

Ham Rag

Rockford Amateur Radio Association

NOVEMBER 1983



RARA MEETING, NOVEMBER 11, 1983
7:00 P.M. - Rock Valley Jr College
Room 222 - Class Room Building 1

President's Log

The October meeting is now behind us and as usual, there are a lot of thanks to be given out. There are many people, whom you don't always see, who contribute time and effort towards our monthly meetings. Not to mention special activities throughout the year. The election results are covered elsewhere in this issue so I'll just say thanks to all who come out to vote. The attendance was good.

I, sure we all enjoyed the film on Dr. Owen Garriott, W5LFL. By the time you read this the film will already have been shown to several non-amateur groups. So if you have any ideas or want to show it to an organization, let a club officer or Gene, KA9BOD know.

Also, at the last meeting we had the opportunity to listen to a very interesting presentation of a more technical nature. We were told about methods and shown results of various receiver testing along with sample handouts. Thank you Ken Farver, KB9I, of Woodstock, IL, for bringing this information to our meeting.

Do you know what ARRL Division we are in? Not a tough question, I admit. But to get answers to many more questions and to find out what is going on in the ARRL, come to the November meeting. We will be pleased to have Howard Huntington, K9KM of Lake Zurich, IL, address us. Howard is Vice Director - Central Division, ARRL, and just coming back from the ARRL 1983 National Convention in Houston, Texas. I'm sure it will be most interesting to hear what's new and taking place inside the ARRL. Here is your chance to get some first hand information.

Last month we heard from Shari, WB9SFT, about a program called Ham Radion On The Road. Now basically, this is an effort to reach young people with the story of Ham Radio. There has already been a response by a few of our club members to get involved with this program. I say "Let's go get 'em". Remember, with youth - comes ideas and energy.

ATTENTION club members! Also find in this issue, the Annual Nomination Form for our local Ham of the Year. Now, this has been a nice tradition of our club for some time. It is also one of the Highlights of our now January Awards Banquet. (previously the Christmas Party.) Help make it easier for the determination of this person by giving it due consideration. I would like to urge all of you to turn in a nomination form, as the more response we get — the better. We have had a good year so far with lots of active people. Let me remind you that there are a lot of members who contribute a great deal towards amateur radio and the club, without being super-active on the air wavew.

On behalf of those elected to serve the club for the next year. Thanks for the vote of confidence. With your help, we'll have a good year.

73, Bob, WA9NTT

CQ DX

Hello gang,

Hope everybody worked HKO Mapelo. For the ones that didn't hang in there, there will be another operation someday in the future. HKO was operated by several hams. They operated all bands CW-SSB. It was a VERY good operation. This island is owned by Columbia and is a very dangerous place. On an operation in 1969, after a few hundred QSO's one of the ops broke his leg. The Columbian Navy came to the rescue and also closed the expedition down. Motto is to try to work them as soon as you hear them. Sometimes a 3 week operation can be cut down to just hours because of unforeseen situations. VE7BC was supposed to operate 6 weeks instead of 3 days from China!

BY1PK-BY4AA was operational on SSB from China. What a pileup!! Tom VE7BC operated BY1PK for three days. Most of us were in there trying, including many old timers. Many problems, lots of hecklers, and policemen. VE7BC tried to handle the pileup, but lacked experience. Too bad there weren't some operators there like OH2BH, SMOAGD or K6YRA. If that had happened, China would have been worked by several thousand U.S. hams instead of a few.

The bands are up and down. Check the bulletins and magazines for a propagation forecasts and turn the bands each day.

A good QRP operator is worth 5 to 10DB signal over a KW-big beam and a poor operator. Good examples AK9N, K9LJN and WB9LEF. They work DX with very modest stations.

OH2BH, Martin is still working on ZA, Albania, operation in the future. We could all use that one. Iris and Lloyd, W6QL and W6KG will be on the South America path for 6 months. This couple has helped many thousand hams going back at least 25 years of traveling.

XU1SS is active on 15 and 20 meters. KB9PC, Gertrude worked XU1SS on 15.

KS9B, Larry helped me repair the TH6DXX and did a fabulous job. This tower of mine gets harder to climb every year. We replaced the 10-15 meter director elements. What a difference.

When driving on Harrison Avenue, take a drive over to Dale's KT9P. Dale and Frank KS9X, and a few others put up a new 70 foot motorized TRI-EX tower. It is really beautiful. Dale is going to put up a 3 element beam on 40 and a 4 element 20 meter beam on it.

Use the 147.465 DX frequency and call your DX in. KB9LN calls in a lot of good info. Call your friends on the landline if they are not on the radio, they need it.

RADYG will hold their next DX meeting on November 16th at the Sicilian Pizza in Roscoe. It is an informal meeting for area DX'ers. Many good tips on DX can be had there. KS9B, Larry, usually has copies of the LIDXB which gives many tips on DX. KB9PC now has 264 countries confirmed. Good job, Gertrude. K9LJN and AK9N are looking for prefixes. So if you hear an unusual call - give them a call.

NEW PRODUCT REPORT

How would you like an 18 foot mast where you can climb up its attached ladder and mount antennae? Well, I have one which has five antennas on it, and it's great to climb!

I'm talking about the BG-18 3-piece tower mast made by IIX equipment from Oak Lawn, Illinois. The IIX is for WD9IIX. It is advertised to hold a 6 element tri-bander on the bottom and stacked 10 feet overhead a 2 or 3 element 40 meter array.

If any one wants to see it, I have an extra belt and I'll go up with them to look at it.

73, KC9WF, Marvin

TECH TOPICS

Here it is November - and you've made it through another construction season reveling in the fact that you already have your tower and antenna systems up and could just watch the other guys building theirs. So you think from now on it's all ham radio and football, do you? Well here's a chance to see the fall scenery from another angle. It's time for the pre-winter check out of the system and a chance to see the neighborhood from the top of the tower.

Head up to the top with your tape, grease, safety belt and whatever, and check first to see that the hardware on the antennas all looks tight. Supporting cables shouldn't be rusty and the connections to the antennas should be solid. Another coat of acrylic sealer might not hurt them. Then follow the drip loop for the coax down to the mast. Will it be free enough as it stiffens up in the cold? Will the tape hold the loop in place - the warmth of summer to bake the adhesive and the deterioration from all that ultraviolet light followed by the stiffening winds of winter may not be good for it. That done, look at the mast as it comes out of the tower. Is there a drip cap on the mast? With no cap rain and sleet can get down the top tower tube and freeze, potentially locking the antenna in place and overstressing the rotator. A drip can be formed with a piece of radiator hose large enough to go over the tower tube and held in place with a hose clamp on the mast. An even neater alternative is to use a PVC drain pipe reducer (check a lumber yard or building supplies place to get it). These come in standard pipe sizes, like most of the masts we use, can be cut in half, the inside chamfered stop filed out, and held in place with a hose clamp to keep rain from going down the outside of the mast into the tower tube. While you're there, is the mast bearing area (or tube if no bearing) well lubricated? That is good to pay attention to in general, and lube will keep any ice from sticking.

On your way down the tower, check all the cables for cracks, for fully taped and waterproofed connections, because it's miserable trying to fix that stuff when it's already freezing out. Once at the bottom, a check of entry into the house is worth while. Any extra space is room for cold air, and mice or other vermines to enter the house.

Walking around the yard, check on the condition of the guy wires and turnbuckles, and reflect on how tight they are. If they were tightened on a hot day, you may want to loosen things a little, as the guy wires shrink and get tighter during the cold weather. Don't believe it? Then why does Rohn recommend different guy wire tension settings for hot and cold temperatures during installation? A rule of thumb is to tighten the turnbuckles as much as you can with your bare hands on an average temperature (i.e. fall or spring) day.

Now, all you characters running just 80 meter dipoles thought you got out of this didn't you? But is it's well stretched out, might want to check the tension on it. It's not always the ice alone that brings down wire antennas. If it's an inverted V you should be okay. But sometimes overtensioning brings on stresses during cold weather that aggravates the situation.

Anyway, this effort complete, now it is time for a beer, football and ham radio.

SORTING

Recently, I was talking about computers and computing with a friend who has a home computer. He said to me, "Gee, I have this computer that is suppose to be able to do all kinds of things. Unfortunately it spends most of the time in my drawer gathering dust. I'd like to learn to program in BASIC but I don't know where to start." My response was that what got me to learn more about any language from assembler to COBOL was that I had a problem to solve - an "application" in computerize. So I presented him with a problem that we all can find many uses for - SORTING.

We have all had a list of "things" we wish were in some logical or different order, for example all countries worked, all states worked, all states worked on all bands, the last on thousand 1010x numbers (in the last 3 weeks of course), or all members in RARA who have Ten-Tec equipment. In some cases, the list may already exist but in some other order, for example the log contains all countires worked but in chronological order. We could set down with a list of all countires and a very sharp pencil and check them off, but that is time consuming. So why not let that "dust gather'er" do the dirty work for us! The problem now becomes we need a program to tell the computer what to do. There are many different algorithms for sorting. (See Listing 1,.) This method gets its name because as one sorts through the list, the high numbers will "bubble" to the top or bottom of the list depending on the desired order. Figure 1 shows the effects of a number of passes through a list of numbers starting in random order, and ending (eventually) in an ordered list. The idea behind this method is that one performs a series of compares between two numbers. The following example refers to the list in figure 1 with the bracket indicating the two numbers currently being compared. For this case, we will assume we would like a list of ascendin numbers. So for example, in pass 1, comparison 1, the two numbers are 7 and 3. We ask the question "is 7 less than 3", that is the first number less than the second number. If the answer is no, we swap the numbers. Then we go on to compare the next two numbers. This goes on until we reach the end of the list. We can see by looking at the end of pass 1 that the list still is not in order, but believe it or not, it IS closer. So we will require another pass through the list. The number of passes required can be determined one of several ways, each with a decreasing execution time. The easiest to see is if we make as many passes as there are items in the list. Another method which is a little bit more difficult to see is to continue with a given sort until there are no more swaps made within a given pass. That no more swaps were made can be determined by setting a flag off at the beginning of a pass, and on if we perform a swap. This method is shown by adding the line numbers from listing 2 to listing 1. A flag is any field or value that is used to indicate something has or has not happened. Much as when a train passes a point on the railroad line, the light next to the track will change from green to red telling the next train to stop and wait. For example, looking at pass 2, comparison 3 we would turn our flag on, for example, by setting X to 1, because a swap was made. Up until this point, the flag was set off, for example with a value of 0. The value of the flag is not important, what is important is the flag is telling you a swap has been made.

If we examine the list at the end of pass 1 and the end of pass 2, we will notice that "10" is at the bottom of the list. No matter how many times we pass through the list, nor where this value was at the beginning of the run, it will always end up at the bottom of the list at the end of pass 1. This leads us to the idea that if we reduce the stopping point of comparsons by 1 each pass, we could reduce the number of comparisons made. This indeed is the case. We can make this change in the program by using the lines given in listing 3. This method can be taken one step further by adjusting the starting point 1 less than the first swap made on the previous pass. For example, in pass 2 we first swapped the valued 3 and 4. So for pass 3 we would start with value 2 and proceed. Why value 2 and not value 3?

Pass Number 2

	Comparison Number									
	1	2	3	4	5	6	7	8	9	RESULT
Value	1	3]	3	3	3	3	3	3	3	3
	2	6]	6]	6	6	6	6	6	6	6
Number	3	7]	7]	7]	5	5	5	5	5	5
	4	5	5]	5]	7]	1]	1]	1]	1]	1]
	5	1	1]	1]	7]	2]	2]	2]	2]	2]
	6	2	2]	2]	2]	7]	7]	7]	7]	7]
	7	8	8]	8]	8]	8]	8]	8]	8]	8]
	8	4	4]	4]	4]	4]	4]	4]	4]	4]
	9	9	9]	9]	9]	9]	9]	9]	9]	9]
	10	10	10]	10]	10]	10]	10]	10]	10]	10]

Listing 1

```

10 Rem Bubble sort in Microsoft BASIC
20 Rem Input data
30 INPUT "NUMBER OF VALUES IN LIST";A
40 DIM A$(A)
50 FOR B=0 TO A
60 INPUT "ENTER DATA";A$(B)
70 NEXT B
80 REM SORT LIST
90 FOR X=0 TO B-1
100 FOR Y=0 TO B-1
110 IF A$(Y)<A$(Y+) GOTO 160
120 REM SWAP VALUES WITH C$ AS INTERMEDIATE SAVE AREA
130 C$=A$(Y+)
140 A$(Y+)=A$(Y)
150 A$(Y)=C$
160 NEXT Y
170 NEXT X
180 REM LIST SORTED LIST
190 FOR X=0 TO B

```

```
200 PRINT A$(X)
210 NEXT X
220 END
```

LISTING 2

```
94 REM SET FLAG OFF
95 FLAG = 0
114 REM SET FLAG ON
115 FLAG = 1
164 REM TEST FLAG AT END OF PASS
165 IF FLAG = 0 THEN X = B-2
```

LISTING 3

```
10 REM DECREMENTED, FLAGGED BUBBLE SORT
20 REM INPUT DATA
30 INPUT "ENTER NUMBER OF DATA ITEMS";B
40 DIM A$(B)
50 FOR A= 0 TO B
60 INPUT "ENTER DATA";A$(A)
70 NEXT A
80 REM SORT DATA
90 C=B-1
100 FLAG = 0
110 REM C IS END OF SORT FOR A PASS
120 FOR X= 0 TO C
130 IF A$(A)<A$(A+1) THEN GOTO 170
140 C$=A$(A+1)
150 A$(A+1)=A$(A)
160 A$(A)=C$
170 NEXT X
180 C=C-1
190 IF NOT C=B-1 GOTO 100
200 REM PRINT SORTED LIST
210 FOR X= 0 TO B
220 PRINT A$(X)
230 NEXT X
240 END
```


STS-9 Update

The launch date of STS-9 is in danger of slipping from the end of either November or February. After recovering the Solid-fuel Rocket Boosters (SRBs) from STS-8, NASA discovered excessive erosion of the ablative material lining one exhaust nozzle and funnel. The ablative material protects the metallic portions of the nozzle and funnel from burning through during the burn of the engine. (Once an SRB is ignited, it will burn until the fuel is exhausted). Should burn-through occur during ascent, the Shuttle would probably be thrown into a violent spin and go off-course.

NASA has indicated that Morton Thiokol Corp., building of the SRBs, has conducted tests on models of the STS-9 rockets at their lab in Utah. At press time (Thursday morning), one test model has failed while another has passed. More tests are to be conducted in the next few days. NASA will decide by the 18th whether to replace the SRBs with a new set (stack, as NASA calls them) or not. Such a decision to hold would permit them to move STS-9 back to the Vehicle Assembly Building, replace the SRBs and still launch by the end of November. If the decision to hold comes after this date, NASA will be forced to hold until February, because of the nature of some of the experiments on Space Lab 1.

We have included information about the flight and Dr. Garriott's plan of operation on the assumption that STS-9 will lift off on October 28. Should NASA hold STS-9, some of this information will probably be rendered incorrect. In the meantime, copy WTAW bulletins for latebreaking news.

There are some major changes to Dr. Garriott's operating schedule. Not only must he be off-duty and awake, but Columbia must be in the proper attitude to permit the antenna to "see" the earth. Keep in mind that changes in STS-9 attitude requirements brought about by slight changes in the schedule of Space Lab 1 experiments could have an impact on Dr. Garriott's schedule.

For U.S. stations, STS-9 ham radio operations will be as follows: Dr. Garriott will transmit on 145.55 MHz, with 145.53 or 145.57 as backup. He will listen only to 144.91, 144.93, 144.95, 144.97, 144.99, 145.01, 145.03, 145.05, 145.07, and 145.09 MHz. Remember: These are the U.S. frequencies, and only these frequencies will be monitored. He will not be listening on his transmit frequency. W5LFL will transmit for the 60 seconds of each even minute and will scan the 10 receive channels for the 60 seconds of each odd minute. (Set your clock to WWV). When calling, say "W5LFL" only once, followed by your call several times.

Operation in most of the rest of the world will follow the U.S. pattern. The only exception is that over Europe, Dr. Garriott will receive on 144.70, 144.725, 144.75, 144.775, 144.80, 144.825, 144.85, 145.35, and 145.45. His transmit frequency remains the same in all areas.

Remember, these are only the "possible" operating times based on the "nominal" flight plan. Check WTAW bulletins for late news. Other sources of latebreaking news on changes in operating times are W5RRR (28.6, 21.37, 14.28, 7.23, and 3.85 MHz), Electra/Bearcat (1-800-SCANNER), Westlink's Hollywood number (213-465-5550), and ARRL's Ham-in-Space Info Line (203-666-0688). Please recommend to your non-ham friends that they call Electra's number (1-800-SCANNER). Good luck! From ARRL Letter.

WORKED OR HEARD ON THE BANDS

Paul KR9P took first place in the CQWWDX contest on 40 CW. Congratulations!

This is my last DX column. It is time to give it to somebody else. I want to thank everybody that have contributed info. Input is very important in this column. I also want to thank Shari, and WB9SFT, Jim, KI9F for letting me write on DX. Also to be thanked is AK9N Gene, and Dennis, W9SS for their help. If I can be of any help in future columns, I will do my best to help you.

73 and 88, Gene, K9IKP (retired??)

HKØ	Mapelo				KB9PC
5R8AL	Malessy	21,335	SSB	PM	
TJ	Cameroons	21,335	SSB	PM	"
FR7BT	Reunion	14.	CW		KI9G
HKØ	Mapelo	14.	CW		KI9G
W6QL/HK		14.	CW		"
LU5		14.	CW		"
ZK9RW	Niue	14.	CW		"
4S7	Ceylon	14.	SSB		KSØB
60	Fr. Somaliland	14.	SSB		KB9LN
VQ9	Chagos	14.	SSB		"
3X4		14.	CW		K9LJN
KI9G		14.	CW		"

Secretary's Log

If you didn't attend October's RARA meeting, you missed an exciting one. It definitely was very interesting.

The radio station at RVC needs to be used before RVC decides to make it a storeroom. Anyone interested in using it once in a while should contact Bob, WA9NTT. It has a lot of fine equipment just waiting for us. Let's get it going!

The election of officers was held and was quite interesting. All the present officers of RARA won re-election which meant that directors had to be elected. The directors for the upcoming year are: Gary, K9LJN; Frank, KS9X; Ron, N9DPP; Dave, N9DRQ. Congrats, Guys! Good luck with a couple of other members on the board. I hear they can be wicked!!!

We were fortunate to see the vidiotape called "Amateur Radio's Newest Frontier." It deals with the upcoming space shuttle flight and astronaut Owen Garriott who also happens to be Amateur Radio station W5LFL. If you didn't get to see it, it will be shown in the area to some local youth groups. It's great!

The rest of our program was presented by Ken Farver, KB9I, from Woodstock. Ken is an associate member of RARA. He has done quite a bit of testing on different brands of radios and shared his results with us. Very interesting!

Hope we see a lot of you at the November meeting. We're sure to have an interesting program, plus you can have an eyeball ragchew with your local ham friends. Come out and join us.

73, Kay, N9DRL

POTPOURRI

Some people will do almost anything to isolate themselves in their shack. Well, that's the kind of a guy that Gerry, KU9S, is. He is building on his own private room to his house so that he will have enough space for all of his equipment. Some might call it a dog house, but at least he isn't being forced out into the back yard. Good luck Gerry.

There are not too many area hams who have phone patch capabilities, but one we all know is WA9NTT, Bob, our president, made a dandy hookup recently between Rockford and Honduras, C.A. The patch was made for a lady here in Rockford and an acquaintance, W4US, who is down there on an assignment. The connection was excellent both ways and a very low noise level. Bob, with such good results, you just might be asked to do this more often.

A Saturday is as good as any other day to have a pot-luck dinner. At a recent breakfast in Roscoe, the ladies agreed that we should have one on October 8th and it was decided to be at the Bakers who have a beautiful home east of Roscoe. Those present were: W9UD, K9UWN, K9CUQ, K9KZS, WB9MMM, WB8HVW, W9FFQ, KS9B (and twins), N9CWT, N9CCH, DK3XJ, and of course WB9OGD and N9CNB. The food was deeeelicious. The only thing wrong with this sort of thing is that it sure puts on the pounds. There is a rumor going around about having another one in the near future.

Our intention to present a gift to the Harlem Community Center has been considered for some time. It was agreed to do this without further delay at the last directors meeting. A check was therefore presented to them in appreciation for past favors and to hold our radio classes there. A fixed charge will be assessed for this privilege in the future. On October 18th, Bob, WA9NTT and Chuck, N9CCH, with Gene, AK9N and Carol KI9G in attendance presented a check from R.A.R.A. for \$100.00. The check was gratefully received on behalf of the Center by Mrs Vickie Wells.

Cheers,
Chuck, N9CCH

P.S. New officers for Ears: WB9OGD, KC9WF, WA9NGR, WB9MMM, WB9VEG, K9VJJ & K9CUO. Congratulations! Congrats also to KC9WF & N9DRL who celebrated their 15th Wedding Anniversary, October 22nd with a very nice party at their QTH.

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

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