PRESIDENT'S CORNER

It was really good to see some old faces again at the may meeting. Each meeting brings out more of our old members and it is really good to see them. I welcome each of you back and encourage your input.

I have had a few people ask what the club will do for Field Day this year. I have not had any discussion as to the club's involvement. I think in the past the club sponsored a picnic and Field Day combination in lieu of a meeting in June. I will look to the membership at the May meeting to see if we want to try to organize a sponsored event for Field day this year.

It was brought to my attention by our Treasure at the last meeting that a dues increase may be necessary to keep the club financially stable in the next year. It seems that the cost of postage has increased twice since our last dues structure. We also have higher cost in insuring the clubs repeater equipment and also higher phone cost involved with the autopatch. A quick survey found our dues to be one of the lowest in the Metro Area. I invite your suggestions on the dues structure or ways we may increase club revenues.

The May meeting will be a very interesting one. BucK4abt Rogers will be our guest speaker.

Until then--73, Dan

MEETING MINUTES NORTH FULTON AMATEUR RADIO LEAGUE
April 10, 1991

President Danny Turner, WA4BRO, opened the meeting by asking everyone to introduce themselves. The minutes were then approved as published.

Mike, WA4FNJ, reported for the technical committee that the 450 Mhz receiver is temporarily off the air. The plan is to procure a new power supply and antenna for '.47 at the Dayton HamVention. He reminded us that it is recommended that we use the "* nnn" (open emergency patch) procedure in accessing the emergency patch in preference to the UUUP-PP*0*nnn (closed emergency autopatch). Bill, WA4OYH, moved and Gary, KE4ZV, seconded the motion that Fred, N4CLA, be authorized to purchase suitable power supply and antenna for the '04 Repeater (at Dayton) spending up to $550. Motion passed.

Alan, N4QXH, announced public service events coming up, the most immediate being support to a rowing regatta on the Chattahoochee on 4/13/91. He has also arranged a tour through the Roswell 911 dispatcher facility at 7:00 p.m. on Wednesday, May 1, 1991. It was pointed out in discussion that 911 on the '7.06 machine gets the Roswell dispatcher while 911 on '.47 gets the Fulton County dispatcher.

Dan Turner announced the appointment of Dave Vanderwall, KC4WGK, "new member liaison". We all need to make a special effort to make all new members feel at home, however Dave may be reminding us "old" members of this duty and trying personally to help "new" members feel like "old" members more quickly.

Dan Turner reminded us again that we need member input to *Squelch Tales* in the form of articles, news items, or requests for specific features. If we don't help the Editors more actively, *Squelch Tales* will have to revert to a monthly post card meeting notice.

The meeting was then turned over to Andy Glass WB4FNJ who gave an excellent discussion of VHF direction finding and transmitter hunting. He described the various methods of hidden transmitter hunting starting with a bare 2AT (with little success) on through loops and portable/collapsible yagi's through doppler direction finders (which are highly successful). He sprinkled the technical tale with humorous anecdotes from his field experiences.

With no further business, the meeting was properly adjourned.

Respectfully submitted,

H. C. Myers, K4JHM, Secretary

BUCK ROGERS TO SPEAK AT MAY MEETING

The feature speaker at this months meeting will be BucK4ABT Rogers.

Buck's program will be " An Introduction to Packet Radio and the Rose Switch Network". Buck will be answering all your packet questions and also passing out his all new and free book on packet and the Rose network.

Buck is a featured columnist on packet radio for CQ Magazine and in high demand for packet forums at all Hamfests.

If you operate packet or interested in this mode. Don't miss this program.

* * *

USE OF THE WA4BRO TELEPHONE BBS

Many users requested I publish more info on how to use the Bulletin board. Below you will find the main menu screen of the bbs. All features of the BBS come from commands listed on this screen. Below you will find a help file for all commands listed on the main menu shown at right. This same help file is available on the BBS by typing H for help at the command prompt.

* * *

Help for WA4BRO HAM BOARD commands

A - Change message area. Displays list of available areas.

B - Display the bulletins.

C - Change file section. Displays list of available sections.

D - Download a file. Using 1 of the following protocols: Xmodem, Wxmodem, Ymodem, Ymodem Batch, Zmodem, Telink, 1k Telink, SeaLink, MegaLink or Kermit. DG - Download a file (as above for 'D'), but automatically logoff after the download has completed.

E - Enter messages. May be private or public.

F. - List file descriptions for current directory.

G - Goodbye. Hang-up, logoff.

H - Help. Produces this report.

I - Locate new files. From last time on system or from arbitrary date.

K - Kill messages. You must be the sender or addressee to kill a message.

L - List directory. Shows the contents of current directory.

M - Leave a private message for the operator.

N - Non-Stop display toggle. Suppress the "More?" pause.

FILE SECTION: #1 - System Bulletin File Area
MESSAGE BASE: #1 - General Message Base

WA4BRO'S HAM BOARD BBS
(404) 552-0TNT

Message Area Cmds.

A)rea change
E)nter message
K)ill message
M)essage to Sysop
R)ead messages

DG-Download & Bye

UM-UTILITY DOOR

File Area Cmds.

C)hange directory
D)ownload a file
F)ile descriptions
I)nquiry, New File
L)ist directory
T)ype a text file
U)pload a file
W)here is a file

General BBS Cmds.

B)ulletins display
G)oodbye (logoff)
H)elp screen
N)on-stop toggle
O)pen a DOS door
P)age the Sysop
Q)uestionaire
V)ersion of GT
X)pert mode toggle
Y)our current parms

Main menu screen for WA4BRO BBS. See text for explanation.

O - Open a door and execute a program outside of GT.

P - Page the operator for a chat.

Q - Answer questionnaire.

R - Invoke Read Messages sub-menu.

RG - Read Global. Take you through all joined msg areas automatically.

S - Remote DOS Door. Allows caller to execute a DOS shell using the CTTY command. Protected, must be authorized to use.

T - Display the contents of a text file. Must be ASCII format.

U - Upload a file. Use any of the protocols listed above for download.

UN - Unjoin a previously joined message area.

UM - Utility Door (Sysop added Door) Allows you to search and view users, calculate download times, change your password and many other utility functions. Also allows you to view whats inside ZIP files listed on the system.

V - Display the version of GT currently in use by the host BBS.

W - Where is that file. Locates files on system. Uses either KEYWORD or FILENAME search. Wildcards can be used in FILENAME search.

X - Turn on expert mode, suppress main menu.

Y - Display users access level and authorizations.

Z - CB Simulator. Available on LAN systems only.

HINTS FOR USERS

Since many of you are used to other BBS systems here are some hints for new users.

1. You must use the A (area change) command from the Main Menu to move to the different MESSAGE areas.

2. You must use the C (area change) command from the Main Menu to move to the different FILE areas.

3. Command stacking is fully supported. Examples:

To Change to File area 2 and obtain a file listing:

c 2 f or C 2 F or c;2;F (not case dependent)

To Change to File area 2 and download with Megalink

c 2 d m or C 2 D M or c;2;D;m

Same as above and supply the File Name (Where xxxxx = filename):

c 2 d m xxxxxxx.zip or C 2 d M xxxxxxx.zip or etc.

Already in File Area of your choice and wish to download:

d y xxxxx.zip (YModem protocol)

Read all NEW messages in current MESSAGE Area

r *

I hope that the above examples give you enough guidance so that you can make use of stacking on this system as it is a good feature.

MESSAGE AREAS :

The following message and echo areas are available on the BBS. More will be added in the future. TO see what message areas are available. Use the A area command. You will see the selection below and will be prompted to which number you wish to join. The WA4BRO HAM BOARD BBS is a member of the GT Power network system. This system consist of member boards world wide. Echo's are message areas that are distributed to these member boards. You may join in and read or send mail in these echo areas. Sending echo mail is no more complicated than leaving a message to the sysop or other users. These echos are subject oriented. As you enter one of these areas, a brief description of the echo is displayed to you. The GT NETMAIL area is a private mail area where you can address a message to a specific user at a specific Net/Node in the system. ie. You see a message in an echo area from a specific user. You will also see an 'Origin' line at the bottom of the message. This origin line will give the NET/NODE of the originating BBS. You can then respond to this user in the GT NET-MAIL area using his Name and the NET/NODE address.

The Netmail area accepts 'Private' messages. Echo areas are ALL PUBLIC messages. If you respond to a specific user in an ECHO area, ALL USERS will see this mail in the echo. SO if you want to respond to a user seen in an ECHO area with private mail, use the A command , select the NETMAIL area and respond using private mail.

Echo mail is a fantastic way to get your questions answered on many subjects. Got a database, word processing, or dos ques-tion? Find the echo and ask your question. You will be surprised at the response.

1. General Message Base (Local messages are here)
2. Sysop Message Area (Sysop messages and responses are here)

3. GT NETMAIL (Private mail sent to other BBSs)

4. HAM RADIO ECHO

5. SOFTWARE TECH ECHO

6. THE POLICE BLOT-TER ECHO

7. MYSTERIES OF THE UNEXPLAINED ECHO

8. NASCAR AUTO RACING ECHO

9. DATABASE CON-FERENCE ECHO

10. QEDIT SUPPORT ECHO

11 MAKE ME LAUGH ECHO

12. SCIENCE AND TECHNOLOGY ECHO

13. THE BUILDERS AND HANDYMAN ECHO

14. THE RELOADING BENCH ECHO

15. THE SOUNDS OF ANSI ECHO

16 DESKTOP PUBLISH-ING ECHO

17. MODEMS OF ALL SORTS ECHO

18. SHAREWARE FORUM ECHO

19. EPSON USERS GROUP ECHO

20. GT SCRIPT/MACRO ECHO

I hope this information will help you get more out of the system. Any additional questions can be left to the SYSOP by using the (M)essage to SYSOP com-mand.

Enjoy and 73,

Dan, WA4BRO

WEEKEND TECHNICIAN

de Jim Stafford, W4QO

The class taught by KM4FV and W4QO finished on Saturday, March 30 with 47 students taking the final exam. This class, as you may recall, was held on two Saturdays from 8:00 to 4:30 each day. It was by nature a very fast paced class and we worked hard, to say the least. The class attempted to draw in school teachers and we had 6 participate in some way, although not all were able to complete the course.

The final results -- 27 passed the full Technician (one with code), 16 passed the Novice element (one with code), and 4 did not pass and must try again. Many of those not passing element 3A came very close!

We had 6 ARRL certified VEs to handle the testing, including another 6 walkins, and it took about almost 3 hours to get the last examinee out the door. Hal, K4JHM, Jim, N4MXN, Connie, KJ4TD, Ken, WV4L, along with Delaine and I handled the testing. I think all but Jim are NFARL members. We appreciate the support from the North Fulton club in these projects. We passed out membership applications the first week, so you should see some 'new blood' coming in soon! Be on the lookout for Kenny, KC4ROW as he is one of the graduates of the Wacky Bear Institute who got his Novice last spring and now has a new Tech license. Kenny is 12 years old.

Also, not in the class but tested as part of this test session was George, KC4WHZ, who passed the Tech with a perfect score despite being visually im-paired and somewhere near the 4 score level in age (Federal law prevents me from disclosing his age without his consent)!!! Listen for George on the repeater. He will make a great ham and is already studying for his General. Right now we are recouperating from this marathon class so we are not sure when the next one will be, but I'm sure it won't be too long. The positive feedback from all the new hams makes it all worthwhile.

REGULAR MONTHLY TESTING

While not all details have been worked out, it is a 99% sure thing that north Fulton will soon be getting its first regularly scheduled FCC test session on a monthly basis. It may be the first Monday, but even this is still being discussed at this writing. The loca-tion should be within 5 miles of Roswell.

Delaine, KM4FV, has volunteered to be the liaison for this project, a major commitment. She will handle the paperwork, and I will be helping coor-dinate Volunteer Ex-aminers. If you would like to help, please call me at 993-9500. I already have on the 'list' about 10 hams from the Roswell and East Marietta area, but we should have about 15 or 20 to be sure we can get coverage.

If you would like to be-come an examiner, or if you are already certified by another VEC (other than ARRL) but would like to help us, we can get you cross-certified INSTANT-LY (almost). Just call. If you are not an Advanced or Extra class but would like to help, no problem, we can give you an assign-ment. Again, just call. Let's make North Fulton an easy place to get a tick-et.

Tuning Off-Air
de Hal, K4JHM

Have you ever been asked: "Please move off frequency to tune"?

I like to tune up my rig without putting a signal on the air. Since a large part of my HF operation is on Navy MARS frequencies, I hate for the NCS station to come up on frequency and announce "Cease tuning on frequency" just after I have tuned up. Also, there is a need to rapidly shift frequency while nets are in operation and tuning on frequency is not acceptable when a net is in session.

I have my Linear (which I use only rarely) and Antennae Tuner pre-tuned with the dial settings logged for the frequencies of interest. I can simply tune the transceiver to the proper frequency, set the Antenna Tuner (and Linear if needed) dials to the proper setting and I'm in business.

TUNE YOUR RIG WITHOUT PUTTING A SIGNAL ON THE AIR

I also like to get the dial settings identified and logged with out putting a signal on the air. The following is a description of how I do that.

I have a switching assembly that switches the Noise Bridge into the circuit, puts power on the Noise Bridge from the Transceiver power supply to save the internal battery, and also blocks the Transceiver PTT circuit so that I am prevented from inadvertently keying the Transceiver and melting the Noise Bridge. I use a Model MFJ-2028 Noise Bridge, but I suspect that the Palomar Model PT-340 is simply a fixed tuned Noise Bridge with the antenna switching built into the unit. (Although it may not have the provision to prevent keying the trans-

mitter/transceiver when using the noise bridge.)

Since I operate odd frequencies, I leave the Antenna Tuner in the circuit at all times. Although the Transceiver is solid state and "no-tune", it drops the power to nothing when it sees an appreciable SWR. This also makes sure that the Linear is ready to go without making any other changes.

MY PROCEDURE

1. I switch the Noise Bridge in and switch the Linear output to the Dummy Load. (The Linear has a TR switch built in, so I leave it in the line at all times.) I assume the Dummy Load is 50 ohms, non-reactive and set the Noise Bridge for null. (That is not strictly true, but closer than most of our SWR and Noise Bridge calibrations are). This sets the up Noise Bridge dials for 50 Ohms resistive and 0 ohms reactive.

2. I then switch the Linear output to the Antenna Tuner and tune the Antenna Tuner (Or Antenna Matching Unit) to null the Noise Bridge, and log its dial readings.

3. Then, switching the Noise Bridge out, I switch the Linear back to the Dummy Load and tune it up and log its dial readings. (It is a tube type with a 3-500)

4. I then repeat steps 2. and 3. for all frequencies I need. I have found that

this procedure gets both the Linear and Antenna Tuner settings so close to optimum that I find no changes to either are required when I put power on the system.

I hope this my be of interest to some of you who operate HF and get irritated when you are in QSO and some one tunes up "on top of you".
Hal, K4JHM
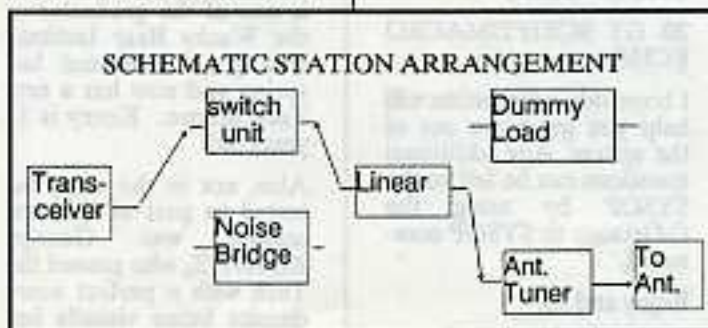
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(Continued from Page Three)

SCHOOL CONSULTANTS PROGRAM

We recently gave a talk to over 30 science teachers at the state science teacher convention in Columbus. The talk covered the many uses of "ham radio" in the classroom. If you would like a copy of this paper, let us know. One of the ways we attempt to help a teacher get started using amateur radio as a tool is to find her/him a consultant to advise on the subject. This might mean just talking from time-to-time on the phone with a teacher, all the way to helping the teacher conduct a class for students who want to get a ticket. I have some teachers now who are in need of a consultant. If you would be interested in this or just finding out other ways you can help, simply call 993-9500. You will be glad you did, the rewards are great!!!

FIELD DAY

I'm not sure what the club may be doing for Field Day this year, but if you are out and around, you may want to stop by the Metro Atlanta Telephone Pioneer ARC outing. It is pretty handy to Roswell and NFARL. The site is next to 125 Perimeter Center Parkway. This is diagonally across from the Cadillac dealer at Perimeter Mall. It is slightly closer to 400 than the mall when you get off at the Abernathy exit and head east. There is usually plenty of time to operate and setup begins early Saturday morning if you're interested. At six o'clock Saturday evening (and this is the last full weekend in June), there is a family picnic where everything is furnished by MATPARC. So come on out and join the fun if you get a chance. You do not have to possess a license to operate!

de W4QO

• • •

SCHEMATIC STATION ARRANGEMENT

Transceiver → switch unit → Linear; switch unit → Noise Bridge; Linear → Dummy Load; Linear → Ant. Tuner → To Ant.

K4JHM uses noise bridge and dummy load to tune off-air.

10 Meter Two Element Delta Loop Antenna

by Morris Lundberg, N4YAH

Ten meters is open and hot these days. The DX is rolling in and working them is a lot of fun. But to work ten meters DX you need a good DX antenna. So, what's a good DX antenna, you ask? There are many of them, but one that's hard to beat and not difficult to build is a Delta Loop.

The Delta Loop antenna is a form of Quad that uses "plumbers delight" construction (which means the elements are electrically connected to the boom and all parts of the antenna are grounded for lightning protection). The antenna provides low angle radiation in the vertical plane, good gain and a good front-to-back ratio.

The Cubical Quad (and Delta Loop variation) versus yagi argument has been going on for many years and will not be dealt with here. It is sufficient to say that the two element Delta Loop antenna has the gain and front-to-back ratio shown in Figure 1. The gain in the vertical plane is excellent, as shown in Figure 2.

I built the Delta Loop described in Figures 1 and 2 exactly as the computer model (by Brian Beezley, K6STI) showed it; even to the gamma match dimensions. When installed, the SWR was 1.5:1 at 28.5 MHz, the center design frequency, 1.5:1 at 29 MHz, and 2.0 at 28 MHz. Such an SWR range across the band was achieved without any touchup to the gamma match. I'm sure that a 1.0:1 SWR can be achieved by adjusting the gamma match, but the DX was rolling in, so....

Ok, so how is the gain and the front-to-back ratio, you ask? Well, I can only subjectively evaluate these two important parameters of the antenna; however, my report from Peter, DL5LBP (near Hamburg, Germany) was S9 +10, and he said my signal was very strong as compared with the other signals on the band. He was also coming in S9 +10 and to test the front-to-back, I turned the antenna 180 degrees. He then dropped to S5 and reported that I dropped the same amount (off the back of the beam).

To give you an idea of how good this antenna is on DX, here's a list of stations worked during the first week on this 10 meter Delta Loop:

STATION CALL	LOCATION
LA4RJ	NORWAY
SM5EDX	SWEDEN
DL5LBP	GERMANY
JA3AFR*	JAPAN
JA1JAN	JAPAN
RW6PA	RUSSIA
Y24EE	GERMANY
DJ0AX	GERMANY
KH6VG	HAWAII
CE7GEY	CHILE
DL1RBJ	GERMANY
LA4TE	NORWAY
GM3AWW	SCOTLAND
IS0IT	SARDINIA
7X2DG*	ALGERIA

* = Worked during a "pileup"

During these contacts, many comments were received on the strong signal and good audio, which I attribute to the gain of this antenna. Being selected in a "pileup" using only 100 watts attests to the performance of the antenna.
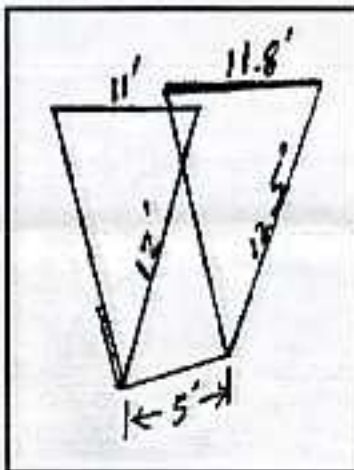
The constructional details are pretty straight-forward. I used the 1.5 inch diameter boom and the elements from a Radio Shack "Archer CrossBow III" CB beam, which I bought years ago. I bought two and I'm glad I did, as they aren't available anymore. The elements are made of 7/8 inch, 3/4 inch, 5/8 inch and 1/2 inch diameter aluminum tubing. Each of these sizes telescopes into the next larger size. By cutting a slit (about 2 inches long) into one end of each element size and using a hose clamp to secure the joint, the approximately 12 foot long elements are built. I then used 1/8 inch aluminum wire (clothesline wire), pounded flat on the end and drilled to take a small, stainless steel nut and bolt, to fasten the elements to the aluminum wire at the top ends. The elements and the aluminum wire form a full-wave loop at the design frequency. The equations for the lengths of the loop are as follows: L = 1005/f   Driven Element L = 1030/f   Reflector

I adjusted the element lengths on the computer program for best front-to-back ratio and impedance match. I added 7/8 and 3/4 inch elements, since the Radio Shack beam used elements which were only about 8.5 feet long (for a total element length of about 17 feet) and made of 5/8" and 1/2" tubing. Telescoping elements are great for easy adjustment, however, no adjustment of the elements was necessary, so using only 7/8", 3/4", and 5/8" tubing might have been better. This would make the structure more rigid. Time and weather haven't tested my antenna structure yet.

To mount the elements to the boom, I used a 3/4" chassis punch, after marking the hole locations with a homemade "jig" made out of styrofoam. The "jig" slipped over the boom and was marked with a center of the boom mark and two lines, each of which made an angle with the center mark of 37.5 degrees. The end result is punching holes in the boom such that the elements will be spread by 75 degrees. The 3/4" stubs are a tight fit in the chassis punched holes, but can be inserted by hand.

When the elements were inserted into the boom (3/4" X 12" stubs on which the 7/8" elements are bolted), I aluminum soldered them in using the product from "Miracle Rod", P.O. Box 791, Glasgow, Kentucky, 42141. When the aluminum is good and hot, the aluminum solder flows into the joint very much like copper and solder. The only problem is that heating the aluminum hot enough to solder softens the aluminum, so.... A 5/8" wooden dowel was inserted into the 3/4" stubs and then drilled for bolts. This made the stubs sturdy enough to do the job. The largest part of each element, the 7/8" diameter tubing, slides down over the 3/4" stub and is bolted on with stainless steel nuts and bolts.

I selected a taper using 2.5 feet of 7/8" diameter tubing; 3 feet of 3/4"; 4.5 feet of 5/8"; and 1/2" for the remainder of the elements. Such a taper allows rigidity at the boom end of the element and flexibility at the aluminum wire end of the element. Flexibility is necessary to keep the aluminum wire pulled taught as the antenna moves in the breeze.

The gamma match was used "as is" from the Radio Shack beam, however, a clamp was fashioned to go around the 7/8" tubing (this was considerably larger than the original clamp would handle) by cutting off a 1/2 inch length of 1.25" diameter tubing and bending the ends so it would fit around a 7/8" tube. Then holes were drilled for a small bolt to tighten it to the tube and the shorting bar of the gamma match.

The spacing (center to center) from the 7/8" tube to the gamma rod is 4.25 inches. The gamma rod is 0.375 inches in diameter. The shorting bar is placed at 24.3 inches along the gamma rod (from the feed point). The gamma capacitance is about 100 picofarads and is created by a small tube inside the gamma rod, separated by a plastic sleeve. Sliding the small tube in or out allows adjustment of the capacitance value and this adjustment, along with moving the position of the shorting bar will allow bringing the SWR down to 1.0:1.

The whole antenna structure is light enough to raise over your head and insert into the rotor. Mine is mounted at about 30 feet and performs very well at that height.

If you want an antenna that really works for DX and at low heights, you might want to build (or, "yuk", buy) one of these Delta Loops. My next project will be a two-band Delta Loop antenna on one boom. Good luck and good DX. N4YAH.
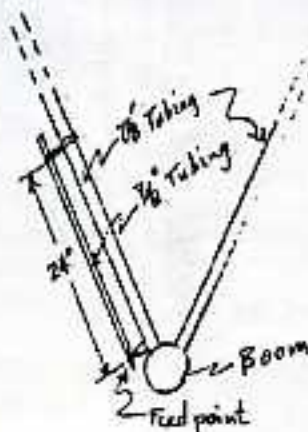
Details of the delta loop showing gamma match and feedpoint.

Perhaps you have noticed all the new faces at the recent club meetings. Perhaps you have heard all the new voices and call signs on the air. Well, there is new excitement within the North Fulton Amateur League. Not only has the "no code" test generated new members, but also members who just passed their code test. That's not to mention all the potential members anxiously awaiting their tickets.

Now let me ask you a question. Have you ever been alone in a strange surrounding, not knowing one person, afraid to speak to anyone because everybody was in their little group?

Put yourself in a new member's position. Hey, we've all been there, but we tend to forget that just a small "hi, I'm so & so. What's your name and welcome to NFARL', goes a long way to break the ice and make our visitors comfortable.

As New Member Liaison, I hope to do my part to make those new people 'feel at home'. Now, will you help? I don't know all of you myself. Begin at the next club meeting by introducing yourself to me. If you don't know someone else, introduce yourself. It could become contagious.

New members: What's in store for you in the near future? (1) All new members will be introduced at the club meetings. (2) New repeater books will soon be published at which time I will be available to assist you with the repeater's operation. (3) Should you have questions about the club, how to become a member, how to become a HAM or whatever, call me. If I don't have the answer, I'll find it for you.

Dave Vanderwall KC4WGK

Cumming, Ga. 404 781-3911

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Our treasurer's report belongs in this space. Unfortunately, we don't have it to print. Perhaps the treasurer's report will return in a future issue.

* * *