



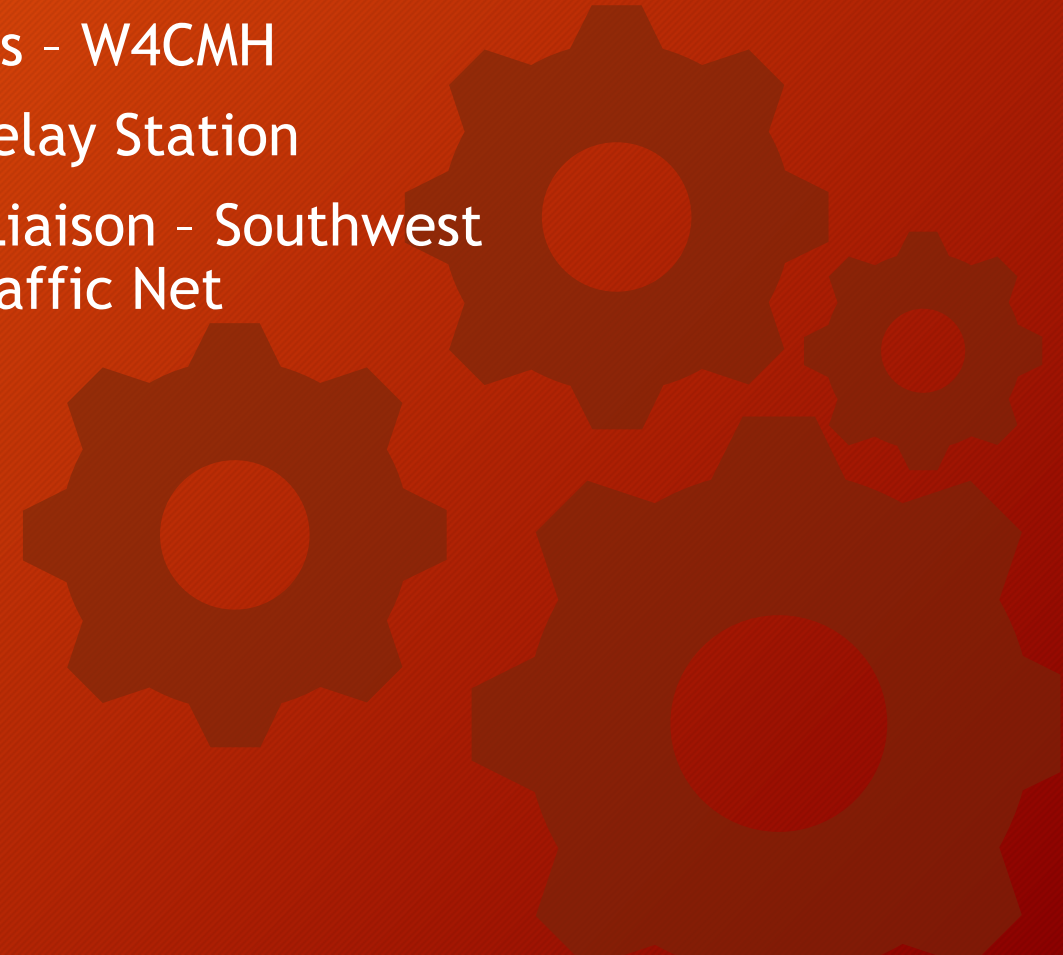
Introduction to Traffic Handling

Created and Presented by
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Introduction

- Dave Shepperd - W2PAX
 - ARRL Southern Florida Section Traffic Manager
 - Tropical FAST Net Traffic Manager
 - Southwest Florida Traffic Manager
 - NCS and Liaison - Southwest Florida Traffic Net
 - Digital Traffic Network - Station
- John Wells - W4CMH
 - Official Relay Station
 - NCS and Liaison - Southwest Florida Traffic Net



TOPICS

- NTS (National Traffic System) Overview
- Radiograms - creating, sending, receiving, and delivering

What Is The National Traffic System (NTS)?

- The NTS is a field organization of the American Radio Relay League (ARRL®), the National Association for Amateur Radio™.
- ARRL was formed in 1914 to pass written personal messages around the United States, although its mission has expanded greatly over the years.
- Messages are sent in the standard ARRL Radiogram format, and relayed from Amateur Radio operator to another through a series of formal networks that include modes such as CW, SSB, Phone, Digital (Pactor and Winlink), etc.
- The message is ultimately delivered to the addressee in about 24 to 36 hours by an NTS operator who lives close to the recipient, either by telephone, email, mail, or hand delivery (this is uncommon today).

Who Are The Players?

- Net Manager
- Net Control Station
- Liaison or Representative
- Official Relay Station
- Net Stations (Check-ins)

Net Manager

- Appointed by the ARRL Section Manager (SM) to coordinate and supervise traffic handling activities in the section.
- A local Net Manager is appointed by the ARRL SM with the input of the Section Net Manager.
- The Southwest Florida Traffic Net is managed locally and the Net Manager coordinates and supervises traffic handling activities in the local area.
- Net Managers also have the function of requiring that all traffic handled through an NTS net be in proper ARRL form.

Net Control Station

- Direct all activities and manage the sequence of traffic dispatching to achieve an efficient and orderly net
- The individual the net stations expect to take care of the business of controlling what they do
- Arbitrate the net's adaptation to unusual circumstances which might arise due to missing personnel or outlets, liaison needs, and the need to use other bands and/or modes
- Oversees emergencies of any sort and decides questions of routing, maintaining order and discipline, and set an example for the highest standards of operating practice

Liaison or Representative

- A net liaison (representative) station (designated beforehand by the net manager) receives and sends all traffic coming to and from the net
- Checks-in on each assigned net at the designated time and frequency

Official Relay Station (ORS)

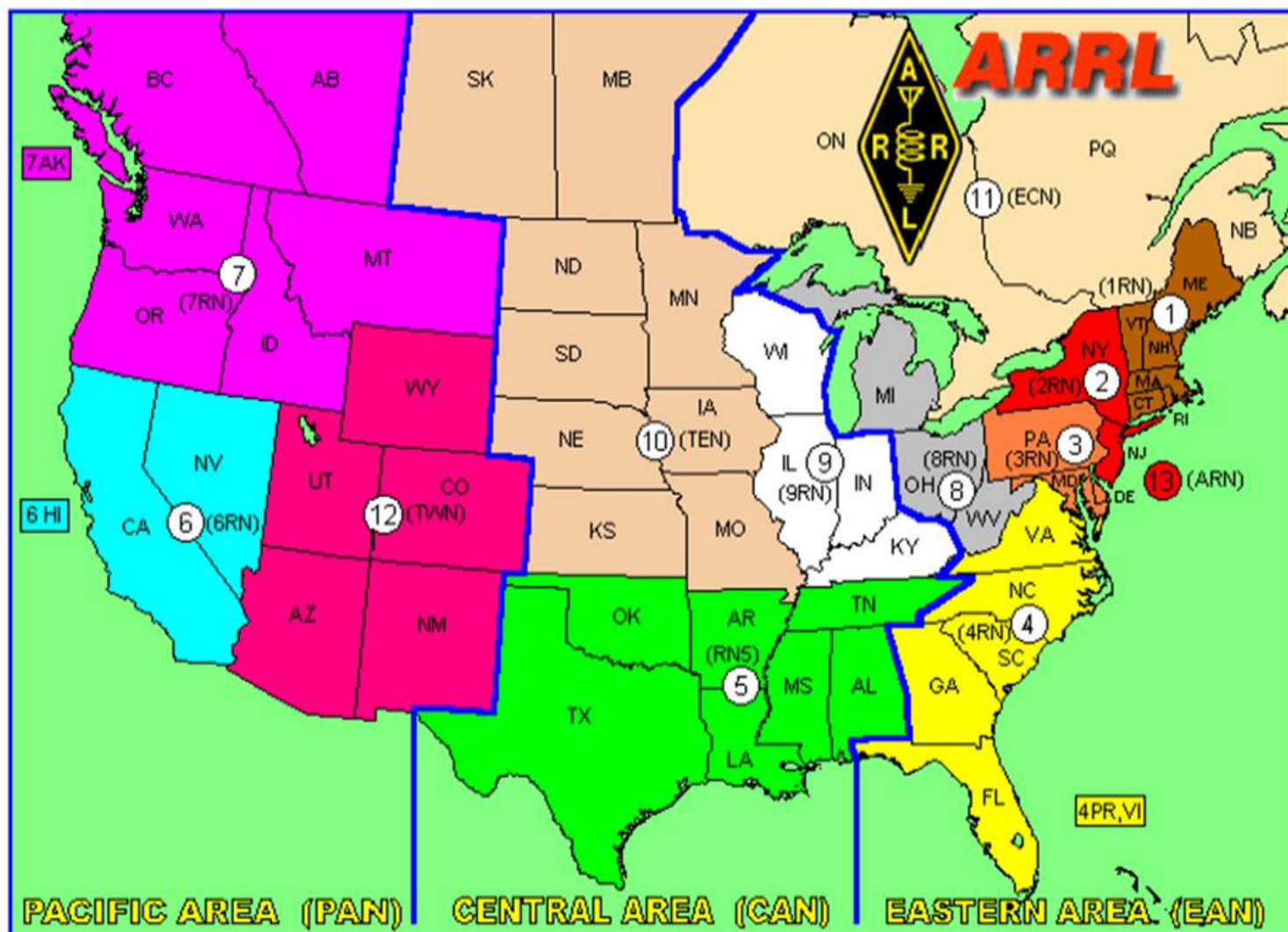
- Traffic-handling appointment
- Skilled operator with traffic know-how who has an enhanced ability and the readiness to function in the community interest in case of emergency
- Follows standard ARRL operating practices
- Regularly participates in traffic activities
- Can handle all message communications speedily and reliably and set the example in efficient operating procedures

Net Stations (Check-ins)

- Listen to the NCS to understand when they are asked to respond
- Check-in to a net when asked to do so
- When checking into a net, give your call sign, name and whether you have traffic or not
- Receive any incoming messages when the recipient is not present and deliver to the appropriate individual
- Bring messages to the net to exercise the NTS

NTS Hierarchy

- The United States and Canada are organized into Area, Region, Section, and Local Nets
- There are 3 Areas - Eastern, Central, and Pacific
- There are 12 Regions
- There are many Section and Local Nets



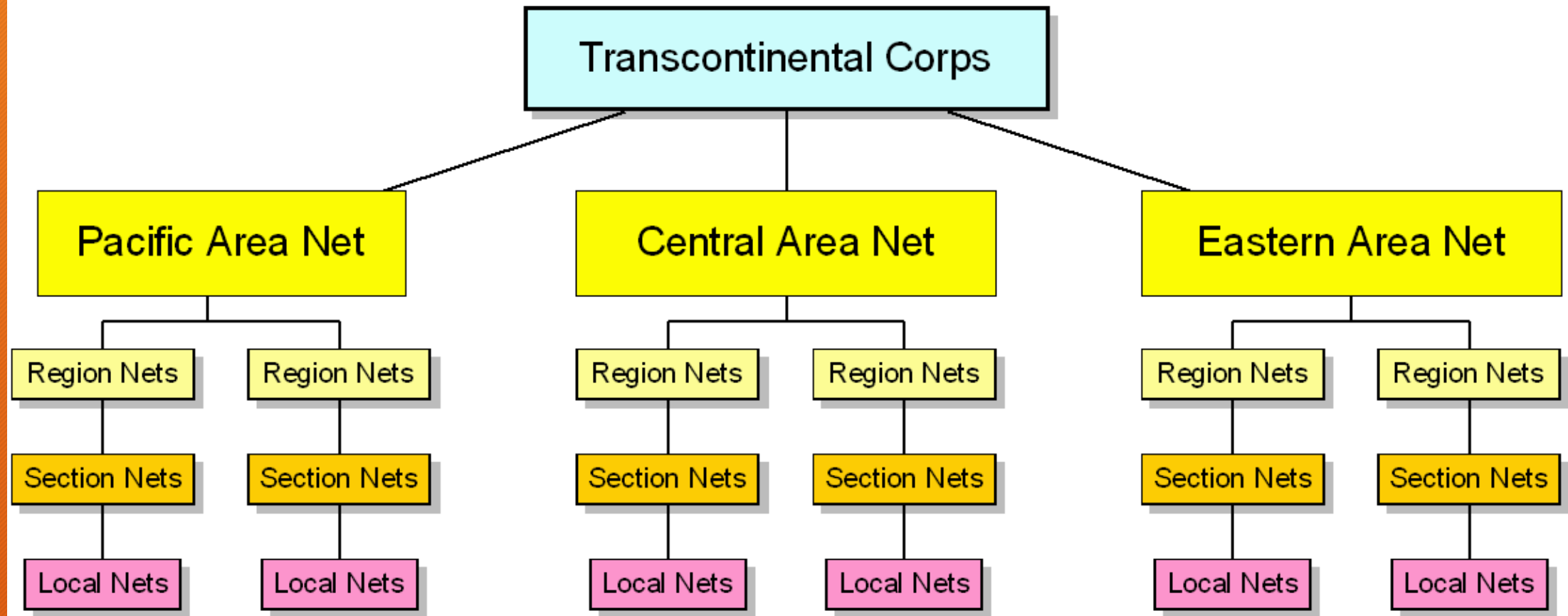
Each Section typically has one or more Section nets.

NTS MANUAL NET AND NTSD REGIONS

7 Regions, Region nets.

The Trans-Continental Corps carries traffic between Areas, east and west bound. Assigned liaisons carry traffic between Local, Section, Region, and Area manual nets. The NTS meets in up to 4 cycles per day or may be called up continuously. See the ARRL Net Directory for NTS net listings. Note that Region numbers do not always agree with call sign districts. The NTSD operates in parallel with the NTS, relaying traffic via HF between Area, Region, and Section MBO stations where DRS stations may download it for insertion into Section or Local nets. All NTS and NTSD stations may also operate in the Radio-email system which covers the entire U.S. using packet and HF Gateways. NTSD Area and Region MBO operators also can accept bulk transfers of Radiogram traffic carried by Radio-email in the Batch File format, and can forward the traffic via the MBOs, WL2K, or peer-to-peer. The NTSD can also handle Radio-email messaging, peer-to-peer, nationally.

ARRL National Traffic System (Manual Nets)

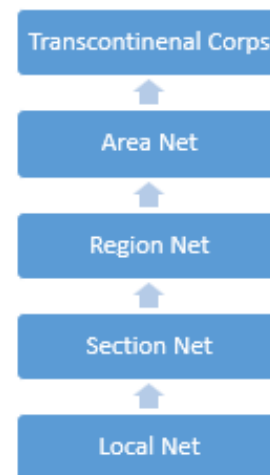


While there are only three Area Nets, there are many more Region, Section and Local nets than we could show here due to space limitations.

Traffic Flow From SWFTN

National Traffic System (NTS)

Traffic Flowchart



NTS Net Progression from Southwest Florida

<u>Net Name (Phone Only)</u>	<u>Frequency</u>	<u>Days</u>	<u>Local Time</u>
<u>AREA NET</u>			
Eastern Area Net	7.243/7.222	Daily	2:30 PM(S)/3:30 PM(W)
<u>REGION NET</u>			
Fourth Region (Daytime)	7.226	Daily	1:30 PM(S)/2:30 PM(W)
<u>SECTION NET</u>			
Florida Phone Traffic Net	3.940/7.240	Daily	7:00 AM
Tropical FAST Traffic Net	3.940(W)/7.238(S)	Daily	6:00 PM
Skywarn Net (West Central FL)	3.911/7.281	As Needed	When Activated
<u>LOCAL NET</u>			
Southwest Florida Traffic Net	146.820/145.170	Mon-Sat	10:00 AM

NOTE: (W) = Winter and (S) = Summer

What Are Radiograms?


- It is a standard ARRL message format that is used to send written amateur radio messages throughout the National Traffic System.
- The format is standardized to provide a uniform means of originating, handling, and tracking messages.
- There are four main sections:
 - 1. PREAMBLE: Information to track the message
 - 2. ADDRESS: Name and address of the intended recipient
 - 3. TEXT: The message information
 - 4. SIGNATURE: The party for whom the message was originated (with optional reply “Op Note”).

Create a Radiogram

- Using a blank Radiogram, create a message for the partner next to you in class and he/she should do the same for you
- The subject of the message may be anything that they wish, such as a birthday message, holiday message, etc.
- This type of message is known as a third-party (Originated) message and has nothing to do with Third Party Country Agreement
- This activity will give you a chance to evaluate your understanding of the Radiogram format before we cover the information in more detail
- Keep the Radiogram and reference it as we progress through the course

ARRL Radiogram Form

- Preamble:** Message number, precedence, HX (optional handling code), station of origin, check (text word count), place of origin, time filed (optional), and date.
- Addressee:** Name, call sign (if a ham), full street address, city, 2-letter state abbreviation, zip code (very important) & telephone (be sure to include area code). An email address may be included as well.
- This Radio Message was received at:** Station identification and location.
- Text:** 25 words maximum, 5 per line; Use the word “xray” for a break in thought and “query” for a question mark (?). Last word in salutation (e.g., “73”, “Love”, etc.)
- Signature:** (Write-in above REC'D block) Name & call sign of person who wrote the message - include full phone number if not a Ham or if new to NTS.



The American Radio Relay League
RADIOGRAM
Via Amateur Radio

Number 704	Precedence R	HX C	Station of Origin N2GS	Check 14	Place of Origin CHESTER NJ	Time Filed 1830	Date JUL 2
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To:

JOE SMITH KC2XXY
1234 SECOND ST
SUMMIT, NJ 07901

This Radio Message was received at:
 Amateur Station _____ Date _____
 Name _____
 Street Address _____
 City, State, Zip _____

Telephone Number: **650-123-4567**

THIS	IS	THE	ARRL	RADIOGRAM
FORM	XRAY	DETAIL	TO	FOLLOW
XRAY	HAVE	FUN	73	

GREG SZPUNAR N2GS


REC'D	From	Date	Time	SENT	To	Date	Time
					Justin AK2US	7/2/03	2112 EDT

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.

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.

- REC'D & SENT:** Record the names and call sign of the person you rec'd the message from and/or sent/forwarded the message to, along with the date & time (EST/EDT or Z).

Radiogram Form Detail (1 of 6)



The American Radio Relay League
RADIOGRAM
Via Amateur Radio

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed	Date
704	R	C	N2GS	14	CHESTER NJ	1830	JUL 2

To:

Number

- Assigned by the message originator
- No standard way of numbering messages
- Consecutive (1, 2, 3..., starting over at the new year or monthly)
- Order by month & number (507 = 7th you originated in May; 11244 = 244th message you originated in November)

Precedence (Emergency, P, W, or R)

- Emergency (life or death urgency in a declared emergency) always spelled out
- P = Priority (official traffic in a declared emergency)
- W = Health & Welfare (used only in a declared emergency)
- R = Routine (everything else – most frequently used)

Radiogram Form Detail (2 of 6)



The American Radio Relay League
RADIOGRAM
Via Amateur Radio

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed	Date
704	R	C	N2GS	14	CHESTER NJ	1830	JUL 2

To:


Next Slide for more details about the NTS Handling Instructions

Radiogram Form Detail (2 of 6) Continued

(Optional) HX or Handling Code – A, B, C, D, E, F, G, I or R

- A Delivery by email and/or text message preferred.
- B Cancel message if not delivered within _____ hours of filing time; service originating station.
- C Delivering station report date and time of delivery (TOD) to originating station. If received directly on the air by the addressee, then the addressee is responsible for the reply.
- D All stations handling this message 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. During disasters or periods of high demand on circuit capacity, avoid using this instruction.
- E Delivering station get reply from addressee, originate message back. If received directly on the air by the addressee, then the addressee is responsible for the reply.
- F Hold delivery until _____ (date).
- G If postage or other expense involved, may cancel message and service originating station.
- I Please deliver as a radiogram-ICS-213 message.
- R Please confirm that the addressee has read the message and reply to originator. Reserved for Emergency, Priority and Certified precedence messages.
- T Special traffic test message, ID _____.

Radiogram Form Detail (3 of 6)



The American Radio Relay League
RADIOGRAM
Via Amateur Radio

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time Filed	Date
704	R	C	N2GS	14	CHESTER NJ	1830	JUL 2

To:

1. **Station of Origin:** Call sign of station who put the message into NTS format
2. **Check:** The word count in body text only (do not count the address or signature); precede with "ARL" if any of the ARL numbered texts are used (e.g., ARL 7).
3. **Place of Origin:** The city & state where the message was written.
4. **(Optional) Time Filed:** This is not used much... 24-hr format & time zone. Use only when time sensitive.
5. **Date:** Month (non-numeric – abbreviated) & day number message was created e.g., Sep 21).

Radiogram Form Detail (4 of 6)

To: JOE SMITH KC2XXY 1234 SECOND ST SUMMIT NJ 07901	This Radio Message was received at: Amateur Station _____ Date _____ Name _____ Street Address _____ City, State, Zip _____
Telephone Number: 650-123-4567	

To:

Name, call sign (if going to a license amateur), street address or P.O. Box, city, state (abbreviated) & zip code. Note: Digital and packet NTS messages are routed via zip code.

Telephone Number: (Email goes below the phone number if applicable)

Be sure to include the area code and double-check the number!!!

This Radio Message was received at:

Your station identification, date received, and your location. More received-from detail will go in the "REC'D" block after body text and signature. This block is only used if message is physically left at a location.

Radiogram Form Detail (5 of 6)

THIS	IS	THE	ARRL	RADIOGRAM	
FORM	XRAY	DETAIL	TO	FOLLOW	
XRAY	HAVE	FUN	73		
GREG SZPUNAR N2GS					
From	Date	Time	To	Date	Time

Text: 25 words maximum, 5 per line; Use “xray” for a change in subject and “query” for a question mark (?). There is no punctuation such as ., ?, :, !, etc. in the text.

Signature: There is no “Signature” field, just write-in below text; Name & call sign of author – include phone number if not a ham or if not known on an NTS net.

Radiogram Form Detail (6 of 6)

REC'D	From	Date	Time	SENT	To	Date	Time
					Austin AK2US	7/2/03	2112 EDT
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.				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.			

REC'D: Call sign from whom you received the message and date & time of receipt. Time may be either your local time (EST/EDT) or Zulu time. Make sure date agrees with time (Zulu is 5 hours ahead of EST – can cause date to roll forward).

SENT: Call sign you sent or passed the message to, or to whom you delivered it, with date & time. Also good to note delivery method for your own reference (i.e., via phone or left on Tom's voicemail). Always leave your call back number if message was left on voicemail!

Radiogram Tips

- Be concise and brief as possible
- Use ARL Numbered Texts whenever possible to reduce the amount of text that must be sent and copied
- Try to use common words, when possible, to limit confusion by the receiving station
- Keep your word count at 25 or less
- Only include the time in the preamble if necessary
- If using UTC time, verify that the date is correct
- If including a frequency in the text, do not put a (.) in the frequency: For example: 3.940 MHz should be written as 3940 KHZ or 3R940 - the "R" is a standard, recognized convention used to represent a decimal point in mixed figure groups.

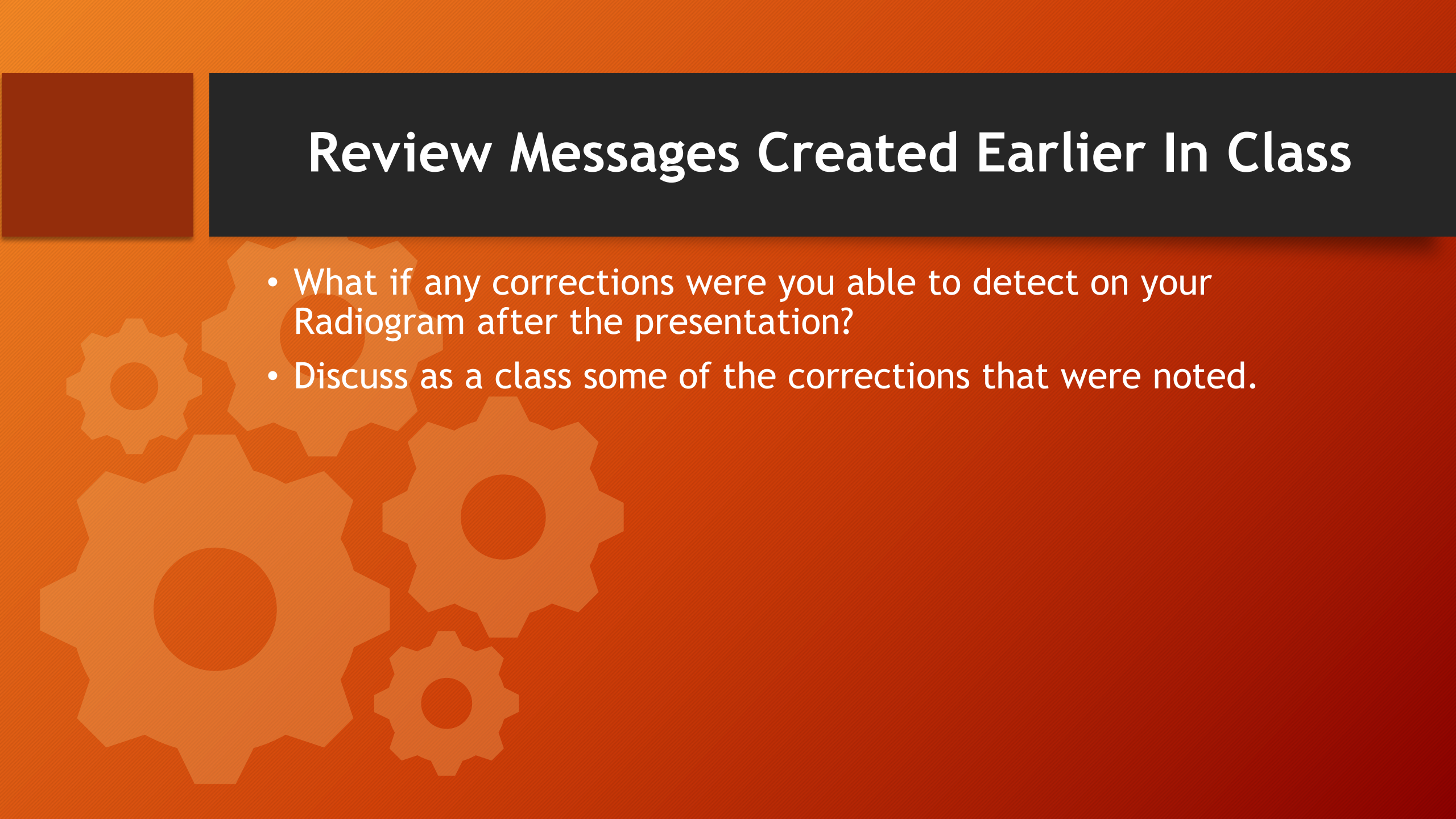
Delivering An NTS Message

- The preferred method of delivery is via telephone
- It is okay to leave the message on the answering machine if no answer via telephone
- If there is an email address, you can via email as well
- Always identify yourself as an Amateur Radio Operator
- Be ready to explain the NTS and if the sender wants to send a message back be ready to help them do that
- Send a service message back to the sender if the message cannot be delivered or it is requested by the sender

Tracking Messages and Activity For Your SAR

- Be sure to use some type of log sheet to track your message and net activity
- Report your activity to the Traffic Manager using a Station Activity Report (SAR)
- Remember that the message count will include the messages originated, received, sent and delivered
- By tracking this activity, you may find that you qualify for the Public Service Honor Roll (PSHR), so be sure to send a PSHR report to the Traffic Manager at the end of each month that you qualify

Review Messages Created Earlier In Class

- What if any corrections were you able to detect on your Radiogram after the presentation?
 - Discuss as a class some of the corrections that were noted.
- 

Radiogram Exercise

- Copy the Radiogram messages given by the instructor
- We will use it as an example of how to read a Radiogram properly to obtain an accurate and efficient transfer of the message



THE AMERICAN RADIO RELAY LEAGUE
RADIOGRAM
 VIA AMATEUR RADIO



NUMBER 202	PRECEDENCE R	HX C	STATION OF ORIGIN W4CMH	CHECK ARL 8	PLACE OF ORIGIN FORT MYERS, FL	TIME FILED	DATE NOV 3
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TO
 BILL JOHNSON - W8ABC
 1234 MAIN ST.
 ORIENT, OH 43146
 TELEPHONE NUMBER 555-123-4567

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

ARL	FIFTY	SIX	PROMOTION	X
ARL	FIFTY	SEVEN		
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

SIGNATURE: JOHN - W4CMH

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 0611

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.



THE AMERICAN RADIO RELAY LEAGUE
RADIOGRAM
 VIA AMATEUR RADIO



NUMBER 203	PRECEDENCE R	HX C	STATION OF ORIGIN W4CMH	CHECK 17	PLACE OF ORIGIN FORT MYERS, FL	TIME FILED	DATE NOV 3
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TO JAMES SMITH
 5678 E BROAD ST
 COLUMBUS, OHIO 43219
 TELEPHONE NUMBER 555-345-6789

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

I	WILL	BE	ARRIVING	ON
NOVEMBER	8	AT	0800L	AT
PORT	COLUMBUS	X	PLEASE	PICK
ME	UP			

SIGNATURE: JOHN W4CMH

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 0611

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Radiogram RF Exercise

- Create a Radiogram (Handout) to send via RF to a student in class
- Receive verbal approve of the Radiogram from an instructor
- Select a student in class to receive your Radiogram
- Select a simplex frequency on your HT (Low Power) and coordinate with your partner
- Send your Radiogram and your partner copies it
- Now your partner sends their Radiogram, and you copy it
- Compare the Radiograms for accuracy and to learn potential issues that could be encountered when sending them such as prowords, spelling, check, etc.

Additional Radiogram Resources

- ARRL NTS Website Page - <https://www.arrl.org/nts>
- ARRL NTS 2.0 Website - <https://nts2.arrl.org/>
- Radio Relay International (RRI) - <https://radiorelay.org/>
- Fort Myers Amateur Radio Club Southwest Florida Traffic Net Website Page - <https://fmarc.net/swftn/>

Questions



Resources Used

- ARRL Website
- NTS An Introduction PowerPoint by Greg Szpunar - N2GS and Dave Struebel - WB2FTX
- ARRL NTS 2.0 Website



The End