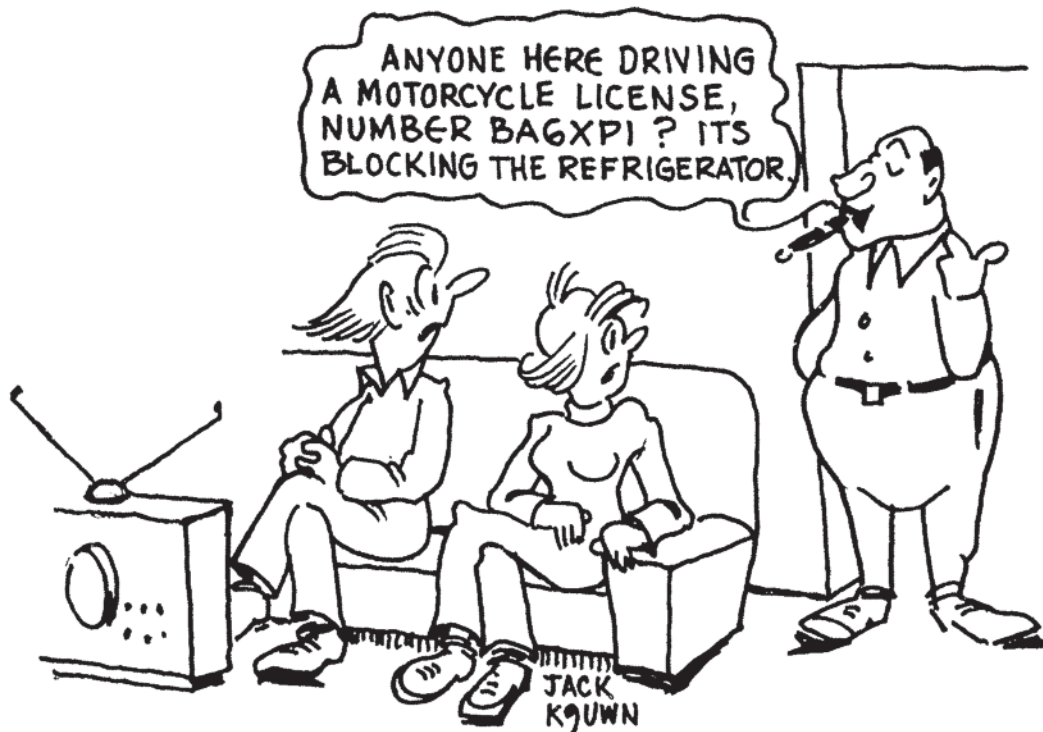


# Ham Rag

Rockford Amateur Radio Association

January, 1983



# President's Log

When this column appears, Christmas will have already come and gone. I hope all of you had a nice holiday. Soon we will be hearing all kinds of talk of new equipment, radios and computers, no doubt. At any rate, there is still time to wish you a **Happy New Year** and remind you of the upcoming RARA Banquet.

I'm still wondering a little bit what I am doing in this position. I must warn all of you not to stay on the twisted pair too long if you know the guy on the other end is Frank. Somehow, he got me to agree to be on the ballot. Thanks to all who agreed to run for an office. Whether elected or not, they were willing to donate their time. As for me, one of the real reasons I said I would run was to have an opportunity to put something back into the club. Looking back over the years, I realize that I have taken a great deal of pleasure out of it. Not really being greatly involved in any one aspect or activity, but enjoying many. Now, maybe, I can put a little into it. I am actually, sort of looking forward to it as another way of enjoying ham radio.

Since I didn't actively campaign for this office, I have no promises to fulfill. Not yet, anyway. I am learning already though, that there is a lot of 'Behind the Scenes' work to carry on by all those involved.

We don't have a past months activities to write about at this time, but the coming year looks pretty good. There is a tentative schedule of events and programs. With a little more work on this, we will make it public. We can have another good year with your cooperation. Your comments and suggestions will surely be welcome.

We already have a few volunteers for some areas, and those asked to take on some jobs have accepted willingly. This sure makes the job easier.

Thanks again to last years officers and directors for their work in taking the club through another year. A special thank you to Frank for taking an extra month on his term.

One of the things we will be doing soon is surveying the membership as to whether or not you belong to the ARRL. We wish to remain an affiliated club. Therefore, we must have at least 51% of our members belonging to the ARRL.

There are many things to talk about and bring before the club. But for this writing, and until we all better over the holidays, and a Board Meeting or two, I will close for now. *(This is easier than the key, Bill.)*

**73, Bob WA9NTT**

# Editor's QRM

Here it is January 1983. It hardly seems possible that 9christmas has come and gone and a new year is starting. Lots of good things can happen this year within RARA if you make it. 'Let someone else do it, I'm all burned out.' Oh come on ! That's a cop out. I'm not saying 'new blood' isn't wanted but what about the wealth of knowledge out there that some of the 'older' club members could pass along to the newer members. Im not suggesting the retired climb towers or the ski jump on field day but you do have many wonderful years of experience and knowledge to share along with us. Also many amusing stories, such as the Ham Rag article written by W9FL about moving a 60 foot tower in one piece.

How about those of us who have been working for the last four or five years? Do you want to let someone else do it? Well then, that is two groups who are saying this, who is left? The new group of club members who say 'I don't have enough experience, wait a year or so then I will get more involved.' Where then is RARA? Who is going to chair the committees, teach the classed, present programs? Think about it. Each of us has family, job and church obligations which should come first, but each of us has a talent we could share with RARA. When one of your club officers or committee heads calls and asks for your help with a project don't be so quick to say no. It could be a very rewarding experience.

This is Ham Rag number 1 for me. This year there will be some changes made within the paper. The contest column has been dropped. AK9N has agreed to co-author th DX column with K9IKP. We have added a computer page to be written by WB9MMM. There will be a regular Tech Topics page written by K9LUX and an occasional Up close and Personal written by K19G. Carol will also continue as Ham Rag photographer. N9CCH will remain as author of Potpourri and KA9LTR will continue the Novice corner.

We invite anyone who wants to write an article for the Ham Rag to send it to WB9SFT by the 20th of the month. This is your paper and it takes people to make it work. How about it?

**73, Shari, WB9SFT**

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**ROCKFORD AMATEUR RADIO ASSOCIATION, INC.**  
**P.O. BOX 1744, ROCKFORD, ILLINOIS 61110**

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# Tech Topics

Question. You're putting HF antennas up all over, but is it worth saving money by using RG-8X coaxial cable?

The above is a question asked more often as good RG-8 approaches 40 cents a foot and RG-8X can be found for 15 cents. To answer this we need to look at coax cable in general and determine what is important to our operation. The following parameters are the ones we normally have to worry about:

**Impedance.** The average characteristic impedance is determined by the ratio of the inner diameter of the outer conductor to the outer diameter of the inner conductor and by the dielectric constant of the insulating material. The most common value in amateur use is 50 ohms, and of course should match the feed and load impedances.

**CW Power Rating.** All cables have an average power rating which must be corrected for the VSWR on the cable. For around this area and on 80-10 meters the effective power to compare to the rating of the cable is:

$$\text{Effective Power} = (\text{Average Power}) \times (\text{VSWR})$$

This power may be used for cable temperatures up to 100 degrees F.. Of course it is always preferable to allow some margin when deciding on a cable to use, and remember, indicated VSWR at the transmitter is less than true VSWR because of cable attenuation.

**Attenuation.** An important factor during both transmitting and receiving is the amount of signal attenuation caused by the cable. This is rated by the number of decibels (db) per 100ft, where for comparison 6 db is equivalent to one 'S' unit. Note that this increases with frequency and thus is a real worry on 2 meters, but is hardly a concern down on 80 meters. Remember that although every db counts a three db difference is hard to tell in most cases, but let that get to 6 or greater (more than an 'S' unit) and it starts to count! Finally, as we grasp for the last db of signal, this is also affected by the dielectric constant of the insulation in the cable, and foam here is better solid insulation.

The characteristics noted above are the ones of greatest concern for most amateur antenna construction. Details on these, including graphs of attenuation versus frequency may be found in the ARRL Antenna Handbook and ham Handbook, along with other references. A table of data for two key cable types, RG-8 and RG-8X, is included below.

There are a handful of other things we should worry about too, all of which we won't cover here, but a final concern happens when you're buying cable. Cheaper cable many times means you are getting less shield, and you might not be able to afford that saving if it costs in TVI! This also is related as a percentage, with 100% a perfect shield. The good cables will give you 95% shield, the poorer ones around 85% (that's 15% openings!). As a matter of interest, 95% shield achieves about 50 db isolation at low band frequencies.

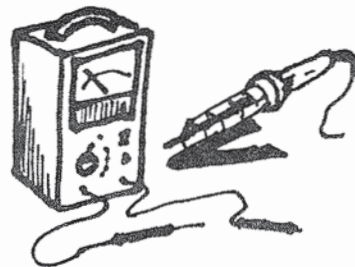
Now to the question above. Do you use RG-8X or RG-8? If you are operating without an amp, and can tolerate an extra 1 db/100ft attenuation on 10 meters, or only about 0.25 db/100ft extra on 80 meters, go for the RG-8X. If you are operating with some power, or want that last db of signal,



RG-8 is a better bet. That goes double if the VSWR is up there also. But in all cases get a good cable with uniform characteristics and a good shield, like Belden 8214 (RG-8) or 9258 (RG-8X)

The information below is from Belden data sheets on their 8214 and 9258, with the exception of power rating shown is from other sources or estimated. Both cables have foam polyethylene dielectric.

	<b>8214 (RG-8)</b>	<b>9258 (RG-8X)</b>
Impedance .....	50 ohms	50 ohms
Shield Coverage .....	97%	95%
Power Rating		
10 Mhz .....	3700 W	1000 W (est.)
100 Mhz .....	850 W	250 W (est.)
Attenuation/100 feet		
3 Mhz .....	.25 db	.5 db
30 Mhz .....	1.0 db	2.1 db
100 Mhz .....	1.8 db	3.7 db




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## Guest Editorial

T.V.I. and B.C.I. can be a very big problem at times. I had a very big one a few weeks ago. I was on 28 meg HZ/SSB trying to work T31 British Phoenix. A loud knock was heard at my door. I answered and it was my next door neighbor. It seems he was visiting at a cocktail party three houses away and I was coming in on the stereo 59+++. He was quite drunk and didn't want any explanations! I tried to explain that I could fix the stereo so this wouldn't happen anymore but he just felt it was all my fault. He wanted me to step out and fight. He also threatened to cut my tower down. At this point I shut the door. He then slammed my storm door breaking the glass. This happened Saturday about 9 p.m.. I stopped operating and called the police. They made out a report and said I could have the neighbor arrested for criminal damage to property-a \$100 fine. I decided against that for peaceful reasons but I wanted the police to have a report written for my protection in case my tower was damaged.

Sunday I visited the other neighbor who owned the stereo. I gave her my QSL card with my phone number and said to call me if she had any trouble. I could put some filters on her stereo.

All went fine for a week and then TVI trouble started on her TV. I put the filter on their set and the TVI was cleared up. They also had a very snowy picture on their TV because the cable was hooked up wrong. I corrected it. This made some very important goodwill.

Two days later the neighbor called and agreed to have her stereo worked on. This was a success and made her very happy and a friend. The other neighbor looks like a fool. But there's nothing I can do there.

**K9LUX Larry Carlstrom,  
TVI committee 654-0080**

# CQ DX

I know what I said last month about fading from the scene here at the Ham Rag editorial offices, but what can a fellow do when the sweet talking editor corners him over the telephone. KI9F never would have gotten away with such things. The cast should be off my arm in a few weeks and I should be able to send CW again as well as ever (?). Even that will be more difficult now since the fellow down the street came home from the FCC the other day with an Extra class interim permit. The only place now to escape is 80 meters.

Perhaps one aspect of chasing DX that perplexes the newcomers, frustrates the seasoned veterans, and is somewhat hit and miss anyway is getting a QSL card in return. We all enjoy seeing those cards show up in the mailbox, whether they are the very first DX QSO, a new country, or the 1000th JA that month. One sure fire way to guarantee no return card is to send off a QSL that is useless to the DX station, whether it's the wrong date, time, band or what have you. If he cannot find you in the logbook (imagine searching through 2000 QSO's from a contest weekend), your chances of seeing his card in return are somewhat slim.

For starters you should keep your date and time in GMT, UTC, Zulu; whatever you call it, it is the local time in Greenwich, England. This time of year GMT is six hours ahead of our local time (Central Standard). As I am writing this at 0442Z, the local time is 10:42 P.M. but the previous day. Remember that the date changes at midnight, so when we are looking at 6:00 P.M. on Dec. 31, 1982, the time in GMT is 0000 on Jan. 1, 1983. Also keep the time in 24 hours. Our 3 o'clock in the afternoon is 2100Z. Don't try to understand any of this after a contest weekend, you will get all messed up as I have on occasion. Another point here is that 4-5-82 means something different to us than to the rest of the world. We call it April 5, 1982 while everyone else is talking about May 4, 1982. What you should do here is spell out the month (5-April-82) or use a Roman numeral for the month (5-IV-82). Also write legibly—probably better to print, especially call signs. I can show you a card make out to AK9N for a contact with 9K2DR that I never made. Whoever belongs to that card is most likely upset.

A few other entries that your card needs are band or frequency, mode, and a signal report. I have never seen anything in print concerning a minimum signal report, but I do not believe that an R-1 will quite make the grade. Make sure that the mode indicates that a two way contact was established. This will distinguish your card from that of an SWL. Do not-repeat-DO NOT cross anything out. If you make a mistake, start all over again with a fresh card. Many of the DX stations are probably chasing the same awards that we are, so make sure your QSL is worth the paper it's printed on. I recently sent back to the manager a T32 card that had the signal report crossed out and changed. I doubt that W3AZD would have accepted it.

With your card properly filled out, and all of the information there on checked for accuracy (have pity on the guy that made 200 megapoints in the last contest), ship it off and hope for the best. Next time will be some hints and suggestions on the best ways (cheapest, quickest, surest, ???) of sending out those cards and generating maximum returns.

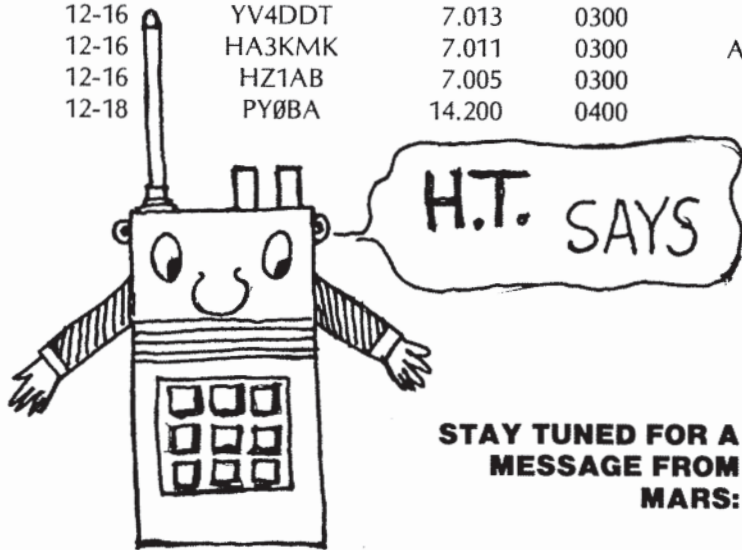
Something to look for later on this month and into February are some signals from Heard Island. It seems that amateur operation from this place is somewhat rare, so best work it while available. It

appears that two independent groups will be there about the same time. One group will use the calls VK0CW (I like that one) and VK0HI, while the other bunch will have VK0JS and VK0NL (a YL). I have no information about modes or bands or times, but you should have no troubles finding the pileups once they show up somewhere.

Gene, K9IKP, and myself will be alternating this column this year, with perhaps a 'guest' columnist from time to time (any volunteers??). If you have any info on DX heard or worked that you think would be of interest, please send it to either Gene or Gene and we will see to it that it gets printed. For my purposes please list date, time, frequency and any QSL info. If you hear the same rare one more than once, send that in also since as pattern might make it easier to catch those elusive ones.

That is all for now. See you in a pileup.

DATE	STATION	FREQ.	TIME	QSL	BY
12- 5	5H3BH	21.027	1945	SMØDJZ	K9LJN
12- 7	JX1CY	14.220	0230	LA1CY	KI9G
12- 8	VR6KY	14.230	0620	LA7JO	KI9G
12- 9	HZ1AB	7.009	0400	K8PYD	AK9N
12-14	ED9ICH	14.210	0345	EA9JV	KI9G
12-15	VP8AEN	14.210	0500		KI9G
12-15	JX6RE	14.030	0300	LA6RE	AK9N
12-16	VP8ALD	14.206	0130		AK9N
12-16	FM7VU	14.030	0200		AK9N
12-16	PY4VB	7.009	0300		AK9N
12-16	V3DW	7.019	0300		AK9N
12-16	YV4DDT	7.013	0300		AK9N
12-16	HA3KMK	7.011	0300	AK9N	
12-16	HZ1AB	7.005	0300		AK9N
12-18	PYØBA	14.200	0400		KI9G



T. MOORE

73, Gene

**STAY TUNED FOR A  
MESSAGE FROM  
MARS:**



# Digital/Micro Corner

In this monthly column I hope to cover a variety of subjects pertaining to microprocessors. This may include reviews of equipment, discussion of digital logic, and many other subjects. Your suggestions for topics will help me choose subjects that would be of interest.

This month I would like to discuss a computer that I'm seeing everywhere I go, the Sinclair ZX81, also being sold as the Timex 1000. Because of its low cost (I've seen it as low as \$87.88) I would expect the retailers will have sold thousands during the Christmas season. This might mean you received one under the tree!

The person who put this one together (Sinclair) really has it all together himself. He wanted to mass market a computer. To be able to do this, the price had to be in a range that almost everyone could afford. He took a circuit with 17 integrated circuits and condensed it to 4 integrated circuits by designing his own chips (another word for integrated circuit). Doing this saved not only on the cost of parts but also on assembly cost. To further save, he added a *MEMBRANE* keyboard, which is less expensive to manufacture in quantity.

The whole computer is small enough to fit in a briefcase for those who travel. I can see motel operators going nuts with alarms going off with all the computer nuts wanting to connect up to the motel tv!!!

What can you do with the ZX81? It is a good unit to learn the BASIC programming language. Programs can be written and saved on cassette tape. Your display is your family tv set (your family might let you run programs during commercials!). The unit has graphics capability which means you can make pictures, graphs, and charts on the screen.

The ZX81 is expandable, with a 16K (about \$50) memory module available so you can run longer programs. Because of its popularity, other manufacturers are making accessories such as interface packs, floppy disk, and lots of software support. This means there is a good variety of programs available that you can type in. I understand that there is now a magazine available devoted to the ZX81. While I was in England in November I saw several magazines available, but then Great Britain is where they are built.

I also had the pleasure of visiting with another ham who was staying at the same hotel. He was carrying his computer with him, a ZX SPECTRUM. This is a new color version which also has a more normal type of keyboard (not membrane). This unit is not for sale in the states yet, but probably will be early in 1983. Over there it sells for 125 Pounds (about \$200) although it is reported that when it is introduced in the states the price might be around \$350. We will just have to wait and see.

I feel this computer is a good unit with tremendous capability for the money. It won't do everything that other more expensive units can, but a lot of fun can be had with this one.

**73 Gene WB9MMM**





On January 23, 1983 at 7:00 p.m. in the W. A. Whitney Training Room **EARS** will hold its first meeting of the year. There will be a special election for Vice President. AA9Q was forced to resign due to the fact that he is moving out of state. There will also be a general "rag chew" session.

Remember dues are due the first of January. Dues are \$20.00 per year, family membership - \$10.00 for retired members. If you are retired and have been a member for five years, membership is free. All paying members will receive an **EARS** jacket patch—one patch per membership. Additional patches are \$2.00 each.



There will be no regular January meeting for **RARA**. Instead an **AWARDS BANQUET** will be held at **Josey Wales, 5803 North Second Street, Loves Park, Illinois** on the 15th of January.



## Novice Corner

Hello again, from KA9LTR. I hope everyone had a very nice holiday. The topic I would like to address this month is QSL'ing; both receiving and sending QSL cards. This happens to be an aspect of Ham Radio that is very dear to my heart. After managing to acquire (with a certain amount of difficulty!) the needed 50 QSL'S for my novice worked-all states, I set out to begin working on my 5 band worked-all states, which I'm going to try to do all on CW. This meant that I needed 200 more QSL cards. The right ones, of course!

Now then, enough of my soap-box oratory. Back to the business of QSL'ing; let's assume that you are going to try for an award such as 'worked all states'. This means that you would like to begin collecting QSL cards, right? The cliché 'If you want QSL'S then send QSL'S' works-up to a point. I'll try to explain what I mean by this.

Most Hams are glad to QSL. However, a very few will not QSL even though they might have told you 'FB on QSL' or "I'll send my card as soon as I get yours", etc. Whether they think that they are getting one up on other Hams by just sitting back and not sending any QSL'S in return for the ones they received themselves, is beyond me. Anyway, there are always a few of these types around to deal with.

To increase your chances of getting your QSL return rate as high as possible, there are a few steps that can be taken. The first thing you should do is to ask the other Ham, during your QSO, if it is OK with him to swap or trade QSL'S. Doing that commits him, (hi, hi). While tuning the bands and even in some QSO'S with some of the newer Hams, I have been told and have heard other Hams be told , to send a QSL; not asked but told! To my way of thinking, not only is this poor manners but it is down right rude; so, ask if it is OK on QSL.

Another method for insuring a return QSL to yourself is to send out self-addressed-stamped envelopes, (SASE'S). This might seem like a rather time consuming and expensive way to go but many times it is very worth while to do this. I'll try to explain what I mean. Some Hams are not as well off, financially as you or I might be. The other Ham might be retired, disabled or on a very limited income. This is not as strange as it may sound, especially with the economy being what it is today. A good tip-off is to be listening in the QSO for the other Ham's age and if he is retired. So, be listening for these clues.

There is another very good reason for sending SASE'S. In some instances, the other Ham may live in one of the more 'rare' or 'hard to work' states, such as Vermont, Alaska, Hawaii, Nevada, etc. He may not want or need 100 to 200 QSL'S from Illinois on a particular band. Would you? There might be a bit of exaggeration in the numbers here, but I think you get my point. That is, YOU want his QSL and he might not necessarily want yours. So; an SASE could really pay off in a case like this.

When filling out your QSL to send to the other Ham, it is very important that you do the job right. In my quest for 5 band, worked-all-states I have received quite a few QSL'S that had some part of the QSL either filled out with the wrong information or the information was left out completely. Remember that the other Ham might be going for an award too, and the awards people who look at the QSL'S take a pretty dim view of QSL'S that have been changed or modified in some way. Here are some important things to keep in mind when filling out your QSL'S for the other Ham:

- 1-** Your call sign. If you were portable or mobile, it should be so stated on the card.
- 2-** The geographical location of your station. Again, if you were portable or mobile during contact. Showing the county that you are in is a good idea too, since the other ham might be a county hunter trying for "Worked all counties".
- 3-** The Call sign of the other station worked. Make sure that the other Ham's call is exactly right. Also, it is a friendly, courtesy to show this after his call, for example: KA9XYZ/QRP.
- 4-** The date and time of the contact. To avoid confusion, it is a good practice to write out the date as 10, November 1982. Also, it is best to use Greenwich Mean Time **GMT** or **UTC**. That way you don't need to write AM or PM after the time, making less room for errors.
- 5-** The frequency. The band wave-length or approximate frequency. For example: 40 meters or 7.125 Mhz.
- 6-** The mode of operation. Abbreviation can be used; be specific.
- 7-** Signal report is standard *R-S* or *R-S-T* format.
- 8-** Make sure that the QSL actually confirms a two-way contact. Use confirming QSO with or "2-way" or "2X" before the other station's call.
- 9-** Other items such as rigs, antennas, etc. are optional. If you make any errors in filling out a card, it is best to destroy the card and start over. As I mentioned before, awards people can be very "sticky" about disqualifying QSL's that they see have had changes made on them

By making sure that your QSL's are properly done, you are helping other Hams, by setting a good example for them.

# Potpourri

Here we go again! I hope that 1983 brings good health and happiness to all. Make the best out of any situation during the year and you should sail through with flying colors.

A big salute is certainly due Jim, K19F, for an outstanding job as editor of the RAG during the past two years. We should all realize it is a time consuming job and be aware of the fact that a club or society is dependent on guys like Jim to make things click. Thank you Jim for the fine job.

If your call sign is hard to understand, use approved phonetics when you identify. Many hams hold the mic too close and sound muffled. Practice backing away 3 or 4 inches from 'you know who' if you improperly identify or are indistinct in your transmission.

Gene, WB9MMM, is a traveler like Dick, N9UN. Gene found his way back to Rockford after being gone most of October and November to England and Scotland. He is scheduled to take off again soon on the trek across the Pacific. At least he got to stay home for the holidays.

**EXTRA!** It's official. Larry K9LUX, has proof positive that his XYL will deliver twins around April 1st. Two at a time ain't half bad.

Well, I hope most of our members intend to be present at the January banquet on the 15th. The place is *Josey Wales at 5803 N. Second St. in Loves Park*. It's a good opportunity to meet first hand and see how ugly the guy or gal is that you have talked to but have never seen face to face.

Two new calls have been heard by the gang on two meters KC9WF belonging to Marvin Becker and N9DRL belonging to his YL Kay. Congratulations go to K9LJN, Gary, who is now an extra

On the 18th of December the 'Roscoe Ramblers' celebrated their first birthday. One year ago a small group of hams met for breakfast at Phillips Cafe. This year 31 attended. Each had a small piece of birthday cake donated by WB8HVW.

A Rockford couple was one of 12 couples honored recently by the Department of Children and Family Services as adoptive parents of the year. Gov. Jim Thompson presented the plaque to Mr. and Mrs. David Wells (W9SUP) who are the parents of six adopted children. Congratulations to a truly wonderful couple.

**HAPPY NEW YEAR!!!**

**Chuck, N9CCH**



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