

CHARLOTTESVILLE (Albemarle County) VIRGINIA

**AUGUST CLUB MEETING**

Tuesday, August 10, 1999 6:00 PM  
Topic: PICNIC  
McIntire Park  
Shelter #1

Some QSTs (1998-1999) are available. Call Ellen 804 975-0332

**Peep from the Veep**  
Jessie, KE4OID

July's program was one you did not want to miss. Dick presented a very interesting program on weather satellites. He had great handouts which helped us understand his overheads. There were even tape recordings of what the radio waves sounded like.

Nothing was left to the imagination. Dick had it all there for one and all to understand. I'm sure he tweaked the interest in this type of radio activity for a few members.

Don't forget Tuesday, August 10, 6 p.m. at McIntire Park, shelter #1. We are having our annual picnic. It is a covered dish, so bring enough for your family and a few more. The club will provide the plates, napkins, cups and utensils as well as soda. If anyone would like to make some Ice tea or lemonade, it would be very welcome.

There is a fireplace where someone could put some bricks, charcoal and a grill top and cook. Dogs and burgers are faster, but if you are so inclined to grill a steak (or 20), and we could find a way to heat water for the lobster, we are willing to help out. (at least in the eating dept.)

Salads, deserts and finger food are your best choice. Plan to attend, bring the family and just enjoy the company.

ARRL Bulletin 48 ARLB048  
FCC starts amateur ULS phase-in August 8

The FCC begins phasing in the Universal Licensing System for the Amateur Service August 8 at 4 PM Eastern Time. That's when the FCC will stop accepting batch files that contain new or upgraded licensee data from Volunteer Examiner Coordinators under the current amateur licensing system.

Being phased out under ULS is the familiar paper FCC Form 610 series. A "universal" Form 605--primarily designed for electronic use but also available on paper--will take its place.

An FCC Public Notice July 23 says the Wireless Telecommunications Bureau will begin use of the ULS for the Amateur Service on August 16. The existing Amateur Radio licensing data will be transferred into the ULS database during a weeklong phase-in period. During the phase-in period, the FCC will not process new or upgraded licenses.

Electronic filing of Amateur Radio license renewals using FCC Form 900 ends August 9 at 9 AM Eastern Time. Electronic filing of vanity call sign application Form 610V terminates August 13 at 5:30 PM Eastern Time. Hams should not attempt to file renewal or vanity applications until the ULS comes up August 16.

Starting August 16, hams registered in the ULS may file the new FCC Form 605 electronically at any time of day, seven days a week. FCC Form 605 will be used for license renewals, modifications, cancellations, vanity call sign application, application withdrawals and amendments, as well as requests for duplicate licenses and administrative updates (ie, a change of address or other clerical license modification). Applications for new or upgraded licenses will continue to be filed through a Volunteer Examiner Coordinator.

Automated processing of electronically filed applications will occur nightly each business day, but five days a week instead of seven. There will be no weekend processing under the ULS.

The FCC has warned that applicants should anticipate processing delays during the first couple of weeks the ULS is in effect.

The FCC will stop accepting most Form 610 applications next February 16, but club station Form 610B will continue to be valid beyond the six-month transition window to allow time for the FCC to implement new handling procedures.

One feature of the new ULS is a renewal reminder sent 90 days prior to a license's expiration date. ULS also will simplify the process of submitting fees to the FCC, and the

Editor: Joseph D. Fritz, KD4RWX

FCC said it anticipates that the ULS will be capable of accepting credit card payments on-line in the near future.

Registration in the ULS is required. Applicants should use FCC Form 606 for both electronic or manual filing. To register online, visit <http://www.fcc.gov/wtb/uls/> and click on "TIN/Call Sign Registration." A paper FCC Form 606 is available at <http://www.fcc.gov/formpage.html> or from the FCC's Forms Distribution Center, 800-418-3676.

The FCC will not process future license grants, upgrades, modifications or renewals for any applicant not registered in the ULS. Individuals eligible to hold a Social Security Number must provide this number to the FCC in order to be registered in the ULS.

A copy of the July 23, 1999 Public Notice is available at <http://www.fcc.gov/wtb/uls/>.  
NNNN  
/EX

**FROM THE AARC MAIL-LIST**

Edited version of a report by Jimmy (K4JMY)  
This is an update on the repeater site located on Piney Mtn. Elevation approximately 1100 feet, Longitude-78° 25.12 minutes west, Latitude- 38° 10.43 minutes North.

The concrete, that the tower is set in, is approximately 4 1/2 feet deep. There is a cement slab on top which is 4' x 4' x 8 inches deep. There are 3-8 foot sections of pipe set in the concrete. These extend up beside the tower for extra support. An 8-foot ground rod is installed for protection against lightning. The tower is 32 feet tall. The dual band antenna is mounted on an 8 foot mast which extends above the tower. New coax cable has been installed from top to bottom.

The 146.760 repeater was switched over to the new tower setup on Wednesday, July 14, 1999. Elmer (KF4UCI), Grayson (KF4FYI) and Jimmy (K4JMY). Harry (W2HD) assisted with some remote testing. The system checked out fine..

The 220 repeater is functional, but the installation of the cans has yet to be accomplished.

**STILL GOING, GOING, GOING...**

Harry, W2HD

Does that title remind you of the cartoon commercial about our good friends... batteries? Of course, it does, but it is my hope that it reminds you about our club. As a follow-up to my July article, it should possibly be read as, "Will the AARC still be going, going, going?" And now, as the soap opera serials say, we join our story at the point where Mike kisses Sally. However, our story begins with the subject of specialty and specialty talks.

Many groups around the nation and world find themselves becoming "specialty" clubs because member interests seem to be centering about a particular facet of Ham Radio. Is this desirable? The answer is sometimes yes and sometimes no. (Oh, here he goes with that double talk again!) No, not really fellows and gals. It's a real situation and here are some prime examples:

AARC is not a contest club. Some of our members take part in this activity, but seldom as a coordinated club effort. However, up in New England you will find the YCCC, better known as the Yankee Clipper Contest Club. Every member is probably sworn to activity in a number of major contests each year. The club eats, drinks and sleeps contests. In the metropolitan New York area you will find the LIDXA, the Long Island DX Association, and the NJDXA, a rival group across the Hudson called the North Jersey DX Association. Their most important reason for being is their competitive involvement in DX. They have alert networks to bring information about the latest rare country's appearance on the airwaves.

It doesn't stop there, either. I am a charter member of LIMARC, the Long Island Mobile Amateur Radio Club, which had its birth in the active days of 20-meter mobile operation on the Island where we chatted each day enroute to and from work. There are TV clubs which feature fast and slow scan TV and RTTY clubs where you had better be hitting the keyboard daily! Heading the list may very well be AMSAT, the radio amateur satellite organization which had its beginning with the OSCAR program and continued into a multi-national group leading the world's satellite interests.

Some of these clubs have now broadened their interests beyond the original scope. LIMARC is one of those. They feature a very wide variety of programming. So which shall we be?

Should AARC be a Repeater Club? There are many of these and we have a bunch of repeaters... more than many clubs. Should we be a group dedicated to the memory of Thomas Jefferson? I've heard it mentioned that our name should be changed to the TJARC! What shall our identity be? Or shall we drift along with no purpose other than to have new members join for a year and drop out? I'm serious folks. Some years back, a small group wanted to develop another radio club with a dedicated purpose. I urged them not to start a "splinter group." They listened, BUT... was I mistaken?

Where are we going, AARC members? Think about it!

**Hello, is anyone reading?**

Joe, KD4RWX

[I am not going to let my normal reviewer read this before publication. She would cut most of it out.]

I hear from very, very few members concerning the newsletter or what is written in it. It concerns me that not one person has contacted me

since January and said, "I will do the newsletter for a while." It was reported that someone had said they would do it, but that does not count. I want a taker, not a somebody said. Just remember that the December issue is scheduled to be the last issue I will put out. No that does not mean if no one comes forward, I will continue.

It means that I will NOT do for the Club in January what I have done so very many months - put out a monthly newsletter. For seven months, I have waited for a volunteer. Hein has said I would end up like he did. He relinquished the responsibility of "repeater technician" and ended up having to do a lot of it anyway.

Not me. The presses will stop running with the December issue. As I write this today, eight days after the standard deadline, I have been sent one (1) article. That is from Harry; and Harry has been providing an article each month for years. Sorry Harry, you do not count in this argument.

Last month, I asked for articles concerning the future direction of the Club. NOT ONE SINGLE MEMBER HAS RESPONDED. The President has not sent me a brief statement. Neither has the VP. (It was received just before printing.) Much has been done to the repeater site. Yet, not a single word has been sent to me from the Technical Committee to pass on to the membership. (I did pick up Jimmy's note to the AARC List.) We should be talking up a new class. Nothing on that was sent to me. It seems to me some persons of responsibility to the club, owe it to report what is happening to the members. Just an idea, folks.

Although, I did not expect an article -rather a response - I have not had one single response to my PLEAS for someone to help Ellen Bennett. NOT ONE! That may demonstrate that no one is reading the newsletter. Or, perhaps no one cares.

[Where is my Sphygmomanometer? My blood pressure must be getting too high.]

During the first part of the year I had some new writers. Steven and Grayson were particularly good with several articles. Oh, how I do appreciate them. Joe (W2PVY) wrote a series of articles on basic electronics. What a great effort. Thanks Joe. How many of you have written to any of these three individuals and thanked them for taking their time to write original material for YOUR benefit. Word comes to me that precious few have done so.

A few years ago, I received a newsletter from another club. It was a single sheet of paper. It was sent first class to the members of the other club and to those on their mailing list. Besides the address information, it contained a short message copied from a packet BBS message. It was hardly news worth reading. I will not do that. I will, if I need to do so, just send a post card announcing the meeting as required by the Bylaws. I almost sent a post card newsletter, this time. If the information from the Blacksburg meeting had not come in, I would have. The card format was ready to be printed.

Where do we go from here? I do not know. But, I can tell you that I can get Harry's article on a postcard, if I use a small enough font size.

If you are still reading, just remember: During September, a Nominating Committee will be making recommendations for new Officers and Directors. They may call on you.

As far as I know, there are only 4 issues left of the AARC BULLETIN to be produced.

*What follows are several handouts, from Ed Harris (KE4SKY) for the participants of the Blacksburg ARES Training Session and Conference. They were distributed for the participants, but are permitted to be used in club newsletters.*

## The Virginia Emergency Nets (VEN) - STANDARD OPERATING PROCEDURE

**Introduction** - The Virginia Emergency Nets exist to provide communications for State and local governments, and other served agencies, in time of emergency and for periodic drills.

**Coverage** - The primary coverage area of the Virginia Emergency Nets is the State of Virginia. Establishment of inter-section nets may be determined by state or local needs.

**Activation and duration** - The VEN shall be activated by the SEC, SM, STM or designated representatives.

**NM Responsibilities** - Each NM shall arrange NCS schedules after their particular net has been called. NCS shifts generally limited to 2 hours. **Qualifications** - NCS and liaison stations must be knowledgeable of net discipline and proper traffic handling procedures. NCS must maintain net discipline at all times, and is responsible for frequency coordination and maintenance.

**Net Discipline** - The Virginia Emergency Nets are formal directed nets and shall always be operated as such. NCS must maintain strict control of the Net, especially during emergencies. Informals and comments should be allowed only when they are operationally necessary.

**Procedures for Emergency Nets** - Most emergencies require a "fly by the seat of your pants" approach to some extent. There are, however, standard operating procedures which should always be followed.

### I. Net call-up

Briefly Identify Net and NCS:

Which net, why it is being called now, who is NCS, where located (for beam heading). Avoid long call ups!

Identify key receive stations: such as the Virginia EOC, those in affected areas, and designated liaisons.

Don't wait until you need liaisons to call for them! Failure to do so causes confusion.

### II. Traffic - Call for emergency, priority, or welfare traffic first.

### III. Routing - In high traffic loads it isn't possible to determine routing for all traffic to be passed at once.

As soon as traffic can be handled, begin calling for outlets and get things moving! Then go back and continue listing.

The proper use of side frequencies is very important in high traffic loads. Use them wisely.

### IV. Use of relays and alternate frequencies - When poor HF conditions or loss of repeaters make operations difficult, NCS has 3 alternatives:

First Choice is the use of relays.

Second is to move stations with traffic to the alternate

frequency, (if conditions there are better).

ONLY as a last resort should you move the net to the alternate net frequency. This is because some stations get "lost in the shuffle".

### V. Check-ins - General check-ins should be called for only if time and traffic loads permit.

Always remember that the purpose of Virginia Emergency Nets is to provide emergency communications, match up needs with assets and move on, not just to fill up a roster!

### VI. Closure - Emergency Nets shall remain in operation until instructions for closure are received.

### VII. Reporting - Net controls are responsible for reporting net stats to the proper NM.

### VIII. Conclusion - The most important function of any Net is that of the Net Control Station, who must be able to "take charge" and maintain control and direction of the net.

There should always be an alternate net control station who can take over if operating conditions change or if the primary NCS must leave the air (active thunderstorm, tornado takes the tower down, etc.)

## NTS FUNDAMENTALS - WHY NTS?

With the Internet there has been a decline in NTS activity on all of the nets. If we don't maintain an adequate number of operators who are trained in traffic fundamentals we will not have sufficient personnel and resources to keep the NTS nets going during national emergencies when we need them.

## ALL ARES MEMBERS NEED TO LEARN THE BASICS OF NTS TRAFFIC HANDLING!

Experience during hurricanes Hugo, Andrew, Fran, Georges and Mitch, as well as during the Ice Storms of 1998 and 1999, has shown us that during disasters normal communications do fail. It then comes down to a ham operating on emergency power to get damage assessment and logistical traffic out of affected areas as well to handle the health and welfare traffic after the critical response phase of the emergency has passed. Having a trained pool of hams able to handle formal written traffic is vital to enable relief organizations such as the Red Cross to plan and coordinate an effective disaster response. It is crucial that we not lose that ability therefore:

The adage "practice makes perfect" is particularly important for disaster relief activities because once a disaster strikes we must be able to effectively and efficiently conduct our operations under any conditions. Handle some NTS message traffic NOW! You cannot wait until an agency official hands a message to you to learn!

**CONSIDERATIONS FOR OPERATIONAL TRAFFIC:**

All written messages passed on the behalf of served agency officials must be in standard ARRL / NTS format.

Formal operational messages must be SIGNED by the official who originates them, with his TITLE, authenticating the message and taking responsibility for its contents.

The established ARRL Message precedence of: EMERGENCY, Priority, Welfare, or Routine, as defined by ARRL, shall be used on all operational messages.

**How to Write/Send Formal ARRL NTS Messages EXAMPLE:**

MSG.NO. PRECED HX STA.OF ORIGIN CHECK PLACE OF ORIGIN TIME DATE  
347 P D KC4RON ARL25 EOC FAIRFAX, VA 0530 L JUNE2  
TO: JAMES FREEMAN N3OHS  
5905 OLD ROLLING ROAD  
ALEXANDRIA, VA 22310 TELEPHONE:( 703 ) 922 - 9789

|            |          |          |           |         |
|------------|----------|----------|-----------|---------|
| HAZMAT     | ACCIDENT | I95      | EXIT      | 170N    |
| EVACUATING | WEST     | OF       | FRONTIER  | AND     |
| NORTH      | OF       | PALIMINO | X         | SHELTER |
| LEE        | HS       | 6540     | FRANCONIA | ARL     |
| ELEVEN     | RED      | CROSS    | ERY       | 147.420 |

SIG: JEFF MCWHIRT, KC4RON,  
By the authority of RONALD L.MASTIN,  
DEPUTY CHIEF, FX CO. FIRE AND RESCUE

This is a formal message. Formal means that the message follows a pre-established form or convention. A formal message contains all the necessary "record keeping" elements that are required to keep a history of the message as it is sent through the NTS.

All formal messages consist of four parts:

- 1 the preamble,
- 2 the address,
- 3 the text, and
- 4 the signature.

Each of the elements of the formal message has certain format requirements which must be met in order to avoid confusion on the air as the message is sent, and also to assure that a sender-to-receiver trace can always be done on the message. Let's take apart the message piece by piece to learn how to write and send a formal message:

**1 - The Preamble**

MSG.NO. PRECED HX STA.OF ORIGIN CHECK PLACE OF ORIGIN TIME DATE  
347 P D KC4RON ARL25 EOC FAIRFAX, VA 0530 L JUNE2

**Number:** The message number is the station of origin's serial number; start each year with 1 and count up.

**Precedence:** This is a code letter which tells how critical a message is and how fast it must be handled:

EMERGENCY - life and death, handle at top speed.

Code EMERGENCY - always spelled out in full and is very rare.

PRIORITY - urgent, handle only EMERGENCY messages faster.

Code P. (Indicate "Drill" or "Test" messages by "DP" or "TP")

WELFARE - health of a person inquiry by addressee, handle after EMERGENCY and P messages. Code W.

ROUTINE - day-to-day urgency, handle as soon as possible through normal NTS routing. Code R. Most messages are R.

Handling instructions (HX):

[These are **optional** instructions to the operators regarding special needs in handling the message:]

HXA - (followed by number) - Collect landline delivery authorized by addressee within X miles (if no number, authorization unlimited).

HXB - (followed by number) - Cancel message if not delivered within \_\_\_\_\_ hours of filing time; service originating station.

HXC - Report date and time of delivery (TOD) to originating station.

HXD - Report to originating station identity of station from which received, station to whom relayed, plus date, time, and method of delivery ( used to confirm delivery of priority official traffic)

HXE - Delivering station get reply from addressee, originate msg. back.

HXF - (followed by number) - hold delivery until \_\_\_\_\_ (date).

HXG - Delivery by mail or landline toll call not required. If other expense involved, cancel message and service originating station. If no HX instruction is provided, use G.

**Station of origin:** This is the station that first wrote the message, ( not necessarily the sending station )

**Check:** This is a count of the actual number of words, number, or character groups and separators (X) in the text of the message. The check is simply a count of the number of words or letter/figure/mixed groups in the text of the message (not the preamble, address, or signature).

- Each word, initial group (HS), mixed group (I95), or figure group (6540) counts as one word.

- When sending ARRL numbered radiograms, if the message contains one or more ARL numbers from the standard ARL numbered radiogram list, the check always reads "ARL x" where "x" is the check. (ARL 25)

**Place of origin:** The actual place where the message started, not necessarily the location of the station of origin. (EOC FAIRFAX)]

**Time filed:** This is the time, Local (0530 L), or UTC that the message was filed into the NTS system, or signed by the releasing authority; not generally used in R traffic, but used for tracking in EMERGENCY or P traffic.]

**Date:** This is the date the message was written. The date must be consistent with the UTC when UTC is used as the time format.

[Send the preamble this way on phone:]

"THIS IS (your call)... PLEASE COPY... THAREE FOWER SEVEN... PAPA... KILO CHARLIE FOWER ROMEO OSCAR NOVEMBER... ARL FIGURES TWO FIYIV... LETTER GROUP ECHO OSCAR CHARLIE, FAIRFAX VIRGINIA... ZERO FIYIV THAREE ZERO LOCAL... JUNE FIGURE TWO... "

Unkey and pause (...) for a second between each element of the preamble to give the receiving station time to copy. If you trace over the elements as if writing them while reading, you are sending at about the right speed.

It is considered "bad form" to say the headings, such as:

"Check ARL 25, Station of origin KC4RON"

This is because all formal messages are to be sent in a standard way Use the word for the month, not numerical date:

Always Say: "June figure two"  
never say... "Six stroke two."

If the message doesn't have a number, precedence, station of origin, check, place of origin, or date it's not a formal message!

#### The Address consists of:

Standard three line postal address, with zip code, and... Fourth line with complete telephone number and area code.

Zip code is important if the message will go via packet at any point. A correct phone number saves the delivering station time and effort. For messages to deployed military personnel, the MARS system needs the service member's Social Security Number and complete military address. MARS wants the senders complete address with the signature. For messages going to foreign countries, make certain that the United States has a third-party agreement with the country to which the message is going or can be routed from the US to a country that does have a third-party agreement with the country of destination.

[Send the address in the following manner (picking up from the date):]

"JAMES FREEMAN, I SPELL FOXTROT ROMEO ECHO  
CHO MIKE ALPHA NOVEMBER... AMATEUR CALL  
NOVEMBER THAREE OSCAR HOTEL SIERRA...  
ADDRESS FIGURES FIYIV NINER ZERO FIYIV OLD  
ROLLING ROAD...  
ALEXANDRIA VIRGINIA ZIP FIGURES TWO TWO  
THAREE WUN ZERO...  
TELEPHONE FIGURES SEVEN ZERO THAREE ... NINER  
TWO TWO... NINER SEVEN EIGHT NINER, BREAK..."

At the end of each line unkey... and pause ONE FULL SECOND to give the receiving station time to copy. Note that saying "Going to" before sending the address is considered "bad form."

**The Text:** The text is what the sender of the message wants to tell the addressee. Good amateur messages sound like telegrams, are clear, succinct and written so that their meaning cannot be misconstrued or interpreted in more than one way. Good message writing takes practice.

ARL numbered radiograms are always spelled out, such as :  
"ARL ELEVEN, I SPELL ECHO LIMA ECHO VICTOR ECHO  
NOVEMBER"

You would never say "ARL ONE ONE" for one of these. Putting a letter-like greeting or closing into the text is bad form, but if the originator insists, it belongs in the text and is part of the check.

Separators are X's and read as "initial x-ray" when sending the message for relay, but they are never read as x-ray to the person to whom the message is being delivered. Just pause slightly when reading for delivery.

If a telephone number is in the text, it is broken into area code, local exchange and four-digit number, and has a check of three.

Use no punctuation "INITIAL X-RAY" replaces period. If the text asks a question, insert the word "QUERY" in the message text before the questioning phrase, instead of saying "question mark" afterwards.

Closings such as "love" or "regards" are ALWAYS a part of the text.

Amateur radiograms should be limited to 25 words or less, must be noncommercial in nature and acceptable for ham radio transmission. The text never contains elements of the preamble, address, or signature, no punctuation. Always spell out difficult words or those which sound alike, but which have different meanings, such as:

#### "TO, I SPELL TANGO OSCAR"

Exceptions to the 25-word rule may be made for MARS messages from deployed military personnel (MARSGRAMS generally limited to 50) and for disaster operations traffic.

The text is ALWAYS set off from the rest of the message by use of the word "break" (same use as the prosign BT when sending messages by CW / RTTY/ AMTOR /PACKET) before sending the text and immediately after sending the text, before the signature is sent.

Taking the text only from our training message:

|            |          |          |           |         |
|------------|----------|----------|-----------|---------|
| HAZMAT     | ACCIDENT | I95      | EXIT      | 170N    |
| EVACUATING | WEST     | OF       | FRONTIER  | AND     |
| NORTH      | OF       | PALIMINO | X         | SHELTER |
| LEE        | HS       | 6540     | FRANCONIA | ARL     |
| ELEVEN     | RED      | CROSS    | ERV       | 147.420 |

send it in the following way, use the word "break" to separate the text from the rest of the message, picking up after the address:

"BREAK (pause) HAZMAT ACCIDENT MIXED GROUP  
INDIA NINER FIYIV... EXIT, I SPELL ECHO XRAY INDIA  
TANGO, MIXED GROUP ONE SEVEN ZERO NOVEMBER...  
EVACUATING, DIRECTION WEST OF FRONTIER, I SPELL  
FOXTROT ROMEO OSCAR TANGO INDIA ECHO ROMEO  
AND... DIRECTION NORTH OF PALIMINO, I SPELL PAPA  
ALPHA LIMA INDIA NOVEMBER OSCAR, INITIAL  
XRAY... SHELTER LEE, I SPELL LIMA ECHO ECHO,  
LETTER GROUP HOTEL SIERRA, ADDRESS FIGURES SIX  
FIYIV FOWER ZERO FRANCONIA, ARL ELEVEN, I SPELL  
ECHO LIMA ECHO VICTOR ECHO NOVEMBER, RED  
CROSS LETTER GROUP ECHO, ROMEO VICTOR ---  
OPERATOR NOTE, THIS IS ABBREVIATION FOR  
EMERGENCY RESPONSE VEHICLE --- FREQUENCY WUN  
FOWER SEVEN DECIMAL FOWER TWO ZERO, BREAK..."

[Always pause a second to listen after the text, before starting the signature, in case the receiving operator needs "fills." ]

The signature identifies the person who is sending the message. For official traffic, this may be a third-party signature, e.g.:

JEFF MCWHIRT KC4RON  
BY THE AUTHORITY OF RONALD L. MASTIN  
DEPUTY CHIEF FAIRFAX COUNTY FIRE & RESCUE.)

Often the signature is that of the station of origin. Regardless, on operational traffic it is important for the signature to be complete for the addressee to understand who is sending the message. Remember, for messages going into the MARS network, the sender's complete mailing address must be part of the signature.

To send the signature, after the "BREAK" following the text, say:

**"JEFF MCWHIRT, I SPELL MIKE CHARLIE WHISKEY HOTEL INDIA ROMEO TANGO, AMATEUR CALL KILO CHARLIE FOWER ROMEO OSCAR NOVEMBER, (PAUSE) BY THE AUTHORITY OF RONALD, I SPELL ROMEO OSCAR NOVEMBER ALPHA LIMO DELTA, MIDDLE INITIAL LIMA, LAST NAME MASTIN, I SPELL MIKE ALPHA SIERRA TANGO INDIA NOVEMBER (PAUSE) DEPUTY CHIEF, FAIRFAX COUNTY FIRE AND RESCUE,**

At the end of the relay say "END, NO MORE" if that is all you have to send. You would say Say "END, THREE MORE" if you still needed to send three more pieces of traffic.

**EXPLANATION FOR USING ARRL Numbered Radiograms**

EXAMPLE: our training message contained:

**ARL ELEVEN RED CROSS ERV 147.420**

ARL ELEVEN means: "Establish Amateur Radio emergency communications with \_\_\_\_\_ on \_\_\_\_ MHz."

ARRL numbered radiograms are an aid to composing and sending concise traffic. They are listed in the ARRL Public Service Communication Manual, the ARRL Net Directory and in the Fairfax County ARES Handbook. Numbered radiograms CANNOT be used when refiling into the MARS network. If the relaying station does not have the text of the numbered radiograms use plain English.

Whenever the message contains an abbreviation, there should be an "operator note" to explain its meaning, such as "ERV" -- for emergency response vehicle-- this ensures that the receiving station does not misunderstand and interpret it as a name.

"Book traffic" simplifies sending of the same message text to a group of addressees. When sending "a book" the common parts of the preamble and text are sent first, to be followed with by the message numbers and list of addressees:

Example of Book Traffic : - Always send the common parts of the Preamble and Text First

| MSG. PRECED. | HX      | STA. OF ORIG. | CHECK    | PLACE OF ORIG. | TIME DATE |
|--------------|---------|---------------|----------|----------------|-----------|
| XX DP        | E       | KC4RON        | ARL 25   | EOC FAIRFAX VA | JUNE 2    |
| DRILL        | ARL     | TEN           | ARC      | LOCAL          |           |
| CHAPTER      | ARL     | ELEVEN        | VEN      | BRAVO          |           |
| ARL          | FIFTEEN | ARL           | TWENTY   | TWO            |           |
| SHELTER      | STATUS  | ARL           | TWENTY   | THREE          |           |
| FOR          | BUS     | 38            | EVACUEES | DRILL          |           |

**FRANK MACKAY K4EC  
VIRGINIA SECTION EMERGENCY COORDINATOR**

Explanation of the radiograms used in the SET DRILL message:

Note how much the text was able to be condensed by combining multiple ARL formatted radiograms in requesting the local situation report:

- TEN.....Please contact \_\_\_\_\_. Advise to standby and provide further emergency information, instructions or assistance.
- ELEVEN..... Establish Amateur Radio emergency communications with \_\_\_\_\_ on \_\_\_\_ MHz.
- FIFTEEN..... Please advise your condition and what help is needed.
- TWENTY TWO.....Need accurate information on the extent and type of conditions now existing at your location. Please furnish this information and reply without delay.
- TWENTY THREE...Report at once the accessibility and best way to reach your location.

**"What's In Your Go' Kit?"**

Portions of this article appeared in "Field Forum", published by the ARRL Copyright 1997, 1998, 1999 Virginia ARES / RACES, Inc. Nonprofit reproduction permitted with attribution C. Edward Harris, KE4SKY, AEC Fairfax ARES

Many amateurs carry an HT as part of their daily routine. Those who do should always include basic accessories such as an extra NiCd pack, external power cord, some sort of gain antenna, comfort and safety items "just in case." All it takes is your battery to "die" when you need to access the autopatch to report a traffic accident, get lost or break down on the road in an unfamiliar place to fully appreciate the value of being "prepared."

The best "go" kit for you won't fit anyone's "canned" list. Assemble one which fits your routine, experience and local conditions. The Fairfax ARES Handbook, the Skywarn Net Control Operations Manual and the ARRL ARES Field Resource Manual provide excellent guidance on "Go Kits."

Commuters using mass transit should keep at least bare essentials handy. A larger kit is practical if you are usually near your car. The trunk is the best place to store emergency gear because it is dry, accessible either at home or away and relatively secure. I have three kits which supplement each other. My "every day" kit fits in a briefcase and accompanies an HT.

A "backup" shoulder bag in the car provides basic tools and first aid supplies, some cash, a spare HT, 25w brick amp, coax, antenna, gel cell battery and accessories for 24 hours operation. I also carry a fire extinguisher, first aid kit, two MREs and water in the car. Two "evacuation" bags at home have three days supply of food, water and medications, a boxed non-spillable deep cycle battery, battery charger, tool kit, rain gear, clothing, safety and shelter items.

In rural areas, fire making supplies, pocket knife, map and compass should always be in your kit. In the suburbs, keep a local street atlas, change for a pay phone and some emergency cash or credit card.

A compact, sturdy flashlight, extra batteries, first aid kit, extra HT battery pack and spare eyeglasses are useful everywhere. If you take require prescription medications, carry a 3-day supply. On the road carry enough cash for a tank of gas, hot meal and a room.

A minimum "go" kit should sustain a full day of continuous operating and be easily supplemented for overnight or weekend trips. The bare essentials are a 2-meter or dual-band HT, some sort of "gain" antenna, auxiliary power source, writing materials, comfort and safety items.

You can do a lot with a minimum kit, if you plan carefully. There is risk of not having something you may need if you go too light, but obvious "bells and whistles" should stay home. My "every day" kit, including a dual-band HT, weighs 5 pounds and is 4"x6"x10," fits in a waist pack and contains:

- 1) Dual-band HT in padded belt case.
- 2) Copy of current FCC Operating License.
- 3) "Tiger tail" (counterpoise enhances Tx and Rx of a typical "rubber duck" by 3 db).
- 4) Extra high-capacity (1000 mah) nicad, or backup AA battery case for HT.
- 5) DC adapter & cigarette plug cord for HT
- 6) Two extra 2A fuses, for HT cord
- 7) Earphone and speaker mike
- 8) Spartan pattern Swiss Army pocket knife
- 9) Leatherman multi-purpose tool
- 10) Mini-Mag-Lite, extra bulb and 2 spare AAs
- 11) Pencil and pocket note pad
- 12) Emergency gas/phone/meal money (\$20 bill, \$6 quarters + five dimes in 35mm film can).
- 13) SO-239 to male-BNC adapter to fit HT to mobile antenna coax and female BNC to SO-239 to fit HT gain antenna to jumper.
- 14) 6 ft. RG8-X jumper w/BNC male and female connectors to extend HT antenna with suction cups or auto window clip.
- 15) Spare eye glasses of current prescription.
- 16) Band aids, moist towelettes and sunscreen
- 17) Pocket sewing kit, matches
- 18) Small pocket compass
- 19) Operating reference card for HT
- 20) ARES phone and frequency reference card

The "Backup Bag" carries "24-hour" items in a sturdy shoulder bag with carrying strap. Mine has external pockets marked as to contents. The large main compartment carries a gel cell battery and brick amp while other items are packed around and between them. It stays in the car until needed. I am trying to reduce it from its 12"x8"x6" size and 18 lbs. weight. Suggested contents are:

- 1) Neck-lanyard pocket with spare car keys, emergency cash, credit card, long-distance calling card and ARES photo ID.
- 2) Second, "backup / loaner" 2-meter HT. (Accessories interchange with dual-bander)
- 3) Spare large capacity NiCd or AA-battery pack, ear phone and speaker-mike for second HT
- 4) Operating manuals for both HT's.
- 5) Fused DC adapter cords with Molex connectors for brick amplifier and HTs.
- 6) 10 ft. AWG10 gage extension cord, with battery clips, in-line fuses and Molex connectors to power brick amp and/or HT from a car battery.
- 7) Compact, rugged, 25-40w - 2 meter or dual-band brick amplifier. - See comments following this list.
- 8) Gain antenna for HT: (telescoping half-wave Larsen 2m or dual-band Comet CH-722SA ( wave VHF, collinear UHF), plus tiger tail, throw weight and cord to pull up into a tree.
- 9) HT nicad and 12V gel cell AC chargers.

- 10) One 15ah or two 7ah, 12V gel cells to power brick amp on 10-25w @ 25% duty cycle 24 hrs.
- 11) Spare AA Alkalines for HT and flashlight.
- 12) RG8-X jumpers of various length with soldered PL-259s, to total 50 ft. with double-female UHF barrel connectors to combine all.
- 13) Adapters: BNC-male+BNC female to SO-239; BNC-male+BNC female to PL-259; NMO to SO-239 adapters plus others if you need them.
- 14) Cable ties, electrical tape, pliers, diagonal cutters and multi-bit screwdriver.
- 15) Compass and local area topo map
- 16) Two sharpened pencils, pencil sharpener, gum eraser, note pad, waterproof permanent marker.
- 17) ARES Field Resource Manual
- 18) Compact, rugged, flashlight (Pelican Stealthlite), with extra bulb and AA batteries
- 19) Two sets of spare fuses (2A, 10A, 15A) for HT cords, mobile radio and/or brick amplifier.
- 20) Comfort, safety and basic first aid items: sunglasses, matches, tissues, toothbrush, sun block, sewing kit, insect repellent, tweezers, band-aids, adhesive tape, gauze pads, wound cleaning wipes, etc.

#### HT Duty Cycle Limits and Brick Amps

Today's "compact" HTs are rated for only 20% duty cycle at 5w output or 30 seconds transmit to 2 minutes of standby. Their final power transistors may fail prematurely if subjected to frequent full power transmissions of several minutes. When I first got my license, I burned up three sets of "finals" during the warranty period of my HTX 202. The Kenwood TH22 I replaced it with fared no better.

Kenwood's service center admonished me that I was "exceeding the recommended duty cycle" for their HT and should buy a mobile, which I did. I also sought full-sized, rugged HTs with adequate heat sink, built to public safety standards for ARES use and pass that advice along. Unless your handheld is, limit your use of full power to short transmissions.

A small "brick" amplifier is also recommended to provide better range and signal clarity from your HT. Good operating practice and maximum endurance on battery power demand that you limit RF output to the minimum needed to maintain reliable communication, but the emphasis is still on "reliable."

An ideal ARES portable amp should weigh no more than 1.5 lb., provide 10-15w output when driven by the HT on its low, (battery conserve) power setting and 25-40w when driven by the HT at full power from its regular NiCd battery pack. The amp should not require no more than 8A current at maximum output, enabling it to operate safely from a Series 1545, .093 pin Molex connector and fused cigarette lighter plug. No preamp is wanted, because preamps FM just increase intermod. It is more important to buy a rugged, quality amplifier with an ample heat sink than to seek the smallest "box."

"Disaster Bags" -- are duffels of family survival gear stored above flood level in your house to "shelter in place" which can be grabbed quickly and thrown into the car with the "backup bag" in the car trunk, if needed. Many hams overlook these, but in a "real disaster," they are your most important item.

Each family member needs their own "evac bag" with personal medications, warm hat, rain gear, sturdy shoes, a change of warm

clothes and underwear, flashlight and sleeping bag or heavy wool blanket in a soft backpack. Store in sturdy, waterproof, transportable containers, such as metal trash cans, with 3 days supply of nonperishable food, water and sanitation supplies which family members can take with them if they must evacuate.

Establish a "refuge" or safe meeting place within walking distance of your home, work or school at a friend or neighbor's if family members can't get home, or must leave for their personal safety. Arrange with an out-of-state friend or relative to accept collect calls. Family members should meet at the refuge or call the out-of-state contact when they reach another place of safety. Sew tags in childrens' clothing with your address and telephone number. Label home telephones with YOUR address to ensure that visitors calling in an emergency from your home can tell emergency services where they are. Install a flashing porch light with blinker option so first-responders can find your house quickly. Everyone in the family must know the emergency contact phone and address. Sew labels with your phone number and address in small children's clothing.

ARES Mutual Assistance Teams are self-sufficient and operate independently of local resources strained to their limits. The following isn't the "last word," but a "thought starter" for your disaster planning. If you want to help, you had better be prepared:

- 1) 3-ring binder with phone and frequency lists, repeater control codes, County disaster plan, ARES/RACES/SKYWARN /NTS scripts and manuals, topo maps and manual for mobile rig, all in a weather resistant, zippered portfolio.
- 2) Dual-band or 2m antenna, at least 3db gain, with 50 feet of coax on reel. Recommend a radial adapter kit and clamps for your mobile antenna, a small omnidirectional base antenna such as the Cushcraft AR-270 or a portable 3 or 4 element yagi.
- 3) Military mast kit or TV roof tripod, spikes for anchoring, and four 5 ft. TV mast sections.
- 4) AC charger for HT NiCds or small gel cells
- 5) Two sealed gell or AGM BCI Group U1 (33ah) deep cycle batteries or one Group 24 (80ah), and automatic, low amperage charger and UL-listed AC extension cord. (Highly recommend Schumacher Electric Corp Model SE-1-12S, readily available from Wal-Mart, cost about \$25).
- 6) 12-volt, 8w fluorescent or auto tail light bulb in in PVC bottle with soldered clip leads. Adequate light is important for operating efficiency and morale. A strong, battery light is safer and more reliable than gasoline lanterns.
- 7) Propane soldering iron, fuel, solder and flux.
- 8) Leather work glove shells, wool finger-less liners, wool knit hat, hard hat, wind/rain suit, wool sweater, insulated safety boots, safety glasses, reflective vest, two sets of extra dry socks and underwear.
- 9) Tarp, shelter half or poncho
- 10) Wool blanket or insulated poncho liner
- 11) Two each, message pads, pencils
- 12) Grease pencil, 2 sheet protectors, 12 push pins.
- 12) Vinyl electrical tape for rain wraps, 1 roll
- 13) Cable ties, large and small, 1 dozen each
- 14) Rubber bands, medium and large, six ea.
- 15) Adjustable open-end wrench, 6"x 0-5/8"
- 16) Folding hex key set
- 17) Lineman's pliers w /crimpers /side cutters
- 18) Needle-nose pliers
- 19) Channel locks or Vise-Grip pliers

- 20) Mobile-type, dual-band SWR/power meter
- 21) Pocket VOM or multi-meter w/ test leads
- 22) Connectors / adaptors including no-solder type BNC and UHF for emergency repairs
- 23) First Aid Kit container.
- 24) Mess kit, utensils 3 days bottled water and nonperishable food (which can be eaten cold\*).
- 25) Personal hygiene and sanitation supplies. Good choices are prepackaged "baby wipes," waterless antibacterial hand cleaner and paper towels.

\* 1 gallon of water per person/day is needed for drinking and washing. Good emergency foods are canned soup or stew, beans, tuna, juices, fruits, veggies which can be eaten cold, or warmed without preparation; also peanut butter, cheese spread or jam in plastic jars, lots of hard candy, instant coffee, tea, dried fruit, crackers. Avoid processed meats which are loaded with salt or fat and hard to digest. Sterno is best for warming. Use up and replace emergency food and water stocks every six months.

#### HAMFESTS OF SOME NOTE

Sep 18 & 19th The Virginia Beach Hamfest.

#### VE SESSIONS SCHEDULED 1999

-----  
**14-Aug Richmond**  
 Pat Wilson (804) 932-9424,  
 9 am - (walk-ins; please call)  
**09-Oct Richmond**  
 Pat Wilson (804) 932-9424,  
 9 am - (walk-ins please call)  
**11-Dec Richmond**  
 Pat Wilson (804) 932-9424,  
 9 am - (walk-ins please call)

#### AARC CLASSIFIED ADS

New ADS may be placed directly to the Editor: 804 973-1738 or kd4rwx@aol.com

\* UPDATED 7/29/1999 \*

#### 7/1/99 WANTED: RADIATION DETECTOR

Grayson, KF4FYI, wants a meter type radiation detector. Call 293-4885.

#### 7/1/99 FOR SALE: ICOM HAND MIKE

K4JMY would like to sell a ICOM HM36 hand mike. Came with Icom 746 transceiver. Call 973-5589.

#### 7/1/99 FOR SALE: HF BEAM

Rick, KO4WQ, would like to sell a Mosley TA33jr three element triband beam. Call him at 804 823-1128.

#### 7/22/99 FOR SALE: ICOM HF TRANSCEIVER

Richard, K4VY, would like to sell an ICOM IC-735 HF transceiver and PS55 power supply, desk & mobile mike, manual. Call 804 974-9852.

#### 7/29/99 FOR SALE: VARIAC

Ron, K4RKA, has for sale several variacs, 1.25amp, 3amp, 6amp, 10amp, and 20amp rating from \$5 to \$20 each. Call 804 973-3640.

#### 7/29/99 FOR SALE: KENWOOD HF TRANSCEIVER

Richard, N8HUI, is offering a Kenwood TS690 hf + 6m transceiver. It includes am/fm/ssb/full qsk, mike & manual. Call him at 804 974-6121.

#### CLUB BUSINESS

July Minutes will be presented in the September newsletter for approval at the September meeting.



**"Procedural Words and ITU Phonetics for ARES / RACES"**  
 [Adapted for Virginia ARES from the State of California ACS / RACES Operations Guide, by Bill Pennington, WA6SLA]

Prowords are the framework around which an effective emergency net operates, but they are effective only when all participants "read from the same sheet of music" by understanding and using them correctly:

Always contact a station by saying its callsign, then say **"THIS IS"**.....Is **always** used to indicate who is initiating the contact, followed by callsign.

When it is their turn to respond, say...  
**"OVER"**.....Means, "I have finished transmitting to you and am waiting for your reply." [This leaves no doubt whose turn it is...]

When your business is finished, the station initiating the contact should end it. **"This is <your call>, out."**

**"OUT"** ..... Means "End of Contact," as in, "I have finished my transmission to you and expect no reply."  
 [Leaves no mistake that the contact has ended].

You should also be familiar with these prowords:  
**"CLEAR"** Use to end transmission during a busy net. Means "I am ceasing transmission, but will monitor for further traffic."

**"ROGER"**..... "Received and understood." [Doesn't mean yes or signify agreement!]

**"AFFIRMATIVE"**..... is **always** used instead of "yes;" and **"NEGATIVE"**.....is **always** used for "no," because their sound is distinctive and meaning clear, even under marginal propagation conditions.

**"SAY AGAIN"** .....is **ALWAYS** used when requesting a "fill."  
 Means repeat picking up from last known word or group preceding or following word referenced, as in:  
 "SAY AGAIN ALL AFTER <known word>"

**"CORRECTION"**..... "I made an error and will transmit again starting after last correct word."

**"CORRECT"**.....Means "You are correct"

**"BREAK"**..... Used to separate NTS message text from the address or signature blocks. **NEVER** use to interrupt a contact in progress!

(Cure repeater users of "Break" outside the context of NTS traffic, by responding: "Unidentified station in distress, state your location and the nature of your emergency, over!")

**"BREAK-BREAK!"**... A "double-break" always means **EMERGENCY**, cease all transmission.

**"COPY"**....."I receive and understand third party traffic to me and do not require a relay." (Don't use Q-signals such as QSL or jargon such as "direct.")

**"WAIT ONE"** "....."I am ceasing transmission for a few seconds, please stand by. (Use this one to collect your thoughts and unkey, instead of tying up the frequency with "dead air" while you try to remember.)

**"WAIT"**..... Cease all transmission until contacted again by Net Control.

**"FIGURES"**.....Next group is numbers

**"INITIAL"**.....Single letter follows

**"LETTER GROUP"**....Next group is letters

**"MIXED GROUP"**....Next group contains both letters and figures.

**" I SPELL"**.....Copy as I spell phonetically  
 There is no such thing as "Common Spelling" on an emergency net! Do not improvise phonetics! When copy is difficult always use Standard ITU Phonetics to spell call signs, letter groups and place names!

|               |                |               |
|---------------|----------------|---------------|
| A.... Alpha   | J.... Juliet   | S.... Sierra  |
| B.... Bravo   | K.... Kilo     | T.... Tango   |
| C.... Charlie | L.... Lima     | U.... Uniform |
| D.... Delta   | M.... Mike     | V.... Victor  |
| E.... Echo    | N.... November | W... Whiskey  |
| F.... Foxtrot | O.... Oscar    | X.... Xray    |
| G.... Golf    | P.... Papa     | Y.... Yankee  |
| H.... Hotel   | Q.... Quebec   | Z.... Zulu    |
| I.... India   | R.... Romeo    |               |

Speak **SLOWLY** and **DISTINCTLY!** When conditions are poor, numbers must be exaggerated to be readily understandable. Never say the initial "OH" as in OSCAR, when you mean figure "ZERO!"

|             |            |             |
|-------------|------------|-------------|
| 1= "Wun"    | 2= "Too"   | 3= "Tharee" |
| 4= "Fower"  | 5= "Fiyiv" | 6= "Siks"   |
| 7= "Sevven" | 8= "Ate"   | 9= "Niner"  |
| 0= "Zearow" |            |             |

If you use the above prowords and phonetics properly, it will help you to provide the efficient, reliable, high quality emergency communications that ARES and RACES are known for. Good radio procedure reflects pride, efficiency and competence. Please do your part to set a good example for your fellow operators.

**Future AARC Bulletin Editor, CAN WE TALK?**

If you are going to volunteer to start doing the newsletter, then **"We need to talk."** The January Issue begins in December. You will need to get a page layout established and begin communications with potential authors. We should publish an email address for you in the November (or earlier) issue.

We can discuss how the copy and mail procedures have been handled, or could be handled. We will need to work out the mail label issues, since I will likely continue to maintain the database.

Also, the way we are going to manage the Web newsletter, if that is to continue.

---

If we do not find an Editor, then the NEW secretary will be responsible for sending out the meeting notice cards.

Albemarle Amateur Radio Club  
P.O. Box 6833  
Charlottesville, Virginia 22906

http://members.aol.com/wa4tfz/aarc/default2.html



## AARC BULLETIN

Vol 1999 No. 08  
August 1999

**DEADLINE FOR EACH ISSUE**  
The 23rd of each month

**Contact Information**

*On The Fritz Publications*  
Joseph D. Fritz, KD4RWX  
2306 Williamsburg Road  
Charlottesville, VA 22901  
804 973-1738  
kd4rwx@aol.com

TO CORRECT LABEL INFORMATION CALL PHONE 973-1738: Your License expires.. Oct 31, 2004 D Y A  
KA4JJD G 1999 **CURRENT MEMBER**

Michael F. Rein  
109 Sturbridge Rd.  
Charlottesville VA 22901

22901+2113

**AARC CALENDAR OF EVENTS**

Notify Joe (KD4RWX) to place information on the calendar.

| Month  | Day(s) | Activity  |
|--------|--------|---|
| August | 8      | James Madison Bike Stage Race   |
| Aug:   | 10     | Picnic Meeting  |
| Sept:  | 14     | Meeting Nominating Committee named  |
| Oct:   | 12     | Annual Meeting Elections and Committee reports; Nominations due for Ham of The Year |
| Nov:   | 9      | Meeting   |
| Dec:   | 14     | Meeting   |

**PUBLIC SERVICE SCHEDULE**

| DATE      | EVENT                         |
|-----------|-------------------------------|
| Sat Aug 8 | James Madison Bike Stage Race |
| TBA       | Heart Walk                    |
| TBA       | Montpelier Horse Races        |

Please sign up at meetings when the SIGN UP CLIPBOARD is passed around. You can also send an email to Greg (N4PGS) indicating your interest in working particular events.  
**Greg (N4PGS) and (Hein N4FWA)**

**CLUB MEETINGS**

**Regular Meeting: Second Tuesday of each month at 7:30 p.m.**  
Board and Technical Meetings: First Tuesday of each month at 7:30 p.m.  
Meetings are held at the National Radio Astronomy Observatory (NRAO) building, Edgemont Road (UVA area)

**WA4TFZ REPEATERS**

| INPUT/OUTPUT   | TONES ACCESS (if required, etc.) |
|--|----------------------------------|
| 146.160/146.760  | 88.5 Hz                          |
| (If tone is enabled, you can turn the tone off and back on temporarily by: |                                  |
| Temporary Tone OFF   | DTMF 325*                        |
| Remove Temporary Tone Off  | DTMF 326*                        |
| Time   | DTMF 10*                         |
| Tone status of repeater  | DTMF 700*                        |

**BIRTHDAYS: AUGUST**

|                        |    |
|------------------------|----|
| KB7ZWG.... Bonnie..... | 1  |
| KF4FRP.... Brian.....  | 3  |
| KA4MCA.... Don.....    | 4  |
| KD4NRE.... Al.....     | 6  |
| W6UZ..... John.....    | 7  |
| K4MW..... Pete.....    | 13 |
| KD4WXY.... Shawn.....  | 15 |
| KE4OID.... Jessie..... | 16 |
| K4DND.... Dave.....    | 17 |
| N3GLZ.... John.....    | 18 |
| W0ANN.... Ann.....     | 26 |
| WD4CEN.... Jerry.....  | 28 |

146.325/146.925 **88.5 Hz if enabled**  
223.160/224.760 **no tone**  
449.250/444.250 **151.4 Hz (if enabled)**  
145.030 MACHO node  
145.030 CHO Packet Bulletin Board

**LOCAL NETS:** (146.760 repeater)  
Monday night: Information Net (each Monday) 7 PM  
YL Net (1st Monday of month) 8:30 PM

**Thursday night: Northern Piedmont Emergency Net & Swap Net & Technical Session (each Thursday) 8 PM**

**LUNCHEON:**

**Wednesday:** Area Hams gather at the Old Country Buffet (OCB) next to TOYS R US on 29 North 11 AM - 1 PM