Lehigh Valley Amateur Radio Club
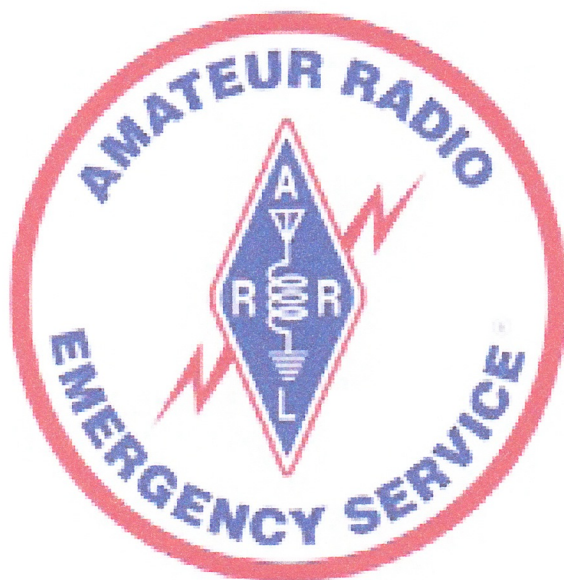
W3OI

ARES / RACES

Event Planning Handbook

and

Resource Manual

Lehigh Valley Amateur Radio Club

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Event Planning Handbook and Resource Manual

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Lehigh Valley Amateur Radio Club

W3OI

ARES / RACES

Event Planning Handbook and Resource Manual

FORWARD

The contents of this manual are for the purpose of assisting those dedicated radio operators that sacrifice their time and commit themselves to their communities.

This manual is designed to be a living document. It is not complete, nor will it ever be complete, as the needs of the community and the technology that is used to fulfill those needs is forever changing.

This manual is dedicated to all Amateur Radio Operators that have supported the communities in which they live in doing both the routine and the emergent.

The following members of the Lehigh Valley Amateur Radio Club were instrumental in the compilation and design of this manual:

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Original Adoption Date: September 1, 2009

Lehigh Valley Amateur Radio Club

Special Event Guidelines

Purpose:

The purpose of this document is to establish a set of guidelines for members of the Lehigh Valley Amateur Radio Club, as well as any guest participants, who may be involved in both scheduled and emergency events.

Served Agency Expectations:

All volunteers are reminded that in any capacity, either emergent or scheduled, that those agencies that have contacted the LVARC for assistance expect certain behaviors. Agencies expect that those from other organizations conduct themselves as though they were part of the primary organization. It is important to understand that any participant in an event does not necessarily know that there are many groups that have come together to provide the needed service or recreational activities, but views it as one large group. Any agency served by the LVARC expects that it's members and participants are treated with respect and are not exposed to anything that pushes the limits of good behavior.

LVARC Expectations:

The members of the LVARC expect to be treated with respect and dignity from served agencies and understand that their role as communicators can only be enhanced by cooperation from all those on an event. The members expect to be informed and stay informed of situations that directly impact their assigned duties. The members expect that they will not be intentionally placed in harm's way, and expect that all appropriate information needed to execute sound decisions will be delivered in a timely manner. The members do understand that he ultimate onus of responsibility for safety and well-being is dependent on their own decisions and situations.

Event Requests

Any member that receives a request for LVARC support of a scheduled event will attempt to complete as much of the Activity Worksheet as possible. The event request must be approved by the LVARC Event Coordinator and the LVARC President prior to any agreement with the served agency. This will ensure that we are not committed to any event that conflicts with previously scheduled agreements. It is not the responsibility of the LVARC Event Coordinator to prepare and manage the event. If no one is available to adequately plan and coordinate the requested event, the event must be declined.

LVARC receives all urgent requests for support through Lehigh County EMA, and through the designated Lehigh County RACES officer. The Emergency Response Worksheet and Event Logistic Worksheets should be used as a guide to establish a logistics net and fill positions as dictated by the nature of the event.

Any urgent request for support from neighboring counties or districts, such as in the ARESMAT support, shall be handled as an Emergency Request. In such circumstances it is crucial to gather information on both the Activity and Emergency Request Worksheets. Anyone gathering information for a mutual aid response is encouraged to ascertain the amount of time our operators will be needed. It is also helpful to set up a "muster net", for the purpose of LVARC members to meet at one point and convoy to the mutual aid logistics point.

Non-urgent requests for assistance (mutual aid) with scheduled events shall be handed to the LVARC Event Coordinator. If a conflict exists, the Event Coordinator shall inform the requesting club or ARES group that we have a commitment and need to fulfill that obligation first. If no such conflict exists, the Event Coordinator should gather as much information as possible about the event as well as the mutual aid point of contact, and announce on the Monday night net, as well as posting on the use group. The LVARC takes no other responsibility for mutual aid requests.

Event Announcements

After appropriate request information has been gathered and approved, the event needs to be announced and a list of operators that are available needs to be developed. At a minimum, scheduled events will be announced on Monday night nets, at monthly meetings, in the newsletter, and posted to the use group. In the case of large events that require more resources than are available to the LVARC, the Event Manager may request assistance from other agencies. The Event Manager may email surrounding clubs and ARES Teams, and request permission to announce the event and solicit assistance on their nets, as well as distribution of the announcement via their normal methods.

Event Participants

All participants of events both scheduled and emergent are reminded that they not only represent the LVARC, but they represent the served agency and amateur operators in general. Participants are expected to dress in clean clothes that are appropriate to the event, and the assignment. Participants are responsible for their own comfort and should always plan on unexpected weather, or conditions, depending on time of year and assignment.

LVARC members will display their membership ID badge on all LVARC events. LVARC members should have at least one additional form of laminated photo ID on their person, such as a State Driver's License, or Picture ID, or County Issued RACES Photo ID card. Participants that are not members of LVARC shall have at least one form of laminated photo ID, issued by government, and will receive and display an LVARC temporary event ID tag. LVARC Temporary ID tags are event specific ID tags issued to non-members for the duration of an event. The Event Manager will complete and issue all such tags prior to a scheduled event. In the event of a large-scale emergency event, the tags may be issued by the logistics officer at a previously designated check-in point. It is expected that in the event of a large scale emergency, the EMA will be responsible for credentials and temporary ID assignments, and will relieve LVARC of that responsibility.

Event Deployment

Members of LVARC that are active in any emergency event will deploy only by the direction of the NCS. Members may be directed to a logistical net on an alternate frequency for the purpose of deployment and assistance in finding locations, or alternate routes due to road closings. At no time will any member of LVARC self-deploy to any emergent event or situation.

Members of LVARC that have offered their assistance in scheduled events will make every attempt to fulfill that commitment. If you are unable to attend, it is the responsibility of the member to contact the Event Manager prior to the event, and remove themselves from the event. It is better to cancel ahead of time, than it is to be a no-show.

All participants should be prepared for the event. Participants should have knowledge of the area and terrain from which they will be expected to operate. It is not always possible to establish clear communications with only an HT and rubber duck antenna. Participants should plan, and have available, the ability to enhance their communications set-up, as necessary. Participants are reminded that they should be prepared for bad weather (outdoor events) and have adequate clothing and supplies, to include necessary medicines.

Any participant that may have a time constraint due to work, family, or other commitments, should notify the Event Manager ahead of the scheduled event, so that an appropriate assignment can be given, if at all possible. Anyone that participates in an emergent event should understand that it may not be possible to leave a post until properly relived by another volunteer. This should be considered prior to volunteering for deployment.

Event Completion

Prior to any scheduled event, it is the duty of the Event Manager to explain to all participants how and when they will be relieved from their post. At all times, participants will receive final authority to close their station from Net Control. In the event that one licensed ham is relieved by another, it is the duty of the off-going amateur to notify the NCS of the change.

At the final completion of a scheduled event, the Event Manager will complete ARRL form FSD-157 and submit the completed form to the President. The LVARC President will verify the form is complete and represents the activities of the club, and will then file the FSD-157 with the ARRL and submit copies to the SEC and the SM.

At the final completion of an emergent event, the LVARC President will contact the appropriate event managers and NCS personnel to complete the ARRL Form FSD-157, and them submit the form to the ARRL as well as copies to the SEC and the SM.

Any event in which LVARC members provided mutual aid, the President will submit their names and call signs to the SEC and SM, as well as the primary group responsible for the event.

LVARC / ARES Event Manager

Event Planning Guidelines

The process of planning for an event can be overwhelming unless some basic information is gathered and disseminated to the participants of the event. The most important point to remember is to solicit help early in the planning process and review the general plan long before the event is scheduled to take place.

The following is a checklist designed to assist the Event Manager in organizing and running a successful event as it applies to the ARES / RACES component. The Event Manager should attempt to either answer or complete as many of the items on this checklist as possible before a scheduled event. In the event of an Emergency or Urgent event, many of the items will be filled in dynamic fashion as the event unfolds. At all times, be flexible.

- ✔ Pre-Event Questions
  - ○ Can most of the answers be filled in prior to the event?
    - ✔ Who is in charge of the event?
    - ✔ Who will need information from the radio operators?
    - ✔ What type of information is needed from radio operators?
    - ✔ Where are the operators needed? (water stations, first aid stops)
    - ✔ Do you need mobile operators?
    - ✔ How long is the event expected to last?
    - ✔ How many operators will be needed to perform the task safely?
    - ✔ Can one operator be used in more than one place (such as in a road race)?
    - ✔ Can the operators expect distractions (bands, loud-speakers, ect)?
    - ✔ Who is the event coordinator and how are they contacted?
    - ✔ Who can make decisions on behalf of the event coordinator?
    - ✔ What other communication systems are in place?
    - ✔ Will NCS have access to the other types of communication systems?
    - ✔ What type of medical services are available?
    - ✔ How are the medical services contacted?
    - ✔ Is the course / event secure and closed?
    - ✔ What type of maps are available?

- ✔ Pre-Event Activities
  - ○ Announce the event and make a request for operators
  - ○ Post the event and details on the use-group
  - ○ Consider asking for help from other agencies
  - ○ Ensure volunteers are kept informed of changes
  - ○ Consider information net the night before the event
  - ○ Consider a NCS station that is removed from main event and distractions
  - ○ Consider using one or more operators to shadow main event staff

- ✔ Post-Event Activities
  - ○ Take the time to thank all participants.
  - ○ Solicit comments over email
  - ○ Assemble comments and hold a critique net.
  - ○ Remember to be flexible. During a critique a great idea may be obscured by a poor delivery.
  - ○ Fill out form FSD-157 and submit to President

Lehigh Valley Amateur Radio Club
Activity Worksheet

Service Requested: ☐Immediate Response   ☐Scheduled Event

Date Requested:

Date of Event: Rain Date:

Name of Agency / Event:

Contact (Event Coordinator / Emergency Coordinator):

    Name:
    Cell Phone:
    Email:

Location of Event:

Description of Event:

Primary Purpose of LVARC Operators:

    Services Requested:
        Voice   Data   SSTV   Emergency Coordination

        Email   Tracking   Logistic Coordination

LVARC ARES Coordinator Notified: Time: Date:
LVARC President Notified: Time: Date:

EVENT APPROVED By: Time: Date:

Lehigh Valley Amateur Radio Club

EMERGENCY RESPONSE WORKSHEET

Requested by:
    Name:
    Cell Phone:
    Email:
    Call Sign:
    Primary Contact Method:

Nature of Event:

Logistical Net Called
    Time: Frequency:

Tactical Net Operations
    Frequency 1:   Frequency 2:

    Additional Frequencies:

Special Service / Equipment:

    Service Requested   Operator

Lehigh Valley Amateur Radio Club
Event Logistic Worksheet

Position: Mobile   APRS   Fixed

Location Description: Lat: Lon:

Point of Contact:
Special Equipment: (headset, antenna, cross band, relay, ect):
Operators Assigned:

Position: Mobile   APRS   Fixed

Location Description: Lat: Lon:

Point of Contact:
Special Equipment: (headset, antenna, cross band, relay, ect):
Operators Assigned:

Position: Mobile   APRS   Fixed

Location Description: Lat: Lon:

Point of Contact:
Special Equipment: (headset, antenna, cross band, relay, ect):
Operators Assigned:

Position: Mobile   APRS   Fixed

Location Description: Lat: Lon:

Point of Contact:
Special Equipment: (headset, antenna, cross band, relay, ect):
Operators Assigned:

ARES Equipment and Resource Considerations

All Event Managers and Event Participants should consider all of the following resources. It is important to know that at times the ARES / RACES communicator may be asked to use other systems to interface our operations with an established communications system.

The following is a limited list of potential resources that may me considered to enhance communications.

- Radio Services:
    - Ham radio (License needed)
        - 2 meter repeaters
        - 2 meter simplex
        - 70cm repeaters
        - 70cm simplex
        - HF
    - FRS (No license needed)
    - GMRS (License needed)
        - Simplex
        - Repeaters
    - MURS (No license needed)
    - Business (License needed)
    - CB (No license needed)
- Modes:
    - Phone – FM, SSB
    - Digital – CW, Winlink, Packet, APRS, PSK31, FSTV, SSTV
- Equipment:
    - Radios
        - HT radio – with extra battery's
        - Mobile radio – single band, dual band, dual band with cross band repeat
        - HF mobile
        - Scanner (as second receiver/ listen to local public safety)
    - Antennas
        - HT other than factory rubber duck
        - Mag mount
        - J-pole
        - Vertical
        - HF (vertical, dipole, buddy pole, NVIS, screwdriver)
    - Feed line
    - Power supply, converter, batteries
    - Speaker microphone, headphones or headset
    - Connectors, adapters and fuses
    - Radio manuals (should be in go kit)
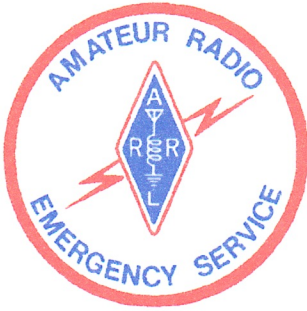
PUBLIC SERVICE ACTIVITY REPORT

About This Form

Amateur Radio donates thousands of person hours of supplementary public service communications in civil emergencies, official drills and events such as parades and marathons each year. Such events show Amateur Radio in its best light, and it is critically important that ARRL bring documentation of this public service work to the attention of the Congress, the FCC and other public officials. Your information below is an important addition to the record. Please complete and return this form to the Public Service Branch at ARRL Headquarters. Thank you.

1. Nature of activity (Check one).

__ *Communications Emergency.* Amateurs supplied communications required to replace or supplement normal communications means.

__ *Alert.* Amateurs were deployed for emergency communications, but emergency situation did not develop.

__ *Special exercise*. Amateurs supplied communications for a parade, race, etc.

__ *Test or drill.* A training activity in which amateurs participated.

2. Brief description of activity: _____

3. Places or areas involved: _____

4. Number of amateurs participating: _____

5. Event start date/time: _____ 6. Event end date/time: _____

7. Duration of event (hours): _____ 8. Total person-hours: _____

9. Number of repeaters used: _____

10. Estimated person-power cost:	$ _____	(person-hours times $10/hr)
11. Estimated cost of equipment used:	$ _____	(hand-helds, repeaters, etc.)
12. Total estimated cost of service:	$ _____	(add amounts from lines 10 and 11)

FSD-157 (1/04)

13. Nets and/or frequencies used (including repeater call signs):

_____

_____

14. Number of messages handled: _____

15. Names of agencies receiving communications support:

_____

_____

_____

_____

16. Please list call signs of amateurs who were major participants:

_____

_____

_____

_____

17. Other comments:

_____

_____

_____

_____

_____

_____

Please attach photos of amateurs in action, newspaper clippings or other data.

Name of Amateur Radio organization providing service:

_____

Location of organization: City or town: _____ State: _____

Your name: _____ Call sign: _____

Address: _____

ARRL appointment, if any: _____ e-mail address: _____

Telephone: _____   _____
            (Days)   (Evenings)

I attest that the information provided above is complete and true to the best of my knowledge.

_____   _____
Signature   Date

FSD-157 (1/04)

Initial Action Checklist

The net control station and/or ARES officials on the designated emergency net will provide additional instructions, including information on frequencies used for other resource and tactical nets. Normally, a resource net will enroll volunteers and provide information on how you can assist.

. Be prepared to operate. Check all equipment and connections.

. Check in with your assigned contact. Deploy to assignment with "Ready" kit.

. Obtain tactical call sign for your location/assignment.

. Initiate personal event log (use form at end of this booklet).

. Enter assigned frequency(s) on log sheet and on emergency/frequency plan.

. Use log form to record messages handled.

. Use a formal message form when a precise record is required.

. Use tactical call sign for your location, and observe FCC's 10-minute ID rule.

. Monitor your assigned frequency at all times. Notify NCS if you have to leave.

(page 7 of the Aug 2005 ARRL ARES Manual)

Basic Deployment Equipment Checklist

When responding to an emergency event, or even a training exercise, there is a minimum set of equipment and personal gear you should bring with you to get the job done. Basic items include:

. 2-meter hand-held
. 2-meter mag-mount antenna and coax
. Earphone
. Paper and pencil
. ARES ID card
. Extra batteries
. Appropriate clothing
. Food and water

The majority of these items should be kept in a "Ready Kit." Just pick it up on your way out the door for
deployment. You might also consider the items on the following list for inclusion in this ready kit, designed to allow you to stay in the field for up to 72 hours.

(Page 10 of the August 2005 ARRL ARES Manual)

Extended Deployment (72 hour)

Equipment Checklist

. 3 day change of clothes
. Foul weather gear
. Toilet articles
. Shelter (tent and sleeping bag)
. Portable stove;

mess kit with cleaning kit
. Waterproof matches
. Flashlight
. Candles
. Alarm clock
. 3 day supply of water and food
. Snacks

. Liquid refreshments
. First aid kit
. Throat lozenges
. Prescriptions
. Aspirin or other pain reliever
. Additional radios, packet gear
. Power supplies, chargers
. Microphones
. Headphones
. Patch cords
. Antennas with mounts
. SWR bridge (VHF and HF)

. Extra coax
. RF connectors and adapters
. Power, audio and other

connectors and adapters
. Batteries
. Toolbox
. Soldering iron and solder
. VOM
. Electrical and duct tape
. Safety glasses
. Log books
. Message forms

About Your "Ready Kit"

Power—Your 72-hour kit should have several sources of power in it, with extra battery packs and an alkaline battery pack for your handheld. For mobile VHF and UHF radios, larger batteries are needed. Gel-cell or deep-cycle marine batteries are good sources of battery power, and you must keep them charged and ready go. It is also wise to have alternate means available to charge your batteries during the emergency. You can charge smaller batteries from other larger batteries. You can build a solar charging device. If you're lucky, you may have access to a power generator that can be used in place of the normal electrical lines. Have more battery capacity than you think you might need. Have several methods available to connect your radios different power sources.

Gain Antennas—You can expect to need some kind of gain antenna for your handheld, as well as an additional gain antenna that can be used on either your handheld or your mobile rig. The extra antenna might be needed by someone else, or your first antenna might break. For VHF and UHF, you can build a J-pole from TV twinlead for an inexpensive and very compact antenna. Have several lengths of coax in your kit, totaling at least 50 feet, and barrel connectors to connect them together.

Personal—Include staples: water, or a reliable water filtration and purification system; enough food for three days; eating utensils, a drinking cup and, if needed, a means of cooking your food. Shelter is also important. Here, you are only limited by the size of your kit and the thickness of your wallet. Some hams plan to use their RVs as shelter, conditions permitting. Other disaster conditions may make the use of an RV impossible, so you should have several different plans for shelter. Light is important psychologically during an emergency. Make sure that you have several light sources available. Various battery-powered lights are available, and lanterns that use propane or other fuel are also good possibilities.

(Page 12 of the AUG 2005 ARRL ARES Manual)

Principles of Repeater Operation

1. Use minimum power. Otherwise, especially in heavily populated areas, you run the risk of keying more than one repeater, thus causing unnecessary interference. Low power also conserves batteries.

2. Use simplex, whenever possible. ARRL recommends 146.52 MHz, but it's a good idea to have at least one other simplex channel available. Use a gain antenna at fixed locations for simplex operation.

3. Observe the "pause" procedure between exchanges. When it is your turn to transmit, after the transmitting station stands by, count to two or three before pressing your transmit switch. This gives others with urgent traffic a chance to check in.

4. Listen much, transmit little. Announce your presence on a repeater when you are certain of being able to assist in an emergency, and don't tie it up with idle chatter.

5. Monitor your local ARES net frequency when you are not otherwise busy.

6. Think before you talk. Stick to facts, control your emotions. Remember, during an emergency is the time when you are most apt to act and speak rashly. Anyone with an inexpensive public service band receiver can monitor

7. Articulate, don't slur. Speak close to your mike, but talk across it, not into it. Keep your voice down. In an emergency situation you may get excited and tend to shout. Talk slowly, calmly—this is the mark of an experienced communicator.

(Page 32 of the AUG 2005 ARRL ARES Manual)

Principles of Disaster Communication

1. Keep transmissions to a minimum. In a disaster, crucial stations may be weak. All other stations should remain silent unless they are called upon. If you're not sure you should transmit, don't.

2. Monitor established disaster frequencies. Many ARES localities and some geographical areas have established disaster frequencies where someone is always (or nearly always) monitoring for possible calls.

3. Avoid spreading rumors. During and after a disaster situation, especially on the phone bands, you may hear almost anything. Unfortunately, much misinformation is transmitted. Rumors are started by expansion, deletion, amplification or modification of words, and by exaggeration or interpretation. All addressed transmissions should be officially authenticated as to their source. These transmissions should be repeated word for word, if at all, and only when specifically authorized.

4. Authenticate all messages. Every message which purports to be of an official nature should be written and signed. Whenever possible, amateurs should avoid initiating disaster or emergency traffic themselves. We do the communicating; the agency officials we serve supply the content of the communications.

5. Strive for efficiency. Whatever happens in an emergency, you will find hysteria and some amateurs who are activated by the thought that they must be sleepless heroes. Instead of operating your own station full time at the expense of your health and efficiency, it is much better to serve a shift at one of the best-located and best-equipped stations, suitable for the work at hand, manned by relief shifts of the best-qualified operators. This reduces interference and secures well-operated stations.

6. Select the mode and band to suit the need. It is a characteristic of all amateurs to believe that their favorite mode and band is superior to all others. The merits of a particular band or mode in a communications emergency should be evaluated impartially with a view to the appropriate use of bands and modes. There is, of course, no alternative to using what happens to be available, but there are ways to optimize available resources.

7. Use all communications channels intelligently. While the prime object of emergency communications is to save lives and property (anything else is incidental), Amateur Radio is a secondary communications means. Normal channels are primary and should be used if available. Amateurs should be willing and able to use any appropriate emergency channels—Amateur Radio or otherwise—in the interest of getting the message through.

8. Don't "broadcast." Some stations in an emergency situation have a tendency to emulate "broadcast" techniques. While it is true that the general public may be listening, our transmissions are not and should not be made for that purpose.

9. NTS and ARES leadership coordination. Within the disaster area itself, the ARES is primarily responsible for emergency communications support. The first priority of those NTS operators who live in or near the disaster area is to make their expertise available to their Emergency Coordinator (EC) where and when needed. For timely and effective response, this means that NTS operators should talk to their ECs before the time of need so that they will know how to best respond.
(Page 33 and Page 34 August 2005 ARRL ARES Manual)

Break Tags

Purpose:

When net communication gets heavy, someone may have a quick solution to a problem that is taking up too much valuable airtime for discussion, but can't break into the net to share it.

USEAGE:

There are currently seven one-word Break Tags. They are: "answer," "question," "info," "priority," "medical," "emergency", and your call sign.

Instead of saying "break" between transmissions during a directed net, the operator uses the word specified as a Break Tag without a call sign.

The tags are to be used only when the operator's traffic will be appreciated by net control and will result in more efficient communication. The message that follows a break should be as short as possible.

Definitions and use:
"Answer": To be used when you have the definitive answer to a question currently being discussed on the air.

"Question": To be used when the answer of a question can't wait; for example, when the mayor is standing next to you and requesting you to get information using your radio.

"Info": To be used when information needs to be transmitted rapidly but is not related to what is being said on the air; for example, if an event that net control needs to know about is going to happen in the next few seconds or if waiting for the end of an exchange will negate the value of the information.

"Priority": To be used to report an important but non-life threatening situation such as a fender-bender that just happened.

"Medical": To be used to report a minor medical incident.

"Emergency": Only to be used to report an ongoing life or property threatening or damaging incident.
Your Call Sign: An indication that the operator has traffic that can wait and does not require the cessation of the ongoing exchange. This tag is an expectation to be put on hold and in queue for transmission.

Emergency Reference Information for Amateur Radio Station

Telephone Numbers
(List name and/or number)

State Police _____

Local Police _____

Sheriff _____

Fire Department _____

Ambulance _____

OEM _____

SM _____

SEC _____

DEC _____

EC _____

Net Manager _____

National Weather Service _____

Red Cross _____

Salvation Army _____

Other _____

What to report:

Caller's name
Location
Situation
Injuries: number, extent
Fire?
Traffic blocked?
Need assistance?
Weather conditions
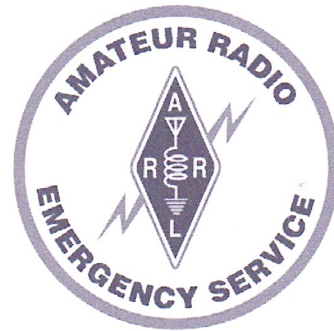
	Frequency	*Time*	*Days*
ARES Net			
RACES Net			
SKYWARN Net			
Section/Local Net			
Packet BBS			

FSD-255 (1/04)

THE AMATEUR RADIO EMERGENCY SERVICE

The radio amateur best justifies his existence by the service rendered to the community in times of disaster and distress when normal communications media are not available, have failed or are badly overburdened.

In the event of a communications emergency all amateurs are dedicated to serve in the public interest, within their ability, to provide temporary communications for a stricken area until normal facilities are restored.

The ARRL Amateur Radio Emergency Service is composed of licensed amateurs who have voluntarily registered their qualifications and equipment for communication duty in the public service when disaster strikes.

Further information on the Service may be obtained from your Section Manager, Section Emergency Coordinator or ARRL Headquarters. Visit **www.arrl.org/sections**.

BEFORE EMERGENCY

Prepare yourself by providing radio equipment together with an emergency power source upon which you can depend.

Test both the dependability of your emergency equipment and your own operating ability in the annual ARRL Simulated Emergency Test and the several annual on-the-air contests, especially Field Day.

Register your facilities and your availability with your local ARRL Emergency Coordinator. If your community has no EC, contact your local civic and relief agencies and explain to them what the Amateur Service offers the community in time of disaster.

IN EMERGENCY

Listen before you transmit. Never violate this principle.

Report at once to your Emergency Coordinator so that the EC will have up-to-minute data on the facilities available. Work with the local civic and relief agencies as the EC suggests. Offer these agencies your services directly in the absence of an EC.

Operate on the air in accordance with FCC regulations.

SOS and "Mayday" are the International distress calls for emergency only. They are for use only by stations seeking emergency assistance.

Respect the fact that the success of the amateur effort in emergency depends largely on circuit discipline. The established Net Control Station should be the supreme authority for traffic routing.

Cooperate with those we serve. Be ready to help, but stay off the air unless there is a specific job to be done that you can handle more efficiently than any other station.

Copy all bulletins from W1AW or check the ARRL Web site. During time of emergency, bulletins will keep you posted on the latest developments.

AFTER EMERGENCY

Report to ARRL Headquarters and your ARRL Section leaders as soon as possible and as fully as possible so that the Amateur Service can receive full credit. Report your activity with the ARRL Public Service Activity Report form (FSD-157) at **www.arrl.org/FandES/field/forms/** (printable and on-line versions are available).

Utility Frequencies

Citizen's Band

Ch	Freq	Ch	Freq	Ch	Freq	Ch	Freq
1	26.965	11	27.085	21	27.215	31	27.315
2	26.975	12	27.105	22	27.225	32	27.325
3	26.985	13	27.115	23	27.255	33	27.335
4	27.005	14	27.125	24	27.235	34	27.345
5	27.015	15	27.135	25	27.245	35	27.355
6	27.025	16	27.155	26	27.265	36	27.365
7	27.035	17	27.165	27	27.275	37	27.375
8	27.055	18	27.175	28	27.285	38	27.385
9	27.065	19	27.185	29	27.295	39	27.395
10	27.075	20	27.205	30	27.305	40	27.405

Family Radio Service

Ch	Freq	Ch	Freq
1	462.5625	8	467.5625
2	462.5875	9	467.5875
3	462.6125	10	467.6125
4	462.6375	11	467.6375
5	462.6625	12	467.6625
6	462.6875	13	467.6875
7	462.7125	14	467.7125

Short-wave Broadcast Bands

3900-4000 75 meters	13570-13800 22 meters
4750-5060 60 meters	15100-15800 19 meters
5850-6200 49 meters	17480-17900 16 meters
7100-7500 41 meters	18900-19020 15 meters
9400-9900 31 meters	21450-21850 13 meters
11600-12050 25 meters	25600-26100 11 meters

WWV Ft. Collins, Colorado (Time Standard)

2.5, 5.0, 10.0, 15.0, 20.0 (MHz)
(male voice = WWV / female voice = WWH)

ARRL Communications Pocedures

Voice	Code	Situation
Go ahead	K	Used after calling CQ, or at the end of a transmission, to indicate any station is invited to transmit.
Over	AR	Used after a call to a specific station, before the contact has been established
	KN	Used at the end of any transmission when only the specific station contacted is invited to answer.
Stand by or wait	AS	A temporary interruption of the contact.
Roger	R	Indicates a transmission has been received correctly and in full.
Clear	SK	End of contact. SK is sent before the final identification.
Leaving the air or closing the station	CL	Indicates that a station is going off the air, and will not listen or answer any further calls. CL is sent after the final identification.

ITU Phonetic Alphabet

Word list adopted by the International Telecommunications Union

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

The R-S-T System

Readability

1	Unreadable
2	Barely readable, occasional words distinguishable.
3	Readable with considerable difficulty.
4	Readable with practically no difficulty.
5	Perfectly readable.

Signal Strength

1	Faint signals, barely perceptible.
2	Very weak signals.
3	Weak signals.
4	Fair signals.
5	Fairly good signals.
6	Good signals.
7	Moderately strong signals.
8	Strong signals.
9	Extremely strong signals.

Tone

1	Sixty cycle a.c or less, very rough and broad.
2	Very rough a.c., very harsh and broad.
3	Rough a.c. tone, rectified but not filtered.
4	Rough note, some trace of filtering.
5	Filtered rectified a.c. but strongly ripple-modulated.
6	Filtered tone, definite trace of ripple modulation.
7	Near pure tone, trace of ripple modulation.
8	Near perfect tone, slight trace of modulation.
9	Perfect tone, no trace of ripple or modulation of any kind.

If the signal has the characteristic steadiness of crystal control, add the letter X to the RST report. If there is a chirp, the letter C may be added to so indicate. Similarly for a click, add K. The above reporting system is used on both cw and voice, leaving out the "tone" report on voice. Turn card over for examples.

Time Conversion Chart

UTC	EDT/AST	CDT/EST	MDT/CST	PDT/MST	PST
0000*	2000	1900	1800	1700	1600
0100	2100	2000	1900	1800	1700
0200	2200	2100	2000	1900	1800
0300	2300	2200	2100	2000	1900
0400	0000*	2300	2200	2100	2000
0500	0100	0000*	2300	2200	2100
0600	0200	0100	0000*	2300	2200
0700	0300	0200	0100	0000*	2300
0800	0400	0300	0200	0100	0000*
0900	0500	0400	0300	0200	0100
1000	0600	0500	0400	0300	0200
1100	0700	0600	0500	0400	0300
1200	0800	0700	0600	0500	0400
1300	0900	0800	0700	0600	0500

1400	1000	0900	0800	0700	0600
1500	1100	1000	0900	0800	0700
1600	1200	1100	1000	0900	0800
1700	1300	1200	1100	1000	0900
1800	1400	1300	1200	1100	1000
1900	1500	1400	1300	1200	1100
2000	1600	1500	1400	1300	1200
2100	1700	1600	1500	1400	1300
2200	1800	1700	1600	1500	1400
2300	1900	1800	1700	1600	1500
2400*	2000	1900	1800	1700	1600

Universal Coordinated Time (UTC) is the time at the zero or reference meridian. Time changes one hour with each change of 15 degrees in longitude. The five time zones in the US proper and Canada roughly follow these lines.

* 0000 and 2400 are interchangeable. (2400 is associated with the date of the day ending, 0000 with the day just starting.)

FSD-3 | Relief Emergency · Routine Messages Recommended Precedences

The letters ARL are inserted in the preamble in the check and in the text before spelled out numbers, which represent texts from this list. Note that some ARL texts include insertion of numerals and text. Example: NR 1 R W1AW ARL 5 NEWINGTON CONN. DEC 25 DONALD R. SMITH A̅A̅ 164 EAST SIXTH AVE A̅A̅ NORTH RIVER CITY MO A̅A̅ PHONE 73-3968 B̅T̅ ARL FIFTY ARL SIXTY ONE BT DIANA A̅R̅. For additional information about traffic handling, consult *The ARRL Operating Manual*, published by ARRL, or the *NTS Methods and Practices Guidelines*, www.arrl.org/FandES/field/nts-mpg/ .

Group One—For Possible "Relief Emergency" Use

ONE	Everyone safe here. Please don't worry.
TWO	Coming home as soon as possible.
THREE	Am in _____ hospital. Receiving excellent care and recovering fine.
FOUR	Only slight property damage here. Do not be concerned about disaster reports.
FIVE	Am moving to new location. Send no further mail or communication. Will inform you of new address when relocated.
SIX	Will contact you as soon as possible.
SEVEN	Please reply by Amateur Radio through the amateur delivering this message. This is a free public service.
EIGHT	Need additional _____ mobile or portable equipment for immediate emergency use.
NINE	Additional _____ radio operators needed to assist with emergency at this location.
TEN	Please contact _____. Advise to standby and provide further emergency information, instructions or assistance.
ELEVEN	Establish Amateur Radio emergency communications with _____ on _____ MHz.
TWELVE	Anxious to hear from you. No word in some time. Please contact me as soon as possible.
THIRTEEN	Medical emergency situation exits here.
FOURTEEN	Situation here becoming critical. Losses and damage from _____ increasing.
FIFTEEN	Please advise your condition and what help is needed.
SIXTEEN	Property damage very severe in this area.
SEVENTEEN	REACT communications services also available. Establish REACT communication with _____ on channel _____.
EIGHTEEN	Please contact me as soon as possible at _____.

NINETEEN   Request health and welfare report on _____ . (State name, address and telephone number.)

TWENTY   Temporarily stranded. Will need some assistance. Please contact me at _____ .

TWENTY ONE   Search and Rescue assistance is needed by local authorities here. Advise availability.

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.

TWENTY FOUR   Evacuation of residents from this area urgently needed. Advise plans for help.

TWENTY FIVE   Furnish as soon as possible the weather conditions at your location.

TWENTY SIX   Help and care for evacuation of sick and injured from this location needed at once.

Emergency/priority messages originating from official sources must carry the signature of the originating official.

Group Two—Routine Messages

FORTY SIX   Greetings on your birthday and best wishes for many more to come.

FORTY SEVEN   Reference your message number _____ to _____ delivered on _____ at _____ UTC.

FIFTY   Greetings by Amateur Radio.

FIFTY ONE   Greetings by Amateur Radio. This message is sent as a free public service by ham radio operators at _____ . Am having a wonderful time.

FIFTY TWO   Really enjoyed being with you. Looking forward to getting together again.

FIFTY THREE   Received your _____ . It's appreciated; many thanks.

FIFTY FOUR   Many thanks for your good wishes.

FIFTY FIVE   Good news is always welcome. Very delighted to hear about yours.

FIFTY SIX   Congratulations on your _____ , a most worthy and deserved achievement.

FIFTY SEVEN   Wish we could be together.

FIFTY EIGHT   Have a wonderful time. Let us know when you return.

FIFTY NINE   Congratulations on the new arrival. Hope mother and child are well.

*SIXTY   Wishing you the best of everything on _____ .

SIXTY ONE   Wishing you a very Merry Christmas and a Happy New Year.

*SIXTY TWO   Greetings and best wishes to you for a pleasant _____ holiday season.

SIXTY THREE   Victory or defeat, our best wishes are with you. Hope you win.

SIXTY FOUR	Arrived safely at _____.
SIXTY FIVE	Arriving _____ on _____. Please arrange to meet me there.
SIXTY SIX	DX QSLs are on hand for you at the _____ QSL Bureau. Send _____ self addressed envelopes.
SIXTY SEVEN	Your message number _____ undeliverable because of _____. Please advise.
SIXTY EIGHT	Sorry to hear you are ill. Best wishes for a speedy recovery.
SIXTY NINE	Welcome to the _____. We are glad to have you with us and hope you will enjoy the fun and fellowship of the organization.

* Can be used for all holidays.

ARRL Recommended Precedences

Please observe the following ARRL provisions for PRECEDENCES in connection with written message traffic. These provisions are designed to increase the efficiency of our service both in normal times and in emergency.

EMERGENCY--Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief of stricken populace in emergency areas. During normal times, it will be *very* rare. On CW/RTTY, this designation will *always* be spelled out. When in doubt, do not use it.

PRIORITY--Use abbreviation P on CW/RTTY. This classification is for a) important messages having a specific time limit b) official messages not covered in the emergency category c) press dispatches and emergency-related traffic not of the *utmost* urgency d) notice of death or injury in a disaster area, personal or official.

WELFARE--This classification, abbreviated as W on CW/RTTY, refers to either an inquiry as to the health and welfare of an individual in the disaster area or an advisory from the disaster area that indicates all is well. Welfare traffic is handled only after all emergency and priority traffic is cleared. The Red Cross equivalent to an incoming Welfare message is DWI (Disaster Welfare Inquiry).

ROUTINE--Most traffic in normal times will bear this designation. In disaster situations, traffic labeled Routine (R on CW/RTTY) should be handled last, or not at all when circuits are busy with higher precedence traffic.

Note--the precedence always follows the message number. For example, a message number may be 207R on CW and "Two Zero Seven Routine" on phone.

FSD-218 Relief Emergency · Routine Messages Recommended Precedences

Every formal radiogram message originated and handled should contain the following component parts in the order given

I. Preamble

a. Number (begin with 1 each month or year)
b. Precedence (R, W, P or EMERGENCY)
c. Handling Instructions (optional, see text)
d. Station of Origin (first amateur handler)
e. Check (number of words/groups in text only)
f. Place of Origin (not necessarily location of station of origin.)
g. Time Filed (optional with originating station)
h. Date (must agree with date of time filed)

II. Address

(as complete as possible, include zip code and telephone number)

III. Text

(limit to 25 words or less, if possible)

IV. Signature

CW: The prosign $\overline{AA}$ separates the parts of the address. $\overline{BT}$ separates the address from the text and the text from the signature. $\overline{AR}$ marks end of message; this is followed by B if there is another message to follow, by N if this is the only or last message. It is customary to copy the preamble, parts of the address, text and signature on separate lines.

RTTY: Same as CW procedure above, except (1) use extra space between parts of address, instead of $\overline{AA}$; (2) omit cw procedure sign $\overline{BT}$ to separate text from address and signature, using line spaces instead; (3) add a CFM line under the signature, consisting of all names, numerals and unusual works in the message in the order transmitted.

PACKET/AMTOR BBS: Same format as shown in the cw message example above, except that the $\overline{AA}$ and $\overline{AR}$ prosigns may be omitted. Most amtor and packet BBS software in use today allows formal message traffic to be sent with the "ST" command. Always avoid the use of spectrum-wasting multiple line feeds and indentations.

PHONE: Use *prowords* instead of prosigns, but it is not necessary to name each part of the message as you send it. For example, the above message would be sent on phone as follows: "Number one routine HX Golf W1AW eight Newington Connecticut one eight three zero zulu july one Donald Smith Figures one six four East Sixth Avenue North River City Missouri zero zero seven eight nine Telephone seven three three four nine six eight Break Happy birthday X-ray see you soon X-ray love Break Diana End of Message Over. "End of Message" is followed by "More" if there is another message to follow, "No More" if it is the only or last message. Speak clearly using VOX (or pause frequently on push-to-talk) so that the receiving station can get fills. Spell phonetically all difficult or unusual words--do not spell out common words. Do not use cw abbreviations or Q-signals in phone traffic handling.

Precedences

The precedence will follow the message number. For example, on cw 207R or 207 EMERGENCY. On phone, "Two Zero Seven, Routine (or Emergency)."

EMERGENCY--Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief of stricken populance in emergency areas. During normal times, it will be *very rare*. On cw, RTTY and other digital modes this designation will always be spelled out. When in doubt, *do not* use it.

PRIORITY--Important messags having a specific time limit. Official messages not covered in the Emergency category. Press dispatches and other emergency-related traffic not of the utmost urgency. Notifications of death or injury in a disaster area, personal or official. Use the abbreviation P on cw.

WELFARE--A message that is either a) an inquiry as to the health and welfare of an individual in the disaster area b) an advisory or reply from the disaster area that indicates all is well should carry this precedence, which is abbreviated W on cw. These messages are handled *after* Emergency and Priority traffic but before Routine.

ROUTINE--Most traffic normal times will bear this designation. In disaster situations, traffic labeled Routine (R on cw) should be handled *last*, or not at all when circuits are busy with Emergency, Priority or Welfare traffic.

Handling Instructions (Optional)

HXA--(Followed by number) Collect landline delivery authorized by addressee within....miles. (If no number, authorization is 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 the identity of station from which received, plus date and time. Report identity of station to which relayed, plus date and time, or if delivered report date, time and method of delivery.

HXE--Delivering station get reply from addresses, originate message back.

HXF--(Followed by number) Hold delivery until....(date).

HXG--Delivery by mail or landline toll call not required. If toll or other expense involved, cancel message and service originating station.

For further information on traffic handling, consult the Public Service Communications Manual or the ARRL Operating Manual, both published by ARRL.

ARRL QN Signals For CW Net Use

QNA*	Answer in prearranged order.
QNB*	Act as relay Between _____ and _____
QNC	All net stations Copy. I have a message for all net stations.
QND*	Net is Directed (controlled by net control station).
QNE*	Entire net stand by.
QNF	Net is Free (not controlled).
QNG	Take over as net control station.
QNH	Your net frequency is High.
QNI	Net stations report In.*.
	I am reporting into the net. (Follow with a list or traffic or QRU).
QNJ	Can you copy me?
	Can you copy _____?
QNK*	Transmit message for _____ to _____
QNL	Your net frequency is Low.
QNM*	You are QRMing the net. Stand by.
QNN	Net control station is _____
	What station has net control?
QNO	Station is leaving the net.

QNP	Unable to copy you. Unable to copy _____
QNQ*	Move frequency to _____ and wait for _____ to finish handling traffic. Then send him traffic for _____
QNR	Answer _____ and Receive traffic.
QNS*	Following Stations are in the net. *(Follow with list.) Request list of stations in the net.
QNT	I request permission to leave the net for _____ minutes.
QNU*	The net has traffic for you. Stand by.
QNV*	Establish contact with _____ on this frequency. If successful, move to _____ and send him traffic for _____
QNW	How do I route messages for _____?
QNX	You are excused from the net.* Request to be excused from the net.
QNY*	Shift to another frequency (or to _____ kHz) to clear traffic with _____
QNZ	Zero beat your signal with mine.

* For use only by the Net Control Station.

The QN signals listed above are special ARRL signals for use in amateur cw nets only. They are not for use in casual amateur conversation. Other meanings that may be used in other services do not apply. Do not use QN signals on phone nets. Say it with words. QN signals need not be followed by a question mark, even though the meaning may be interrogatory.

International Q Signals

A Q signal followed by a ? asks a question. A Q signal without the ? answers the question affirmatively, unless otherwise indicated.

QRA	What is the name of your station?
QRG	What's my exact frequency?
QRH	Does my frequency vary?
QRI	How is my tone? (1-3)
QRK	What is my signal intelligibility? (1-5)
QRL	Are you busy?
QRM	Is my transmission being interfered with?
QRN	Are you troubled by static?
QRO	Shall I increase transmitter power?
QRP	Shall I decrease transmitter power?
QRQ	Shall I send faster?
QRS	Shall I send slower?
QRT	Shall I stop sending?
QRU	Have you anything for me? (Answer in negative)
QRV	Are you ready?
QRW	Shall I tell _____ you're calling him?
QRX	When will you call again?
QRZ	Who is calling me?
QSA	What is my signal strength? (1-5)
QSB	Are my signals fading?
QSD	Is my keying defective?
QSG	Shall I send _____ messages at a time?
QSK	Can you work breakin?
QSL	Can you acknowledge receipt?
QSM	Shall I repeat the last message sent?

QSO	Can you communicate with _____ direct?
QSP	Will you relay to _____?
QSV	Shall I send a series of V's?
QSW	Will you transmit on _____?
QSX	Will you listen for _____ on _____?
QSY	Shall I change frequency?
QSZ	Shall I send each word/group more than once? (Answer, send twice or _____)
QTA	Shall I cancel number _____?
QTB	Do you agree with my word count? (Answer negative)
QTC	How many messages have you to send?
QTH	What is your location?
QTR	What is your time?
QTV	Shall I stand guard for you _____?
QTX	Will you keep your station open for further communication with me?
QUA	Have you news of _____?

Abbreviations, Prosigns, Prowords

CW	**PHONE (meaning or purpose)**
A̅A̅	(Separation between parts of address or signature.).
AA	All after (use to get fills).
AB	An before (used to get fills).
ADEE	Addressee (name of person to whom message addressed).
ADR	Address (second part of message).
AR	End of message (end of record copy).
A̅R̅L̅	(Used with "check," indicates use of ARRL numbered message in text).
A̅S̅	Stand by; wait.
B	More (another message to follow).
BK	Break; break me; break-in (interrupt transmission on cw. Quick check on phone).
B̅T̅	Separation (break) between address and text; between text and signature.
C	Correct; yes.
CFM	Confirm. (Check me on this).
CK	Check.
D̅E̅	From; this is (preceding identification).
H̅H̅	(Error in sending. Transmission continues with last word correctly sent.)
H̅X̅	(Handling instructions. Optional part of preamble.) Initial(s). Single letter(s) to follow.
I̅M̅I̅	Repeat; I say again. (Difficult or unusual words or groups.)
K	Go ahead; over; reply expected. (Invitation to transmit .)
N	Negative, incorrect; no more. (No more messages to follow.)
NR	Number. (Message follows.)
PBL	Preamble (first part of message)
N/A	Read back. (Repeat as received.)
R	Roger; point. (Received; decimal point.)
S̅I̅G̅	Signed; signature (last part of message.)
S̅K̅	Out; clear (end of communications, no reply expected.)
TU	Thank you.
WA	Word after (used to get fills.)
WB	Word before (used to get fills.)
N/A	Speak slower.
N/A	Speak faster.

Lehigh Valley Amateur Radio Club
W3OI

Temporary ARES ID Card

Name: _____

Call: _____

Event: _____

Date of Event: _____

Photo Reference: _____

Signature: _____

(Please return after event)

LVARC / ARES   NCS / Tactical
Amateur Radio Operator's Log

Station Location: _____ Tactical Call Sign: _____

Date on (UTC)	Time on (UTC)	Operator's Call	Comments	Time off (UTC)	Date off (UTC)

AMATEUR RADIO DISASTER WELFARE MESSAGE

Number	Precedence W	HX	Station of Origin	Check ARL	Place of Origin	Time filed	Date

TO

Message Receipt Or Delivery Information
Operator and Station _____
Sent To _____
Delivered To _____
Date _____ Time _____

Telephone Number

(CIRCLE NOT MORE THAN TWO STANDARD TEXTS FROM LIST BELOW)

ARL ONE   Everyone safe here. Please don't worry.
ARL TWO   Coming home as soon as possible.
ARL THREE   Am in _____ hospital. Receiving excellent care and recovering fine.
ARL FOUR   Only slight property damage here. Do not be concerned about disaster reports.
ARL FIVE   Am moving to new location. Send no further mail or communications. Will inform you of new address when relocated.
ARL SIX   Will contact you as soon as possible.
ARL SIXTY FOUR   Arrived safety at _____.

Time	Date	Telephone	Signature

THE AMERICAN RADIO RELAY LEAGUE
RADIOGRAM
VIA AMATEUR RADIO

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed	Date

TO

This Radio Message Was Received At
Amateur Station _____ Phone _____
Name _____
Street Address _____
City and State _____

Telephone Number

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

From	Date	Time		To	Date	Time
REC'D				**SENT**		

This message was handled free of charge by a licensed Amateur Radio Operator whose address is shown in the box at right above. As such messages are handled solely for the pleasure of operating. No compensation can be accepted by a "Ham" operator. A return message may be filed with the "Ham" delivering this message to you. Further information on Amateur Radio may be obtained from A.R.R.L. Headquarters 225 Main Street, Newington, CT 06111

The American Radio Relay League, Inc., is the national membership society of licensed radio amateurs and the publishers of QST Magazine. One of its functions is promotion of the public service communications among amateur operators to that end. The League has organized the National Traffic System for daily nationwide message handling.

FSD-244 (1/04)

The American Radio Relay League
RADIOGRAM
Via Amateur Radio

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed	Date

To:

This Radio Message was received at:

Amateur Station_____ Date_____
Name_____
Street Address_____
City, State, Zip_____

Telephone Number:

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

From	Date	Time	To	Date	Time
REC'D			SENT		

A licensed Amateur Radio Operator, whose address is shown above, handled this message free of charge. As such messages are handled solely for the pleasure of operating, a "Ham" Operator can accept no compensation. A return message may be filed with the "Ham" delivering this message to you. Further information on Amateur Radio may be obtained from ARRL Headquarters, 225, Main Street, Newington, CT 06111.

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LVARC ARES EVENTS
Amateur Radio Inbound Traffic Log

Date Rcvd (UTC)	Message #	Precedence (EPWR)	HX	Station of Origin	Frequency	Time Rcvd (UTC)	Reply Request (Y-N)	Reply Sent (Y-N)	Reply #

LVARC / ARES
Amateur Radio Outbound Traffic Log

Date (UTC)	Message #	Precedence (EPWR)	HX	Station Rcvd	Frequency	Time Sent (UTC)	Reply Request (Y-N)	Reply Rcvd (Y-N)	Reply #