A Brief Introduction to the National Traffic System (NTS)

Colorado Traffic League

www.coloradotraffic.net

Leslie WA3QLW (net manager)
Zeke K0XK (president)
Dave KD8BQN (vice president)
Paul WAØYGQ (secretary)
Courtney KD0RNF (treasurer)

Based on a presentation by
Greg Szpunar, N2GS and Dave Struebel, WB2FTX

Outline

- What is the National Traffic System?
- Why do we need the NTS?
- NTS Hierarchy and modes
- The ARRL Radiogram Form
- ARL Abbreviated Texts
- How to Deliver an NTS Message
- NTS Digital
- How to participate
- Operating procedures

What is the National Traffic System (NTS)?

- A nationwide network of amateur operators cooperating to send messages by radio

- The "RELAY" in American Radio <u>Relay</u> League (ARRL)

- Started in 1915 as the formal ARRL system

- Transmit & Receive Modes: Voice, CW, Digital

- NTS and Amateur Radio Emergency Services (ARES)

- Requirements: <u>Any</u> <u>level</u> Ham license & interest

- ARRL Field Organization Appointments: Official Relay Station (ORS), Digital Relay Station (DRS) & Section Traffic Manager (STM).
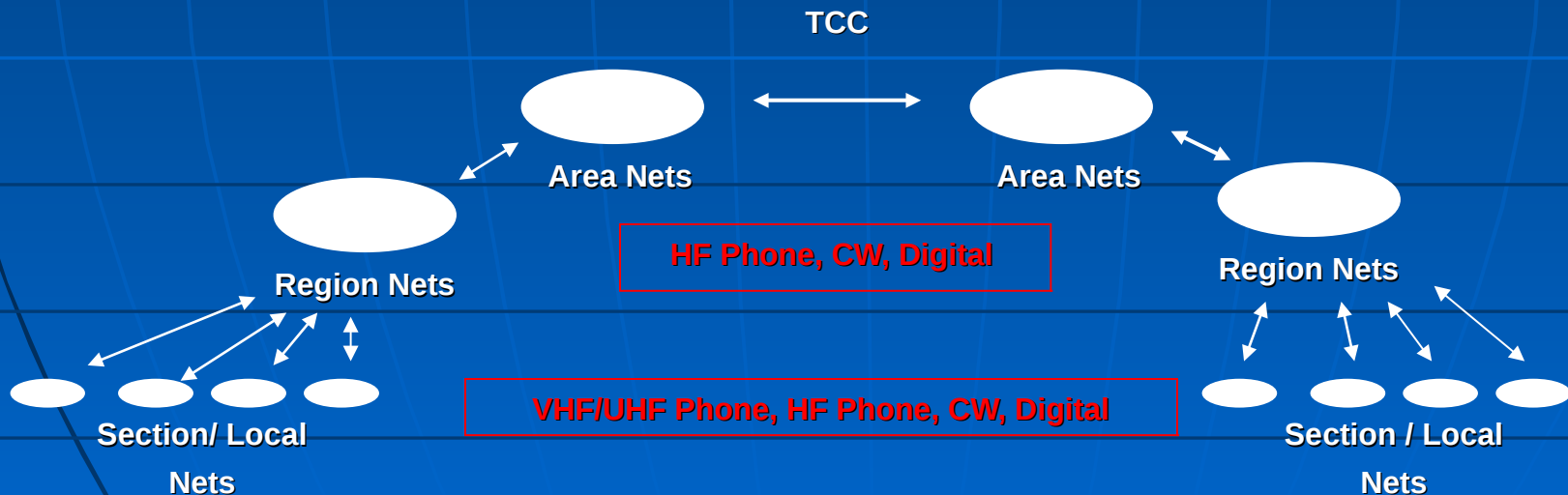
Why do we need the NTS?

- Uses amateur radio
  - Does not rely on infrastructure that might be unavailable after a disaster
  - ***When all else fails...***
- Requires experienced operators
  - Accuracy
  - Efficiency
  - Accountability
- Fun, good practice & helpful!
  - Good operating procedure takes practice and is a source of pride

NTS Hierarchy and Modes

- US and Canada organized into Area, Region, and Local Nets
  - 3 Areas
  - 12 Regions
- Traffic Flow:

TCC

Area Nets

Area Nets

Region Nets

Region Nets

HF Phone, CW, Digital

VHF/UHF Phone, HF Phone, CW, Digital

Section/ Local
Nets

Section / Local
Nets

NTS Areas

Colorado is in the 12th Region and Pacific Area

PAN

CAN

EAN

The NTS Radiogram Form

- Purpose: To provide a standard format to aid in the accurate and efficient conveyance of messages

- Parts:
  - Preamble or header
  - Address and phone
  - Body or text
  - Signature
  - Received and sent

- **Download from** *www.coloradotraffic.net*

THE AMERICAN RADIO RELAY LEAGUE
RADIOGRAM
VIA AMATEUR RADIO

NUMBER 1234	PRECEDENCE R	HX C	STATION OF ORIGIN KX6XXX	CHECK 14	PLACE OF ORIGIN Los Angeles CA	TIME FILED	DATE Nov-15

To: Joe Schmo KX0XXX
1234 Main St.
Lakewood, CO 80001
(303) 555-5555

THIS RADIO MESSAGE WAS RECEIVED AT:
AMATEUR STATION: K0XK   DATE: 11/18/14
NAME: Zeke Ragsdale
STREET ADDRESS: PO Box 460432
CITY, STATE, ZIP: Aurora, CO 80046-0432

TELEPHONE NUMBER:

YOUR	AMATEUR	RADIO	LICENSE	EXPIRES
ON	JANUARY	16	X	BE
SURE	TO	RENEW	73	

SIG: John KX6XXX

	FROM	DATE	TIME		TO	DATE	TIME
REC'D	WA3QLW	11/18/14	01:40	SENT			

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.

THE AMERICAN RADIO RELAY LEAGUE
RADIOGRAM
VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
1234	R	C	KX6XXX	14	Los Angeles CA		Nov-15

To: Joe Schmo KX0XXX
1234 Main St.
Lakewood, CO 80001
(303) 555-5555

THIS RADIO MESSAGE WAS RECEIVED AT:

AMATEUR STATION: K0XK   DATE: 11/18/14
NAME: Zeke Ragsdale
STREET ADDRESS: PO Box 460432
CITY, STATE, ZIP: Aurora, CO 80046-0432

TELEPHONE NUMBER:

YOUR	AMATEUR	RADIO	LICENSE	EXPIRES
ON	JANUARY	16	X	BE
SURE	TO	RENEW	73	

SIG: John KX6XXX

	FROM	DATE	TIME		TO	DATE	TIME
REC'D	WA3QLW	11/18/14	01:40	SENT			

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.

Radiogram Preamble

THE AMERICAN RADIO RELAY LEAGUE
RADIOGRAM
VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
1234	R	C	KX6XXX	14	Los Angeles CA		Nov-15

Number	Message number assigned by originator
Precedence	EMERGENCY, Priority, Welfare, or Routine
Handling	C=Confirm, G=Best effort
Station of Origin	Station putting message into NTS system
Check	Word count in body of text
Place of Origin	City and state where message was written
Time	Time message was filed (UTC)
Date	Date message was filed (UTC)

See FSD-218 for more details

Radiogram Address

To:
Joe Schmo KXØXXX
1234 Main St.
Lakewood, CO 80001
(303) 555-5555
TELEPHONE NUMBER:

THIS RADIO MESSAGE WAS RECEIVED AT:
AMATEUR STATION: KØXK   DATE: 11/18/14
NAME: Zeke Ragsdale
STREET ADDRESS: PO Box 460432
CITY, STATE, ZIP: Aurora, CO 80046-0432

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

Telephone Number:
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.

Radiogram Text

Text
- 25 words maximum
- 5 words per line
- "X" or "XRAY" for a period (.) and "QUERY" for a question mark (?)
- Make sure word count matches *Check* (signature is not counted)
- Note no X before 73

Signature
- There is often no "Signature" field, just write below text
- Name (and call sign of author)
- Include phone number or reply information if necessary.

Radiogram Received and Sent

	FROM	DATE	TIME			TO	DATE	TIME
REC'D	WA3QLW	11/18/14	01:40		SENT			

REC'D: Call sign from whom <u>you</u> received the message and date & time.

SENT: Call sign <u>you</u> <u>sent</u> or passed the message to, or to whom you <u>delivered</u> it and how (phone, voice mail, …).

Use UTC time. (Note date rollover).

ARL Numbered Texts

- ARL Numbered Texts replace common phrases in message body text (i.e., Greetings by amateur radio, Your message received, Happy Birthday, …)

- Use of ARL texts reduce total message word count – faster and more consistent transmission of text

- Translated before delivery of message to addressee

- ARL text numbers are always spelled-out in words (i.e., ARL SEVEN or ARL TWELVE or ARL FORTY SIX)

- Check is written as "ARL #" (e.g., ARL 7) to alert operators that message includes at least one ARL numbered text.

- **See FSD-3 for a list of numbered texts.**

ARL Numbered Texts (Examples)

- ARL FIFTY = Greetings by amateur radio.

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

- ARL FORTY SEVEN = Your message _____ to _____ delivered _____ _____UTC

  - ARL FORTY SEVEN 704 AC0KQ JUL2 0315

- ARL SIXTY SEVEN = Your message number ____ undeliverable because of _____. Please advise.

  - ARL SIXTY SEVEN 704 AC0KQ PHONE DISCONNECTED.

How to Deliver an NTS Message

- Preferred delivery is via telephone.

- Okay to leave on voice mail or answering machine IF you are comfortable you reached the right person.

- Radiogram postcard if cannot reach by phone.

- Service originating station to inform if cannot deliver or if they requested confirmation.

- Enter reply into NTS system if there is one.

NTS Digital (NTSD)

- Similar to email, but using radio
- Started after WWII using surplus RTTY gear
- Modern NTSD
  - Packet radio on VHF
  - Pactor on HF
  - WinLink worldwide mixed radio/internet system
- Advantages
  - Available 24/7/365
  - Less vulnerable to transcription errors
  - Frequency, Time, Propagation Agile
  - Multiple redundant routing paths

How to Participate

- Colorado Traffic Net
  - Daily 7:30-7:45pm Mountain Time
    - Colorado Connection Repeaters
      - 145.310- Thorodin/Boulder
      - 145.130- Colorado Springs
  - NTSD BBS 145.050 callsign KØNTS-1
  - WinLink 145.050 callsign KØNTS-10
  - *www.coloradotraffic.net*
- Twelfth Region Net
  - Daily 7:00am Mountain Time
  - 3923.5 kHz LSB

NTS Operating Procedures

- Use good amateur operating procedures
- Crisp, clear speech is important
- Use standard ITU phonetics
- Spell out ambiguous words
- Use pro-words to clarify
  - Beaver (I spell) Bravo Echo Alpha Victor Echo Romeo
  - K0XK = (amateur call) Kilo Zero Xray Kilo
  - 3840 = (figures) three eight four zero
  - NTS   = (initial group) November Tango Sierra
- **PARTICIPATE and PRACTICE**