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2014 Year End Summary

Updates and Review

Santa Clara County ARES®/RACES

Revised: 19-Dec-2014

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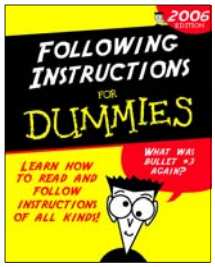
Housekeeping

- Refreshments
- Pen/pencil & paper
- Cell phones & pagers
- Side conversations
- Questions
- Breaks
- Restrooms
- In case of emergency



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Agenda

- An update on changes that have occurred during the past year, plus a review of some key procedures.
- Topics covered:
  - Packet Operations
  - Net Control
  - Message Passing
  - … and, for extra fun, a quiz!

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Packet Network Update

2014 Year End Summary

Santa Clara County ARES®/RACES

Revised: 19-Dec-2014

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Agenda

- Packet Overview
- Client Software: SCCo Packet Installer v73
- BBS Functionality
- Network Connectivity

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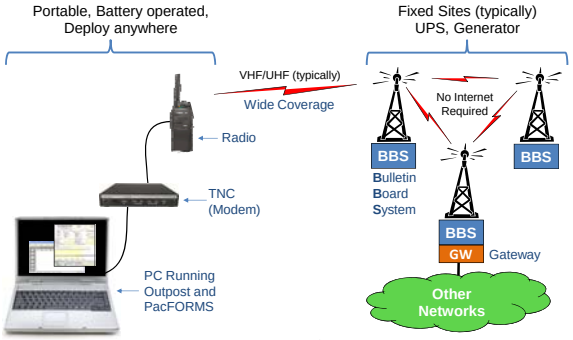
Typical Packet Network Components



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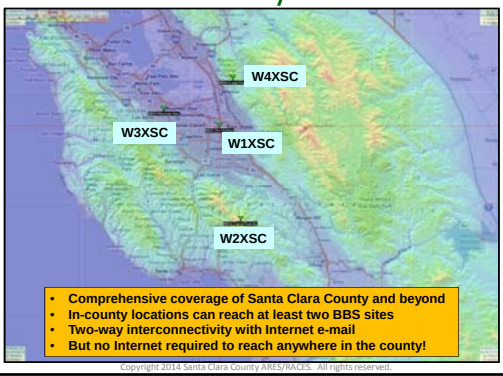
Santa Clara County BBS Locations



- Comprehensive coverage of Santa Clara County and beyond
- In-county locations can reach at least two BBS sites
- Two-way interconnectivity with Internet e-mail
- But no Internet required to reach anywhere in the county!

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Why Packet?

- Fast
  - 20 seconds to send error free message (vs. 2-3+ min. by voice)
- Accurate
  - No hearing, transcription, copying, logging, legibility problems
- Deployable
  - Anywhere in the county; VHF doesn't need strict line of sight
- Reliable
  - UPS and Generator at all hub sites
  - Reach at least two BBSs from anywhere in the county
- Meets agency needs for EmComm
  - PacFORMS reproduces format of standard county forms
  - Plain text for quick message or cut-and-paste data from other apps
  - E-mail gateway for health & welfare traffic to families

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SCCo Packet Installer v73

CLIENT SOFTWARE ENHANCEMENTS

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Outpost Enhancements

- Setup > Identification
  - Improved ease of switching between FCC and tactical call signs
- Setup > TNC
  - Updated TNC initialization command lists
  - Helps avoid some commonly seen problems with new users
- Setup > BBS
  - Added BBS initialization command lists
  - Helps avoid hangs due to XM (page length) not being set to zero
- Plain Text Delivery Receipts
  - Email users now receive human-readable delivery receipts
  - Great for health & welfare traffic to/from family members

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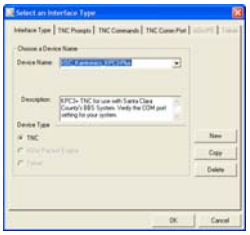
User-created Settings

New profiles are created with a copy of the existing settings



For BBS and TNC setups, best to use the Copy function

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Outpost Enhancements (cont.)

- Session Monitoring
  - Session status now visible in the Status Line at the bottom of the main Outpost window
- Message size increased to 65 kB
  - Improves ability to cut-and-paste data from other applications
  - Enables manual UUENCODE attachments (caution!)
- Consistent use of "P" suffix
  - Indicates Outpost-generated message number
- Improved "Send" button placement

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PacFORMS and Other Enhancements

- PacFORMS Changes
  - All users
    - Minor typo-fixes
  - ECs, AECs
    - RIMS forms have been removed
  - Hospital net
    - Updated hospital forms
- Web Site / Documentation changes
  - Main packet page
    - http://www.scc-ares-races.org/packet.html
  - Configuration and Setup Instructions
    - Standard Outpost Configuration Instructions (PDF)
    - Standard TNC Parameter Settings (PDF)
      - Updated for Kenwood TH-D72A, Kantronics 9612, MFJ 1270/1274 B vs C

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More Info / Future Enhancements

- For more details on Outpost, PacFORMS or the v73 Installer
  - Main Page
    http://www.scc-ares-races.org/packet.html
  - Details for Packet Installer
    http://www.scc-ares-races.org/packet/net/Packet_Network_Update_2014-10-27_New_Installer.pdf
  - New BBS call routing
    http://www.scc-ares-races.org/packet/net/Packet_Network_Update_2014-09-18_Tactical-Call-Routing.pdf
- Future enhancements currently being designed, implemented
  - More ease of use
  - Enhanced bulletin management
  - Enhanced profile management
  - Attachments?

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BBS FUNCTIONALITY

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JNOS Software Enhancements

- JNOS is the BBS software we use
- It continues to be actively developed/improved
- Some recent improvements to JNOS internals that were helpful to our configuration and use:
  - Improved address handling options
  - Improved logging options
  - Improved mailbox expiration options
  - Improved UDP tunneling through firewalls
  - Improved IP routing options
  - Bug fix: UTF-8 character set handling
  - Bug fix: Some outbound e-mails to Internet had missing domain

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SCCo BBS Functionality Enhancements

- Eliminated auto-forwarding of tactical calls
  - Message to all call signs, FCC or tactical now act the same
  - Standard format: callsign@bbscall or callsign@bbscall.ampr.org
    - Example: Herman Munster at W2XSC
      - w6xrl4@w2xsc or w6xrl4@w2xsc.ampr.org
    - Example: Xanadu EOC at W4XSC
      - xndeoc@w4xsc or xndeoc@w4xsc.ampr.org
  - If no domain (@...) is specified, message stays on the local BBS
  - Error rate of weekly check-ins is much lower now!
- Revamped internal address parsing rules
  - BBS hierarchical addresses, Internet addresses, NTS traffic, bulletins
- Improved bulletin handling
  - Bulletin area names, forwarding rules, …

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Bulletins Overview

- Bulletins are messages that are intended for broad readership
- Bulletins content varies from amber alerts and earthquake reports to jokes and recipes
- Bulletin sender controls how widely the bulletin is distributed
  - Can be as narrow as "local" (this BBS only)
  - Can be as wide as "ww" (worldwide)!
- In JNOS, bulletins are sorted into shared areas (mailboxes) for easier reading
- This update will cover just the basics of reading bulletins
- More details will follow soon

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Bulletins – Why Do They Matter?

- Standard way to distribute information between BBSs of all types throughout the world
- Use them for fun or for emergency communications
- Use them for distributing information to broader areas:
  - Santa Clara County
  - San Francisco Bay area
  - Northern California
  - All California
  - And wider …
- Example:
  - During the 2009 cable cut, information about anticipated service restoration times were distributed via bulletins by a ham who had information from the telecom carrier

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Bulletin Addresses

- Address format: *category@distribution*
- Category:
  - A six-character or shorter description of the main topic of the bulletin.
  - Sender picks the category based on the contents of the bulletin
  - Example categories:
    - amber – Amber alerts
    - equake – Earthquake reports
    - flood – Flood reports
    - swpc – Space Weather Prediction Center
    - humor or humour – Jokes, stories, etc.
  - Any category works on our SCCo BBSs because we sort bulletins by distribution, not category
  - Uncommon/unusual categories may be held on other BBSs until the sysop decides where it should go

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Bulletin Addresses (continued)

- Address format: *category@distribution*
- Distribution
  - A six-character or shorter keyword which defines how widely the bulletin will be distributed
  - Sender picks from a pre-defined list
  - Acceptable distributions:
    - local Local BBS only
    - xsc XSC Operational Area (Santa Clara County)
    - bay San Francisco and Monterey Bay area
    - nca Northern California (generally North of the Tahachapi Mountains)
    - ca California
    - wusa Western USA (generally, West of the Mississippi River)
    - usa United States of America
    - noam North America (Canada, USA, Mexico, …)
    - ww worldwide

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Bulletin Addresses (continued)

- Example bulletin addresses:
  - flood@xsc
    - Information about flooding for distribution to all BBSs in Santa Clara County
  - equake@bay
    - Information about an earthquake for distribution to all BBSs in the San Francisco and Monterey Bay areas
  - equake@nca
    - Information about an earthquake for distribution to all BBSs in Northern California
  - swpc@ww
    - Space Weather Prediction Center reports for distribution to all BBSs worldwide
  - humour@ww
    - Variety of jokes and funny stories

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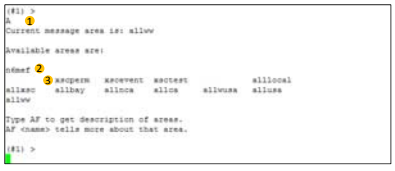
JNOS Command: A (Area)

Use a terminal emulator such as Ipserial or PuTTY and your TNC/Radio to connect to the BBS for reading general bulletins

1. Type the JNOS "A" command to list areas that you can read
2. Your own area (mailbox) is listed first
3. Other shared mailboxes and bulletin areas are listed next



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JNOS Command: AF (Areas Full)

1. Use "AF" to list descriptions next to each area name
2. (To: …) shows how to address messages to xsc-specific areas
3. (To: …) shows how to address messages to general bulletin areas
4. Bulletin addresses include a category

```
(#0) >
AF   1
Current message area is: n6mef

Available areas are:

n6mef       Your private mail area

# Santa Clara County Op Area Shared Mailboxes                    2
xscperm     Operation, Configuration and other Permanent Info    (To: xscperm)
xscevent    Emergency Incident and Public Service Event Info     (To: xscevent)
xsctest     Test and Training                                    (To: xsctest)

# General Bulletin Areas by Distribution                         3
allocal     All categories, this BBS only (no distribution)      (To: <cat>@local)
allxsc      All categories, Santa Clara Co distribution          (To: <cat>@xsc)
allbay      All categories, SF & Monterey Bay distribution       (To: <cat>@bay)
allnca      All categories, Northern California distribution     (To: <cat>@nca)
allca       All categories, California distribution              (To: <cat>@ca)
allwusa     All categories, Western USA distribution             (To: <cat>@wusa)
allusa      All categories, USA distribution                     (To: <cat>@usa)
allww       All categories, Worldwide distribution               (To: <cat>@ww)

# <cat>  4  A short (max 6 char) category like "equake", "flood", "wx", ...
# HELP A    Help using the area command
(#0) >
```

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JNOS Command: LA (List All)

1. Use "A" to change area to "allww"
2. Wow, that's a lot
3. Set page length
4. List All
5. JNOS pauses
   - <SPACE> to continue
   - <ESC> to quit

Note:
- Outpost will hang if XM is not set to 0 (zero).
- SCCo Packet Installer v73 includes BBS initialization files which send "XM 0" when it connects. This eliminates hangs if you forget to reset XM back to 0.

```
(#1) >
A ALLWW  1
allww: 74 messages  -  73 new.  2
(#2) >
XM 24  3
(#2) >
LA  4
Mail area: allww
74 messages  -  73 new

St.  #  TO          FROM      DATE   SIZE SUBJECT
  Y  1  svpc@ww     cx2sa     Nov 26 4139 Geophysical Alert Message (WWV)
> N  2  svpc@ww     cx2sa     Nov 26 3059 Report of Solar-Geophysical Activity
  N  3  svpc@ww     cx2sa     Nov 26 3846 Daily Space Weather Indices
  N  4  tech@ww     g0mwj     Nov 27 4550 2m 4el Quad you can build
  N  5  tech@ww     g0mwj     Nov 27 2140 2m Slim Jim
  N  6  tech@ww     g0mwj     Nov 27 2324 2m JayBeam LBZ Colinear
  N  7  humour@ww   gm3yew    Nov 27 6993 Jokes 27/11
  N  8  todos@ww    lw3ddh    Nov 27 3305 Aniversario LO-SAT Qsl Especial.
  N  9  todos@ww    lw3ddh    Nov 27 39836 Que es la Radioafición?.....

  N  10 svpc@ww     cx2sa     Nov 27 4198 Geophysical Alert Message (WWV)
  N  11 svpc@ww     cx2sa     Nov 27 3027 Report of Solar-Geophysical Activity
  N  12 todos@ww    lw3ddh    Nov 27 1679 Radioaf con Premio Novel WX61.
  N  13 todos@ww    lw3ddh    Nov 27 3012 IXE1-3 Have Detectado por EB3FRH
  N  14 todos@ww    lw3ddh    Nov 27 1849 Radioaficion desde la LUNA.
  N  15 svpc@ww     cx2sa     Nov 27 3845 Daily Space Weather Indices
  N  16 todos@ww    lw3ddh    Nov 27 1540 Estacion Meteo LW1ERO Experimental.
  N  17 tech@ww     g0mwj     Nov 28 8043 AF 2 Tone Test Gec Design
  N  18 tech@ww     g0mwj     Nov 28 4697 Band 2 4el Narrowband Yagi
  N  19 tech@ww     g0mwj     Nov 28 5602 Band 2 4el Broadband Yagi
  N  20 humour@ww   gm3yew    Nov 28 10418 Jokes 28/11

  N  21 astdig@ww   cx2sa     Nov 28 7528 AMSAT-BB-digest V9 401
  N  22 svpc@ww     cx2sa     Nov 28 4198 Geophysical Alert Message (WWV)
  N  23 svpc@ww     cx2sa     Nov 28 3061 Report of Solar-Geophysical Activity
--more--  5
```

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JNOS Command: LF (List Filtered)

1. Use L> to List Filtered by To: address

```
(#4) >
L> equake  1
Mail area: allww
74 messages  -  72 new

St.  #  TO          FROM      DATE   SIZE SUBJECT
  N  31 equake@ww   cx2sa     Nov 29 2173 MOLUCCA SEA
  N  53 equake@ww   cx2sa     Dec  1 2124 CARLSBERG RIDGE
(#4) >
```

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JNOS Command: R (Read)

1. Use "R #" to read message number #
2. JNOS pauses again, based on XM setting

```
(#4) >
R 53  1
Message #53
Date: 01 Dec 14 23:07:00 GMT
From: cx2sa@cx2sa.sal.ury.soam
To: equake@ww
Subject: CARLSBERG RIDGE

Path: W4XSC!W4RMK!CX2SA

From: CX2SA@CX2SA.SAL.URY.SOAM
To  : EQUAKE@WW

Feedback-ID: us-east-1:IWSqQVucy5ic2dsImd=dg==:AmazonSES
             == PRELIMINARY EARTHQUAKE REPORT ==

Region:                         CARLSBERG RIDGE
Geographic coordinates:         1.593N,  67.702E
Magnitude:                      5.5
Depth:                          10 Km
Universal Time (UTC):            1 Dec 2014  22:47:26
Time near the Epicenter:         2 Dec 2014  03:47:27

Location with respect to nearby cities:
589 km (365 mi) NNW of Kudahuvadhoo, Maldives
705 km (437 mi) NNW of Male, Maldives
1132 km (701 mi) SSW of Kavaratti, India
--more--  2
```

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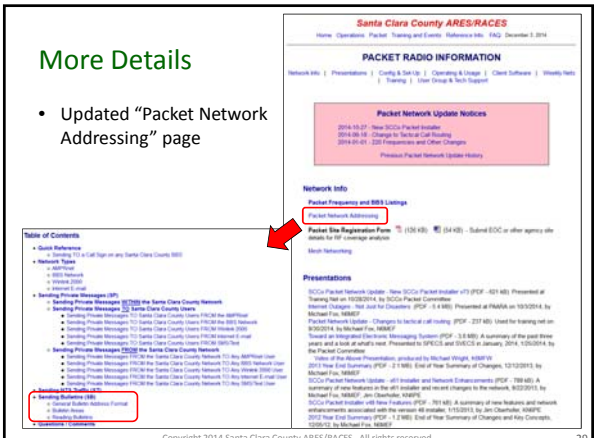
More Details

- Updated "Packet Network Addressing" page



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Bulletins – Current and Future

- For now, we'd like everyone to start familiarizing themselves with how to read bulletins
  - Use a terminal emulator such as Ipserial or PuTTY and browse the existing bulletins to learn what they look like and how they are used
  - Do NOT adjust the Outpost bulletin settings to add the general bulletin areas
    - There are far too many bulletins and some are very, very long
    - You will hog the channel for a long, long time
  - Read the Packet Network Addressing web page to learn more details about bulletin addresses.
- We're currently defining some future Outpost enhancements to help with reading more narrow subsets of bulletins
- Stay tuned for more details in the spring

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NETWORK CONNECTIVITY ENHANCEMENTS

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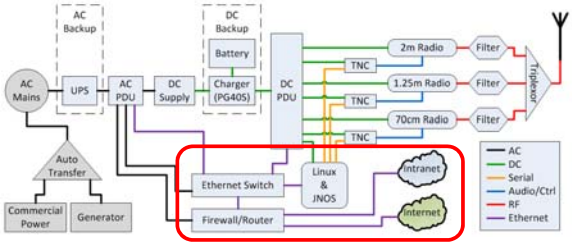
Typical SCCo BBS Block Diagram



2014 Focus:
- Linux / JNOS automated monitoring, automated problem mitigation
- Network connectivity, routing and security

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2014 Networking Focus

- Migrate to RF connectivity with other Bay area BBSs
  - N0ARY – Mt. Umunhum
  - N6ZX – Woodside (covers most of San Mateo County)
  - Resulted in 220 frequency change between W2XSC and W4XSC
- Fully distribute BBS network connections to all BBSs
- Begin installation of redundant, high-speed backbone

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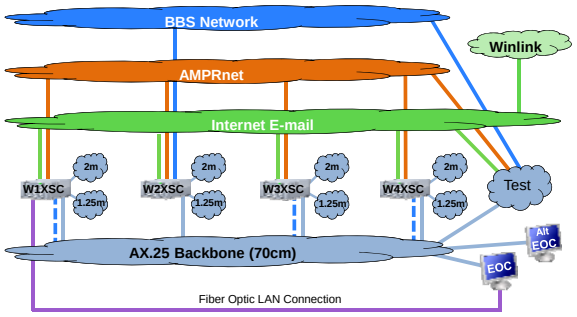
2013 Network Connectivity



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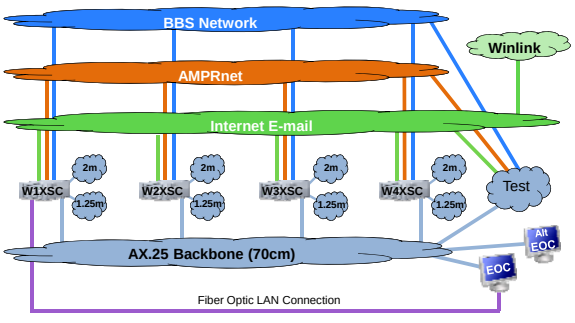
2014: Distribute BBS Network Connections



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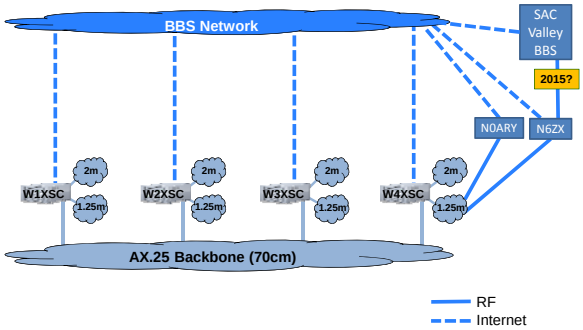
2014: BBS Network Connection Details



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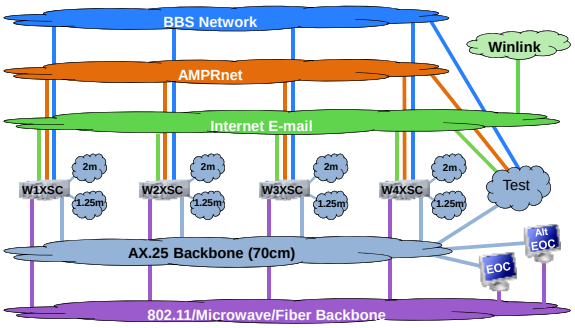
2014: Begin High Speed Backbone



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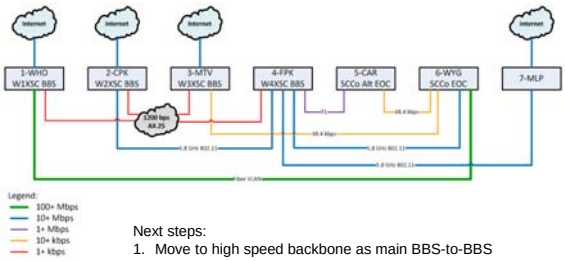
2014 Backbone Connectivity



Next steps:

1. Move to high speed backbone as main BBS-to-BBS transport; 70cm network as backup
2. Add links to high-speed backbone to become fully redundant; 70cm can be repurposed

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2014 Site Work

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Improved Network Monitoring / Automation

- Power and environmental monitoring at mountain locations
  - AC mains, UPS, battery voltage, temperature, humidity
- Mail queue monitoring
  - Identifies problems with mail queue: hung, address processing problems
- AMPRnet routing updates
  - Improved sanity checks before applying updated routes; updates twice daily
- JNOS-to-JNOS Connectivity Watchdog
  - Runs on all BBS machines
  - Monitors responses from local and all remote SCCo BBSs
  - Restarts local JNOS if not responding
- Internet connectivity monitoring
  - Identifies loss of Internet connectivity at all sites

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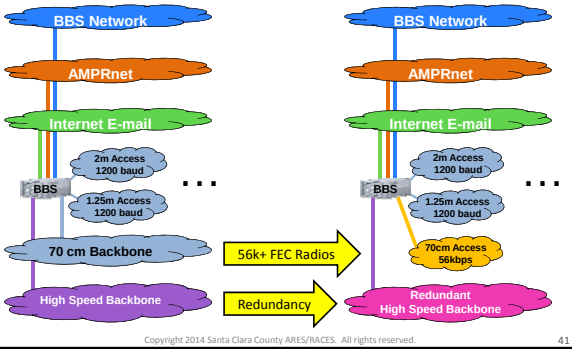
Higher Speed RF Access in the Future?



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Questions / Technical Support

- Yahoo Group: scc-packet
  - https://groups.yahoo.com/group/scc-packet
- 180+ members
  - If you have a question about packet radio, someone on that list is bound to have an answer!
- Closed list to avoid SPAM
  - Be sure to follow instructions on the main group page to provide the correct information when you request to join

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Links

- Details for Packet Installer
  http://www.scc-ares-races.org/packet/net/Packet_Network_Update_2014-10-27_New_Installer.pdf
- New BBS call routing
  http://www.scc-ares-races.org/packet/net/Packet_Network_Update_2014-09-18_Tactical-Call-Routing.pdf

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END

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Net Control Review

2014 Year End Summary

Santa Clara County ARES®/RACES

Last Updated: 09-Dec-2014

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ICS 214 – Unit Activity Log

- Our version: ICS 214-SCCo
- A record of all major activities and events
- EVERYONE fills out a 214
  - Individuals: a unit of one
  - Teams: Team leader
  - Start when you get assignment (home)
- Occasional message traffic?
  - Just log it right on the 214
- Use multiple pages if necessary
- Turn in to supervisor at end of shift
- Instructions on back

http://www.scc-ares-races.org/operations.html

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Exercise: ICS-214 Unit Log

- Create an ICS-214 log for the following scenario in City of Xanadu (XND)
  - Incident is "Training Class Exercise", activation code XND-14-TCE
  - The class will begin at 0900 hours and end at 1200 hours
  - You leave home at 0815 hours
  - You arrive at the training location at 0845 hours
  - The class starts at 0900

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Exercise: ICS-214 Activity Log

UNIT LOG ICS 214-SCCo ARES/RACES	1. Incident Name and Activation Number: *Training Class Exercise* / *XND-14-TCE*	2. Operational Period (Date/Time): *12/13/2014* From: *0900* To: *12/13/2014* *1200*
3. Unit Name / Tactical Call / Designators: *Your Name*	4. Unit Leader (Name, Call Sign, ICS Position): *Your Name, Your FCC Call Sign*	

5. Personnel Roster Assigned

Name	Call Sign	ICS Position	Home Base/City

6. ACTIVITY LOG

Time (24:00)	Major Activities & Events / Occasional Messages (indicate From / To / MsgF / Msg Text)
0815	*Left Home*
0845	*Arrived at training class location*
0900	*Training class started*

7. Prepared By (Name, Call Sign, ICS Position)	8. Date & Time Prepared	9.
Your Name, Your FCC Call Sign	*08/02/2014 - 1015*	Page *1* of *1*

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ICS 309 – Communications Log

- Our version: ICS 309-SCCo
- Net Control Operators and stations with high message traffic
- Columns help organize key message tracking info
- Does not replace 214
  - EVERYONE fills out a 214
- Turn in to supervisor at end of shift
- Instructions on back

http://www.scc-ares-races.org/operations.html

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Example 309 – Resource Net

FROM and TO are usually FCC Call Signs; no message numbers

COMM Log ICS 309-SCCo ARES/RACES	1. Incident Name and Activation Number: Mockingbird Heights Mummy Race RIP-13-13T	2. Operational Period (Date/Time): 10/31/09 11/1/09 From: 2000 To: 0400
3. Radio Net Name (for NCOs) or Position/Tactical Call: Resource Net	4. Radio Operator (Name, Call Sign): Wolf Man, W6WOOF	

5. COMMUNICATIONS LOG

Time (24:00)	FROM Call Sign/ID	FROM Msg #	TO Call Sign/ID	TO Msg #	Message
. . .	. . .			. . .	
2300	W6XRL4				Leaving home – 1313 Mockingbird Lane ODO 123
2315			W6XRL4		H&W - Highway 13 – ODO 141
2330	W6XRL4				Arrived ICP ODO 150; Check-Out

- Recommended: instead of writing "NC" or "NCO" for yourself, leave the call sign field blank
  - Makes it easier to see which messages were from/to field operators

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Example 309 – Message or Tactical Net

FROM and TO are usually tactical call signs; messages are numbered

COMM Log ICS 309-SCCo ARES/RACES	1. Incident Name and Activation Number: Mockingbird Heights Mummy Race RIP-13-13T	2. Operational Period (Date/Time): 10/31/09 11/1/09 From: 2000 To: 0400
3. Radio Net Name (for NCOs) or Position/Tactical Call: Event Tactical Net	4. Radio Operator (Name, Call Sign): Herman Munster, K6XRL4	

5. COMMUNICATIONS LOG

Time (24:00)	FROM Call Sign/ID	FROM Msg #	TO Call Sign/ID	TO Msg #	Message
0000	W6DRAC				Check-In – Assigned tactical Blood bank 1 (BBANK1)
0005			All Checkpoints		First mummy on course; advise when at your station
0015	BBANK1	107	MH-ICP	204	Blood bank is running short of 0+ blood
0020	CP1				First mummy passing checkpoint 1

- Use Msg # column for formal message nbrs; otherwise blank
- For tactical messages, instead of writing "NC" or "NCO" for yourself, you can leave the call sign field blank

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ICS 309 Start/Shift Change/End of Net Entries

- Log an entry for start of net, shift changes, and end of net
- Helps to figure out which person handled which messages and confirms end of log

5. COMMUNICATIONS LOG

Time (24:00)	FROM Call Sign/ID	FROM Msg #	TO Call Sign/ID	TO Msg #	Message
0900	----	---	----	---	*Start Net*
	----	---	----	---	*Net Control = Your Name, <your call sign>*
	----	---	----	---	*Scribe = Herman Munster, W6XLR4*
1000	----	---	----	---	*Shift Change*
	----	---	----	---	*Net Control = Herman Munster, W6XLR4*
	----	---	----	---	*Scribe = Your Name, <your call sign>*
1100	----	---	----	---	*Net Closed*

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Exercise: ICS-309 Communications Log

- Create an ICS-309 log for the following scenario in City of Xanadu (XND)
  - Incident is "Training Class Exercise", activation code XND-14-TCE
  - Operational period is from 11:00AM to 2:00PM on December 13, 2014
  - You start the net as NCO for the city's tactical net at 11:45 AM
  - Your scribe is Herman Munster, W6XRL4
  - You receive a message from Shelter 2 to the XND EOC at 11:55 AM
    - Their msg # S2-013; your msg # XND-106; subject = "Bed count"
  - Joe Hamm, KJ6HAM, checks in at 12:10 PM; assigned tactical call "Shelter 1"
  - Betty Ham, KB6HAM, checks in at 12:20 PM; assigned tactical call "Shelter 3"
  - The XND EOC sends a message to Shelter 3 at 12:50 PM
    - Your msg # XND-107; their msg # S3-1004; subject = "Inventory checklist"
  - You receive a message from Shelter 1 to the XND EOC at 1:05 PM
    - Their msg # S1-021; your msg # XND-108; subject = "Supply status"
  - You send to All Shelters at 1:10 PM, your msg # XND-109, "Exercise complete"
    - Shelters respond with their msg #s: S1-022; S2-014; S3-1005
  - You close the net at 1:30 PM

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Exercise: ICS-309 Communications Log

COMM Log ICS 309-SCCo ARES/RACES	1. Incident Name and Activation Number: *Training Class Exercise XND-14-TCE*	2. Operational Period (Date/Time): *12/13/2014 12/13/2014 From: 1100 To: 1400*
3. Radio Net Name (for NCOs) or Position/Tactical Call: *Xanadu Tactical Net*	4. Radio Operator (Name, Call Sign): *Your name, your FCC call sign*	

5. COMMUNICATIONS LOG

Time (24:00)	FROM Call Sign/ID	FROM Msg #	TO Call Sign/ID	TO Msg #	Message
1145	----	---	----	---	*Start Net*
	----	---	----	---	*Net Control = Your Name, <your call sign>*
	----	---	----	---	*Scribe = Herman Munster, W6XLR4*
1155	*Shelter 2*	*S2-013*	*EOC*	*XND-106*	*Bed count*
1210	*KJ6HAM*				*check-in – assigned tactical = Shelter 1*
1220	*KB6HAM*				*check-in – assigned tactical = Shelter 3*
1250	*EOC*	*XND-107*	*Shelter 3*	*S3-1004*	*Inventory checklist*
1305	*Shelter 1*	*S1-021*	*EOC*	*XND-108*	*Supply status*
1310		*XND-109*	*All Shelters*		*Exercise complete --- Confirmation #s follow*
1311		*"*	*Shelter 1*	*S1-022*	
1312		*"*	*Shelter 2*	*S2-014*	
1313		*"*	*Shelter 3*	*S3-1005*	
1330	----	---	----	---	*Net closed*

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Exercise: ICS-309 Communications Log

- Don't forget the bottom of the form!

6. Prepared By (Name, Call Sign)	7. Date & Time Prepared	8.
Your Name, Your Call Sign	*12/13/2014; 1400*	Page *1* of *1*

- What about your ICS-214 Activity Log?

6. ACTIVITY LOG	
Time (24:00)	Major Activities & Events / Occasional Messages (Indicate From / To / Msg# / Msg Text)
. . .	. . .
1145	*Started Tactical Net – see ICS-309*
1330	*Closed Tactical Net*

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Procedure for Remote Transfer of Net

NC1 = Current Net Control NC2 = Replacement Net Control

Who	What to Say
NC2	Announces presence; ready for net control transfer
NC1	Acknowledge; announce start of H&W; requests NC2 to acknowledge each response with a tactical call such as "net2" (or similar)
NC1	Calls each person, one at a time, phonetically
Individuals	Respond as usual (for resource net: street location, odometer, call sign)
NC2	"acknowledged, net2" or "roger, net2"; or "say again …"
NC1	Acknowledges; repeats process for rest of people on net
NC1	Fills in NC2 on any other pending issues; asks if ready to take net
NC2	Acknowledges all info; confirms ready
NC1	Announces transfer of net
NC2	Announces self as net control

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Exercise: Transfer of Level 3 Resource Net

- Need 3-4 volunteers
  - Net Control 2
  - Scribe for Net Control 2 (optional)
  - Traveler 1 & 2
- Rest of class: log as if you were Net Control 2 with no scribe
  - Use both ICS-309 and Travel Tracking Form
- Before you start:
  - Net Control 1: write down traveler call signs
  - Travelers: make up a street location and odometer reading
- Follow the script …
  - "<…>" indicates where you substitute your actual information
  - Example: <NC2 call sign> means you say Net Control 2's call sign
  - Net Control 2: fill in ICS-309 as you go
  - Scribe for NCO2: fill in Travel Tracking Form as you go

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Exercise: Transfer of Level 3 Resource Net

Who	What to Say
NC2	Net control, this is <NC2 call sign>, ready for net control transfer
NC1	<NC2 call sign> roger; Break; All stations - I will now conduct a H&W check; when I call you, respond with street location, odometer and your call sign; <NC2 call sign> after each response, either request a fill or acknowledge; use tactical call net-2
NC2	Roger, net2
NC1	<traveler 1 call sign spelled phonetically>, health and welfare
Traveler 1	<street location> <odometer> <call sign>
NC2	Roger, net2
NC1	Roger. <traveler 2 call sign spelled phonetically>, health and welfare
Traveler 2	<street location> <odometer> <call sign>
NC2	Say again odometer
Traveler 2	<odometer> <call sign>
NC2	Roger, net2
NC1	Roger. Health and welfare check complete

Continued on next page …

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Exercise: Transfer of Level 3 Resource Net

Continued from previous page …

Who	What
NC1	Net2, do you need any other fills?
NC2	Negative
NC1	O.K. Additional information follows: You need to contact Jenny at 867-5309 to unlink the repeaters after you close the net.
NC2	Acknowledged.
NC1	Are you ready to take the net?
NC2	Affirmative.
NC1	This is <NC1 call sign> turning over net control to <NC2 call sign>; <NC1 call sign> clear.
NC2	This is <NC2 call sign>, net control for the Santa Clara County Resource Net. This is a directed net…

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Resulting Logs for Net Control 2 (New NC)

ICS-309

5. COMMUNICATIONS LOG					
Time (24:00)	FROM		TO		Message
	Call Sign/ID	Msg #	Call Sign/ID	Msg #	
1150	*<New NC>*		*NC*		*Check-in – assigned "net2" tactical*
1151			*<Traveler1>*		*H&W Maple Street; odo 123*
1152			*<Traveler2>*		*H&W Red Street; odo 321*
1153	*<Old NC>*		*ALL*		*Relinquished net; checked out*
1153	*<New NC>*		*ALL*		*Taking over as new net control*

Travel Tracking Form

3. Call Sign	4. Traveler Status (00:00 24-hour –or– ✓)								5. Notes
	Check-In	Depart	H&W-1	H&W-2	H&W-3	H&W-4	Arrive	Check-Out	
<Traveler1>	----	----	✓						
<Traveler2>	----	----	✓						

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END

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Message Passing

2014 Year End Summary

Santa Clara County ARES®/RACES

Updated 2014-12-11

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Agenda

- Review of basic concepts
- Message passing
  - Basics
- Message Forms
  - Formal
  - Informal
- Exercises, exercises, exercises…

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Points to Remember...

- Messages must be passed correctly and concisely
- Illegible messages should go back to the Shift Supervisor or message originator for clarification.
- If you are given a verbal message, write it out, and get approval fro

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Points to Remember...

- Identify with tactical call, and use your FCC call every 10 minutes and at end of communication
- Transmit only facts, not conjecture
- Avoid sending personal or confidential information that you don't want seen on the "Nightly News"
  - Dead bodies

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Effective Radio Techniques

- Make only necessary transmissions
- Use procedures and techniques to reduce the number of transmissions
- Use a minimum of words to convey a message
- Drop PTT when not speaking; avoid "open mic" or "dead air"

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Use Control Phrases

- These words are spoken to begin or end the message, indicate information for the receiving operator, or to separate parts of the message
  - "All stations standby" or "All stations hold your traffic"

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Message Passing Do's & Don'ts

- Do not repeat the message
- Do not use Q-codes or 10-codes
- Do say numbers correctly: 11 is "figures one one"
- Do say time and date correctly
- Do minimize words; use Prowords:
  - "the date is …" → "date …"
  - "Sorry, I didn't get that. Can you repeat …" → "say again …"
- Do record message #s
- Do send your message # when done receiving
- Do get acks from all stations in multi-station msg passing
- Do practice copying call signs
- Do practice standard ITU phonetics

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Message Passing Exercise

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Catch that Callsign????
Comprehension is critical

- Take out your form one
- The instructor will read a list of callsigns
- See if you can get them all correctly.

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How did you do?

- KJ6ACE
- KI6DDX
- KJ6CBR
- KI6RLD
- WU6V
- KI6IUT
- AE6ZY
- W6HW
- KK6VF
- KG6UWO
- KC6SKM
- KZ6O

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Message Handling Prowords

- I SPELL –
  - Used to indicate you are going back to spell the group just voiced. It is used with ONE GROUP AT A TIME, and is said IMMEDIATELY after voicing the group, followed by either phonetic or letter spelling of the group.
- I SAY AGAIN – to repeat for clarity
  - Say the group(s), then "I say again", repeat the group(s), and then continue. It is wise to limit repeats for clarity to one group at a time to avoid confusion. In bad radio conditions, however, repeating phrases or whole lines of a message can increase the chance for correct copy.
- SAY AGAIN … – to request a repeat
  - Used by the receiver to request a repeat. Followed by a qualifier. Example: SAY AGAIN WORD AFTER …

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Message Handling Prowords

- 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 "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

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Some Rules of Thumb

- PAUSES
  - Pauses are crucially important tools in voicing messages. Pauses exist between words/letters, groups (essential for clarity and separation)
- SPELLING
  - Spell with letters or phonetics based on radio conditions, interference, or type of group. Use only standard phonetics.
  - ALWAYS use standard ITU phonetics
- PUNCTUATION (per SCC RACES practice)
  - Written - "." will continue to be used at the end of a sentence, not a separate word group.
    Spoken – "." will be said as "period"
  - Written – "?" will continue to be used at the end of a sentence, not a separate word group.
    Spoken – "?" will be said as "question mark"

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Message Forms - formal

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Recommended Transmission Process

- Sender (wait for ACK each step)
  - Message #, Date, Time
  - Severity, Handling, Requests
  - To, From
  - Subject
  - Reference (if any)
  - Message - 5 words at a time
  - "End of message"
- Receiver
  - "Ack each section, or use prowords to ask for a repeat"
  - "Ack the end of the message and respond with your message number."
  - "End the transmission with your call sign"
  - "Fill in the bottom part of the form, record it and hand it off as needed"
- Sender
  - ACK / Fill in receiver's message #
  - "This is <call sign>"
  - Fill in Operator Info

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Message Passing Exercise

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MESSAGE FORM

▸ Use Ballpoint Pen–Press Hard; Print Clearly
(See back for instructions)

When Receiving: Msg.: Sender's msg. #

Msg. #: SLH 235

When Sending Msg.: Receiver's msg. #

Date: (MM/DD/YY)	Situation Severity (✓one)	Msg. Handling Order (✓one)	Message Requests You To:
01 / 06 / 10	☐ EMERGENCY (e.g., Life Threat)	☑ IMMEDIATE (As Soon as Possible)	TAKE ACTION (✓one) ☑ Yes ☐ No
Time: (24 hour clock) 2347	☑ URGENT (e.g., Property Threat)	☐ PRIORITY (Less Than One Hour)	REPLY (✓one) ☑ Yes, by 0037 hrs ☐ No
	☐ OTHER (All others)	☐ ROUTINE (More Than One Hour)	☐ FOR YOUR INFO. (no action required)

To:	ICS Position: (required) Planning	From:	ICS Position: (required) Operations
	Location: (required) DEOC		Location: (required) Saint Louise Hospital
	Name: (optional)		Name: (optional)
	Telephone #:(optional)		Telephone #: (optional)

SUBJECT: Availability of Medication

REFERENCE (e.g., Number of earlier msg.):

Message: (what, when, where needed; how long; contact name and phone number) KEEP MSG BRIEF

Need	50	doses	of	lamivudine
to	treat	two	cases	of
acute	hepatitis	B.	Advise	availability
and	delivery.			

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Message Forms - informal

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Critical components to capture….

Informal messages could be received verbally, or on any manner of writing material. From neatly written to total scribble and cryptic notes…

It's most important to capture the following key elements. At a minimum you might get:

- Who to / Who from / message details

Make sure you add the following:

- Date / Time / contact number/method

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Example of an unfamiliar form: Donut Ordering Form

Date: 01-07-11
Time: 1050 hrs.
Person Ordering: John Henry
Glazed: 1 doz
Jelly: 1
Plain: 24
Bear Claws: 1/2 doz.

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Message Passing Exercise

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INFORMAL

- Take out a Form 1

- What was missing?

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Message Passing – problem solving

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If an Operator is sending a message poorly (say a ICS213) – what do you do?

- You can suggest a process of, "left to right, top to bottom, 5-words at a time"
- If that doesn't work, then you switch to a more directive approach by asking for individual fields: message number?, date?, time? To position?, etc.
- If, after going through that once, and the next message isn't done properly, might be time to suggest another operator (through discrete channels)

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If an Operator is sending a message poorly (using an unfamiliar form you haven't seen) – what do you do?

- Try suggesting: "First, tell me the names of each of the fields on the form, left to right, top to bottom. Pause after each one (or five) and wait for an acknowledgement by me. If the fields are numbered, tell me the number when you tell me the field name"
- Then ask for each piece of info by the field name.

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Message Passing Exercise

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Thank You!

We look forward to seeing you again next year:

Classes, drills, events, …

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