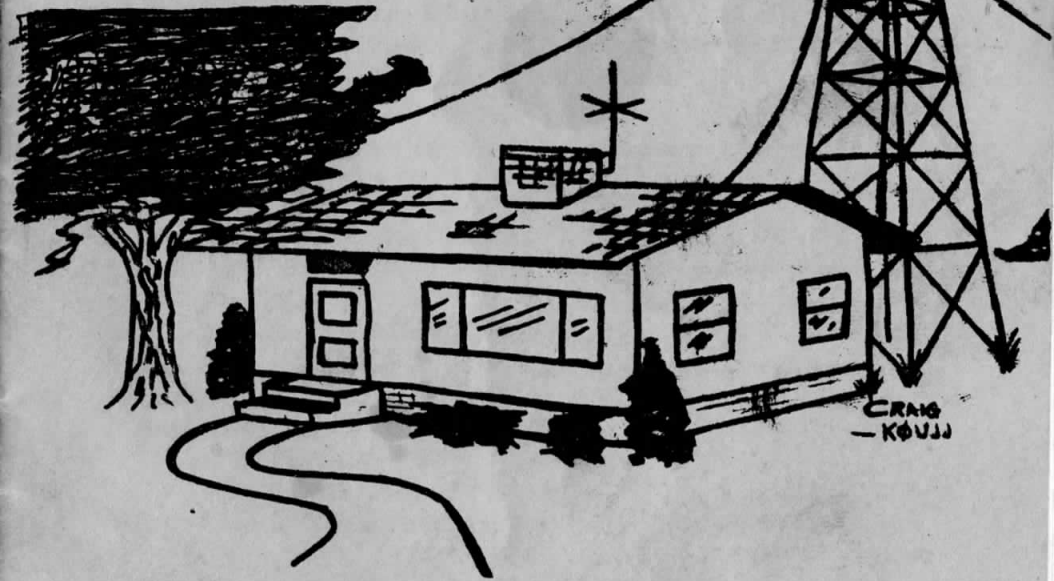


# RIVER CITY RADIO RAG



OFFICIAL PUBLICATION OF THE  
IOWA CITY AMATEUR RADIO CLUB

MARCH, 1975

VOL 2, No 3

THE RIVER CITY RADIO RAG is published  
monthly by; The Iowa City Amateur Radio Club  
403 Amhurst Street  
Iowa City, Iowa 52240

Editor: Michael L. Nowack WBØHOG

\*\*\*\*\*

Deadline for submission of material is the  
20th of the month preceeding the desired  
month of publication. Any article dealing  
with any aspect of amateur radio is welcome.

It is not our intent to edit prospective  
articles, however we reserve the right, out  
of necessity, to delay the publication of  
an article due to space limitations.

\*\*\*\*\*

#### IOWA CITY AMATEUR RADIO CLUB OFFICERS 1975

President; Craig Fastenow KØUJJ  
Vice-president; Michael Nowack WBØHOG  
Sec'y-Treas; Jacquie Belding WNØLWX  
Activities Chairman; Michael Valdez WNØNCX

\*\*\*\*\*

Dues for the Iowa City Amateur Radio Club  
are \$6.00 per year (includes subscription  
to this publication). Permission to  
reprint is granted if credit is given to  
the author and to this publication.

\*\*\*\*\*

The next meeting of the Iowa City Amateur  
Radio Club will be held on Wednesday,  
March 12, 1975 at 7:30 PM CDT in the  
community room of the First National Bank  
at Towncrest, Iowa City.

PREXY'S PAGE

de KØUJJ

Your President is rather rushed for time this  
month, being in the final stages of finishing  
off a basement, so this column will be mostly  
ramblings and very informal.

The first of the things I would like to touch  
upon this month is the FCC Restructuring pro-  
posals. This is one of the most important  
things to happen to Amateur Radio in many years  
and all of us should give some deep thought  
to the directions we would like Amateur Radio  
to take over the next decade or more, and see  
if that view is consistent with what the FCC  
has proposed for us. If it is not, please give  
your views to Paul, KØRLT, or Dave, KØLUM so  
they may include your views in their letter to  
the FCC. Or, bring your views to the March  
meeting, the majority of which will be devoted  
to discussion of these proposals. Ye who do  
not act will have no reason for complaint when  
the finally adopted rules do not meet your ap-  
proval.

Secondly I should like to deal with something  
that was presented me earlier this month. A  
member of the club informed me that he was not  
going to pay his dues because he "did not be-  
lieve in the things his dues were used for."  
I believe this to be a most irresponsible action,  
and one which I hope we will not see repeated.  
Ours is a Democratic organization, and abides by  
the will of the majority, as is our country. I  
am sure that this amateur does not believe in  
everything his taxes are spent for, but I am  
also sure he does not refuse to pay his taxes  
for that reason. Additionally, if he is a mem-

(continued)

ber of the ARRL, a good portion of his dues to that organization go for the very things he professes not to believe in, i.e. a fancy newsletter and operating contests with prizes. Surely QST is the fanciest newsletter of all. And large amounts of ARRL money are spent on contests--for awards and salaries of people to check logs, etc. It might be interesting to note that about 5% of your dues go to support prizes for operating activities--which it might be pointed out are the things that have turned this club from lethargy to strength. The value of this newsletter to the club needs no defense. But, finally, in this time when Amateur Radio is threatened, our strength is in organization, and not just national organization, but local organization as well. Any Amateur who is genuinely interested in the welfare of Amateur Radio could not in good conscience turn his back on and refuse to support his local radio club. Local Clubs are the very lifeblood of Amateur Radio. We are fortunate that the great majority of Amateurs in the Iowa City area believe that.

Enough of this ranting and raving. I hope to see each and every one of you at the March meeting. Again, this is of vital importance to every Amateur, and we urge your participation.

73,

de KØUJJ

#### IN CASE YOU MISSED IT...

The February meeting was opened by our President Craig KØUJJ, and with introductions of the old and new faces. Craig announced that the 2-meter hunt will take place on Sunday, March 23, at 1400 local (2 pm); all participants are to meet in the parking lot of the Hilton Motel in Coralville, by 2 pm. The January minutes were almost accepted as read - Steve KØSVW clarified the suggestion he had made about the \$3.00 dues being for people who move out of town but do want to continue to receive the Rag. Steve also announced that the ICARC Worked All States contest was barely alive in Iowa City. Chuck KØOBU said that the repeater was doing fine, and explained what the repeater was for the newcomers at the meeting. Fred WAØHPW explained about the June 28th Field Day and the assigning of teams, which will be done through him. Mike WNØNCX had several activity-announcements to make: Jack WØMIE is in charge of the two picnics we will be having this year, one in the spring and one in the fall; Doris WNØKBD will make an attempt to stir up some radio interest in the wives; Dave KØLUM will be in charge of distributing copies of the teletyped ARRL bulletins to interested persons. Mike also announced the time and place for the first Novice class, which was to begin the 18th of February. Gene KØCKX gave the latest news on the committee concerned about the FCC Docket. Mike WNØNCX gave a rundown on the proposed topics for future meetings, including March being about Docket 2282, April a visit to Collins Radio in CR, having members of the Cedar Rapids and Cedar Valley Amateur Radio Clubs attend our May meeting, June would be concerned with the Field Day coming up later that month, and a "Show and Tell" meeting at the end of the summer. Mike WBØHOG talked about the Community Net which is just getting started, on Sundays at 1900 local (7 pm). The meeting was then adjourned, for an interesting program about ARRL, past and present, by Max WØLFF.

de Jacquie WNØLWX



DOCKET 20282 de KØRLT

The FCC has issued notice of proposed rule making that will extensively modify the licensing structure of the Amateur Radio Service. Docket 20282 is the source of information about the proposed changes; copies and summaries of the docket can be found in QST, Ham Radio and other magazines. The March meeting of the ICARC is the place to make your views on the subject known. The program will consist of discussion relative to the restructuring docket. The views expressed will be summarized and sent to the FCC and the ARRL. Please give some thought to the topic and don't be afraid to speak up on the subject. If you need a copy of the docket as provided by the ARRL, call Mike Nowack 351-8076 or Paul Jagnow 338-5549 and a copy will be delivered "instantly".

\* \* \* \* \*

How will the docket affect you? See below:

HOW YOU ARE AFFECTED

The FCC proposals should primarily be evaluated as to their overall impact on the Amateur Radio Service. But it is certainly of direct, personal interest to each present licensee to know how his or her own activities might be affected. Accordingly, we present such a summary:

**Amateur Extra Class:** Would convert to "Extra Class" (without the word "Amateur"). Retains all privileges, including exclusive cw segments, but would have to share with Advanced the present exclusive voice segments. Lifetime operator license. New power limit of 2 kW PEP output.

**Advanced Class:** Would convert to same class and also to new Experimenter grade without examination. Net effect is to retain all present privileges plus gain use of current exclusive Extra voice bands, and the 2 kW PEP output limit.

**General Class:** Would convert to same class, and also to the Technician grade without examination. Net effect is to retain most present privileges, but lose use of 29.0-29.7 MHz and be limited to A1, A3 and F3 emissions. New power limit of 500 watts PEP output. Could no longer be principal supervisors of mail examinations, nor the trustee of any club station nor of

any repeater, control, auxiliary link or space station.

**Conditional Class:** Would convert to General(C) Class, and also receive the new Technician(C) grade without examination. Thus the same situation as just described for General, except license would not be renewable.

**Technician Class:** Most present licensees attained tickets through the mail exam system and are thus really Technician(C) Class, which would become not renewable. Technicians who took an FCC-supervised exam could renew. In the transition, both would be granted (on application) all Novice privileges without further examination, and either Technician or Technician(C) as appropriate. In the vhf area this would permit 500 watts PEP output with only A1, A3 and F3 emissions (parallel to General Class) where authorized in all bands above 50 MHz. Thus 50.0-50.1 and 144-145 MHz would be newly available. Club and special station trustees not permitted, as mentioned for the General Class.

**Novice Class:** Becomes a five-year renewable license. Application fee required. Same privileges except a new 250-watt input limit.

\* \* \* S T R A Y S \* \* \*

A reminder - The ICARC 2 meter net meets each Sunday night at 1900 local with Fred WAØHFW assuming duties as net control from Mike WBØHOG. ARRL bulletins are read and club affairs discussed. We would appreciate your participation.

\* \* \* \* \*

KØSVW recently finished his DXCC from Iowa City with the required 100 cards on their way to the ARRL for recognition.

\* \* \* \* \*

FOR SALE: Heathkit Phone Patch--see KØSVW  
FOR SALE: CV-89A teletype converter-KØLUM  
FOR SALE: Swan 350 with ac supply--KØOBU

\* \* \* \* \*

Remember the "Lets Talk Transistors" series de WBØESH in QST? The ARRL has reprints of this 9 part series available for \$1.00 including postage - de QST Feb 75

\* \* \* \* \*

The Sterling-Rock Falls hamfest is March 9, 1975. Information is available from Don Van Zant, 1001 9th Ave, Rock Falls, Il 61071.

\* \* \* \* \*

A lot of Iowa City calls are appearing in QST thanks to our SCM, Max WØLFF. Check the "Happenings of the Month" regularly.

\* \* \* \* \*

Our thanks to Max Otto for the superb program on the American Radio Relay League. It was imformative and frequently punctuated with Max's experiences and humor.

REPEATER NEWS

de KØØBU

Having traveled around the country with a two meter box and listening to two meters at the home QTH, I think the members of the ICARRA can be very proud of our local repeater, WRØACU. Problems that have arrizen in other areas with repeater usage have not popped up here. I think the ICARC growth in both membership and activities since the establishment of the repeater has helped a lot. We know each other well, meeting often at club activities. We have a very good group of outgoing hams in the area. I don't think any other area can boast of a better ham community than we have right here in Iowa City.

On the other hand, WRØACU has been on the air almost every day since the FCC said "go ahead". There in fact has been almost no down time so keying up the machine just to see if it is still there is not only needless but a little annoying to the control stations who must monitor the repeater. I know it is great way to impress your friends or to see if your rig and antenna still work but this habit is expressly against FCC regulations! So after you find out that the machine is still there, the IDer still works and your rig is OK, PLEASE INDENTIFY YOUR STATION. Also ID properly. Walking downtown with a handy-talky or the like makes you Mobile Ø not Portable Ø. The next thing members can look forward to is the auto patch. KØRLT and KØUJJ are working on it and I wish them God SPEED. Also don't forget to get your loops dusted off for the transmitter hunt on March 23...

See you there?

\* \* \* S T R A Y S \* \* \*

.....on 220 MHz - the Office of Telecommunications Policy, part of the office of the President, recently wrote the Chairman of the FCC urging the adoption of the proposed class E citizen's band. They stated partly "...this office continues to support the mission and objectives of the Amateur Radio Service.... and we have carefully considered the Amateur's objections to class E. In this particular instance, however, we feel that a larger public need for radio justifies the foregoing allocation." They went on to urge "every consideration to expeditious action". Looks as this proposal is not as dead as some thought!

\* \* \* \* \*

The FCC has amended its rules by removing nationality requirements. The result is that since 5 February immigrants and visitors to the U.S. can take the FCC exams and receive a U.S. callsign regardless of holding a previous call elsewhere or the type of visa they hold.

\* \* \* \* \*

DX ITEMS:

1. Maurice, VS5MC should be showing up on Spratley 1S1 any time now.
2. Aldo, HB9AQM is planning on putting the Cocos on about 20 April 75.
3. During March several ZL's plan a Kermedec expedition.
4. BV2B has been worked on 20 meter SSB, usually Fridays 1100-1500Z and Sundays 0100-0400Z.

## EASY TO MAKE 2 METER TRANSMITTER HUNTING LOOP.....

Transmitter hunting on 2M is both fun and challenging. It is also inexpensive and easy to get into, here is how.

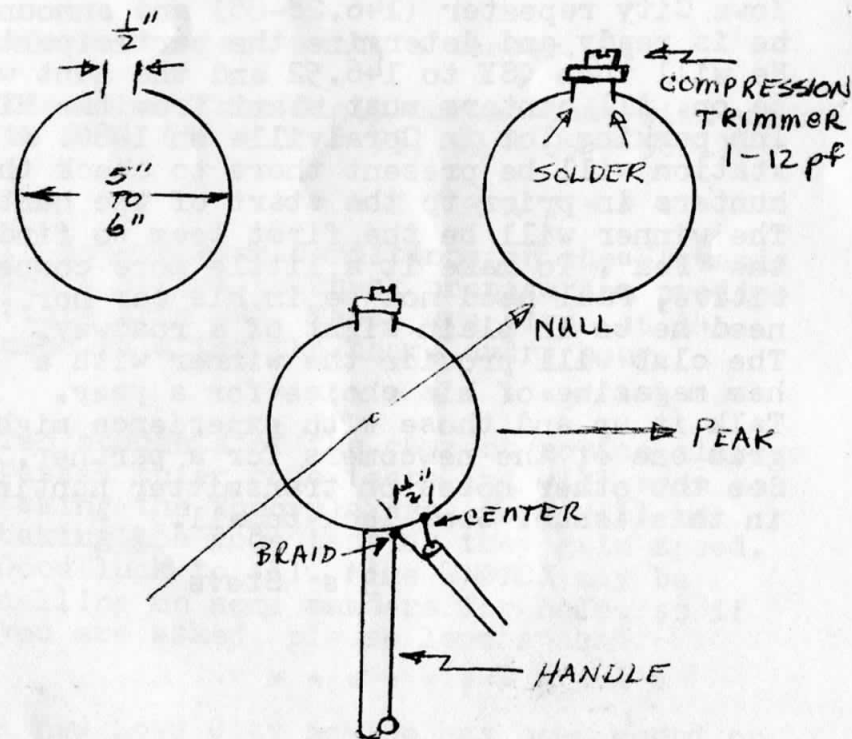
Start by making a well formed circle about 5" or 6" in diameter from any good conductor. 1/4" copper tubing is usually used since it is readily available, easy to work with and takes solder easily. Form the loop so that the ends are about 1/2" apart. Carefully forming the circle pays off in higher Q later.

Next you need a handle. The handle must be rigid and may be of wood, metal or plastic. A metal handle will not affect the Q or the pattern. The handle should be long enough to get the loop above the roof of the car from inside.... 3 feet should do. Copper is a good choice here too as the loop can be soldered directly to the handle. With the opening in the loop straight up, connect the handle to the bottom of the loop. You can use machine screws, solder, epoxy etc... anything that will hold the loop rigidly in place....RIGIDLY.

As soon as the handle is fastened, attach a 6 foot piece of 50 ohm coax (RG-58). The shield goes to the bottom of the loop where the handle is attached, a good connection is a must. The center conductor is connected approximately 1 1/2" to 2" around the loop from the bottom. See drawings.

All that is needed now is a method of tuning the loop to frequency. This is done with a capacitor bridging the gap in the loop. A compression or piston type variable c is easiest to install. Simply spread the gap in the loop to the proper distance and solder it in place to the ends of the loop.

Now you are ready to tune it up. Connect the other end of the coax to your 2M rig. Have a friend across town provide you with a strong signal on 146.52. Turn the loop so it is broadside in the direction of the source and tune the variable C for the noisiest signal, or a null in strength on the S meter. Your loop will now indicate a null signal when broadside to the signal source and a peak when edgewise to the source. The value of the variable C should be variable from about 1 to 12pf. You will need to have an attenuator to get good nulls when you are close to the source, so see the one that is described elsewhere in this RAG.



73 and good hunting!



## CONTEST CORNER

de KØSVW

A little about a lot of things:

1. The ICARC WAS contest is now about half over. Rumor has it that Mike WNØNCX leads the pack with just over 40 states worked. The contest is not over til March 31, so a lot of time is still left.
2. The ARRL DX contest continues with the last CW weekend March 16-17. Several Iowa City stations are participating--good luck.
3. I would like to announce another ICARC hidden transmitter hunt to be held on Sunday, March 23 at 1400 local time. KØRLT, Paul will be the "Fox" and will hide within the Iowa City limits and will come on the Iowa City repeater (146.28-88) and announce he is ready and determine the participants. He will then QSY to 146.52 and the hunt will be on. All hunters must start from the Hilton Inn parking lot in Coralville on I-80. A station will be present there to check the hunters in prior to the start of the hunt. The winner will be the first team to find the "Fox". To make it a little more competitive, Paul need not be in his car nor need he be in plain sight of a roadway. The club will provide the winner with a ham magazine of his choice for a year. Talk it up and those with experience might grab one of the newcomers for a partner. See the other notes on transmitter hunting in this issue. Good luck to all.

73's Steve

## BRAINTEASER OF THE MONTH de WBØHOG

This month lets tackle a practical type of teaser. Lets say that you have a circuit that needs to have a voltage test point monitored and that this test point can range in voltage from -10v to +10v. You obviously need a zero center volt meter but the junk box yields only a 0 to 10v meter (not zero center). How can you use this meter for the application just described? You may not use a switch nor can you simply reverse the leads as the voltage changes polarity. Give it the old college try.

Answer next month in the RAG

Answer to last month's teaser....

The other four digit number that will work is 9801 ( $98 + 01 = 99$ ,  $99 \times 99 = 9801$ ).

\* \* \* S T R A Y \* \* \*

In determining conditions on the HF bands don't forget to check propagation predictions from WWV. These are given at 14 minutes after the hour, every hour.

\* \* \* \* \*

Two students of the current novice classes passed thier code tests and will soon be taking the theory exams. More will be taking the code test as they gain speed. Good luck to all. Mike WNØNCX may be calling on some members for help, so if you are asked, please lend a hand.

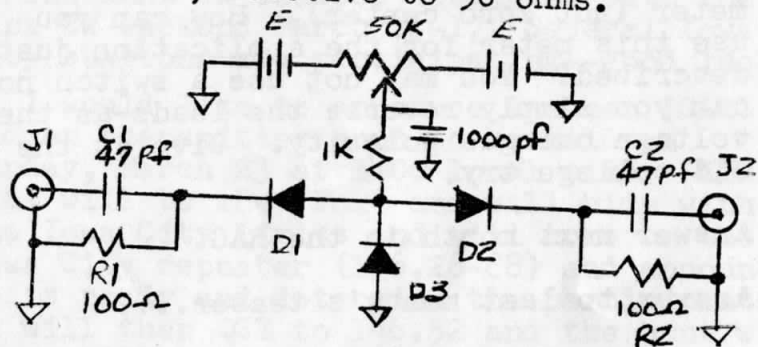
\* \* \* \* \*

A new Iowa City novice has been heard on 40m CW recently. Jack WNØOCX is active from his Keokuk Ct QTH using a TS-900 and Curtiss keyer. How many states Jack?

# A LOW POWER, CONTINUOUSLY VARIABLE RF ATTENUATOR

de KØRLT

This attenuator was designed for use ahead of a 2M receiver during transmitter hunts. It WILL NOT TOLERATE being transmitted at except with powers substantially less than a watt, and it will not properly attenuate signals stronger than approximately 1 mw (.22v RMS). The input and output VSWR is 2:1 maximum, relative to 50 ohms.



To achieve high attenuation, the mechanical layout is important. The 470pf capacitors, D1 and D2 should be laid out in a straight line from J1 to J2. The 100 ohm resistors should be parallel to this line of components and should be grounded near the respective connector grounds. Tubular ceramic capacitors the size of 1/4 watt resistors are recommended for C1 and C2. Ceramic discs are larger and tend to act as antennas that radiate from J1 to J2 thereby limiting the maximum attenuation. The value of C1 and C2 is not critical but they should be greater than 470pf and physically small.

All component leads should be as short as possible (1/8" is reasonable, 1/4" is too long.) This is particularly important for R1, R2, and D3.

Diodes can be of many types. They should be chosen for low capacitance and high conductance. Many of the "computer Diodes" such

as the 1N914 or the 1N3064 should work well. A 1N649 power rectifier was tried in the circuit, the maximum attenuation of 50db was the result of the high diode capacitance, (25pf). The best types are PIN diodes designed with this application in mind. Use of MPN3401 PIN diodes resulted in greater attenuation range.

The battery voltage, E, will need to be on the order of 6 - 9 volts when using computer diodes. With PIN diodes it can be reduced to as low as 1.5v with little change in the attenuation range.

Some results are given below:

Diode Type	Atten Range
1N649	6 - 50 db
1N3064	6 - 70 db
MPN3401	3.7 - 74 db
MPN3401*	3.7 - 80 db

\*With shield over output connector.

The attenuator should be built in a metal box with batteries inside the box so as to minimize RF pickup. Double shielded coax should be used between the attenuator and receiver; or the attenuator should be mounted directly on the receiver so that the cable leakage problems are eliminated.

For those interested, two prototypes of the attenuator will be at the March meeting.

See you then and again on the hunt day, March 23, 1975.....who will be the first to find me



\* \* \* S T R A Y S \* \* \*

Several Iowa City hams attended the hamfest at Davenport including Gene KØCKX, Mike WBØHOG, Fred WAØHFW, Steve KØSVW, and various members of their families. Sorry to report that non of the prizes were brought back to Iowa City, however, Fred made up for this by trading some green-backs for a Swan 1200X linear. Some additional ammunition to fight those pile-ups no doubt.

\* \* \* \* \*

WAØPUJ/Ø recently sporting an XYL, plans shortly to move to WAØUPO's QTH near the VA hospital and maybe this landlord will be receptive to outside antennas. What do you think Art?

\* \* \* \* \*

The most recent social outing of the ICARC took place on 22 Feb with about 9 club members meeting at the Mill for some fine food and brew. The next outing will take place in the near future, so if you are interested keep your ears open for the date and time.

\* \* \* \* \*

The Dayton hamfest will take place on April 25, 25, 27. Details of this fine annual affair can be had by dropping a card to HAMVENTION, P. O. Box 44, Dayton, Ohio 45401.

\* \* \* \* \*

A new novice should be heard on the bands soon -- Jerry Warner passed his novice exam on 23 Feb and is going thru the long wait for the FCC to issue his lisenche. This from Bob, WAØDXZ who was the volunteer examiner.

re Field Day

In the last month I have talked to many of you about participating with the ICARC on FD. Now that we are all thinking about it lets consider some guidelines.

The two teams will operate Class A. The stations will not be regular station locations and they will use no facilities installed for permanent station use.

The stations will be operated under two different calls; Team A WØJV, Team B KØSVW.

All equipment must be within a circle whose diameter is not to exceed 1000 ft.

All contacts will be made with equipment operating from an independent power source. Batteries charged during FD must be charged from a power source independent of commercial mains.

Both stations will operate using a dc input of 200 watts or less.

The individual teams will be responsible for devising a natural power source, such as wind, solar or water power, which will provide one or more contacts; 100 points.

They will arrange for public relations; 50 points.

Each team should originate a message; 50 points.

The teams will devise their own antennas. They will also provide their own transmitters and receivers.

Utilization of OSCAR, if it is still operational would be desirable.

The responsibility for organizing intra-team activities will be delegated to the team leaders. Incidentally, the teams should have some flashier designations than A and B, so feel free to submit ideas.

I have arbitrarily assigned team members. If there are serious objections to this then please let me know. The assignments do have some rationale in that new operators are equally divided and no particular group has an ever-abundance of "hot" operators.

TEAM A

Mike WBØHOG  
Mike WNØNCX  
Dennis WBØMCX  
Steve WBØHUR  
Glenn WAØPUJ  
Paul KØRLT  
Gordon WØAYH  
Dan WBØMED  
Jack Holtzmark  
Lou WAØGDB  
Doris WNØKBD  
Fred WAØHFW

TEAM B

Craig KØUJJ  
Chuck KØOBU  
Steve WBØKBA  
Gary KØGVB  
Ed Miltner  
Steve KØSVW  
Dave KØLUM  
Jack WØMIE  
Bob WAØDXZ  
Dick WAØVFP  
Tom KØGBG  
Jackie Belding

If your name is not on the list call me and I will get you on a team. The team leaders should arrange to get together with their groups in the next few weeks.

Fred WAØHFW