



# Amateur Radio Traffic Handling

What traffic will you handle?

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# Introduction

- Emergency radio communications nearly always use formal nets, as do NTS traffic nets. Casual everyday ham operation mostly doesn't. This presentation discusses how to operate as part of a formal radio net, probably one where most operators are using handy-talkies in unfamiliar locations. Net control's job is to keep the net under strict control to move traffic efficiently and prevent chaos! When net control requires stations to get permission before using the net; this is called a directed net.

- A directed net is used if three or more stations will share the frequency. This enables Net Control to quickly pick among the several stations that have traffic to handle. A directed net is absolutely essential if stations on the net are also doing other tasks, so they may not be paying close attention to net activity.

- For example, if an operator was talking to the public, or was helping carry supplies, he may have lost track of net activity by the time he gets some traffic to originate. You can suspect this is the case if operators frequently transmit on top of one another! This also reflects lack of training. Good radio discipline is important in disaster work to aid efficient communications when time wasted may cost lives!

# Tactical Callsigns

- Use tactical and FCC call signs efficiently. You will be called by your tactical call sign, not your FCC amateur radio call sign. You should use the tactical call sign to identify your transmissions and you should call another station by its tactical call sign. Of course you must identify properly every ten minutes and at the end of each transmission with your FCC call sign; see example below.

- Listen for your tactical call sign. That way, the net can be conducted without regard to what operator is at the radio of any particular place. Of course, Part 97 requires each amateur radio station to give its FCC identifier at the end of each communication and every ten minutes during transmission. To comply, simply add your FCC call sign to your last transmission in a series.

For example:

NC "LUT, this is Net Control."

LUT "LUT."

NC "Tell Chief Wilson that his driver has returned."

LUT "W7LUT Roger, out."

NC "KE7WKM" out.

# Basic Net Protocol

- Answer promptly when called. Unless you make other agreements, you are expected to listen continuously to the net and answer immediately when called. If you know you will be unable to participate for an interval, tell that to Net Control before you leave, and check in with Net Control when you return. Otherwise, the net can waste a lot of time attempting to call you when you are not there.

- Never leave a net without checking out. Always check out of your net before leaving. If another operator has your assignment after you, don't check out before briefing him (see below). As a practical matter, we are volunteers and Net Control cannot compel someone to stay that wants to leave. But we owe it to the people and agencies we serve and to our reputations as individuals and as ARES organizations, to be reliable. Once we agree to support an agency's activity, we should do our best to deserve that agency's trust. During disaster operations RACES stations are part of the coordinated emergency response and are expected to continue with their assignment until released.

Brief the operator who relieves you. Write down all oral instructions given to you by Net Control Station or served agency officials update them as needed. Pass this sheet on to your relief operator and then tell the operator that takes your place everything he needs to know to do the job:

- Frequencies being used
- Essential radio, power, or antenna details
- All tactical call signs and where the stations are located
- If telephone is accessible, its location and number
- Officials /others being served; how to find /recognize
- The station's purpose
- What's going on? What changes are expected?
- Any pending activity: important messages sent and replies expected (who gets the reply?)
- Location of toilet, water, food

Get to your assignment ahead of time. Arrive at your assigned operating point before your shift starts so that you get set up and briefed by the start of your shift.

Keep the channel available for interruptions. There are several things we can do to minimize how much we delay someone who must break in with urgent traffic:

1. Keep all transmissions short. Short transmissions allow other stations to interrupt if they get more urgent traffic.
2. Stop transmitting if you stop talking. Always release the push-to-talk button if you need to pause for some reason. While you are trying to think of a street name, or what the other thing was you wanted to report, unkey the mic to allow urgent traffic to break in.
3. Avoid unnecessary transmissions. Think before you speak.
4. Don't call endlessly. If you get no answer to your first two calls, wait a few minutes so others use the channel before trying again. (If urgent, disregard)
5. Wait before keying, between transmissions. Give others a chance to break in. It may be urgent!

# How to Interrupt the Net

- It is proper to interrupt the net and transmit when Net Control has not invited you to. That's the purpose for leaving gaps between transmissions. If you interrupt, key very briefly, only enough to ID and wait for Net Control to acknowledge you:

- Use short simple phrases. There many ways to word an idea; pick one of the shorter ways. When you "keep all transmissions short," it helps the listener, because the fewer words you say, the fewer he has to understand. (The listener doesn't know whether missed words are important to understanding the meaning until he hears them clearly.)

# When going Direct with another Station on the net

- Establish contact before saying messages. That may mean to call the other station, and hear it tell you to proceed. Or it may mean to hear the other station reply to Net Control's call. Net procedures vary. But don't spend air time with a long message until you are sure that you have the other operator's attention.

# Contacting Net Control

- **When you need to contact net control, key your transmitter briefly, just long enough to ID or state something about the nature of the traffic. For example, "N6ABC, emergency traffic," or "info." If net control does not notice you in time and transmits at the same time that you do, nobody will be able to understand either one of you for the next 30 seconds or however long the two of you are "doubling". Make sure that net control acknowledges you before proceeding with your traffic.**

# Tactical Messages

- Tactical messages are short unformatted messages usually of very urgent nature.
- These are what we call non-formal messages
- “Real-Time” Tactical Communications: Time” Tactical Communications:
  - • Direct conversations between third parties Direct conversations between third parties
  - • Life-safety matters safety matters when timing is critical when timing is critical
  - • Most routine task assignments
- Record routine exchanges as line-items in your Record routine exchanges ICS Form 309 Comm Log

# When to use Formal Written Traffic

- Because incident reports are public documents,
- USE A FORMAL MESSAGE FOR:
  - • Station activation & closure
  - • Damage assessments
  - • Shelter and EOC status
  - • Situation updates
  - • Declarations
  - • Resource Requests
  - • ICS facility relocations

# ICS-213 Message

- Record Communications on behalf of
- served agency officials must be written in
- ICS Form 213 format or on the originating
- agency's approved form
- • But don't fixate on the FORM!
- • Be prepared to copy long messages.
- • Learn to copy messages without relying on
- a FORM!

# ICS 213 Message Form

- 1 - "To" line
- 2 - "From" line
- 3 - "Subject / Date / Time" line
- 4 - "Admin" line We use the Form 213 that includes Message Number, Priority, and Group Count.
- 5 - "Message" field (ten 5-word lines)
- 6 - "Signature" line
- 7 - "Reply" field (ten 5-word lines)
- 8 - "Reply Date/Time/Signature" line

- 1 - “To” line “To” line
- Name, Agency & Title of Recipient
- Washington County-ARES/RACES Modified ICS  
FORM 213 GENERAL MESSAGE
- -----
- TO: POSITION:
- \_\_\_\_\_

2 - "From" line

Name, Agency & Title of Originator

Washington County-ARES/RACES Modified ICS  
FORM 213 GENERAL MESSAGE

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TO: POSITION:

\_\_\_\_\_

FROM: POSITION:

\_\_\_\_\_

3 - "Subject / Date/ Time" line

Incident Name, Date, Local Time

Washington County-ARES/RACES Modified ICS FORM 213 GENERAL  
MESSAGE

-----  
TO: POSITION:

\_\_\_\_\_  
FROM: POSITION:

\_\_\_\_\_  
SUBJECT: DATE: TIME:

\_\_\_\_\_  
*DATE format is DAY MONTH  
TIME is 24-hour LOCAL time  
(unless the served agency specifies UTC)*

## 4 - Message Number & Group Count

Precede “Message” Text (ten lines, 50 words)

50 words is a recommended count and by no means a hard limit

Plain language, no codes or jargon

## 5 - “Signature” line

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SIGNATURE: POSITION:

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*Name and title of the originating official  
is essential for message authentication*

## 6 - “Reply” Block

REPLY TO:

REPLY:

## 7 –“Reply Date/Time/Signature”

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DATE: TIME: SIGNATURE/POSITION:

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# Transmitting The Message Headers

- Precedence, if any, goes after the message number • After sending the line say “Break for text, OVER” • If the receiving station requires a “fill” on anything sent up to this point they use “SAY AGAIN” • Otherwise they simply say “GO...”

# Hints On Sending And Receiving The Text.

- Pause briefly after each line of five words
- Say “BREAK” after text and before sending SIGNATURE in case a fill is needed
- To request a “fill” say: “Say Again...”
- word before (or all before) ...
- word after (or all after) ...
- word (or all) between... and...

# The SIGNATURE

Identifies the ORIGINATOR of the message

In ROUTINE traffic the Originator is often the STATION OF ORIGIN

Operational (served agency) traffic usually has a third-party signature, such as:

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SIGNATURE:

Captain Bill Bennett

POSITION:

Incident Commander

TVF&R – Battalion 22

# When to use the Proword “I Spell”

- DO NOT automatically spell familiar words or acronyms like “EOC” or “RACES” unless operating conditions are poor enough that it is needed
- Necessary for proper names (there is no “common spelling” on emergency nets): “Jones, I spell JULIET OSCAR NOVEMBER ECHO SIERRA”
- • To clarify homonyms, words which sound alike, but have different meanings, such as : “To, I spell TANGO OSCAR

- Use “I Spell” when WORDS are used as PUNCTUATION
- “PERIOD ” Ends a sentence. NOT spelled out when sending unless conditions are weak readable and require “fills.” readable
- “DOT, I spell Delta Oscar Tango” for a single period within a text group (email address). Don’t use to end a sentence, use PERIOD!

- “DECIMAL, I spell ...” used in figure groups only, (such as radio frequencies sent in a message text)
- “DASH, I spell DELTA ALPHA SIERRA HOTEL” for a hyphen
- “ATSIGN, I spell ALPHA TANGO SIERRA INDIA GOLF NOVEMBER” for symbol “@”

# Message Text Quality Control

- Formal “Record” messages always should be CLEAR and SUCCINCT.
- Written so that their meaning cannot be misinterpreted or read in more than one way. Write out the message in full, using plain text only.
- If a telephone number is given in the message TEXT, it is sent as three groups: Area Code, Exchange and 4-digit number.

# What About National Traffic System ARL Numbered Radiograms ?

- ICS & RACES don't use ARL numbered radiograms!
- – But you should still know what they are... in case you RECEIVE one.
- – They may be used in response to Red Cross DWI (Disaster Welfare Inquiry).
- – IF sent an ARL numbered radiogram the “number” is SPELLED OUT! • NO Health & Welfare traffic on OPNETS – take to a traffic net.
- – W is an ARES task with Red Cross

# Sample Radiogram form



THE AMERICAN RADIO RELAY LEAGUE  
**RADIOGRAM**  
 VIA AMATEUR RADIO



NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE

TO \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 TELEPHONE NUMBER \_\_\_\_\_

THIS RADIO MESSAGE WAS RECEIVED AT  
 AMATEUR STATION \_\_\_\_\_ PHONE \_\_\_\_\_  
 NAME \_\_\_\_\_  
 STREET ADDRESS \_\_\_\_\_  
 CITY, STATE, ZIP \_\_\_\_\_


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 ARRL HEADQUARTERS, 225 MAIN STREET, NEWINGTON, CT 06111

THE AMERICAN RADIO RELAY LEAGUE, INC. IS THE NATIONAL MEMBERSHIP SOCIETY OF LICENSED RADIO AMATEURS AND THE PUBLISHER OF QST MAGAZINE. ONE OF ITS FUNCTIONS IS PROMOTION OF PUBLIC SERVICE COMMUNICATION AMONG AMATEUR OPERATORS. TO THAT END, THE LEAGUE HAS ORGANIZED THE NATIONAL TRAFFIC SYSTEM FOR DAILY NATIONWIDE MESSAGE HANDLING.

# NTS / ICS Training Notes

- In ARRL-NTS practice, its considered unnecessary to say the line headers
- NTS operators use “Initial X-Ray” to indicate the end of sentence
- But in ICS we use the headers because the receiving station may be unfamiliar with the ICS receiving station may be unfamiliar with the ICS message message form

- RACES / ICS stations use “PERIOD” to end a sentence for simplicity and clarity with our served sentence for simplicity and clarity with our served agencies.

# Operator Notes

- Don't give "op notes" while sending text
- Op notes, if needed, are given AFTER the signature and BEFORE saying "Break" upon completion of the message.
- Give Op notes at the same time you provide any "fills" requested by the receiving station of missed groups. If no fills are needed, give the Op Note before telling the receiving station how many listed messages remain to be sent.

# To Acknowledge Receiving Traffic

- If you do not require any fills acknowledge receipt to the relaying station, simply say:
- “ ROGER Number , OVER”
- For example: “TVF&R, Roger Number 6711, over. WC7EOC”

# When You Are Done With This Message

- If the traffic just sent is the only message or last message you have to send, then say: “END, no more, Over”
- If you have one or more messages to send, you say: “Break, More to Follow, Over”

# Privacy And Professionalism

- EmComm personnel must NOT discuss disaster information when media is nearby
- Names are not used in messages except to identify the agency contacts
- Refer media requests to the agency's Public Information Officer

# Now on to the net

- NET Control Start the net and take check ins
- NCS pick a station to originate a ICS-213 and pass it to another net station.
- NCS pick a station to originate a Radiogram and pass it to another net station.

# Note to the net participants

- Don't worry if you have been chosen to originate a message, this is a training net and the best way to get training is trying.