV, dropped by one evening to swap tales and he sure has a good grasp of how to use ROSE. He put one on at Dibble for a few days but, because of interference with another service, moved it to Rush Springs. He programmed another ROSE EPROM for a switch for another location and has it under test at his house in Lindsay.

Mike, N5ANG, has the one under test at his place in Yukon. J, KB0QJ, dropped by and we programmed a

couple of more EPROMS for him to play with on DR-200 and TNC devices.

As with any networking scheme, this will require coordination so get with Doug and talk up the routing to the east! Joe, K5JB

Note to ROSE Operators

Here are a couple of tricks that will make your loading of ROSE code less time consuming and less painless to other users on the frequency:

If you are using an MS-DOS computer, edit the *.LOD files to replace the end of line character (linefeed) with a carriage return - linefeed pair. They look like they were prepared with a program that was incorrectly set to create Unix files. If you make the lines look like MS-DOS lines your communication program will probably see the end of lines better and you can upload using the "line at a time" pacing. Only send about 3 lines at a time and when you hear your transmitter unkey, send three more lines. (There is a long pause while the ROSE switch acts on what you send before it sends an ACK. This is a good time to send another chunk to your TNC.) Your TNC can't digest lines you are sending to it while it is transmitting or receiving. (It doesn't lose them, it just doesn't digest and transmit them as whole lines with each transmission. Also, throttle your sending to the TNC because information could get lost, even with the best of communication programs using XON/XOFF, if you fill up your TNC's buffers.)

Do not connect to LOADER except to send the *.LOD files. Sending your configuration table to LOADER is a waste of time, except as described below. "Configuration table", in this context, is the table that is created when you run configur.exe against your configuration file. It is the one with all the ones and ohs in it.

Connect to CONFIG to send your configuration table. After you do this, don't connect to LOADER and send it again. (See last paragraph.)

If all you want to do is change the information screen(s) that are transmitted when someone connects to the switch (Not making a network connection) make a copy of your configuration table and edit the copy as follows:

Note that each section, or transmitted block, of the configuration table starts

with a colon(:). Delete all sections IN THE COPY YOU MADE except the last section. (There should be ten sections to delete.) The last section starts with :0100. This is the portion that contains that information screen. Sending all the routing information to the switch, when there are no routing changes, is a waste of time, and you run the risk of a bad upload messing up the routes you already have.

Now, here is the only time you would connect to LOADER to send anything other than a ^.LOD file. You can send a file edited as described in the last paragraph to LOADER as well as to CONFIG. Sending the full, un- edited configuration table to LOADER normally won't hurt anything, but it is a waste of time to send the configuration information which is rejected with errors. Only the information in that last block is accepted by LOADER. This mechanism was provided by the programmer so you can restore some text, without loading CONFIG, if there is a power failure on the TNC. That information is not backed up by the internal battery, as is the routing information. I would suggest that you load something short, like,
   "Sorry, Power Failure - Applications will be loaded later - Switch should network properly."
and re-load CONFIG and all the other things later when you have time. This message wouldn't take but a minute to send if it is edited from a configuration table prepared for the purpose. Joe, K5JB

Dear Jabby

You mentioned in your column to be careful about not creating a ground loop in your power and audio wiring. What did you mean by that? I know what a ground is and what a loop is, but I don't know what the combination is. Un-Grounded

Dear Un,

Well, let me first apologize for passing off the subject of grounding in such a cavalier way. Grounding should be simple, but it really isn't. You see, grounding is a figment of the imagination.

Once upon a time, there was a real thing called "ground", and it was good, but some guys named C.A. de Coulomb (1736-1806), Andy Ampere (1775-1836), Mike Faraday (1791-1867), and Willie Siemens (1823-1883) came along and exploited a material called electricity. This new material was a wonderful thing that had already occurred in small quantities from cat fur and thunderstorms but when these guys got involved, they manufactured so much of the stuff that there quickly became a surplus and the land fills became overloaded and the ground water was polluterized. (Some critics at the time referred to such polluted water as watter.) Once this happened, grounds became ruined for ever and ever. In fact, "true ground" became extinct.

In commemoration of the now long-extinct ground, the word "ground" has been revised to represent a concept of a reference point; a necessary evil in electrical science. You see, when you express a voltage, you must express it in reference to something. A "voltage of 10 Volts" means nothing unless you explain between what two points you are expressing the potential difference.

Now that you know that a ground is whatever you want it to be, all you have to do is make sure that it is not something else.

It is specially important that when you deal with small signal circuits, like the ones sending audio to your transmitter, that you not superimpose stray voltages over the ones that are supposed to be there.

The general case of Ohm's law is that, "If your power supply ripple current finds a better path back to the power supply through your microphone circuit, it will use it and it will create a ripple voltage that is proportional to the resistance in said microphone circuit".

What Mr. Ohm was specifically referring to was a TNC and a RADIO on the same power supply where the power ground wire is undersized, or a TNC and radio on different power supplies that are connected to different grounds in your house. (The safety grounds on two wall outlets are not the same ground, RF wise. In fact, when thinking of 2 Meters, two points separated by about 19 inches are as far from being the same potential as possible -- Further, such quarter wave configuration is referred to as a "metal insulator" in transmission line supports for microwave.)

When you permit some of your power supply ripple current to flow on your audio ground circuit, you run the likelihood of superimposing some voltage differential between the two audio terminals somewhere, and this differential is what makes hum.

What you have to do is put on your electrical goggles and visualize what your power supplies are having to do to create power circuits (power loops) and do whatever you can to prevent these currents from taking the same paths that your audio is taking.

Also, visualize where stray currents can be introduced to your precious audio circuits. Remember that your grounded antenna circuit is not at the same potential as all the other "grounds" in your place. That antenna ground voltage is going to complete a circuit to your radio when you connect the feed line. This circuit will continue on to your radio shack's safety ground when you plug the power plug into the wall. I can measure tens of volts of AC ripple between my tower ground and the safety ground in my ham shack. For the convenience of all my computers, VCR, etc. I don't attach them to the lightning rod outside.

If you were paying attention, you noticed that I used the term, "power loop" in the last paragraph. This was a hint about the answer to the question of what is a ground loop. Since all electrical circuits consists of loops, it became natural to describe an unwanted current flowing in a ground as a ground loop.

What to do? Well, if you have good electrical goggles, you can see this unwanted current flowing and maybe interrupt it, but most likely you will not be able to do that without exotic things like opto-isolators or ordinary things like isolation transformers. Most likely, rather than eliminate the stray current, you will reduce it to insignificance by providing low impedance (in scientific terms, "more better") alternative paths for stray currents to make their way home. Sixty Hz ripple can be provided with braided ground straps to divert it away from sensitive circuits.

RF needs more imagination. RF currents are harder to see with electrical goggles so you generally need to think of reactive networks to steer it around. Chokes (including ferrite beads and toroids -- which are BIG beads) provide less desirable RF paths and capacitors provide more desirable paths. By combinations of the two, you steer the unwanted currents away from your gear, or prevent it from developing voltages that cause problems.

Next question?   Jabby

Dear Jabby,

You said that impedance matching wasn't important in a recent column. My uncle Farnsworth, who teaches at RF Tech, says it is important and that the blue vitriol concentration in your batterys is too high. What do you say to that?

Well, you offer my apologies to Uncle Farnsworth, because impedance matching is important, sometimes. When I took high-school physics, I learned from a simple manipulation of Ohm's law that you get the maximum power transfer between a signal generator and a load when the impedances of both match. This is important in RF circuits and some audio circuits where there isn't much power to squander. But in some cases, you have much more power available than you want, and to control it, you adjust the amount of impedance at the load. In a typical intercom circuit, the power amplifier is capable of putting out a certain audio voltage, say 20 volts, or maybe 70 volts. On the loud speakers attached to the thing, you adjust the volume by either selecting taps on a transformer or adjusting a resistive network to provide the load that absorbs the desired amount of power. In either case, you are adjusting load impedance to control the power transfer.

On an electrical power circuit, the outlet has an approximately fixed voltage available, say 120 Volts. You plug your hair dryer into that and turn it on low to find that bad integrated circuit, or on high to make that wrinkle paint job puff up. You control the power transfer to that hair dryer by switching the amount of impedance it presents to the constant 120 V circuit.

In the example I was discussing on the TNC, the audio from your receiver can be considered a constant voltage source because it's impedance is low, specially when there is a speaker attached. (A typical TNC is real happy if you only send about 50 millivolts to it.) On the transmit side, the TNC has gobs of transmit audio power available and you can squander it without worry (unless you are using a commercial rig like a Motorola or GE which has real low input audio impedance).

The consideration on transmit audio is not the power transfer, but the effect reactances have on the packet tones you are trying to transmit. In most TNCs, DC voltages from the radio are blocked by a series capacitor in the TNC audio output. If you put too low an impedance load on the TNC, you will cause the capacitor to attenuate the lower frequencies more than the high frequencies, which is not good. If you put series resistance in the audio lead to reduce the level sent to the radio, and you put that resistance on the TNC end of the cable, the capacitance between the shield and inner conductor of your audio MIGHT cause some low pass filtering. What I recommend is put a shunt resistance of some medium value across the audio-to-ground terminals on the radio end, and, between the cable center conductor and the radio's audio connection, put whatever series resistance you want to cut the levels.

You normally don't have to do any of this stuff with a one-on-one radio to TNC connection, but if you are going to swap things around often you want to normalize the connections between equipment so you don't have to go into the TNC and set the levels before going on the air.   Jabby

YOU DO SET TRANSMIT LEVELS BEFORE GOING ON THE AIR, DON'T YOU?

Unixisms

Last month I ran some Unix things I got a kick out of. If I need some fill, I may run some more. Monte, WB5RZX, keeps me supplied. He says he hates Unix because of the experience he had trying to write an I/O driver for it. But he is smart enough and knowledgeable enough to make intelligent fun at it. It certainly is in interesting operating system once you begin to understand its underlying philosophy and its funny names for utilities. I have an AT&T 3B2 computer which does a nice job of running Unix (naturally) and have had a lot of luck compiling C programs on it.

It is very expensive to get into Unix if you go down to the store and buy it. Unix for the Intel xxx86 processors costs around $1500 if you get the development tools, and all. If my 3B2 went bad, I wouldn't consider springing for the high dollar spread. However, maybe there is an alternative.

Last week, I received a Unix work-alike from the Mark Williams Co., called Coherent. I have seen it advertised a lot and it has been around for a long time but I presumed it was a toy operating system since I knew no one who had successfully used it. The two people I knew who ordered it sent it back because it wouldn't work on their hardware (mostly SCSI disk controllers). When I got a call from Duane, KA5WRG, he told me he had it up and running. We arranged for mail transfer between our machines and it did what it was supposed to. On Duane's and Dave, WD5G's comments, I thought I would give it a try. It is $100.

So far, so good. I am running it on the 80386 machine which has gobs of memory and lots of speed. I compiled a couple of fairly large projects, including a full-featured Kermit and had to do very little to get them successfully compiled. The kermit works like it is supposed to on the serial ports. I tried a simple terminal program that uses the TCP/IP serial driver method and it didn't work. I haven't tried to find out why yet. I am sure that with a little work I can get Phil Karn's TCP/IP running on it.

It came with more tools than I expected; in fact, it has a couple of things my AT&T box lacks, such as the popular EMACS editor. It puts some of the files in different places, and has different names for a few common files, but it is a pretty darned good collection of things to play Unix with.

Installing it requires setting aside a hard disk partition of at least 10 Megabytes. I already had a 20 Megabyte partition free on one of the drives so I just used it. The loading procedure is well thought out and went well, except that I really wanted to put it on my second drive, and didn't see how to do it until I had already set it up on a partition on the first drive. (You don't choose any of the options on the first drive and it asks you the same questions on the second drive, if you have one.)

I think it is going to be fun to play with. It should be a good learning tool for someone who wants to know how to use Unix, but it is kind of like learning to swim by jumping into the lake. If I hadn't already been prepared with the Unix way of doing things, I wouldn't have had it as easy. The book that comes with it is complete enough but when you are faced with that # prompt the first time, and have to type "ls -l" to see the directory -- and then see a bunch of things that are not intrinsically obvious, it is kind of scary. If you have an 80286 or 80386 machine (it runs in protected mode that these processors provide), and have some spare disk capacity, you might want to try it. More next month. Joe, K5JB

WHEN BREATHING STOPS

IF A VICTIM APPEARS TO BE UNCONSCIOUS TAP VICTIM ON THE SHOULDER AND SHOUT, "ARE YOU OKAY?"

IF THERE IS NO RESPONSE TILT THE VICTIM'S HEAD, CHIN POINTING UP. Place one hand under the victim's neck and gently lift. At the same time, push with the other hand on the victim's forehead. This will move the tongue away from the back of the throat to open the airway.

IMMEDIATELY LOOK, LISTEN, AND FEEL FOR AIR.

While maintaining the backward head tilt position, place your cheek and ear close to the victim's mouth and nose. Look for the chest to rise and fall while you listen and feel for the return of air. Check for about 5 seconds.

IF THE VICTIM IS NOT BREATHING GIVE FOUR QUICK BREATHS.

Maintain the backward head tilt, pinch the victim's nose with the hand that is on the victim's forehead to prevent leakage of air, open your mouth wide, take a deep breath, seal your mouth around the victim's mouth, and blow into the victim's mouth with four quick but full breaths just as fast as you can. When blowing, use only enough time between breaths to lift your head slightly for better inhalation. **For an infant**, give gentle puffs and blow through the mouth *and* nose and do not tilt the head back as far as for an adult.

If you do not get an air exchange when you blow, it may help to reposition the head and try again.

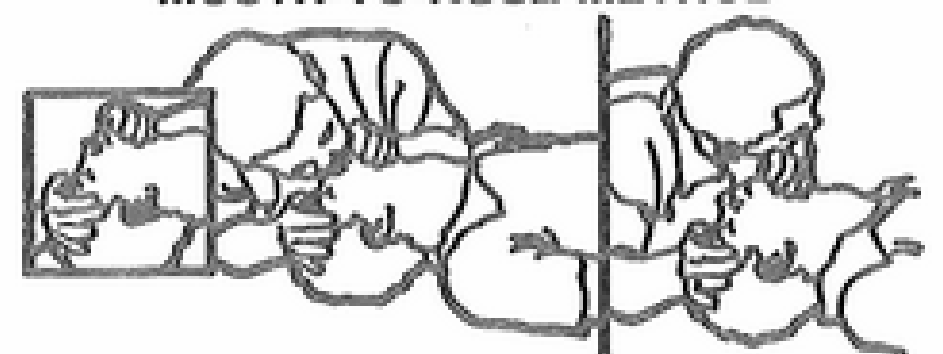AGAIN, LOOK, LISTEN, AND FEEL FOR AIR EXCHANGE.

IF THERE IS STILL NO BREATHING CHANGE RATE TO ONE BREATH EVERY 5 SECONDS FOR AN ADULT.

FOR AN INFANT, GIVE ONE GENTLE PUFF EVERY 3 SECONDS.

MOUTH-TO-NOSE METHOD

The mouth-to-nose method can be used with the sequence described above instead of the mouth-to-mouth method. Maintain the backward head-tilt position with the hand on the victim's forehead. Remove the hand from under the neck and close the victim's mouth. Blow into the victim's nose. Open the victim's mouth for the look, listen, and feel step.

For more information about these and other lifesaving techniques, contact your Red Cross chapter for training.

American Red Cross   **ARTIFICIAL RESPIRATION**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 MORI	2	3 ACARC	4	5 OKC CD SIREN TESTS 1130 145.41
6 GREAT PLAINS A R C	7	8 OKLAHOMA UNIV. ARC BICENTENNIAL (76ers) ARC	9	10 CIMMARON A R S ALTUS ASSOCIATION	11	12 S C A R S CENTRAL OKLA COMPUTER
13 WHEAT STRAW	14 EDMOND CLUB	15 AUTO PATCH	16	17 KAY COUNTY	18 E A R S	19 V H F OKC CD SIREN TESTS
20	21 VE TESTS 6:00 PM SALVATION ARMY 50 & PENN	22 CORA meeting	23 Edit C & E	24	25	26
27	28	29	30	31 JANUARY		