National Traffic System Overview

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Virginia Section Traffic Manager

Goals

Understanding of:

What NTS is, what it does, how it functions

The nexus between NTS & ARES

How to access, use, and participate in NTS

National Traffic System

- A network that allows for rapid movement of traffic—or Radiograms—from origin to destination mainly for Canada & US over RF
- Trains radio amateurs in relaying messages accurately, in a timely fashion & reinforces good on-air procedures
- Message relay and training form the basis of NTS
- Co-managed by ARRL and Radio Relay International (RRI)
- Public service per FCC Part 97 rules justifying ham radio's existence

How NTS Works

Traditional manual system

- Voice, CW modes
- Layered networks
- Time sequenced

Digital system

- Augments – but does not replace – the manual network
- Available 24/7
- Nodes
- Store and forward mailboxes (manual & automated)
- Protocols
  - Pactor
  - VARA HF

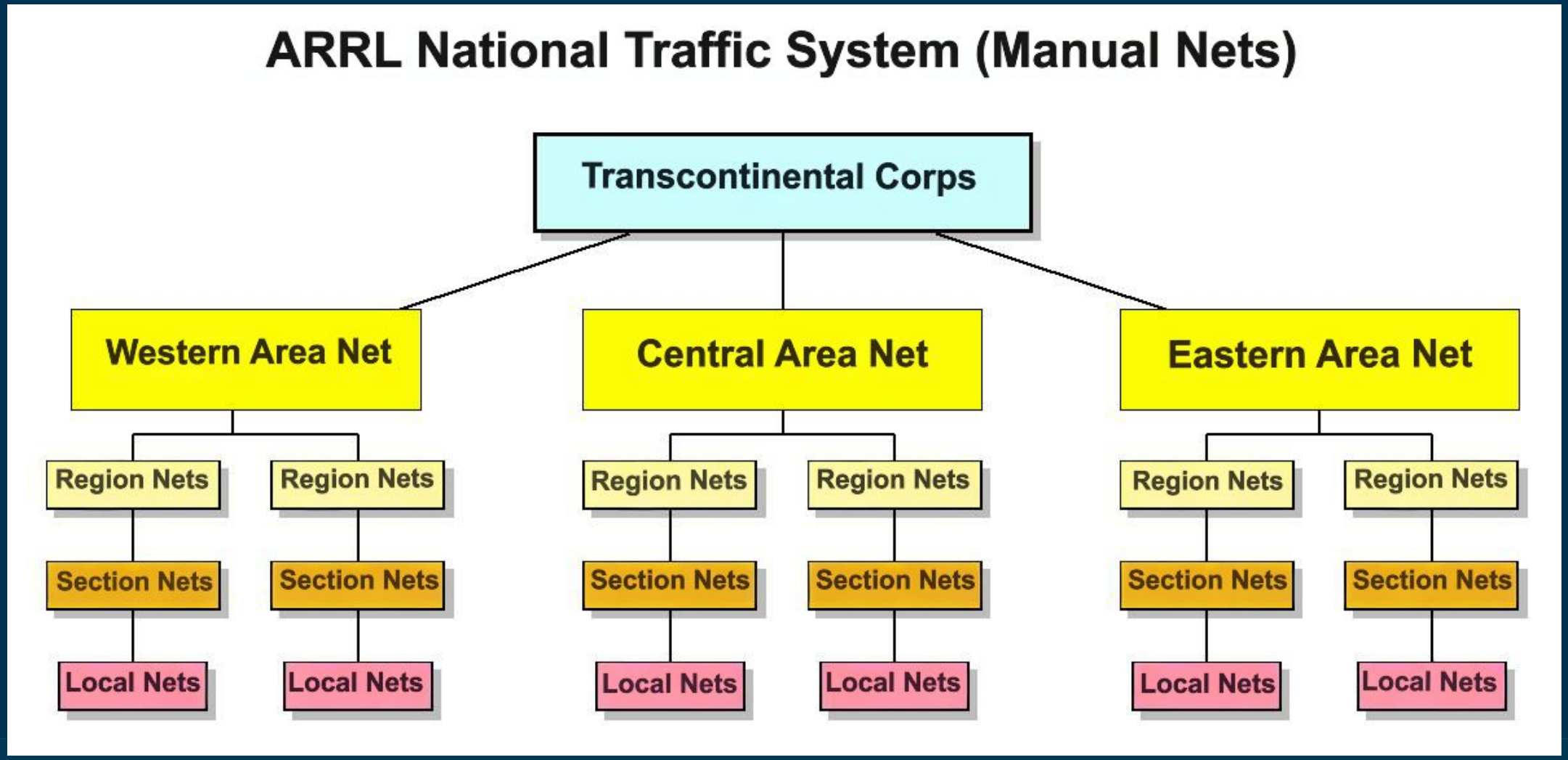
Interoperability requirements necessitate adherence to message formats

- Messages must be able to be relayed seamlessly between modes

NTS & ARES

- The ability to establish radio connectivity for EmComm is no longer enough these days.
- One must be able to *communicate* accurately and efficiently, keep a concise radio log, transcribe information without error, and perform the basic administrative functions required of a message center or EOC.
- Traffic nets are the only place where one can check into a net any day of the week at your convenience and practice sending and receiving messages using standard prowords, proper ITU phonetic alphabet, and concise procedures.
- Some dismiss traffic handling because they see the content of routine messages as “unimportant,” but they are missing the point. The real value proposition is in the practice of transmitting variable message content. Every address is different. Network management data varies from message to message. One must transmit the message at a pace that allows transcription by the receiving operator. Likewise, the receiving operator must be able to understand exactly what is being transmitted.
- Source: *James Wades, WB8SIW, RRI Board Chairman*

Net hierarchy



Net Cycle

Cycle One (if needed)	Cycle Two (All Areas)	Cycle Three (Eastern Area)	Cycle Four (All Areas – mostly CW)
10:00 am Section	1 pm Section	4 pm Section	7 pm Section
10:45 am Region	1:45 pm Region	4:45 Region	7:45 pm Region
11:30 am Region	2:30 pm Area	5:30 pm Area	8:30 pm Area
12:30 pm Region	3:30 pm Region	6:30 pm Region	9:30 pm Region
			10:00 pm Section

Virginia State/Section Nets

All nets meet daily

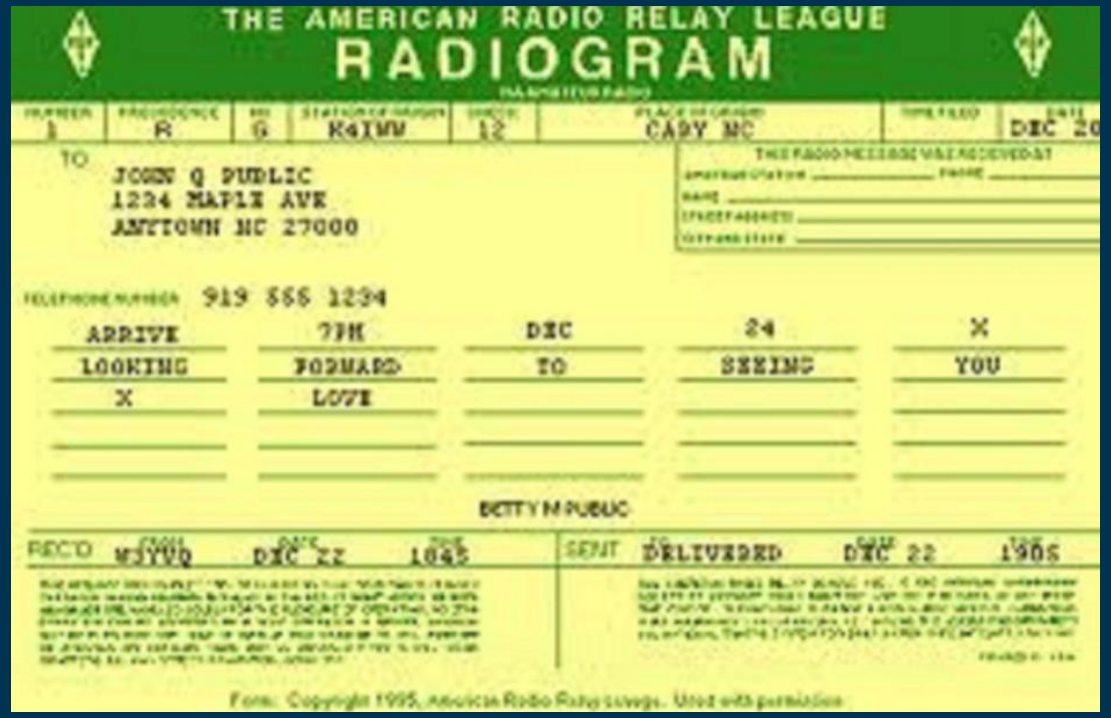
Net	Freq	Alt Freq	ET
Virginia Net (CW)	3553 kHz		19:00
Virginia Fone Net	3947 kHz		16:00 & 19:30
Virginia Sideband Net	3947 kHz	7240 kHz	18:00

Region & Area Nets Serving Virginia

All nets meet daily

Net	Freq	Alt Freq	EST	EDT
Fourth Region Net (CW)	3567 kHz	7117 kHz	19:45 & 21:30	19:45 & 21:30
Fourth Region Net (SSB)	7226 kHz		14:30	14:30
Eastern Area Net (SSB)	7243 kHz		14:30	15:15 M-W-F 15:30
Eastern Area Net (CW)	3552 kHz	7052 kHz in EDT	20:30	20:30

What is formal traffic



THE AMERICAN RADIO RELAY LEAGUE

RADIOGRAM

HAMS HELPING HAMS

NUMBER	PRECEDENCE	HX	STATION ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
1	R	6	K4IMV	12	CARY NC		DEC 20

TO

JOHN Q PUBLIC
1234 MAPLE AVE
ANYTOWN NC 27000

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

TELEPHONE NUMBER 919 555 1234

ARRIVE	73H	DEC	24	X
LOOKING	FORWARD	TO	SEEING	YOU
X	LOVE			

BETTY M PUBLIC

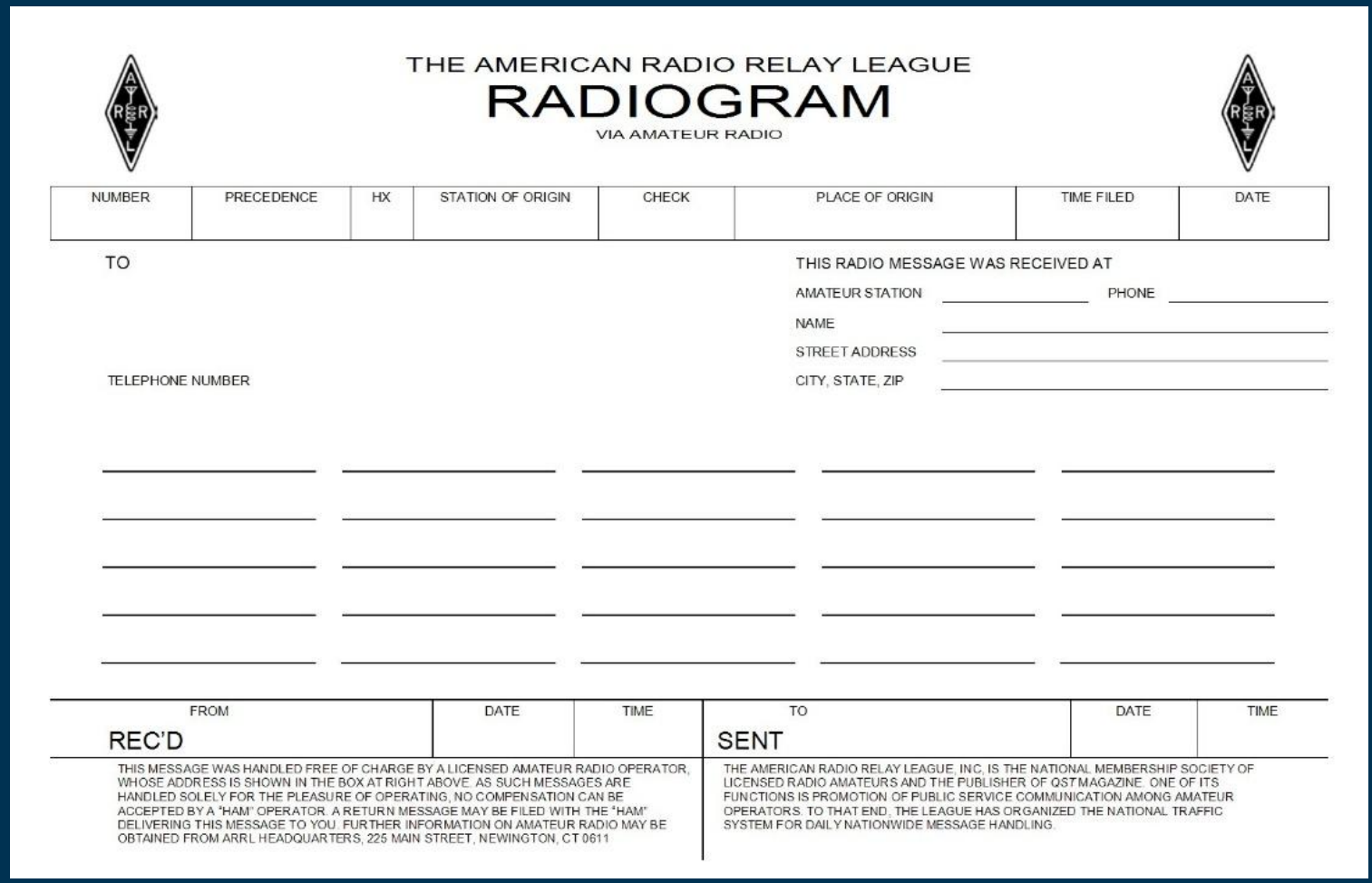
RECD	STATION	DATE	TIME	SENT	STATION	DATE	TIME
	W3YUQ	DEC 22	1845		DELIVERED	DEC 22	1905

Form: Copyright 1995, American Radio Relay League. Used with permission

- Messages sent and handled in a standardized, official format — the Radiogram — rather than casually or informally
- Follows the official ARRL Radiogram format with a structured preamble, addressee, body, and signature
- Numbered by the originator and not changed by any relay station
- Includes a precedence to indicate urgency or type
- May have handling instructions (HX)
- Handled by licensed amateur radio operators as part of their public service role

Traditional ARRL Radiogram

- **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).
- **This Radio Message was received at:** Station identification and location.
- **Text:** 25 words maximum, 5 per line; Use the word “xray” for a period (.) 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.
- **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).



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 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.

Precedence

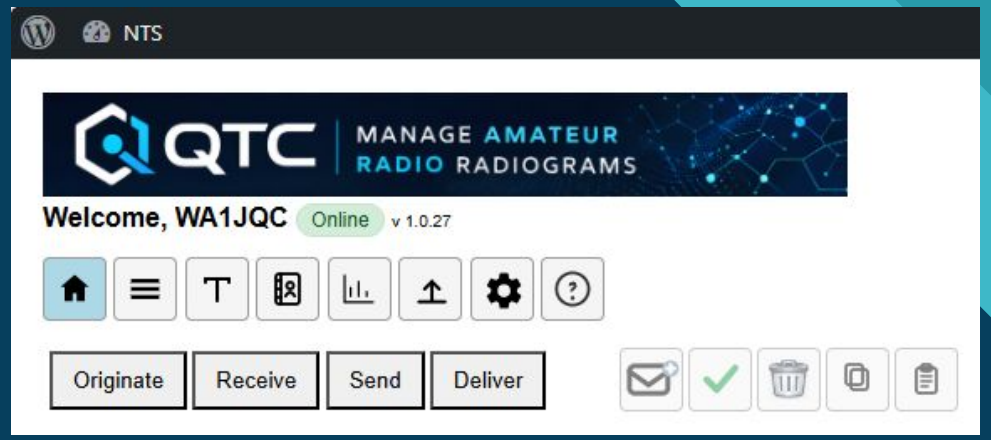
Emergency	Priority	Welfare	Certified	Routine
For life-or-death situations requiring immediate action. Rare in normal times; used for disaster relief requests, medical emergencies, or official welfare agency messages during emergencies	Important messages with a specific time limit. Includes official traffic not in the emergency category, press dispatches, and urgent but not life-threatening matters.	Inquiries about the health or welfare of individuals in disaster areas, or advisories that all is well. Routine	Ensure timely, accurate delivery of personal or unique organizational messages	Bulk traffic Most everything else

Traffic delivery and relay standards

Precedence	Transit Time	Relay Time
Emergency	30 minutes	30 minutes
Priority	3 hours	2 hours
Welfare	24 hours	24 hours
Certified	48 hours	48 hours
Routine	5 days	3 days

Resources

- ARRL
  - nts2.arrl.org
  - NTS Letter (monthly)
    - Log into ARRL website to sign up to receive this and other ARRL communications
  - Radiogram web portal for public use
  - QTC web-based app
  - Various fillable PDF Radiogram forms (online and download)
- RRI
  - radiorelay.org
  - QNI Newsletter (erratic publication schedule)
  - Good historical accounting of RRI's formation and NTC issues
  - Various fillable PDF Radiogram forms (online and download)



Training

- **Listening to nets**
- ARRL NTS 2.0 videos and guides
  - Getting Started In Traffic Handling
  - Traffic Handling 101 Series
    - The Basics – NTS Overview
    - Radiograms
    - Sending Traffic
    - APRS Gateway
- RRI Publications has many videos
  - Basic Radiotelephone Net Procedures
  - Basic Radiotelegraph (CW) Net Procedures
  - Recommendations for the Origination, Relay and Delivery of Radiogram-ICS213 Messages
- YouTube: many videos, but some are dated

ARRL's Virtual Training Net (monthly)

- **Zoom:** nts2.arrl.org/virtual-nts-training-net/
- **Wednesdays** @ 1900 ET
- **Week 1:** Passing traffic, NTS overview, radiogram form explanation, voicing and phonetics, and practice receiving messages. Homework in volves bringing a radiogram for the next session.
- **Week 2:** Handling submitted homework or real traffic, providing fills, ARL numbered messages, service messages, and health and welfare message handling.
- **Week 3:** Passing book traffic (basic to intermediate)
- **Week 4:** Traffic net operations and procedures, delivering messages by phone, and system reporting like SAR and Public Service Honor R oll (PSHR).
- Participants are expected to download and bring radiogram forms (printable or fillable PDF) to each session to practice message handling effectively

NTS Modernization

Improve delivery methods for radiograms, including digital and web-based tools

Expand outreach to the public and public agencies, many of which are unfamiliar with NTS

Address reliability concerns and reduce reliance on amateur-to-amateur traffic

Integrate modern communication formats like numbered texts, HX handling, and ICS-213 standards

Enhance training and documentation for operators

Expand wide-area communication services for ARES, SKYWARN, RACES, and served agencies

Beyond Radiograms

Move longer messages
Transfer files
Transfer audio and video

Recognition

- ARRL
  - Must be ARRL member in good standing
  - Local Net Certificate
  - Section Net Certificate
  - Official Relay Station Certificate
  - ARES Response Certificate
  - Challenge Coin
  - Net Manager Participation Certificate
  - Net Control Participation Certificate
  - Section Traffic Manager Certificate
  - Brass Pounders League Medallion
  - Official Relay Station Of the Year Certificate
  - Radiogram All States Certificate


Section Net

Certificate

This presented to

Name, Callsign

In appreciation of regular participation and for a high standard of performance.

Net Name

This net is affiliated with the ARRL National Traffic System® An integrated system dedicated to quick and efficient handling of message traffic on a systematic basis.

Date

Name, Callsign

Section Traffic Manager

Challenge

- Seeking to enhance statewide coverage on all VA traffic nets
- Check into at least one net, at least once a week
- Originate 2-3 Radiograms monthly
  - Via nets
  - Via WinLink
- Add NTS liaison to ARES nets

Questions?