



Message Handling & Net Protocol Workshop

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What we'll cover today

- Net Protocols
- Message Handling
 - General guidelines
 - ICS-213
 - Radiogram
 - Digital Messaging
 - ICS-309 Communications Log



Net Protocols



Nets

- Controlled net
 - A means of ensuring orderly use of limited frequency resources to conduct communications for a scheduled event or during an emergency
- Net control station (NCS)
 - The person charged with control of information flow on the frequency used by a controlled net
 - Controls information flow, not the event!



Participating in a Net

- Brevity and Clarity
 - Keep transmissions short and to the point
- Do not editorialize
- Listen, listen, listen!
 - Twice as much as you speak
- Use standard phonetics & prowords
 - Q Signals are for CW



Participating in a Net

- Follow the NCS's instructions
- Respond promptly when called
- Notify the NCS if you need to be away from your radio for any length of time



Types of Nets

- Resource nets--NCS, to acquire volunteers, make work assignments
- Tactical nets--NCS, tactical call signs, traffic for the event only
- Traffic nets--NCS, to pass formal written traffic, multiple frequencies



Tactical Callsigns

- Used to identify a location regardless of who is operating there
- Allows you to contact a location without knowing the FCC call of the operator
- Eliminates confusion at shift changes
- Speeds operation
- Use for all emergency nets once there are more than three participants



Tactical Callsigns

- Use for public service nets if there is more than minimal traffic
- NCS will assign
- Identification with FCC callsigns still required
 - At the end of an exchange
 - Every 10 minutes during longer exchanges (rare)
 - Don't over identify!



Tactical Callsign Examples

- NET -- for NCS
- FIRE-1 -- for a fixed fire-fighting location
- CHECK-POINT-1 -- for the first check point in a public service event
- AID-3 -- for the third aid station on a route
- THIRD-AND-MARKET -- for a street location
- EAST BRADFORD-NORTH-1 -- for the first location in the northern part of a municipality.



Initiating a Call

- Good: *"NET, AID-3"*
- Better: *"AID-3"*
- With traffic: *"AID-3, emergency traffic"* or *"AID-3, priority traffic"*
- With traffic for another location: *"AID-3, traffic for CHECK-POINT-5"*



Completing a Call

- Good: "AID-3, WB3GCK" (no 'clear,' 'out,' or other pro-word)



Leaving a Net

- If the NCS has given directions to secure your location, ID with your FCC call, your tactical call, and “CLOSED.”
- If you are securing on orders of an agency authority, ID with your FCC call, your tactical call, and the phrase “LOCATION CLOSED PER (name, their title, agency)”



Message Handling Basics



General Guidelines

- Our job is to relay formal messages from one location to another exactly as written
 - Don't abbreviate or rephrase
 - Messages are sent as received even if they appear to have errors
 - We don't have to understand the meaning of the message
 - The recipient should receive what was originally written



General Guidelines

- Amateur radio ops will not usually originate formal message traffic
 - We are servants of the incident not owners



General Guidelines

- Accuracy is more important than speed
 - Dictating the message verrrry slowwwly reduces the number of fills needed
 - Sending slowly actually increases message throughput
 - Remember that the operator on the other end is copying by hand
 - If the sending speed seems unnaturally slow and awkward, you are probably at the right speed!



Prowords

- When sending, use standard prowords:
 - I SPELL, indicating that you are about to spell a word using standard ITU phonetics
 - FIGURES to indicate that one or more numerals will follow
 - LETTER_GROUP to indicate that a group of letters will be spelled phonetically
 - MIXED_GROUP to indicate that a group consisting of both letters and numerals will follow
 - INITIAL to indicate that a single letter will follow phonetically



Prowords

- When sending, use standard prowords:
 - Amateur callsigns can either be sent using the proword MIXED_GROUP or by prefacing it with AMATEUR_CALL



ICS-213 Message Form

GENERAL MESSAGE		
TO:		POSITION:
FROM:		POSITION:
SUBJECT:	DATE:	TIME:
MESSAGE:		
SIGNATURE:		POSITION:
REPLY:		
DATE:	TIME:	SIGNATURE/POSITION:

ICS 213 NFES 1336

- Originally designed as a multi-part self-copying form for use as an interoffice memo
- NIMS & ICS standard
- Now increasingly used for messages between parties who are not in the same location
- Has some shortcomings, when used for radio communications



Anatomy of an ICS-213 Message

Full name of the recipient

Full name of the sender

The subject should be a concise summary of what the message is about

Signature of the official who is authorizing the release of this message.

Local time in 24-hour format.
(Ex.: 1932)

The date format is MONTH
DAY
(Ex.: December 23)

GENERAL MESSAGE		
TO:	POSITION:	
FROM:	POSITION:	
SUBJECT:	DATE:	TIME:
MESSAGE:		
<p>The message text goes here. Use plain language. Be concise and to-the-point.</p>		
SIGNATURE:	POSITION:	
REPLY:		
<p>The text of the reply message goes here.</p>		
DATE:	TIME:	SIGNATURE/POSITION:

Functional position or title of the recipient and sender. In an emergency setting, this will typically indicate an ICS functional position.

Local time in 24-hour format.
(Ex.: 1932)

The date format is: MONTH
DAY
(Ex.: December 23)

Functional position or title of the person authorizing the message. In an emergency setting, this will typically indicate an ICS functional position.

Signature and functional position of the person initiating the reply.



ICS-213 Message Example

GENERAL MESSAGE		
TO: Hal Fegley		POSITION: County Transportation Officer
FROM: Steven Jones		POSITION: Smithville EMC
SUBJECT: Transportation Requirements	DATE: January 14	TIME: 1917
MESSAGE:		
Transportation for 74 senior citizens required at the Pleasant Acres Retirement Home, 1456 Avenue Q, Smithville. On arrival, contact Ruth Baker, Facility Director, 610-447-9812. Please advise ETA.		
SIGNATURE: <i>Steven Jones</i>		POSITION: Smithville EMC
REPLY:		
DATE:	TIME:	SIGNATURE/POSITION:

Here's how the message to the left would be sent over a voice circuit...

W3XYZ , N3ABC ... ICS213 MESSAGE FOLLOWS...

To ... Hal I SPELL HOTEL ALPHA LIMA Fegley I SPELL FOXTROT ECHO GOLF LIMA ECHO YANKEE

Position ... County Transportation Officer

From ... Steven I SPELL SIERRA TANGO ECHO VICTOR ECHO NOVEMBER Jones

Position ... Smithville LETTER GROUP ECHO MIKE CHARLIE

Subject ... Transportation Requirements

Date ... January ONE FOUR TIME ... ONE NINE ONE SEVEN

TEXT FOLLOWS... Transportation for FIGURES SEVEN FOUR senior citizens required at the Pleasant Acres Retirement Home COMMA ... FIGURES ONE FOUR FIVE SIX Avenue INITIAL QUEBEC ... COMMA Smithville PERIOD

On arrival COMMA contact Ruth Baker COMMA Facility Directory COMMA ... FIGURES SIX ONE ZERO DASH FOUR FOUR SEVEN DASH NINE EIGHT ONE TWO ... PERIOD

Please advise LETTER GROUP ECHO TANGO ALPHA ... PERIOD

Signature Steven Jones ... Position Smithville LETTER GROUP ECHO MIKE CHARLIE

END ... NO MORE

W3XYX THIS IS N3ABC ... OVER

PRINTED IN USA



Elements of a Radiogram

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
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- Message Preamble - administrative details
 - MESSAGE NUMBER
 - PRECEDENCE
 - HANDLING INSTRUCTIONS (optional)
 - STATION OF ORIGIN (first ham to put into NTS format)
 - CHECK
 - PLACE OF ORIGIN
 - TIME FILED (optional - local time is used during most emergencies)
 - DATE

No Prepared Ham Should Copy Priority Traffic Delayed



Precedence

- EMERGENCY (Always spelled out)
 - Any message having life-or-death urgency during a declared emergency
- Priority (P)
 - Important messages having a time limit
 - Official messages not considered emergency
 - Emergency-related traffic not of the utmost urgency
 - Notice of death or injury in a disaster area



Precedence

- Welfare (W)
 - An inquiry as to health and welfare of someone in a disaster area
 - An advisory from a disaster area
 - Handled after all emergency and priority traffic is cleared
 - Red Cross calls it DWI (Disaster Welfare Inquiry)
- Routine (R)
 - Most traffic
 - Handled last, or when not all circuits are busy with higher-precedence traffic



Handling Instructions

HXA (number) - Collect landline within (number) miles

HXB (number) - Cancel if not delivered within (number) hours

HXC - Report date/time of delivery to originating station

HXD - Report to originating station.

- ID of station from which received, date, time.
- ID of station to which relayed, date, time.
- If delivered, date, time of delivery

HXE - Delivering station get reply from addressee, originate message. (Common during emergencies)

HXF (date) - Hold delivery until (date).

HXG - Delivery not required if expense involved.



Message Check

- After receiving, count the words and compare with the CHECK.
- Count only the words between BREAK
prowords in the format. Just the message text.
- Count whole words, letter groups, figure groups, mixed groups as one word.



Addressee

- To help facilitate delivery of the message to the final recipient, include the following:
 - Full Name and title, if applicable
 - Full street address, including zip code
 - Telephone (this is how Radiograms are often delivered to the recipient)



Message Text

- Use proword “BREAK” before and after text
- Do not use punctuation
 - XRAY instead of period (not needed at the end of a message)
 - QUERY instead of question mark (always spell out)
- Usually 25 words or less



Signature

- The signature can take several forms
 - A single name
 - A full name and a title (especially for EmComm)
 - Something like “Mom and Dad”
 - Occasionally a return address and phone number
 - Whatever is needed to ensure that the recipient can identify the sender and that a reply message can be sent, if necessary



ARRL Numbered Radiograms

- Standardized list of often used phrases
- Example birthday greetings: ARL FORTY SIX
- The numbers are always spelled out
- When numbered radiograms are used, the letters ARL are placed in the check field of the preamble
- Convert (decode) to English for delivery



Numbered Radiogram Examples

Some examples:

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.

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

FIFTY Greetings by Amateur Radio

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

SIXTY FOUR Arrived safely at _____.

SIXTY EIGHT Sorry to hear you are ill. Best wishes for a speedy recovery.



Radiogram Example

NR 1 R W3QA ARL5 EAST BRADFORD PA DEC 25

JOHN DOE
164 EAST SIXTH AVE
SANTA CLARITA CA 91350
610-555-1313

ARL FIFTY ARL SIXTY ONE

LOR



Radiogram Example

NUMBER ONE ROUTINE WHISKEY THREE QUEBEC ALPHA ARL FIVE

EAST BRADFORD PENNSYLVANIA DECEMBER TWO FIVE

JOHN DOE I SPELL DELTA OSCAR ECHO

FIGURES ONE SIX FOUR EAST SIXTH AVENUE

SANTA CLARITA CALIFORNIA FIGURES NINE ONE THREE FIVE ZERO

PHONE FIGURES SIX ONE ZERO FIVE FIVE FIVE ONE THREE ONE THREE

BREAK

LETTER GROUP ALPHA ROMEO LIMA FIFTY – I SPELL FOXTROT INDIA FOXTROT TANGO

YANKEE – LETTER GROUP ALPHA ROMEO LIMA SIXTY - I SPELL SIERRA INDIA XRAY

TANGO YANKEE – ONE - I SPELL OSCAR NOVEMBER ECHO

BREAK

LOR I SPELL LIMA OSCAR ROMEO

END... NO MORE



Requesting & Handling Fills

- When requesting and providing message fills, the following prowords should be used:
 - SAY_AGAIN – meaning “please repeat”
 - I_SAY_AGAIN - meaning that a repeat of a word or phrase is about to be given



Requesting & Handling Fills

- The following prowords are used to indicate specific words or phrases in a message:
 - WORD_AFTER – to indicate the word that immediately followed a specific word
 - WORD_BEFORE – to indicate the word that immediately preceded a specific word
 - ALL_AFTER – to indicate everything that followed a specific word
 - ALL_BEFORE – to indicate everything that came before a specific word
 - BETWEEN – to indicated everything between two specific words



Requesting & Handling Fills

A typical exchange might handled like this:

W3EOC this is W3XYZ Say again word before dog OVER

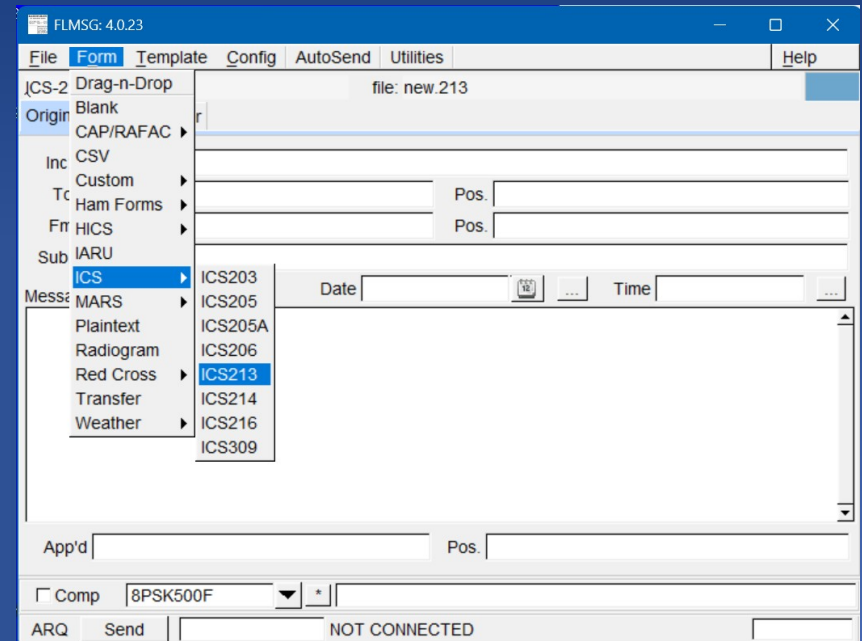
The response would be in the form of:

*W3XYZ this is W3EOC I say again word before dog...big, I spell
Bravo India Golf. OVER*



NBEMS Messaging

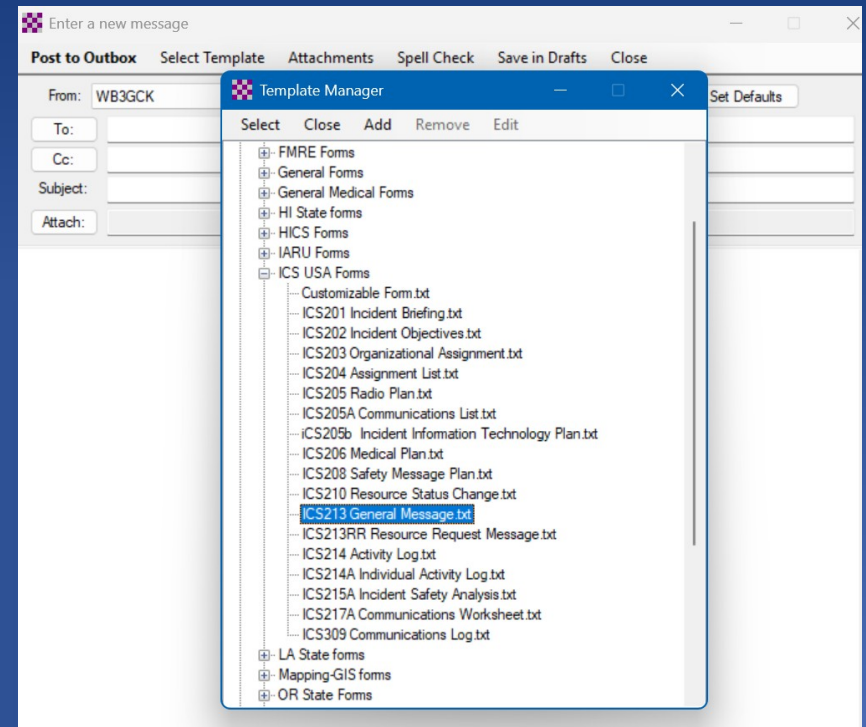
- Various forms available in flmsg
- Send via flmsg or
- Save as a file and send using flamp





Winlink Messaging

- Winlink Express offers numerous forms
- Create a new message
- Select the template
- Edit in browser





Winlink Messaging (Cont'd)

- After editing message:
 - Click submit (at bottom) to populate the message form
 - Or you can save message content as a text file

7. Message:

Be Brief and Concise

8. Approved by: 8b. Position / Title:

Optional Location Coordinates

Latitude Longitude MGRS Grid

LAT/LON and MGRS default to the center of the grid square listed in Express Settings, unless a GPS is used or Lat/LON or MGRS are entered manually.
For Winlink mapping and CSV export you must enter a latitude and longitude.

Ver 43.48



Month Day Year

**Name of the incident
(or drill)**

Tactical callsign of your station

The “Subject” field should include (as best you can):

- 1) Subject (brief)**
- 2) Date & time message was originated (i.e., Date/Time from the ICS-213 form or from the radio email msg.)**

3) Originator

[illegible]



Service Cross

RADIOGRAM

128 TEST P HXE J3IVN ARL17 ST GEORGES GRENADA 1321Z SEP 13

DR SIMON GRETZKY
300 PARNASSUS AVE
SAN FRANCISCO CA 94117
415 555 6100 X 43

TEST MESSAGE X ARL FOURTEEN
HURRICANE X ARL TWENTY FOUR
X CONTACT STATE DEPARTMENT AND
ADVISE URGENT

ROGER CALLAS J3IVN 14295 KHZ

TIME	TO R <input type="checkbox"/> TO O <input checked="" type="checkbox"/>	DATE
0255 Z		SEP 14
FREQUENCY	STATION	
3981	KA7FDD	
DT.		

- Has its origins in military comm
- Used to annotate:
 - Time of receipt/delivery
 - Date of receipt/delivery
 - Frequency or comm circuit used
 - Station that you received it from or sent it to



CCAR Weekly Net

- Always looking for NCS ops and Drill Traffic Handlers
- Great way to build your skills in a low-stress, supportive environment
- Contact CCAR Voice Net Manager to volunteer (WB3GCK@ARRL.NET)

CCAR Needs You!

