Santa Clara County ARES/RACES Message Handling Procedures

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Contents

Introduction

Emergency Communications is serious business. Whether we are simply speaking to another radio operator about something we observed, or we are passing official message traffic on behalf of a 3rd party, we have two overarching goals. They are, in priority order:

1. Transfer the message accurately (zero errors)
2. Transfer the message efficiently (quickly, with as few words as possible)

In order to accomplish both goals, we all need to agree on a set of "rules" that we will use when speaking on the radio. In most respects, it doesn't really matter what the rules are, as long as we all operate by the same rules. Failure to follow the same set of rules results in either inaccurate copy of the message, or unnecessary repeats and extra words used, or both!

All Santa Clara County ARES/RACES operators are expected to follow these procedures when passing message traffic. These procedures will be used as the standard performance criteria during performance evaluations of candidates for SCCo RACES credentials.

Message Passing Terminology

Message Passing Roles

When discussing the various people involved in handling a message, words like "Sender" or "Receiver" can be ambiguous. For example, does "Sender" mean the person that wrote the message? Or does it mean the radio operator who is sending the message?

We define the following terms to unambiguously identify the different people involved in the message passing process:

- Message author: Creator of the message (often a 3rd party)
- Sending station: Radio operator sending the message
- Receiving station: Radio operator receiving the message
- Relay station: Acts first as a receiving station, then as a sending station
- Origin station: The first sending station
- Destination station: The last receiving station
- Message recipient: The person/position to which message is addressed (often a 3rd party)
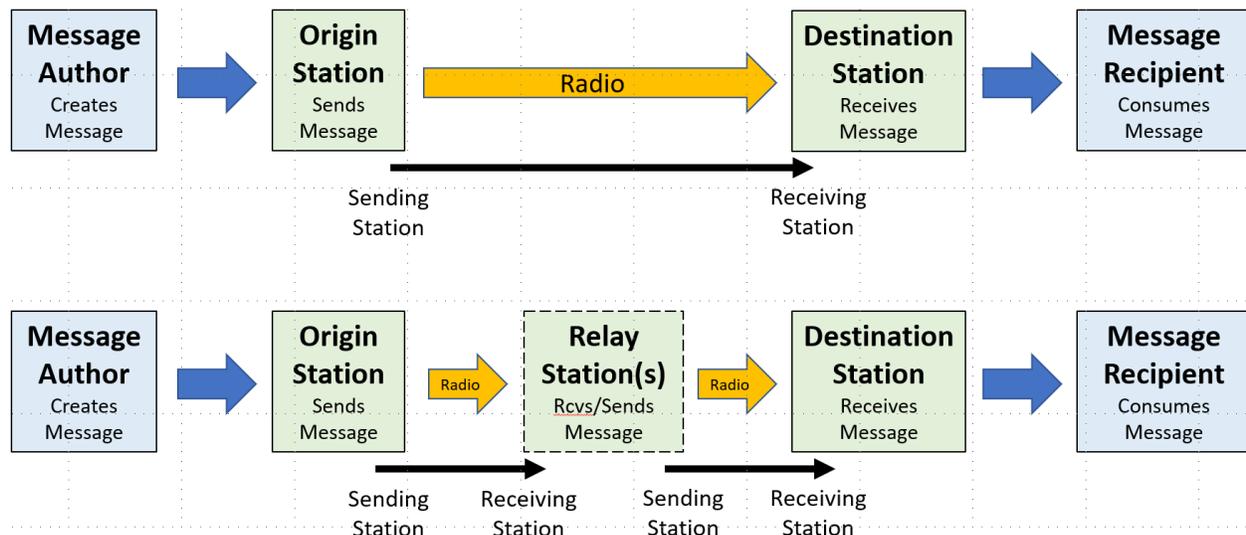
The Origin Station and Destination station are particularly important because we use the message numbers that they assign for logging and tracking the message, even when a relay is involved.

Operator-to-Operator Messages

Operator-to-operator messages are messages where the radio operators are both the authors and recipients of the message. Using the terms defined above, the Message Author is the same person as the Origin Station, and the Destination Station is the same person as the Message Recipient.

Examples of operator-to-operator messages are:

- Check-in and check-out messages
- Health & welfare checks
- Status reports (such as crowd counts, water level reports, traffic reports, etc.)
- Damage assessments (such as Mike-Mike reports, windshield surveys, etc.)

Note that the destination station may forward the information to someone else, like an event or incident official, perhaps after some summarization and analysis. But the key point is that the person who authors the messages and the person for which the message it destined is a radio operator.

Because the creator and consumer of the message are both radio operators, the operators have some freedom to define what the format should be and how it should be sent. In a directed net, the net control often specifies how the net will operate. In an open net, the two individual operators may decide how best to handle the message. This is very different from passing messages on behalf of a 3rd party.

3rd Party Messages

3rd party messages are sent and received by radio operators on behalf of others (3rd parties). That means that the 3rd party determines:

- Message format (usually some type of form used by that agency)
- Message content (often including terms that are unfamiliar to the radio operator)
- Message to/from information (typically, an ICS position and location)
- Message handling order (how quickly they need it sent)

With 3rd party messages, the radio operator must adapt to and operate within the served agency's workflow, not the other way around. A good way to think of the radio operator's job is to compare it to a fax machine. What should come out the other end of the radio channel and be delivered to the message recipient should be a very close facsimile or replica of the message that the message author created. The radio operator must not interpret or change the message and it must arrive at the other end in the correct format and fully legible.

The key operational difference between handling operator-to-operator messages and 3rd party messages is the need to send the 3rd party messages exactly, so that the message recipient receives what the message author sent. Decades of experience has shown that the only effective and efficient way to do that is to use a shared set of procedures.

Enhancements to NTS Procedures

The set of rules used by SCCo ARES/RACES is based on the message passing rules used by the ARRL National Traffic System (NTS) and spelled out in their documentation:

- **ARRL NTS Message Passing Guide – Chapter 1 – The ARRL Message Format**
    - http://www.arrl.org/files/file/Public%20Service/MPG104A.pdf
    - We don't usually deal with ARRL Radiograms. So this chapter is mostly useful as introductory information for Chapter 2
- **ARRL NTS Message Passing Guide – Chapter 2 – Sending Messages on Voice**
    - http://www.arrl.org/files/file/Public%2520Service/MPG204A.pdf
    - Chapter 2 defines how to voice various types of message content, such as numbers, initials, addresses, etc.
    - Note: This is the most important chapter for our purposes.

Where this document references the NTS documentation, you will see "[NTS …]", where "…" is the section of the NTS document that applies. The reader is encouraged to keep a copy of the NTS documentation (at least Chapter 2) along with this document and to refer to the NTS documentation where referenced.

In most cases, the procedures in this document are consistent with the NTS documentation. But there are two situations where we differ from the NTS documentation:

a. When the NTS manual doesn't account for messages written by 3rd parties. This mostly applies to punctuation.
    - For example, the ARRL NTS documentation expects that the ARRL Radiogram is written by an NTS radio operator that knows to use their unique procedures. They use an "X" (capital X) for a period at the end of a sentence. But the messages we have to send are written by 3rd parties in normal English, with a period (".") at the end of sentences.
b. When the NTS manual doesn't have a rule that covers the situation.
    - For example, the ARRL NTS documentation doesn't cover how to speak symbols or GPS coordinates and doesn't account for the need to specify capitalization (such as in a web URL or a password).

ARES/RACES operators should keep a copy of this document in their go kit so they can refer to it frequently during operations.

Note: This document cannot be used during a performance evaluation for an SCCo RACES credential. The candidate for a credential must know these procedures and be able to pass messages without the assistance of documentation or other 3rd parties.

Syntax and Symbology

Standard ITU Phonetics

We use standard ITU phonetic alphabet pronunciation. Note that the standard ITU pronunciation for some letters and numbers is not the same as the way it is written. These differences are marked with an asterisk ("*") below. Practice until they are second nature.

Wikipedia references:

- Search for NATO phonetic alphabet:
  https://en.m.wikipedia.org/wiki/NATO_phonetic_alphabet
- Voice Recording of properly spoken letters and numbers (on the above page):
  https://upload.wikimedia.org/wikipedia/commons/a/a5/NATO_Phonetic_Alphabet_reading.ogg

Letters

Written (Spoken), * = not pronounced as written

A	-	alfa (AL-fa)	N	-	november (no-VEM-ber)
B	-	bravo (BRAH-voh)	O	-	oscar (OSS-cah) *
C	-	charlie (CHAR-lee)	P	-	papa (pah-PAH) *
D	-	delta (DELL-tah)	Q	-	quebec (keh-BECK) *
E	-	echo (ECK-oh)	R	-	romeo (ROW-me-oh)
F	-	foxtrot (FOKS-trot)	S	-	sierra (see-AIR-rah)
G	-	golf (GOLF)	T	-	tango (TANG-go)
H	-	hotel (hoh-TELL)	U	-	uniform (YOU-ni-form)
I	-	india (IN-dee-ah)	V	-	victor (VIK-tah) *
J	-	juliet (JU-lee-ETT)	W	-	whiskey (WISS-key)
K	-	kilo (KEY-loh)	X	-	x-ray (ECKS-RAY)
L	-	lima (LEE-mah)	Y	-	yankee (YANG-key) *
M	-	mike (MIKE)	Z	-	zulu (ZOO-loo)

Numbers

Written (Spoken), * = not pronounced as written

0	-	zero (ZEE-row)	5	-	five (Fife) *
1	-	one (Wun)	6	-	six (Sicks)
2	-	two (Too)	7	-	seven (SEV-vin)
3	-	three (Tree) *	8	-	eight (Ate)
4	-	four (FOH-wer) *	9	-	nine (NINE-er) *

Multi-digit numbers are spoken one digit at a time

- Example: 600 = "six zero zero"

Symbols

Symbols are increasingly used in our everyday messages. We must have a mutually agreed-upon set of names for symbols so we can understand each other exactly.

Unfortunately, the NTS documentation doesn't cover how to handle symbols. So, we define the following standard symbol names. As you will see, we use the common name for symbols, which should make speaking and copying symbols very straight-forward.

Some symbols have multiple common names:

- For symbols that have context sensitive names, we use the commonly used, context sensitive name
  - Examples: "." (period, decimal, dot) and "-" (minus-sign, hyphen, dash)
- For symbols that have multiple names that are not context sensitive, we pick one name and stick with it
  - Examples: "#" (pound-sign instead of hash) and "/" (slash instead of stroke)

The important thing is for everyone to use the same name for each symbol.

	Voicing
.	**period** *(end of sentence)*, **decimal** *(in numbers)*, or **dot** *(in email, packet, and internet addresses)*
,	**comma**
:	**colon**
;	**semi-colon**
?	**question-mark**
!	**exclamation-point**
-	**minus-sign** *(in numbers)*, **hyphen** *(in words)*, or **dash** *(elsewhere)*
+	**plus-sign**
=	**equal-sign**
@	**at-sign**
#	**pound-sign**
$	**dollar-sign**

	Voicing
&	**ampersand**
*	**asterisk**
/	**slash**
\	**backslash**
"	**double-quote**
'	**apostrophe** *(within a word)*, or **single-quote** *(elsewhere)*
`	**back-quote**
%	**percent-sign**
(	**left-parenthesis**
)	**right-parenthesis**
[	**left-square-bracket**
]	**right-square-bracket**
{	**left-curly-bracket**
}	**right-curly-bracket**

	Voicing
<	**less-than-sign**
>	**greater-than-sign**
_	**underscore**
|	**vertical-line**
^	**caret** \ care et \
~	**tilde** \ till dee \
°	**degree-sign**

Voicings are shown in bold.

Voice hyphenated words as if they are a **single-word**.

Punctuation symbol voicings are underlined.

Context is shown in italics.

\ Pronunciation \ is between backslashes.

Groups vs. Words

- Some parts of messages are not words.
  - Examples include call signs, numbers, abbreviations, email addresses, etc.
  - This example contains no words: 305B NW 1st St
- The generic term "group" is used to refer to combinations of letters, numbers, and/or symbols, typically separated by whitespace
  - The above example contains 4 groups: 305B, NW, 1st, St
- All words are groups, but not all groups are words
- Example groups: car, 53, WD-40, ARRL, W6XRL4/7, radio, w6xrl4@arrl.net, http://arrl.org

Punctuation

- The messages we pass are often written by, and for, non-hams (i.e. 3rd party messages)
- They include the usual punctuation symbols common to normal writing
  - Refer to the "Voicing Symbols" chart shown earlier for what we consider punctuation symbols
- When used as punctuation, voice symbols as they are encountered in a message
  - E.g. a "," [comma] after a word, or a "." [period] at the end of a sentence
  - This differs from ARRL NTS procedures
- Otherwise, treat punctuation symbols like any other symbol
- Example phrases containing punctuation:
  - "Deliver blankets, cots, and pillows."
    - Written: deliver blankets, cots, and pillows.
    - Spoken: "deliver blankets comma cots comma and pillows period"
  - "Expected weather: rain and snow!"
    - Written: expected weather: rain and snow!"
    - Spoken: "expected weather colon rain and snow exclamation-point"
- Example phrases without punctuation:
  - "The password is Ab:1,5!+"
  - "5 != 6"
  - "Join the discussion on groups.io"
  - We will learn to deal with these later…

Message Passing Prowords

Prowords are special words or phrases used to facilitate message passing by voice. They allow the sending and receiving stations to be clear with each other, while still being as efficient as possible (using as few words as possible, avoiding repeats).

Prowords are NOT part of the message and are NOT written down when copying the message. This makes it critical that both the sending station and receiving station know the prowords and how they are used. The sending station must use the proper prowords or else the receiving station may write the word into the message. The receiving station needs to recognize the prowords so they don't write them into the message.

Prowords can be grouped into four general categories, depending on how they are used. We group them into these categories only because the prowords in each category have similar behavior and it's easier to learn them this way. The names of the categories are not important. Neither is knowing which proword is in each category. Knowing the prowords themselves and how/where to use each one is all that is important.

- **Control Prowords**
    - Define the start, end, or control the flow of the message
- **Clarification Prowords**
    - Always spoken <u>AFTER</u> a group
    - Clarifies or emphasizes what was just said
- **Qualification Prowords**
    - Always spoken <u>WITHIN</u> a group
    - Defines a quality to allow precise copy
- **Introductory Prowords**
    - Always spoken <u>BEFORE</u> a group
    - Alerts receiving operator to what is coming next

It is important to use each proword in the right place (before, inside, after a group) to avoid confusing the receiving station and slowing down the message transfer.

Control Prowords

"Control" prowords are used to control the message flow between the two operators. They can be used to:

- Begin a message
- End a message
- Separate parts of the message
- Control the pace
- Request repeats

The control prowords are:

- "MESSAGE NUMBER"   [NTS-2.1.4.1]
- "ROGER"   [NTS-2.1.4.11]
- "BREAK"
- "STAND BY"
- "CONTINUE" or "GO"   [NTS-2.1.4.12]
- "NEWLINE"
- "MESSAGE ENDS" or "END OF MESSAGE"   [NTS-2.1.4.2]
- "SAY AGAIN …" or "SPELL [PHONETICALLY] …"

MESSAGE NUMBER   [NTS-2.1.4.1]

- Indicates the start of a message

ROGER   [NTS-2.1.4.11]

- Acknowledged, i.e. "I heard and understood" (does NOT mean "yes")

BREAK

- Interrupt

STAND BY

- Wait

CONTINUE or GO   [NTS-2.1.4.12]

- Used by the receiver to tell the sender to continue with the next set of five words/groups

NEWLINE

- Skip to a new line; paragraph break
- Example:
    - Written:
        - Line one
        - Line two
    - Spoken: "Line one *NEWLINE* line two"

MESSAGE ENDS or END OF MESSAGE   [NTS-2.1.4.2]

- Indicates the end of the message content

SAY AGAIN … or SPELL [PHONETICALLY] …

- Used by the receiver to request a repeat.
- Usually followed by one of the following qualifiers:
    - "… WORD AFTER …"
        - "Say again word after …"
        - Respond with group or part requested
    - "… WORD BEFORE …"
        - "Say again word before …"
        - Respond with group or part requested
    - "… BETWEEN … AND …"
        - "Say again between … and …"
        - Respond with group(s) between blanks, observing limits
    - "… ALL AFTER …"
        - "Say again all after …"
        - Respond with all groups after the one specified to the end of the message, unless limited
    - "… ALL BEFORE …"
        - "Say again all before …"
        - Respond with all groups in the message to the group specified, unless limited
- If not followed by a qualifier, applies to the entire previous transmission

Clarification Prowords

Clarification prowords are used to clarify or emphasize something that was just said.

- They are ALWAYS spoken **AFTER** the relevant group
- Usually used for a single group
- Use proactively to avoid confusion and repeats

The clarification prowords are:

- "I SPELL"
- "I SAY AGAIN"

I SPELL   [NTS-2.1.4.6]

- ALWAYS spoken IMMEDIATELY **AFTER** the group to be spelled
- Use to indicate you are going to phonetically spell the group just voiced
- Use with ONE GROUP AT A TIME
- Use more liberally during bad radio conditions
- Use proactively with words that the receiving station might have difficulty spelling
    - Examples: unique words, chemical names, long or complicated words, …
- Use proactively with words that may sound the same under noisy conditions
    - Examples: he/she/we/fee/bee/sea/…; five/fire; …
- ALWAYS use with words that sound like other words but are spelled differently
    - Examples: to/too/two; be/bee; for/fore/four; see/sea; …
- ALWAYS use with proper names
    - Examples: John Smith (use I SPELL on both)
- ALWAYS use with misspelled words
- ALWAYS use with all-letter groups that are not real words, but would be spoken like a word in normal conversation
    - Examples:
        - "Quik" would be voiced like "quick", then spelled phonetically
        - "PackItForms" would be voiced as it sounds, then spelled phonetically
            - In this case, capitalization should also be used (see UPPERCASE and LOWERCASE) because it makes it more readable.
- May be used with mixed groups that contain letters and symbols and are either real words or are normally pronounced like a word
    - Contractions: "they're", "aren't", "couldn't", …
    - Possessive: "Jone's", "Jones'", …
    - Hyphenated words: "well-being", "set-up", "twenty-two", …
        - The "-" symbol is spoken as "hyphen" when used in words
- ALWAYS use for prowords that are part of the message
- ALWAYS use standard ITU phonetics

Note: I SPELL is <u>not</u> used with unpronounceable, non-word groups (abbreviations, acronyms, amateur call signs, email addresses, etc.). Use the appropriate introductory proword instead. (See Introductory Prowords.)

- Examples:
    - Written: You need to arrive at …
    - Spoken: "You need to *I SPELL* tango oscar <pause> arrive at …"

    - Written: John Smith
    - Spoken: "John *I SPELL* juliet oscar hotel november <pause> Smith *I SPELL* sierra mike india tango hotel"

    - Written: Spelling misstake   (mistaken or uncommon spelling)
    - Spoken: "Spelling misstake *I SPELL* mike india sierra sierra tango alpha kilo echo"

    - Written: Go to the Quik Stop   ("quik" isn't a word, but it is spoken like one)
    - Spoken: "Go to the Quik *I SPELL* quebec uniform india kilo <pause> Stop"

    - Written: The figures are correct   ("figures" is a proword)
    - Spoken: "The figures *I SPELL* foxtrot india golf uniform romeo echo sierra <pause> are correct"

    - Written: They're closed   (sounds like "their")
    - Spoken: "They're *I SPELL* tango hotel echo yankee apostrophe romeo echo <pause> closed"

    - Written: twenty-two units
    - Spoken: "twenty-two *I SPELL* tango whiskey echo november tango yankee hyphen tango whiskey oscar <pause> units"

    - Written: PackItForms   (portmanteau, capitalization helps with clarity)
    - Spoken: "PackItForms *I SPELL UPPERCASE* papa *LOWERCASE* alpha charlie kilo *UPPERCASE* india *LOWERCASE* tango *UPPERCASE* foxtrot *LOWERCASE* oscar romeo mike sierra"
        - See UPPERCASE and LOWERCASE

I SAY AGAIN

- **Use # 1: To Repeat for Clarity**   [NTS-2.1.4.7]
    - Used to clarify or emphasize or to help ensure receipt of what was just said
    - Say the group(s), then "I say again", then repeat the group(s), and then continue
    - Often, voice inflection is also used to communicate emphasis
    - Usually, limit repeats for clarity to one group at a time to avoid confusion. However, in very bad radio conditions, repeating phrases or whole lines of a message can increase the chance for correct copy
    - Example:
        - Written: Do **<u>NOT</u>** go in there …
        - Spoken: "Do not *I SAY AGAIN* <u>NOT</u> go in there …"

- **Use #2: To Correct an Error**   [NTS-2.1.4.8]
    - When you recognize you have made an error, stop, say "I SAY AGAIN", go back to the last group (or proword) sent correctly, and continue, starting with that correct group or proword
    - Example:
        - Written: … to bring water …
        - Spoken: "… to water *I SAY AGAIN* to bring water …"

Qualification Prowords

Qualification prowords are used to alert the receiving operator to a special quality for the <u>character(s)</u> that follow. They allow precise copy, such as case-sensitive information (web addresses, passwords, chemical names, etc.).

- ALWAYS spoken **WITHIN** a group
- Typically, the group will have previously been identified with an Introductory Proword
- Implies that the following characters are going to be sent one character at a time, phonetically
- Remains in effect for the group until over-ridden or until the end of the group
- Like the "Caps Lock" key on your keyboard

The qualification prowords are:

- "UPPERCASE" and "LOWERCASE"

UPPERCASE and LOWERCASE

- Used to indicate that following characters should be copied in the appropriate case
- Used with ONE GROUP AT A TIME
- Remain in effect until the end of the group or until over-ridden by another Qualification Proword (think "caps lock")
- No default case is assumed: if you need a particular case, voice the corresponding proword

Not that case doesn't matter most of the time. In fact, some people routinely print in all capital letters. But sometimes case is absolutely critical (e.g. passwords, internet addresses).

- Example:
  - Written: The password is pasSWOrd
  - Spoken: "The password is password *I SPELL LOWERCASE* papa alfa sierra *UPPERCASE* sierra whiskey oscar *LOWERCASE* romeo delta"

  - Written: Open the PackItForm
  - Spoken: "Open the PackItForm *I SPELL UPPERCASE* papa *LOWERCASE* alpha charlie kiko *UPPERCASE* india *LOWERCASE* tango *UPPERCASE* foxtrot *LOWERCASE* oscar romeo mike"

When in doubt, specify the case. But when case doesn't matter, avoid the extra time and complexity by ignoring case.

Introductory Prowords

Introductory prowords alert the receiving operator to a special type of group to follow, such as initial(s), figure(s), mixed groups, or amateur call signs... i.e. things which are not normally English words.

- Always spoken **BEFORE** the relevant group(s)
- Implies that the next group is going to be sent one character at a time, letters phonetically if present

The Introductory prowords are:

- INITIAL(S)
- FIGURE(S)
- SYMBOL(S)   *
- MIXED GROUP
- MIXED GROUP FIGURE(S)
- MIXED GROUP SYMBOL(S)   *
- TELEPHONE FIGURES
- GPS COORDINATES   *
- AMATEUR CALL
- EMAIL ADDRESS
- PACKET ADDRESS
- INTERNET ADDRESS

Note: * indicates an SCCo ARES/RACES enhancement because this type of content is not covered in the NTS documentation.

INITIAL(S)   [NTS-2.1.5.3-4]

- Identifies one or more letters to follow
- Used for non-word letter groups
- Voice each letter phonetically
- Leave a pause after the last letter to help separate it from groups that follow
- Examples:
    - Written: James T Kirk
    - Spoken: "James <pause> *INITIAL* tango <pause> Kirk"

    - Written: ARRL handbook
    - Spoken: "*INITIALS* alfa romeo romeo lima <pause> handbook"

    - Written: EOC credentials
    - Spoken: "*INITIALS* echo oscar charlie <pause> credentials"

FIGURE(S)   [NTS-2.1.5.1]

- Identifies one or more numerals to follow
- Voice each digit separately

- Examples:
  - Written: Send 5 dozen jelly donuts right away
  - Spoken: "Send *FIGURE* five <pause> dozen jelly donuts right away"

  - Written: 100 containers
  - Spoken: "*FIGURES* one zero zero <pause> containers"

SYMBOL(S)

- Identifies one or more symbols to follow
- Voice each symbol separately

- Examples:
  - Written: Replace all ? with a value
  - Spoken: "Replace all <pause> *SYMBOL* questionmark <pause> with a value"

  - Written: This != that
  - Spoken: "This <pause> *SYMBOLS* exclamationpoint equalsign <pause> that"

MIXED GROUP   [NTS-2.1.5.5]

- Indicates that a group containing at least two of the three types of characters (letters, numbers, symbols) will follow, beginning with a letter
- Voice each character separately, letters phonetically
- Includes amateur calls with "/…"
- Mixed groups that contain letters and symbols and are commonly pronounced like words may be better handled with *I SPELL*
  - Words containing apostrophes: they're, aren't, …
  - Hyphenated words: well-being, government-mandated, state-owned
  - Portmanteau words: PackItForms, spork, …

- Examples:
    - Written: Ford F150 truck
    - Spoken: "Ford <pause> *MIXED GROUP* foxtrot one five zero <pause> truck"

    - Written: W6XRL4/VA
    - Spoken: "*MIXED GROUP* whiskey six x-ray romeo lima four slash victor alfa"

    - Written: high-temp   (OK, but may be better voiced with *I SPELL*)
    - Spoken: "*MIXED GROUP* hotel india golf hotel hyphen tango echo mike papa"

    - Written: abc-123/$%   (this is not a word, so the "-" is a "dash", not a "hyphen")
    - Spoken: "*MIXED GROUP* alpha bravo charlie dash one two three slash dollarsign percentsign"

MIXED GROUP FIGURE(S)   [NTS-2.1.5.6]

- Indicates that a group containing at least two of the three types of characters (letters, numbers, symbols) will follow, beginning with one (or more) number(s)
- Voice each character separately, letters phonetically

- Examples:
    - Written: 2C
    - Spoken: "*MIXED GROUP FIGURE* two charlie"

    - Written: 2/C
    - Spoken: "*MIXED GROUP FIGURE* two slash charlie"

    - Written: 146.595 simplex
    - Spoken: "*MIXED GROUP FIGURES* one four six decimal one one five <pause> simplex"

    - Written: 14,135 people
    - Spoken: "*MIXED GROUP FIGURES* one four comma one three five <pause> people"

MIXED GROUP SYMBOL(S)

- Indicates that a group containing at least two of the three types of characters (letters, numbers, symbols) will follow, beginning with one (or more) symbol(s)
- Voice each character separately, letters phonetically

- Examples:
    - Written: -10 degrees
    - Spoken: "*MIXED GROUP SYMBOL* minussign one zero <pause> degrees"

    - Written: -32°F outside
    - Spoken: "*MIXED GROUP SYMBOL* minussign three two degreesign uppercase foxtrot <pause> outside"

    - Written: $32 each
    - Spoken: "MIXED GROUP SYMBOL dollorsign three two <pause> each"

    - Written: !,*28#
    - Spoken: "*MIXED GROUP SYMBOLS* exclamationpoint comma asterisk two eight poundsign"

TELEPHONE FIGURES   [NTS-2.1.5.2]

- Identifies a telephone number to follow
- Best to request that the message author include the area code for clarity

- Examples:
    - Written: 408-555-1212, (408) 555-1212, or 408.555.1212
    - Spoken: "*TELEPHONE FIGURES* four zero eight<pause> five five five <pause> one two one two"

    - Written: +8816-408-555-1212   (such as a satellite phone number)
    - Spoken: "*TELEPHONE FIGURES* plussign eight eight one six <pause> four zero eight<pause> five five five <pause> one two one two"

GPS COORDINATES

- Identifies a set of GPS coordinates to follow
- Used when a set of numbers, written as a pair of latitude/longitude values, contain one or more of the coordinate "marker" symbols:
- ° (degrees), ' (minutes), " (seconds)
- N (north), S (south), E (east), W (west)
- Voice the "marker" symbols where they appear
- But don't add them, if not already part of written message.
- Voicings differ from our usual, but follow standard usage
- Send as a single group, even if written across multiple "slots"
- You may need to make adjustments to fit the "5 words at a time" rule
- If the numbers look like coordinates, but don't contain any "marker" symbols, just send them as FIGURES.

- Examples:
    - Written: 41° 24.20', 2° 10.44'
    - Spoken: "*GEE-PEE-ESS COORDINATES* four one DEGREES <pause> two four decimal two zero MINUTES comma <pause> two DEGREES <pause> one zero decimal four four MINUTES"

    - Written: 41°24'12.2"N   2°10'26.5"E
    - Spoken: "*GEE-PEE-ESS COORDINATES* four one DEGREES <pause> two four MINUTES <pause> one two decimal two SECONDS NORTH <pause> two DEGREES <pause> one zero MINUTES <pause> two six decimal five SECONDS EAST"

    - Written: 32.30 N, 122.61 W
    - Spoken: "*GEE-PEE-ESS COORDINATES* three two decimal three zero NORTH comma <pause> one two two decimal six one WEST"

    - Written: 32.30°, -122.61°
    - Spoken: "*GEE-PEE-ESS COORDINATES* three two decimal three zero DEGREES comma <pause> minussign one two two decimal six one DEGREES"

AMATEUR CALL   [NTS-2.1.5.7]

- Identifies an amateur call sign to follow
- Voice each character phonetically
- Example:

- o   Written: W6XRL4
- o   Spoken: "*AMATEUR CALL* whiskey six x-ray romeo lima four"

EMAIL ADDRESS   [NTS-2.2.4.6]

- Indicates an email address to follow
- Implies each character will be voiced phonetically
- Has the format of "<localpart>@<domainpart>"
    - o   Example: w6xrl4@w6xsc.ampr.org
- "@" is voiced "ATSIGN", "." is "DOT", "+" is "PLUSSIGN"
- Although discouraged and rare, <localpart> may be case-sensitive
    - o   Example: HermanMunster@... MAY be different from hermanmunster@...
    - o   Use UPPERCASE and LOWERCASE when in doubt
- <domainpart> is always case-insensitive

- Examples:
    - o   Written: harry@aol.com
    - o   Spoken: "*EMAIL ADDRESS* hotel alfa romeo romeo yankee <pause> ATSIGN <pause> alfa oscar lima <pause> DOT <pause> charlie oscar mike"

    - o   Written: Herman.Munster+inbox@TheMunsters.TV
    - o   Spoken: "*EMAIL ADDRESS UPPERCASE* hotel *LOWERCASE* echo romeo mike alpha november dot *UPPERCASE* mike *LOWERCASE* uniform november sierra tango echo romeo plussign india november bravo oscar x-ray atsign tango hotel echo mike uniform november siearra tango echo romeo sierra dot tango victor"

PACKET ADDRESS   [NTS-2.2.4.6]

- Indicates a packet address to follow
- Implies each character will be voiced phonetically
- Has the format of: <callsign>@<bbscall>.#<region>.<state>.<country>.<continent>
    - o   Looks like an email address, except contains "#"
- "#" is voiced "POUNDSIGN"; see EMAIL ADDRESS for the rest
- Some parts may not be present (right to left)
    - o   Example: <callsign>@<bbscall>.#<region>.<state>.<country>
    - o   Example: <callsign>@<bbscall>.#<region>.<state>
    - o   …
- Packet addresses are NOT case-sensitive

- Example:
  - o Written: w6xrl4@w4xsc.#nca.ca.usa.noam
  - o Spoken: "*PACKET ADDRESS* whiskey six x-ray romeo lima four atsign whiskey four x-ray sierra charlie dot poundsign november charlie alfa dot charlie alfa dot uniform sierra alfa dot november oscar alfa mike"

INTERNET ADDRESS   [NTS-2.2.4.6]

- Indicates an internet (e.g. "web") address follows
- Implies each character will be voiced phonetically
- Format:
  - o <scheme>://<hostname>[:<port>]/<path>[?<query>]
    - ▪ https://www.google.com/
    - ▪ ftp://some.host.com:21/
    - ▪ http://qrz.com/The/Path/index.htm?name=Herman&call=W6XRL4
- Notes:
  - o Everything after <hostname> is case-sensitive!

- Examples:
  - o Written: https://www.scc-ares-races.org
  - o Spoken: "INTERNET ADDRESS hotel tango tango papa sierra colon slash slash whiskey whiskey whiskey dot sierra charlie charlie dash alpha romeo echo sierra dash romeo alpha charlie echo sierra dot oscar romeo golf

  - o Written: https://www.scco.org/ops.html#GoKit
  - o Spoken: "*INTERNET ADDRESS* hotel tango tango papa sierra colon slash slash whiskey whiskey whiskey dot sierra charlie charlie oscar dot oscar romeo golf slash *LOWERCASE* oscar papa sierra dot hotel tango mike lima poundsign *UPPERCASE* golf *LOWERCASE* oscar *UPPERCASE* kilo *LOWERCASE* india tango"

Message Passing Techniques

Techniques for All Messages

Radio Techniques

- DO use only plain language
- DO use standard ITU phonetics
- DO use tactical call signs when appropriate, and identify with your FCC call sign every 10 minutes or at the end of an exchange
- DO listen for, and follow, instructions
- DO make only necessary transmissions; avoid read backs
- DO be concise
- DO follow these message passing procedures
- DO complete all communication logs and message forms clearly, concisely, and legibly
- DO ask for clarification when you can't read a message, or you don't understand something
- DO use 24-hour local time, unless instructed otherwise
- DO Transmit only facts, or information from an approved source or authority
- DO avoid transmitting personal, confidential, or sensitive information
    - o E.g. names, phone numbers, patient info, body counts, etc.
- DO use standard ICS position titles, facility names, and/or tactical names
- DO pause 1 to 2 (or more!) seconds after keying up to avoid clipping
- DO leave gaps between transmissions to allow others to break in
- DO drop PTT when not speaking; avoid dead air and open mics

Speaking Techniques

- SPEED
    - o After you say each word, pretend to write it down ("ghost write") before you go on to the next work
    - o This slows you down to a pace that the receiver can handle
- PAUSES
    - o Pause between groups to provide clarity and separation
    - o Pauses provide clues that something different is coming
    - o Pauses aid in correct group copying, improving efficiency
- PROWORDS
    - o ALWAYS use proper prowords
    - o Proactively use the I SPELL proword (as appropriate) to avoid repeats

Message Prioritization

- Prioritize according to handling order, date, and time
  - Handling order: Immediate, Priority, Routine
  - **Note:** ARRL Precedence: Emergency, Priority, Welfare, Routine
  - **Note:** Red Cross DWI (Disaster Welfare Inquiry) has Welfare precedence
- Use date to prioritize between same handling order
- Use Time to prioritize between same dates
- Ultimately, the served agency decides the order; it's their message

Announcing a Message

- Step 1: Announce quantity and handling order of messages ready to send
  - Examples
    - "Net Control, I have 2 Priority messages for you"
    - "Net Control, I have 1 Immediate and 1 Routine message for you"
  - The receiver will prioritize vs. other messages that may be waiting, then says: "go ahead" or "ready to copy"
- Step 2: If the message is a form, announce the form type before sending
  - This lets the receiver know what's coming so they can prepare the right form
  - If the form requires a routing slip (because it doesn't contain the radio routing information fields), also include "… with Routing Slip"
  - Examples:
    - "Message type is ICS-213"
    - "Message type is 213RR with Routing Slip"
  - The receiver readies the right form (and routing slip, if needed), then says: "go ahead" or "ready to copy"
- Step 3: Send the message
  - See "Sending a Message …" for details
- Step 4: Log the message
  - Log all of your communications activity on ICS 309 Comm Log
    - Shadows (and only Shadows) may use their ICS 214 Activity Log instead

Sending a Message to One Station

- Say "My message number is …" followed by your message number (phonetically) to signal the start of transmission
- Say field name (or number), followed by field value
  - Or use another, previously agreed-upon plan
- Pass fields in logical chunks, according to the form
  - By row? By column? By section?
  - If the form has sections, say the section name as you enter that section
  - Shoot for sending five items at a time (depending on how complicated each field is)

- For short text fields, send up to five fields at a time
- For longer text fields (such as the message body in an ICS-213), send five words at a time
    - o Some heavily used forms (e.g. ICS-213) have a preferred field grouping for maximum efficiency
- Pause after each group
    - o Receiver's opportunity to request fills
    - o Receiver responds with "Go" or "Continue" when ready for more
- Say "End of message" to signal form transmission complete
    - o Receiver responds with "My message number is <Their Message Number>", followed by "<Their FCC call sign>".
- Say "<Your FCC call sign>" to end the process
- Log the message

Sending a Message to Multiple Stations

- Announce quantity and priority of message for …
    - o "All stations, all stations, stand by for one priority message"
    - o "All shelters, all shelters, stand by for one routine message"
- [Optional] Poll for readiness of all stations
- Select a pacing station
    - o "Mountain View, will you be my pacing station?"
- Send the message to the pacing station (see "Sending a Message to One Station")
- Poll all other receiving stations
    - o Each receiving station responds with requests for fills (if any), followed by <Their Message Number> and <Their FCC call sign>.
- Log all receiving station message numbers and call signs

Techniques for Handling 3rd Party Messages

3rd Party Spoken Messages

- For simple verbal messages, handle verbally
    - Example: Most messages between shadows are simple, spoken messages
        - "Ask Steven to call Jenny at 867-5309"
- Use your judgement
    - IF message is longer or more complicated
        - Such as: a complicated message that needs to be delivered exactly
    - OR if it needs routing information for delivery outside the radio room
        - Such as: a message to be delivered to an ICS position in an EOC
    - OR if the message should be tracked
        - Such as: the 3rd parties may need to refer to it again
    - THEN write it down on the appropriate form; handle as a written message
- Log all 3rd party spoken messages on an ICS-309 Comm Log
    - Shadows (and <u>only</u> Shadows) can log on their ICS-214

3rd Party Written Messages

- 3rd party written messages always use an appropriate form
    - General messages on ICS-213; resource requests on EOC-213RR; etc.
- If the message is not on the appropriate form:
    - Best: Ask the author to use the correct form
        - If they don't have one, provide it to them
    - Next best: Transcribe the message to the form, asking the author to clarify as you go
        - Clarify spelling, other details
    - Worst case: Staple original to the new form only if necessary
- If the form doesn't have radio routing information, use a Radio Routing Slip
    - Radio routing info: message numbers, date, time, to/from position/location, operator info
- If the handling order, to location or to position is unknown, use the Recommended Routing Cheat Sheet
- The basic process of passing the message is the same, regardless of form
    - Generally, left to right, top to bottom
    - Group fields in the same section together
    - If the form has sections, say the section name when starting a new section
    - For message text, send five words at a time
    - Some forms may have a specific technique