

## 2025-02-11 Hamlet Net - NTS - National Traffic System

### Announcements:

- Test Session Info
  - Next VE session is Saturday, February 22nd in the Clover Building at the Boulder County Fairgrounds, and starts at 10 am. It is an ARRL session, so there is a \$15 fee to test. For more info, and to pre-register, see the Licensing/Testing page on the club web site, <https://w0eno.org/>, under the Education menu.
- The ISS will be running another SSTV event leading up to the FRAM2Ham event. The ISS will be transmitting from Feb 13th to 17th. Transmissions will occur on 437.500 MHz at a power of 5 watts using the PD120 SSTV mode.

PD120 transmissions are 2 minutes long, and will allow participants to practice their polarization and Doppler shift skills.

For more information on the event, see: <https://fram2ham.com/>

- Chuck has created a survey to gauge interest in participating in a 24 to 48 hour POTA Memorial Day weekend (May 23-26th) at Jackson Lake State Park. Each site will allow 6 people, so looking to get at least 3 tents per site. Will be interesting to hear what all Chuck has planned for this operating event.

If this sounds fun - even if the dates don't work out for you, please make your opinion heard at: <https://w0eno.org/24-48-hours-of-pota/>

- Upcoming Club Volunteer Opportunities:
  - LARCFest (April 5, 2025):  
[https://w0eno.org/other-clubs-and-radio-organizations/?sheet\\_id=15](https://w0eno.org/other-clubs-and-radio-organizations/?sheet_id=15) or contact Chuck at: [k0itp@w0eno.org](mailto:k0itp@w0eno.org)
  - Summer Field Day (June 28-29) -
  - HAMCON Colorado 2025 for Rocky Mountain Division is October 23-26, 2025 in Grand Junction. For more information and to register, see their web site at: [hamconcolorado.com](http://hamconcolorado.com)
- On this Saturday, February 15th, RMHAM-U is hosting their NerdFest, which is "An eclectic assortment of talks on topics of interest to hams." It will take place from 8:30 am to noon-ish.

You can attend live in Greenwood Village at the Cherry Creek Schools ESC. It's also being held on Zoom if you can't make it, and they usually record the sessions for later

viewing as well.

To sign up, go to the RMHAM web site at: <https://www.rmham.org/> and click on the "Sign Up for RMHAM University" link under the "RMHAM UNIVERSITY" menu item.

- If you are an ARRL member, remember that you have digital access to four magazines - QST, On the Air, QEX, and National Contest Journal.
- We have a new net on the LARC repeaters. It's run by Timothy Moss, KFØLAR, on the 22nd of every month at 6pm - that's this Sunday. The 22nd was chosen to highlight the average of 22 vets who commit suicide each day. While the purpose of the net is to connect veterans, non-vets are welcome to participate as most all of us have friends or family who are or have served.
- The ARRL Colorado Section Net occurs on the second Monday of the month from 7 to 8pm. The net is run by Amanda Alden, K1DDN, our Colorado ARRL section manager, and is open to hams and non-hams alike. This net is a place where Colorado hams can ask questions of ARRL leadership and request help, guidance, club support, and technical support. This net meets on the second Monday of each month at 7:00 pm Mountain time. The net is on the Colorado Connection, Rocky Mountain Ham Radio DMR Talk Group 700, The Fun Machine, WE0FUN, and the NCARC Buckhorn Repeater 447.700 – with 100 Hz tone.
- We have some volunteer opportunities available where you can help out LARC:
  - Photographer / videographer - record team activities and upload to web site / YouTube
  - Newsletter Editor - put together the monthly Splatter newsletter
  - Event Coordinator
- Time's up for this year, but you can earn your 2026 membership or future renewal by acting as NCS for at least 5 nets next year. You can run either this Tuesday night net or the Thursday night net (or both). We have scripts available for both, so all you need is a good connection into the repeater, and somewhere to keep track of names and call signs as people check in. If you're going to be on the net anyway, why not save some dough at the same time!
- Chuck has set a goal for the Club of running at least one activity a month. This can be a hands-on construction activity, an operating activity like Field Day, a fox hunt, or a special event station. The goal is to get people together to have fun with amateur radio! We have multiple locations at our disposal, as well as lots of Club equipment, so if you have an idea for something you think others hams would like to do, please let us know, and if you're willing to run it, even better!

- The Club is also looking for presentation topics for 2025. If you have any ideas, or better yet, would like to present, please let Chuck know and we'll get you on the schedule! We would like to get some presentations from club members on stuff they've been doing, projects they're working on, or just things that interest them.
- All club activities are open to anyone - members and non-members. If you have questions, ask them on a net or **send email to [elmer@w0eno.org](mailto:elmer@w0eno.org)**

**Presenter: Bryan, AF0W**

**Topic: National Traffic System**

- Also referred to by its initials, NTS, the National Traffic System is "an organized effort to handle traffic in accordance with a plan which is easily understood, and employs modern methods of network traffic handling."
- It is sponsored by the ARRL, consists of licensed amateur radio operators, and relays messages throughout the US and Canada
- Traffic passing using a formal relay system originates from the founding of the ARRL - the American Radio Relay League
- In this case, "traffic" means formal National Traffic System (NTS) messages
  - a. In fact, when I was first licensed, I saw a list of nets on the web somewhere, and figured that a "traffic net" would talk about road conditions. When I heard my first traffic net, I was confused listening to the net until I went to look it up on the Internet
- The proposal for today's NTS came from an article in ARRL's September 1949 QST
- This plan proposed covering the US and Canada with a uniform system of handling messages, and creating formal nets for doing so
- In this scheme, the US is divided into areas that approximate time zones across the US
- Areas are further divided into regions, and regions into sections, which correspond to single states
  - a. Colorado is in the Pacific area, region 12, Colorado section
- Each of these components has traffic nets for sending and receiving traffic
- At the lowest level are the local traffic nets

- Messages may be passed from local nets to section nets, to region nets, and then to area nets - depending on the location of the origination of the message and it's delivery point
- Message transmission may utilize many modes, such as voice, CW, and digital
- Digital messages may also make use of store-and-forward systems such as packet systems
- To make sure that the volunteers are ready and able to handle traffic properly, the ARRL National Traffic System routinely passes practice messages
- The exact same forms, procedures, and operations are used as would be used in an emergency situation so operators are able to maintain not only their skills, but also their stations and other equipment.
- If you've ever played the childhood game of telephone where one child whispers a message to a group of children who pass it from person to person, you know that it is easy for the final message to bear little resemblance to the original message.

The goal of the National Traffic System is to pass the message exactly as sent from the originator to destination, so while some of their procedures may seem like overkill, they are there for good reason.

- The local net volunteers handle the "first and last miles" of traffic delivery - either originating or delivering messages to or from individuals.
  - a. This was also confusing to me when I heard my first traffic net. I kept hearing net control ask for "stations able to handle traffic to Lyons" or to Westminster.
  - b. Nowadays, with cell phones, pretty much anyone can directly handle traffic to anywhere, but you have to keep in mind the purpose of maintaining the national traffic system is to allow delivery of messages in times of outages of traditional communications systems.
- When delivering a message to a recipient, the amateur operator can use a phone call, postcard, or even a personal visit.
  - a. One thing they have to keep in mind is that the majority of recipients won't have any idea of what they are talking about!
- Here in Colorado, we have an officially-recognized, daily VHF traffic net run by the Colorado Traffic Net or CTN
- The CTN was originally formed in 2014 when nine operators decided to form the Colorado Traffic League or CTL.

- The CTL was a club to support a new NTS-recognized state-wide traffic net.
- Shortly after the CTL adopted its constitution on September 11, 2014, the ARRL formally recognized the Colorado Traffic Net as an NTS net and appointed the first Net Manager.
- The Colorado Traffic Net is a directed net that utilizes repeaters on the Colorado Connection to run their daily traffic net between 7:00 and 7:25 pm local time
  - a. The closest Colorado Connection repeater is located on top of Mt. Thorodin and is accessible at 145.310 MHz with a negative 600 KHz offset and an 88.5 Hz PL tone.
  - b. When using the Colorado Connection, remember that it is a linked system covering almost the entire state of Colorado - you need to wait one or two seconds after pressing your PTT button before you start speaking
  - c. When you want to respond to someone on the system, you must allow enough time for all the repeater links to drop. After hearing the CW K (da-di-da) symbol, wait 3 to 4 seconds before making your transmission (explained here: <https://colcon.org/tour-5-system-culture/>)
- The Colorado Traffic League also runs a packet node on Saddleback Mountain, about 30 miles west of Denver. Formal NTS messages can be left on the CTL BBS on this node
  - a. The packet station is also a Winlink RMS server, and can accept traffic
- To get messages into and out of Colorado, the Colorado Traffic League also regularly participates in many HF nets, including the NTS 12th region net
- NTS messages are also used at public events such as Field Day and ham fests to introduce the idea of sending messages via radio in an emergency to other hams and the general public
- This may sometimes involve third-party traffic - that is, messages involving one or more non-licensed individuals
  - a. This include things like an unlicensed Field Day visitor sending a message to an unlicensed friend
- The messages themselves consist of a maximum of 25 words, which includes things like punctuation
  - a. Some items have specific formatting. For example, a 10-digit phone number is handled as three words. The first is the area code, the next is the following three numbers, and the third is the final four numbers.

- It must also include delivery information such as a street address and/or full telephone number. A signature is also included, which is a name so that the recipient knows who sent the message.
- Other routing information is added, such as a message number, precedence, handling instructions, and check, which is a count of words in the message
  - a. The precedence specifies the importance of the message. In descending order of importance, they are Emergency, Priority, Welfare and Routine. Emergency messages are "life and death," while "routine" are things like "Congratulations on passing your General licensing exam!"
  - b. The handling instructions allow the sender to specify things like canceling delivery after a certain number of hours, report date and time of delivery to originating station, or for the delivering station to get a reply.
- There is an ARRL radiogram form that is used to record messages. This form is also built into systems like Winlink to facilitate handling of messages.
- The limit of 25 words emphasizes the goal of the system, which is to quickly move important messages - brevity is emphasized as the system capacity will be strained in the event of an actual event
- To aid in this, there are a set of messages called ARL messages. They cover common messages, and allow for the inclusion of specific information.
  - a. For example, ARL message 1 is "Everyone safe here. Please don't worry." and consists of just two words
  - b. ARL message 53 is "Received your <blank>. It's appreciated, many thanks!" - you then include the specific item in the message body. If you want to thank someone for their gift, you would only need four words - "ARL fifty three gift"
- The ARRL has an ongoing project called NTS 2.0 where they hope to create a vision for the future of traffic handling, and a plan to get there
  - a. They are not planning to make major changes to the operation of the system but rather add new features such as a web page to allow the public to initiate NTS traffic, training programs both to assure served entities that traffic handlers are all trained to the same standard as well as to communicate the capabilities of the system to them, as well as to get new hams interested in traffic handling
- Any licensed amateur can participate in the National Traffic System - Colorado's net is accessible to anyone with a Technician license and a VHF radio.

- Take some time to listen to a net or two (you can even try the HF area nets) and see how they work.
- The local nets are generally looking for traffic to handle, as it is quite boring to repeatedly check into a net with no traffic, so if this sounds interesting, get on a traffic net and send some traffic!
  - a. You can even use APRS to send a radiogram!
- For more information, see the ARRL's NTS page at: <http://www.arrl.org/nts>

#### Questions:

- **The question for the week is:** Have you ever sent or received an NTS message?
- **In my case,** I've received one message which was sent to me when I received my first amateur radio license. It was left as a voice message on my house phone, which said it was originated by someone in Germany. I was not aware of what the NTS was at that time.

#### More Info:

- ARRL's NTS page: <http://www.arrl.org/nts>
- NTS 2.0: <https://nts2.arrl.org/>
- How to Send a Radiogram using APRS: <https://nts2.arrl.org/ntsgte-an-aprs-nts-gateway/>
- NTS (Wikipedia): [https://en.wikipedia.org/wiki/National\\_Traffic\\_System](https://en.wikipedia.org/wiki/National_Traffic_System)
- Colorado Traffic Net (CTN): <https://k0nts.org/>
- The Colorado Connection Repeaters: <https://colcon.org/repeaters/>
- Mission: Impossible's Theme Song Has a Secret Message: <https://collider.com/mission-impossible-theme-song-morse-code/>
- Rover Leaves Tracks in Morse Code: <https://www.jpl.nasa.gov/news/rover-leaves-tracks-in-morse-code>
- Colorado CERN Net: <https://co-cern.org/>

#### Notes:

- If you have ideas for net topics or general meeting topics / presenters, please let us know! Tell us on a net, or send email to [k0itp@w0eno.org](mailto:k0itp@w0eno.org)

Email to [elmer@w0eno.org](mailto:elmer@w0eno.org)

1. KØITP - Chuck - Firestone -

**End: 7:pm**