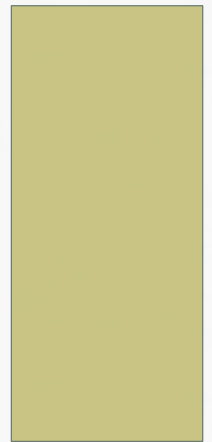


# TRAFFIC HANDLING

NTS & NCS PROCEDURES FOR THE REST OF US



# AMATEUR RADIO

- The hobby of communicating by radio

# TYPES OF COMMUNICATION

- Casual – the average rag chew
- Tactical – Station-to-Station, real-time, ARES/RACES
- Formal, written – often involving a 3<sup>rd</sup> party who may or may not be a ham.

May involve considerable distance – relays involved

Accuracy is important. You may not be able to obtain real-time clarification

# GAPS IN TECHNIQUE

- Often observed during the S.E.T.
- “I can’t be bothered with training or practice but I’ll be there when needed.”
- “But how will you know what to do?” - WB8SIW

# MI SECTION TRAINING VIDEO

- The MI SEC has posted the following:
- <https://www.youtube.com/watch?v=14wY3zcMn2o>

It summarizes several of the more key points in voice messaging and uses some good audio examples with them.

# HOW DO WE COMMUNICATE?

## WHY THE BIG DEAL ABOUT FORMAT AND PROCEDURE?

One analysis breaks down the information exchange in face to face communications as:

Facial expressions and body language	55%
Vocal intonations/inflections	38%
The actual words spoken	7%

# HOW DO WE COMMUNICATE?

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# RECEPTION

- As much a mental as a physical process
- What goes on between your ears is at least as important, probably more so, than what goes on in them.
- There are some good visual examples of this. (Why does camouflage work? How about the WWII paint jobs on ships?)
- The brain as a filter/processor of information... but be careful!



# THE EFFECT OF THE PATH/CIRCUIT USED

- VHF – Good fidelity, low noise. Fairly consistent. You either hear it or you don't.

- HF – not so much so.

SSB – significantly affects the voice components transmitted

Natural and man-made noise

Interference – intentional or unintentional

Fading – due to variations in ionospheric propagation

Any one of these factors can make it a challenge. Two or more can make it really difficult.

# CW & DIGITAL

- CW

The first digital mode. Literal. Good S/N ratio

- “Digital”

As commonly considered today

Same advantages as CW, plus direct printing

Some modes automatically detect and correct errors

# SO, WHAT'S WITH ALL THIS? VOICE PROCEDURE STUFF

- Not everyone is proficient with CW and you don't always have a computer handy
- Just about everyone has a radio with a microphone
- BUT...

# IT'S MORE THAN JUST TALKING

- Techniques exist to improve accuracy and throughput
- NTS/Formal-written as well as Tactical uses
- Formally codified in NTS METHODS AND PRACTICES GUIDELINES but not invented there.
- Commercial and military background

# GENERAL GUIDELINES

- Send at the same rate you'd really like to receive
- Speak clearly
- Use good microphone technique
- Take band conditions into consideration
- Consider other operator experience/expertise and what you know about his station setup
- Spell, when necessary, using proper phonetics (when necessary)

“COMMON SPELLING”

**NOT!!!!**

- There is no such thing
- If it's not absolutely, painfully, obvious - spell it
- Any doubt – spell it out
- If you had doubt or trouble receiving it, assume the next guy will, too

# WHEN THEY SOUND ALIKE

- TERRY, TERI, TERRIE
- STEVEN, STEPHEN
- JOE, JO
- TAMMY, TAMMI, TAMI
- HI, HIGH
- Two, Too, To

# WHEN THEY'RE JUST PLAIN STRANGE OR DIFFICULT

- PRZYBYLA
- CHOJNACKI
- OCQUEOC



# WHEN TO DOWNSHIFT

- If you get too many requests for fills (usually more than two)
- Go slower
- Spell more
- Spell phonetically if only doing it alphabetically to that point

# ALPHABETIC V. PHONETIC

- Depends on circuit conditions and context
- B, C, T, Z - Bravo, Charlie, Tango, Zulu

# PROCEDURAL WORDS

- Tags used to take place of the visual cues in a face-to-face communication
- Indicate what action to take next or what material might be coming next

# COMMON PRO-WORDS

- BREAK – separates the parts of a message (header/preamble from text, text from signature) or different topics or fields in a message (ICS form?)
- Letter group – group of letters not forming a recognized word (NTS, ARRL)
- Figures – group of numerals/numbers/digits (3952)
- Mixed group – combination of letters and numbers (6<sup>th</sup>)
- Call Sign – a subset of Mixed Group (WB8TQZ)

# SPELLING

- x – “I spell”

Immediately following the word represented by “x” indicates that it will now be spelled, alphabetically or phonetically, depending on conditions.

# REPETITION

- x – “I say again”

The word or phrase represented by “x” will be repeated.

# ASKING FOR FILLS

- “Say Again” – used to request information again, delineated as follows
- Word After “x”
- Word Before “x”
- All Between “x,y”
- All Before “x”
- All After “x”
- Confirm “x”
- You don’t need to give chapter and verse as to why you need the fill. It is sufficient that you need it.

# IT'S REALLY NOT AFFECTATION

- While it might seem a little pretentious, overdone, or overbearing under good conditions...
- Under difficult conditions it really, really helps
- You practice it under good conditions so it's second nature on the bad days.
  
- Do what the trained receiving operator expects and you will minimize errors and maximize throughput - NTS M&P GUIDELINES
- Contesters – You use some skills very similar to those used in traffic handling, whether you realize it or not.

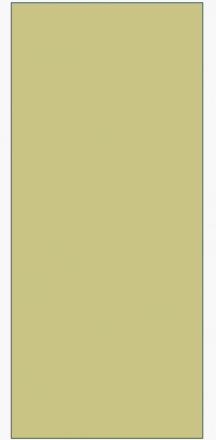


**BREAK TIME**

WE DON'T WANT TO LOSE YOU

# NETS

ROUTING THAT INFORMATION



# NET

- A group of stations gathering on a particular frequency, at a particular time, to exchange information.

# INFORMAL NET

- No particular organization
- Average ragchew roundtable
- Okay for:
  - Small, well-behaved group
  - Good conditions
  - Information not critical

# FORMAL NET

- Also called a “Directed Net”
- Used to deal with:

Large groups or areas

Critical information

Difficult conditions

Often uses multiple frequencies

# NET PARTICIPANTS

- Net Control Station – the ringmaster or coordinator
- Liaisons – move traffic between the net service area and the rest of the world
- Checkins- average station participating in the net.  
Originate traffic into the net and provide local outlets for delivery

# CONSIDERATIONS – ALL NET PARTICIPANTS

- Be on time
- Be on frequency
- Be tuned up (prior to the net)
- Have your traffic completely composed and organized
- Have sufficient paper and pens or pencils
- Computer and word processor? Advantages:
  - You never reach the bottom of the sheet
  - Legible
  - Faster – but only if you can type
  - Filing and storage
  - Can Copy and Paste between voice and digital

# CONSIDERATIONS – NET CONTROL

- Know and use proper procedure
- Be able to put out a good signal (combination of antenna and XMTR output power along with clean, clear audio through proper use of all equipment) (Actually, everybody should do this)
- Be able to hear most or all stations most or all of the time (quiet RX location)



# PREAMBLE

- Not as critical as it was with drifty analog VFO's ("zero beat" opportunity)
- Identifies activity about to take place
- Provides information for participants and non-participants
- Helps gather organizing information for efficient traffic flow:

Liaisons

Stations listing traffic

Stations taking traffic

# NCS LOG SHEET DEMO

Why more people don't volunteer for NCS?

# NTS MESSAGE FORM

- Shouldn't be the turnoff that some people perceive it to be
- You may only want to use some parts of it with ICS forms or ARES/RACES info

# COPY OF FILLABLE PDF



**ARRL** — the national association for Amateur Radio™



# RADIOGRAM

NUMBER	PRECEDENCE Emergency	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
TO   PHONE NUMBER E-MAIL  _____ _____ _____ _____ _____				THIS RADIO MESSAGE WAS RECEIVED AT AMATEUR STATION _____ PHONE _____ NAME _____ E-MAIL _____ STREET _____ CITY, STATE, ZIP _____			

FROM	DATE	TIME	TO	DATE	TIME
<b>REC'D</b>			<b>SENT</b>		

This message was handled at no charge by a licensed Amateur Radio operator, whose address is shown in the box at right above. 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 06111 or [www.arrl.org](http://www.arrl.org).

The ARRL is the national association for Amateur Radio and the publisher of *QST* magazine. One of its functions is promotion of public service communication among Amateur Radio operators. To that end, the ARRL has organized the National Traffic System for daily nationwide message handling.

1320 2/11

Print Form	Reset Form
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# PARTS OF THE MESSAGE FORM

- Message Number – NR helps Station of Origin with accounting
- Priority – R, W, P, E in an emergent, high-traffic situation, allows prioritization of resources
- Handling Instructions – HX\_ delivery conditions, confirmation
- Station of Origin – first Amateur station to handle it as a message. May or may not be the party sending the message.
- Check/Count – the most basic error trap
- Place of Origin – provides Routing info for any reply
- Time/Date of Origin – quality control, prioritization for intermediary stations
- Addressee – same as the address on regular mail

# RELEVANCE OF PREAMBLE/HEADER

- Performs the same functions as that info applied to regular or e-mail. You just don't see all of the information that's used in an e-mail. The From:, To:, and Reply: fields depend on a lot of behind the scenes info

# BODY OF TEXT / BREAKS

- 5 words per line – facilitates the Check/Count
- Sending Station – pause at the end of each line. Indicates EOL and allows any RX catch-up needed
- Break / BT – separates the Text from the administrative info in the Preamble/Header and from the Signature

# ARL?

- Shorthand or “canned” message
- Numbered
- Numbers spoken and spelled
  
- i.e ARL FIFTY SIX
- ARL Fifty – I spell - Foxtrot India Foxtrot Tango  
Yankee - Six – I spell – Sierra India X-ray
  
- Routine messages
- Health & Welfare messages



# DELIVERY

- The last and most important part of the process
- Think about it before you dial (Your name, call, location, NTS message traffic for ... at this number)
- Recent good/bad experiences by some traffic handlers

# PRACTICAL EXERCISE

WHERE WE PUT IT ALL TOGETHER