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2024 Year End Summary, Update, Preview



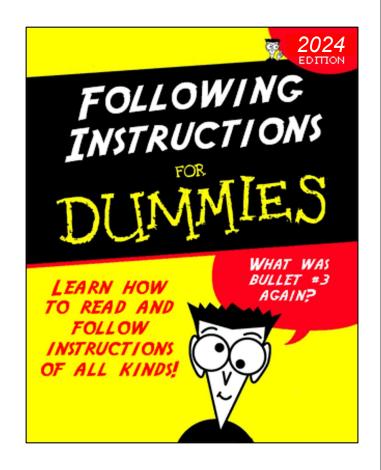
Santa Clara County ARES®/RACES
Revised: 11-Dec-2024

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Housekeeping

- Introductions
- Pen/pencil, paper
- Cell phones
- Side conversations
- Questions
- Breaks
- Restrooms
- Do not park in side parking lot
- Do not wander around the building
- In case of emergency



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Agenda

- Message Passing Skills
- Training
- ICS Forms
- Credential Updates
- Packet Network Update
- Monthly Packet Message Passing
- P1 and HF Credentials & SHARES
- Weekly Packet Practice
- Safety Issue Observed: no fuses in power cables
- Working with a Served Agency
- W2XSC BBS Failure



Message Passing Skills

Can you send what the served agency needs?

Tim Howard, KE6TIM Revised 10-Dec-2024

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Why is Message Passing Important

- Trained Amateur Radio Operators
 - Do more than push a PTT button.
 - Know how to get agency specific messages from Point A to Point B accurately and efficiently, even when other systems are failing.
- No mater how much experience you have, your skills become stale without practice.
- We encourage everyone to attend the training classes every few years.
- We all think we are good enough, but how good is good enough?
- Let's try some examples.
- No judgement, just some fun to see what we can do.

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Some Examples

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Santa Clara County ARES®/RACES

Message Handling Procedures

Revised: 28-June-2024

https://www.scc-ares-races.org/operations.shtml#MHP

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Message Passing Skills

- We schedule two Message Passing Classes each year.
 - January 27th
 - o July 19th
- Quarterly Training Nets on the 3rd Tuesday of the 1st
 Month in each Quarter at 7pm on the Resource Net
 Repeaters is another opportunity to learn and practice.
 - January 21st details on web site--sign up.

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Training

Judy Halchin, KK6EWQ Revised 22-Nov-2024

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Classes

- 24 training classes in 2024
- 16 unique classes
- 40 people in Introduction to Emergency Communications classes (not counting instructors and staff)
- 2025 schedule is very similar to this year's

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Practices

- Monthly packet practice
- Pop-up packet drill
- Quarterly message passing practice
- Quarterly drills at County EOC radio room
- Annual exercise in September

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2024 Year End Summary

Hospital Training

- Hospital employees got ham radio licenses (or already had them)
- ICS-214 and ICS-309 training videos
- Basic voice and packet training for hospital employees

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2025

	2025 Santa Clara County ARES/RACES/ACS Training/Activity Calendar											
TRAINING	January	February	March	April	May	June	July	August	September	October	November	December
WK1	Field Ops Type 3A Date: Sat 1/4 Instr: Howard Loc: SO auditorium	Field Ops Type 3B/2 Date: Sat 2/1 Instr: Howard Loc: SO auditorium	Net Control Type 3A Date: Sat 3/1 Instr: Howard Loc: Sunnyvale DPS	Net Control Type 3B Date: Sat 4/5 Instr: Howard Loc: Sunnyvale DPS:		Event Planning Date: Sat 6/7 Instr: Howard Loc: Sunnyvale DPS		Packet Type 3A Date: Sat 8/2 Instr: Roth Loc: Sunnyvale DPS	Cross-Band Repeat Antenna Fund. Date: Sat 9/6 Instr: Ott Loc: Sunnyvale DPS	Packet Type 3B Date: Sat 10/4 Instr: Roth Loc: Sunnyvale DPS		
WK2		Intro to Em Comm Date: Sat 2/8 Instr: TBD Loc: Sunnyvale DPS			Net Control Type 2 Date: Sat 5/10 Instr: Howard Loc: Sunnyvale DPS	RDF Search & Locate Date: Sat 6/14 IC: TBD Loc: TBD					Packet Type 2 Date: Sat 11/8 Instr: Oberhofer Loc: Sunnyvale DPS	End of Year Summary Date: Sat 12/13 Instr: SCC Staff Loc: Sheriff Aud.
WK3	Cross-Band Repeat Antenna Fund. Date: Sat 1/18 Instr: Ott Loc: Sunnyvale DPS		Fundamentals of Em Comm Date: Sat 3/15 Instr: TBD Loc: Sunnyvale DPS		Quarterly Drill Date: Sat 5/17 10am - 12 noon	Shadowing Date: Sat 6/21 Instr: Halchin Loc:Sunnyvale DPS	Message Passing Date: Sat 7/19 Instr: Howard Loc: Sunnyvale DPS	Field Ops Type 3B/2 Date: Sat 8/16 Instr: Howard Loc: SO auditorium	County-Wide Exercise Date: Sat 9/20 Loc: TBD		<placeholder> County EOC Radio Room Orientation</placeholder>	
WK4	Message Passing Date: Sat 1/25 Instr: Howard Loc:Sunnyvale DPS	Quarterly Drill Date: Sat 2/22 10am - 12 noon	RACES Unit Lead Date: Sat 3/22 Instr: Howard Loc: SCCo EOC				Field Ops Type 3A Date: Sat 26 Instr: Howard Loc: SO auditorium					
WK5								Quarterly Drill Date: Sat 8/23 10am - 12 noon			EC Council Meeting Date: Thur 11/13 7pm LOC: SCCo EOC	
EVENING		EC Council Meeting Date: Thur 2/13 7pm LOC: SCCo EOC			EC Council Meeting Date: Thur 5/8 7pm LOC: SCCo EOC	Intro to EmComm NIGHT CLASS Date: Wed 6/11 Instr: TBD Loc: Sunnyvale DPS	Fundamentals of EmComm NIGHT CLASS Date: Wed. 7/9 Instr: TBD Loc: Sunnyvale DPS	EC Council Meeting Date: Thur 8/14 7pm LOC: SCCo EOC		Intro to EmComm NIGHT CLASS Date: Wed. 10/15 Instr: TBD Loc: Sunnyvale DPS	Fundamentals of EmComm NIGHT CLASS Date: Wed. 11/12 Instr: TBD Loc: Sunnyvale DPS	

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ICS Forms

Tim Howard, KE6TIM Revised 10-Nov-2024

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Forms Updated in 2024

- In 2023 the Public Health Department relocated their operations center and renamed it:
 - Was: Medical Health Joint Operations Center MHJOC
 - Is: Public Health Department Operations Center PHDOC
- This resulted in updates to Hospital Forms and the Recommended Form Routing Sheet.
- We are still seeing numerous cases of MHJOC still being used instead of PHDOC.
- The Recommended Form Routing Sheet is your friend.

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Forms Updated in 2024 (Cont.)

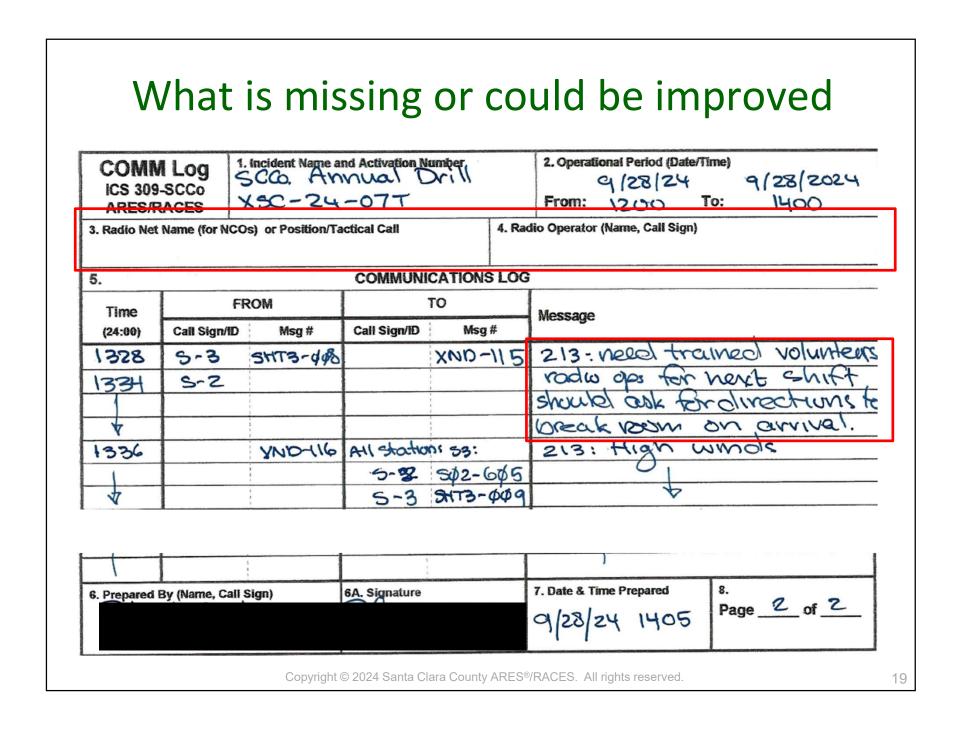
- The RACES Mutual Aid Request Form was updated.
- The primary changes were on page two used at the County EOC to assist with resource assignment and tracking.
- Some changes on the front for cities.
- Those are used by city ECs/AECs and the changes were shared with city RACES leaders at a quarterly EC Council Meeting.

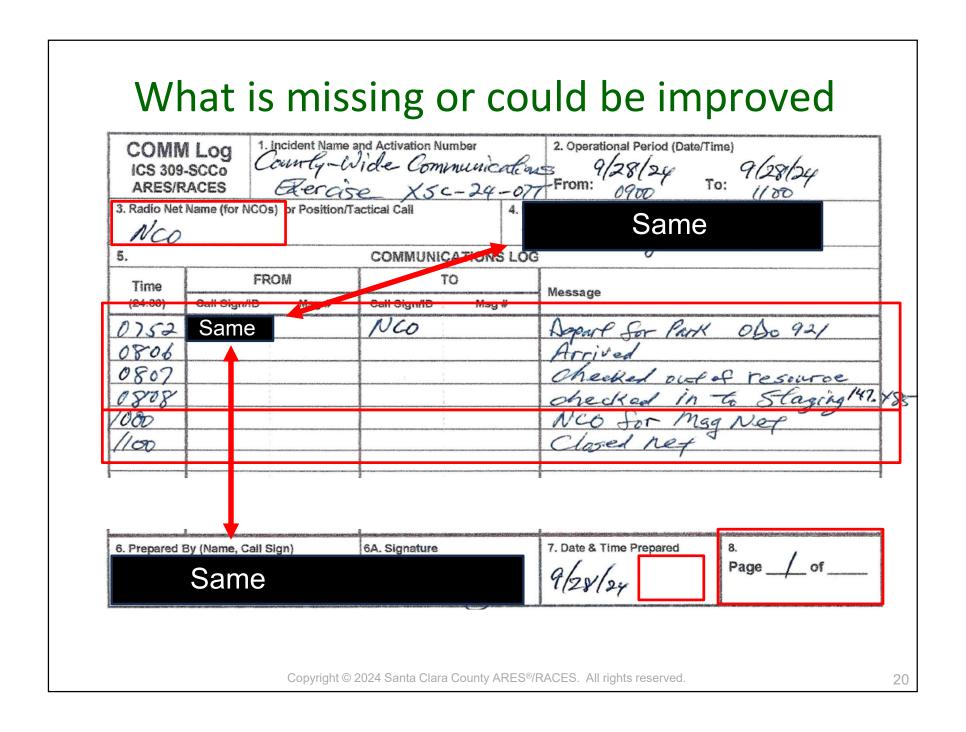
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Errors in Form Completion

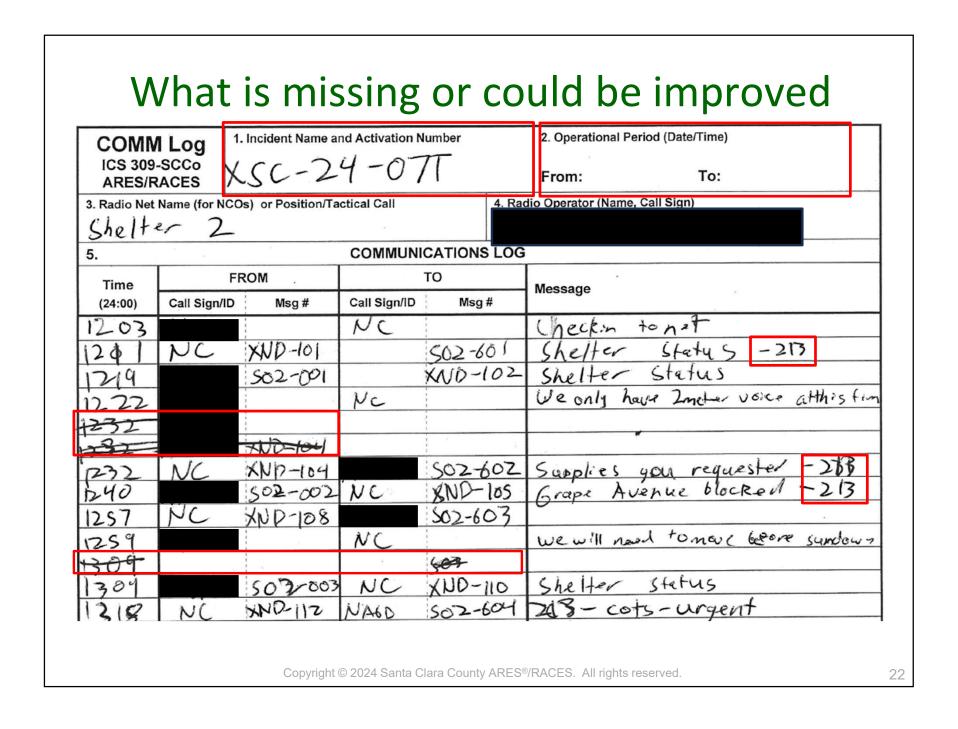
- We continue to see errors in form completion.
- Primarily 214 Activity Log and 309 Communications Log.
- Judging from the call signs, it is mostly newer operators; but, some experienced operators also make errors.
- So new or experienced, we all can do better.
- These forms are legal documents and need to be accurate.
- Let's review some of the more common errors to help us all learn. Names have been redacted to protect the innocent.

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ARES/RACES	1224 NOR PRICK		To: /5:00
3. Unit Name / Tactical Call / Designate	ors 4	. Unit Leader (Name, Call Sign	, ICS Position)
5.	Personnel F	Roster Assigned	1
Name	Call Sign	ICS Position	Home Base/City
6.	ACT	TIVITY LOG	
Time (24:00) Majo	r Activities & Events / Occa	asional Messages (indicate Fro	om / To / Msg# / Msg Text)
0\$53 Leave hom	000 602		

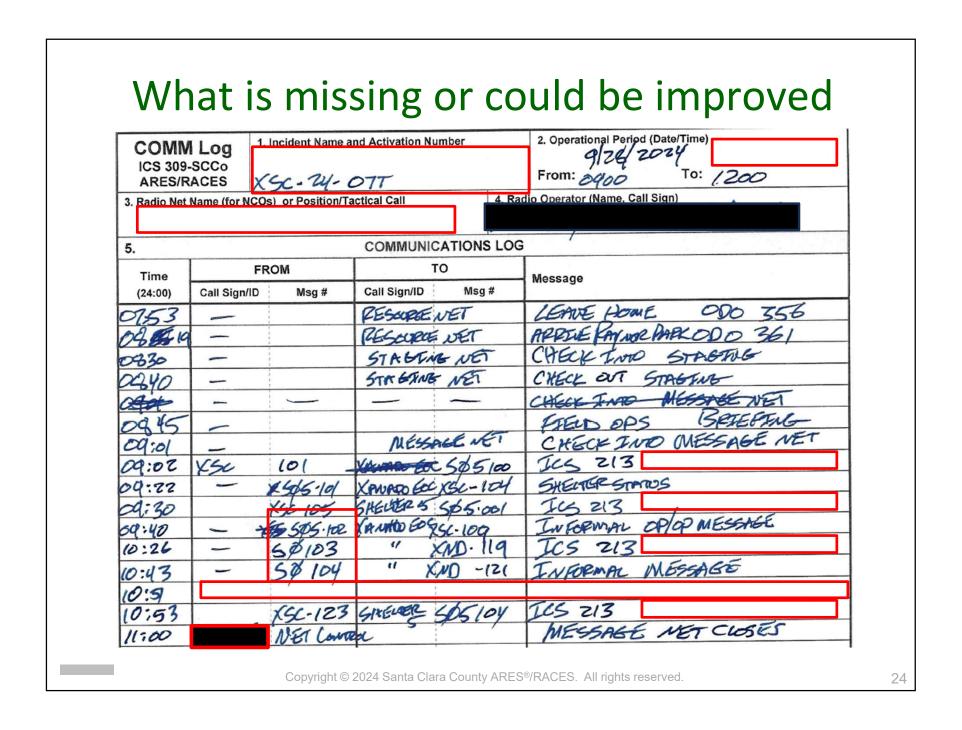


What is missing or could be improved

Continuation of the same form

1337 1343 1362 1463	NC XND-116 NC XND-117 NO XND-117	NC 502-605 502-606 502-607	Redio operators should got for direct sons 213 - High winds alert 213 - Requisitions 213 - Supplies will arrive soon
No	check-out of	net or release	from assignment
,			
6. Prepared E	By (Name, Call Sign)	6A. Signature	7. Date & Time Prepared 8. Page of of

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Credential Updates

Tim Howard, KE6TIM Revised 11-Dec-2024

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Earned Credentials/Endorsements 2024

Credential	Field Operator	Net Control	Packet Operator	Shadow	
Type I	0	1	3	0	
Type II	1	1	0	0	
Type III	2	2	2	2	
Type IV	2				

Endorsement	Earned
Mutual Aid Communicator (MAC)	5
County EOC Radio Operator (ERO)	5
County EOC RACES Unit Leader (RUL)	5

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2024 Year End Summary

Total Credentials and Endorsements

Number of Credentials Earned by Type

Credential	Field Operator	Net Control	Packet Operator	Shadow		
Type I	5	7	3	5		
Type II	17	13	13	9		
Type III	42	30	33	20		
Type IV	54					

Number of Endorsements Earned

Endorsement	Earned		
Mutual Aid Communicator (MAC)	43		
County Fire Station Radio Operator (FRO) (Pending)			
County EOC Radio Operator (ERO)	17		
County EOC RACES Unit Leader (RUL)	5		

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Credentialing

- Credentialing in technical fields (usually called certification) has been used for 25+ years to verify an individual's ability.
- Credentialing is becoming more prevalent in Emergency Management, especially where mutual aid may be utilized.
- The State of California has a credentialing program for EOC positions and many cities are having their staff earn credentials.
- Served agencies are increasingly aware of credentialing and are expecting team members to be credentialed.

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Credentialing

- Credibility: Credentials demonstrate your training, knowledge, skills, and experience; and enhances your credibility with peers and served agency personel.
- Commitment: Earning credentials demonstrates your commitment to the EmComm role, validates your acquired skills as a volunteer, and can open doors to leadership and training roles within the organization.
- Assignments: Credentials can assure those that assign you to a task know that you are capable of handling whatever challenges the assignment presents.

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2024 Year End Summary

Credentialing Program Handbook



Santa Clara County ARES®/RACES/ACS

Amateur Radio Operator

Credentialing

Program Handbook

Version 3.1.3

Revised: 26-Mar-2024

https://www.scc-ares-races.org/credentials/index.shtml#overview

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Database Update

If you have a County DSW, the sticker on your DSW Card Expires at the end of December.

New stickers will be provided to your EC for distribution if you have updated your database contact information by December 31st.



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2024 Year End Summary

Update/Verify Contact Info

My Profile

My Contact Info

My Equipment

My Activity Record

My Completion Certificates

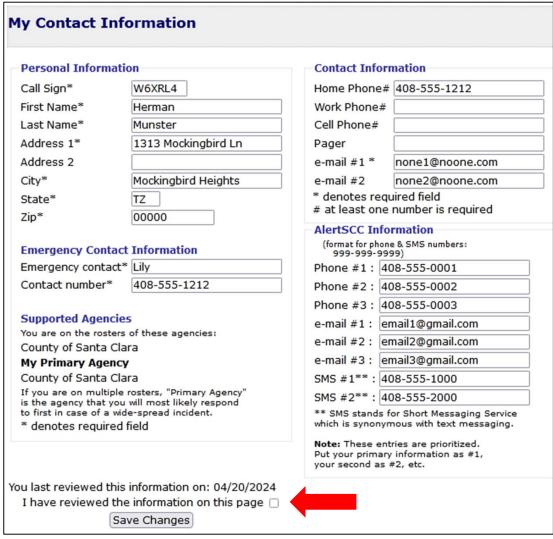
My Credentials

My MAC-Qualifying Events

Cities/Agencies I Support

Change My Call Sign

Change My Password



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12/11/2024

Packet Network Update 2024 Year End Review

Jim Oberhofer, KN6PE Revised 30 November 2024

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Highlights -- Outpost and PackItForms

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What's in the box?

- SCCo Integrated Packet Installer <u>163C</u>
 *** PRERELEASE ***
 - Outpost Packet Message Manager
 - GUI-based interface for managing packet communications
 - Makes using packet as simple as using e-mail
 - PackItForms
 - Next generation HTML-based forms for use with Outpost
 - Manual operation without Outpost



SCCo Installer v163C September 2024

PackItForm 3.16*

- Various forms and .pdf updates
- Even better manual operation support
 - Auto-logging of sent and received messages
 - Updated ICS-309 log maintenance
 - Enhancements and bug fixes from user feedback

Outpost v3.8.6*

- Resolves 3 reported defects; adds 6 requested changes, including...
 - Signature update on the ICS-309 comm log
 - Address book address expansion with sent messages

*See the release notes for details

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What's new

(or 6 things to make your packet life easier)

- 1. Setting up Message ID prefix for Tac Calls
- 2. Packet Forms and Manual Packet
- 3. Message search
- 4. Monitor RF Packet Traffic
- 5. Fixing JNOS extra line feeds
- 6. Packet Field References

1. Setting up Message ID prefix for Tac Calls

Situation: You are deployed with a tactical call. You get a call from the EOC that

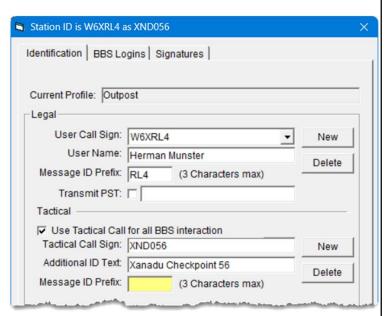
the tac call message ID is not set up correctly.

Problem: Message IDs are both unique and help reference the sending station.

Solution: With Outpost

1. Select **Settings** > **Station ID...**

- 2. When you fill in your FCC Call sign, Outpost picks up the last 3 characters of your call as the Message ID Prefix.
- 3. When setting up the Tactical Call, you need to fill it in yourself.
- 4. Ask your shift supervisor or exercise coordinator for what this field value should be.



Examples: Monthly Exercise: Tac Call=XND056 Msg ID Prefix = X56
City Deployment: Tac Call=CUPDZA Msg ID Prefix = DZA

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1. Setting up Message ID prefix for Tac Calls

Situation: You are deployed with a tactical call. You get a call from the EOC that

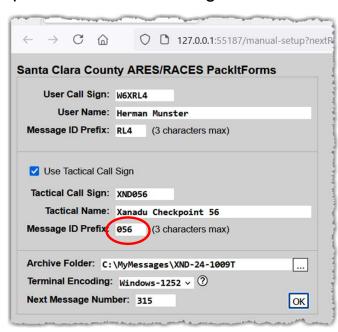
the tac call message ID is not set up correctly.

Problem: Message IDs are both unique and help reference the sending station.

Solution: Manual Operations

1. Find and click on manual.cmd

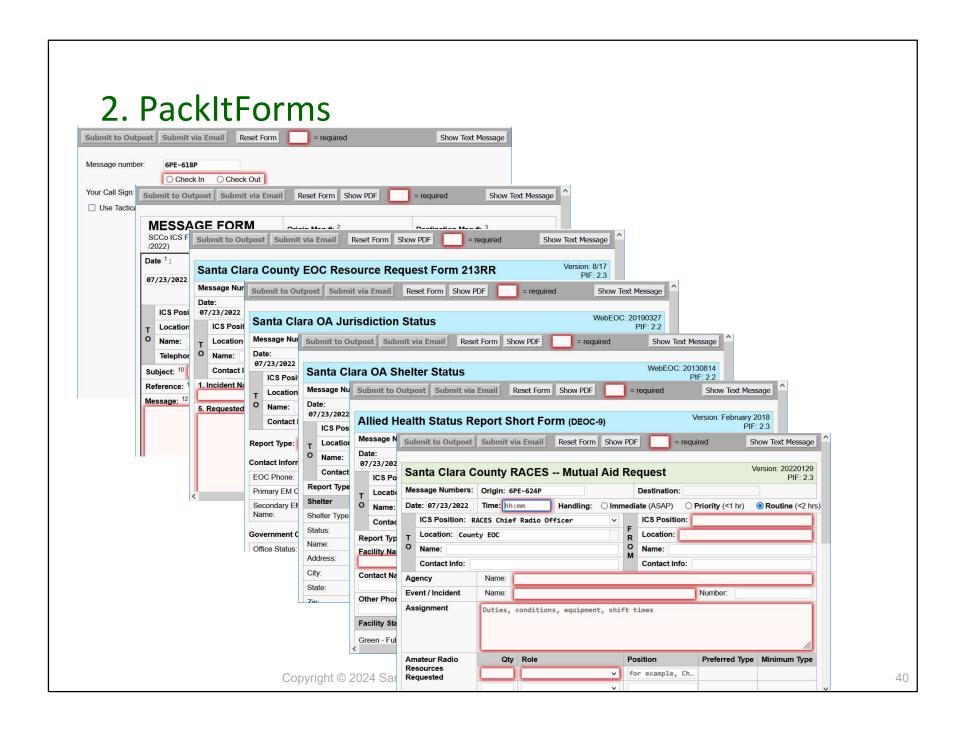
- 2. PackItForms picks up the last 3 characters of your FCC call as the Msg ID Prefix.
- 3. The Tactical Call Msg ID Prefix does the same, but may not be correct.
- 4. Ask your shift supervisor or exercise coordinator for what this field value should be AND change this field if necessary.



Examples: Monthly Exercise: Tac Call=XND056 Msg ID Prefix = X56

City Deployment: Tac Call=CUPDZA Msg ID Prefix = DZA

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County Use of PackItForms

- Santa Clara County PackItForms contains these public forms
 - 1. XSC Check-In/Out Message Form
 - 2. XSC ICS-213 Message Form adapted for Santa Clara County to transmit messages.
 - 3. XSC EOC-213RR Resource Request Form Requests specific resources needed to support an emergency.
 - 4. XSC OA Jurisdiction Status Form Reports jurisdiction emergency situation status to county OEM.
 - 5. XSC OA Shelter Status Form Reports information and status on shelters opened in the cities to county OEM.
 - XSC Allied Health Facility Status Reports information & status of private Skilled Nursing facilities to SCC Public Health Department.
 - 7. XSC RACES Mutual Aid Request Form Used by a jurisdiction to request a RACES Mutual Aid.
- The SCC Installer program automatically installs these packet forms along with Outpost.
 - Additional forms may be provided by your EC

Updated PackItForm Defaults

PackItForms	Handling Order	TO ICS Position	To Location
ICS 213 Message Form			
EOC Resource Request 213RR		Planning Section	County EOC
OA Jurisdiction Status	Immediate	Situation analysis Unit	County EOC
OA Shelter Status	Priority	Mass Care and Shelter Unit	
Allied Health Status	Routine	EMS Unit	PHDOC
RACES Mutual Aid Request	Routine	RACES Chief Radio Officer	County EOC
HAvBed Report	Immediate	EMS Unit	PHDOC
Medical Facility Status	Immediate	EMS Unit	PHDOC
Resource Request Form #9A	Obsolete F	Replaced by EOC Resource Re	quest 213RR

- Aligns with the RACES Recommended Form Routing Cheat Sheet; updated March 2024
- Updates are in BOLD text
- Fields can be changed at message create time
- Always double-check the RACES Recommended Form Routing Cheat Sheet for your specific situation

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3. Message Search

Situation: This assignment has been in place for several shifts with plenty of

packet message traffic already passed.

Problem: Now, someone askes for a copy of a message you received. Where is

it?

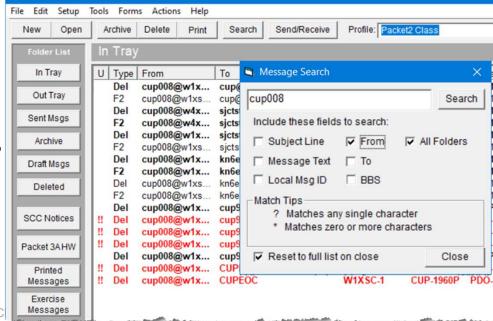
Solution: 1. On Outpost, click on the **Search** menu.

2. Enter some text that you know is likely part of the message, which

Outpost Packet Message Manager

fields it is in (or check all fields), and whether you want to check this or all folders.

- 3. Press Search
- For ☑ All Folders,
 Type field shows
 the message
 location.



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4. Monitoring Packet traffic

Situation: Some users like to watch what is going on with on a frequency in between Send/Receive Sessions to see if the frequency is clear.

Solution:

- 1. From Outpost, Tools > Interactive Packet > Serial / Com Port.
- 2. From Ipserial, Tools > Options. Check ☑ "Turn on Packet Monitoring (MON ON)...". Press OK.
- 3. When you press **Connect**, Ipserial.exe sends the MON ON command to the TNC to start monitoring.
- 4. When Outpost starts a Send/Receive session, it requires the serial port.
 - it tells Ipserial.exe to disconnect.
 - It opens the com port and sends the necessary TNC & BBS commands.
 - When done, it tells lpserial to reconnect to the Com Port.

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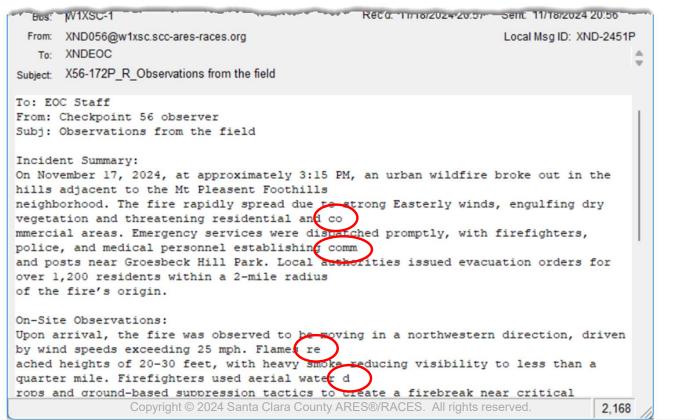


5. Fixing JNOS Extra Line Feeds

*** DRILL TRAFFIC ***

Situation:

JNOS causes message text lines greater than 127 characters to have a CR/LF inserted regardless of where it is in a sentence or word. PackItForms handles this situation nicely. But what happens if an *Informal Message* is sent? This is what it could look like...



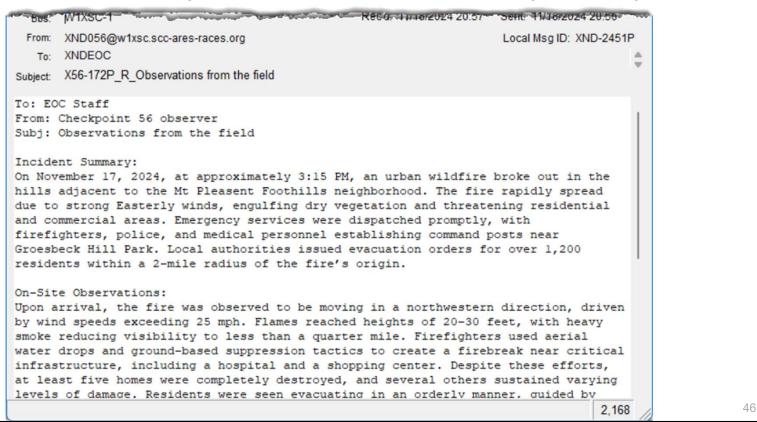
5. Fixing JNOS Extra Line Feeds

*** DRILL TRAFFIC ***

Solution:

If you come across this situation, try this:

- 1. In the message form, press View > JNOS Line Fix (BETA)
- 2. This change is not permanent and cannot be saved.
- 3. Pressing the forms' **Print** button will print the original message.



*** DRILL TRAFFIC ***

5. Fixing JNOS Extra Line Feeds

Solution: 4. But, pressing **File > Print** will print the corrected version.

W6XRL4 as XND056

From: XND056@w1xsc.scc-ares-races.org

To: XNDEOC Sent: 11/18/2024 20:56 Received: 11/18/2024 20:57

Subject: X56-172P_R_Observations from the field

Local Msg ID: XND-2451P

To: EOC Staff

From: Checkpoint 56 observer Subj: Observations from the field

Incident Summary:

On November 17, 2024, at approximately 3:15 PM, an urban wildfire broke out in the hills adjacent to the Mt Pleasent Foothills neighborhood. The fire rapidly spread due to strong Easterly winds, engulfing dry vegetation and threatening residential and commercial areas. Emergency services were dispatched promptly, with firefighters, police, and medical personnel establishing command posts near Groesbeck Hill Park. Local authorities issued evacuation orders for over 1,200 residents within a 2-mile radius of the fire's origin.

On-Site Observations:

Upon arrival, the fire was observed to be moving in a northwestern direction, driven by wind speeds exceeding 25 mph. Flames reached heights of 20-30 feet, with heavy smoke reducing visibility to less than a quarter mile. Firefighters used aerial water drops and ground-based suppression tactics to create a firebreak near critical infrastructure, including a hospital and a shopping center. Despite these efforts, at least five homes were completely destroyed, and several others sustained varying levels of damage. Residents were seen evacuating in an orderly manner, guided by local law enforcement, though some individuals struggled to leave due to traffic congestion and poor air quality.

6. Amateur Packet Radio Field Reference, Type III

What is it

- an Unofficial SCCo RACES reference.
- Provides a reminder (job aid) for how to perform tasks that need to occur during a packet field deployment.
- Helps ensure task consistency, completeness, and operational alignment with SCCo RACES policies and procedures.

What it is not

- the only source of information on which you should rely.
- an official SCCo RACES deliverable.

Amateur Packet Radio Field Reference, Type III

For SCCo RACES Responders

October 2024









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6. Amateur Packet Radio Field Reference, Type III

Table of Contents QUICK REFERENCE..... HOW TO USE THIS HANDBOOK. PACKET OPERATOR CHECKLIST..... PACKET STARTUP PROCEDURE..... CLIENT SOFTWARE..... PACKET MESSAGING..... PACKET MESSAGING BASICS..... FREE FORM (PLAIN TEXT) MESSAGE SENDING A SPREADSHEET .CSV FILE - ONE APPROCH..... MESSAGE ADDRESSING..... STANDARD SUBJECT LINE FORMAT..... CHECK-IN, CHECK-OUT MESSAGE...... 10 RECOMMENDED FORM ROUTING CHEAT SHEET 11 ARCHIVING EVENT DOCUMENTATION..... CREATE THE ICS 309 COMMUNICATION LOG 11.2 CREATE A PRINTABLE LIST OF YOUR MESSAGES..... 11.3 CREATE AN ARCHIVE OF YOUR MESSAGES..... 11.4 RESET (CLEANUP) OUTPOST FOR THE NEXT EVENT.....

Amateur Packet Radio Field Reference, Type III

For SCCo RACES Responders

October 2024









https://bit.ly/PacketT3

1/20

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6. Amateur Packet Radio Field Reference, Type II

Table of Contents QUICK REFERENCE..... PURPOSE..... 2.2 HOW TO USE THIS HANDBOOK..... OTHER REFERENCES MANUAL PACKET OPERATIONS..... TNC COMMANDS..... 3.2 BBS COMMANDS..... CONNECTING TO THE TNC WITH PUTTY 3.4 START OF SHIFT: CONFIGURE TNC SETTINGS..... END OF SHIFT: RESTORE TNC SETTINGS GETTING READY FOR MANUAL MESSAGING...... 3.7 MANUAL MESSAGE BASICS 3.8 SENDING A MANUAL PACKITFORM MESSAGE..... 3.9 RECEIVING A PACKITFORM MESSAGE MANUALLY..... Notes on Outpost Tags..... 3.10 VIEWING SAVED MESSAGES 3.12 Notes on Manual ICS 309 Comm Log......

https://bit.ly/PacketT2

Amateur Packet Radio Field Reference, Type II

For SCCo RACES Responders

October 2024









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mpmp, P1 and HF Credentials & SHARES

Mark Laubach, K6FJC 14-Dec-2024

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Monthly Packet Messaging Passing Practice

January to November stats

			Not Held					Not Held				
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	May	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	Nov	<u>Totals</u>
Participants	24	21		19	20	16	11		16	27	15	169
Messages by participant by Type												
ICS213	29	29		57	40	28	33		39	40	42	337
EOC213RR				20		14	11		19	27	21	112
Shelter Status					20		11			28		59
Allied Health Status		22										22
RACES Mutual Aid	26						11					37
CSV	26					14						40
Op-to-Op & Other		281		249	205	?	38		216	311	208	1508
Total Messages	816	768		674	577	387	330		617	913	602	5684

You can review all past practices on the MPMP Training Page:

https://www.scc-ares-races.org/training/practice/monthly-packet-message-practice/monthly_packet-message-practice.html

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Packet Credential Changes

- Packet Operator Type I (P1)
 - Removing: out of county assignments
 - Moving out of P1 to a new area of focus:
 - Set up, manage, and troubleshoot a JNOS-based packet BBS system, running on Ubuntu, etc.
 - Changing focus to W5XSC BBS to set up and operate for a training or exercise event, with instructions from net team
 - Refining knowledge items, digipeaters and nodes, and other problems
 - Etc.
- Motivations
 - P1 should be on parallel with other Type 1 credentials, e.g., specialist and plan, design, deploy, train, ...
 - It's a lot of work to complete existing requirements
 - P1 credential != county BBS sysop
 - Doesn't need to incorporate SCCo BBS sysop/network
- When: next Credential Program Handbook update

Member of County Networking Staff

- The network team is looking for a few "good people"
 - In discussion likely in the form of a member of network staff position posting (likely)
 - Discussed new endorsement not the way to go
- Recommendation from CRO and Pkt Manager
- Prerequisites: P2+, demonstrated team player
- Not for everyone, interview will be required with credential evaluator and network team member – think of a position posting
- Successful interview,, candidate will be assigned mentor
- County BBS knowledge and demonstration (for all candidates)
 - Building Ubuntu-based JNOS system to county configuration
 - BBS JNOS sysop privileges demonstration, message and notice management, log maintenance, Ubuntu tcp/ip networking, etc.
 - Knowing what and what not to touch
- Additional skillsets desired among one or more of the following
 - Network management, Network security, firewalls, monitoring, Network routing, email (configuration, spam), devops, analysis, logging, maintenance and upgrades, SCCo BBS operational knowledge, etc.

This is all under consideration and development

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5./



Changes in County EOC Radio Room HF Radio Remove / New State-funded HF Technology

- New radio technology has reduced the need for HF radio users to deal with the complexities of HF propagation (solar conditions, time of day, antenna orientation, etc.)
 - State has called this SHARES for SHAred RESsources
 - SCCo OEM has two rigs: EOC radio room fixed and mobile unit
- The use of new technologies all but eliminates the need to be concerned about HF propagation for state-wide EmComm purposes.
- The need for a three level HF Credential is being removed from the Credentialing Program and a "SHARES Radio Operator Endorsement" is being added to the next version of the Credentialing Program Handbook.

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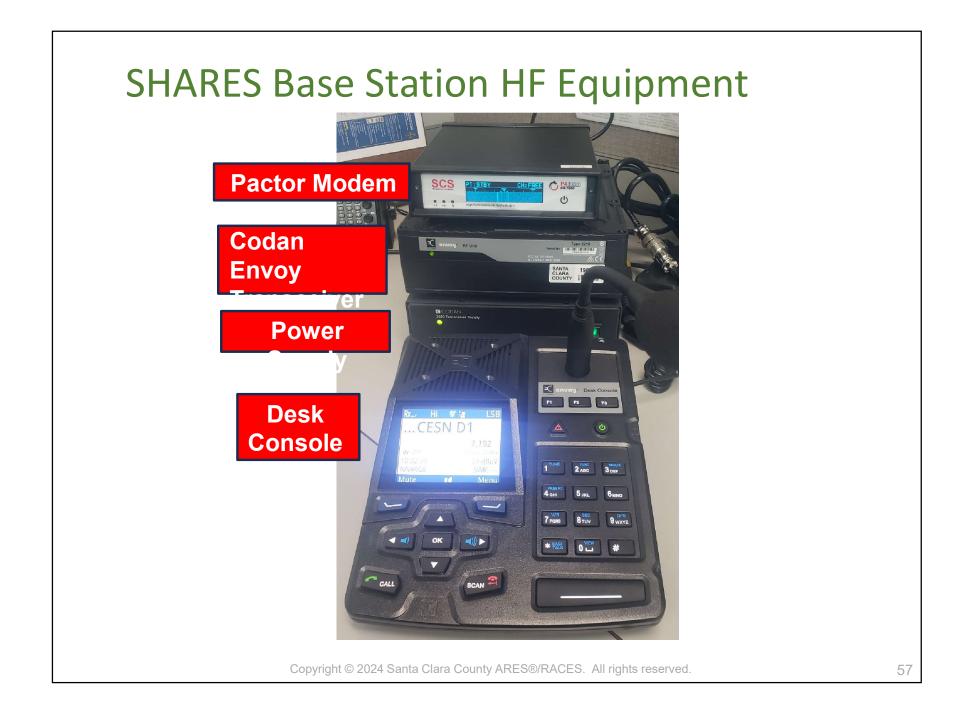
Changes in County EOC Radio Room HF Radio Remove / New State-funded HF Technology

- The "SHARES Radio Operator Endorsement" will be available to anyone holding the EOC Radio Operator Endorsement.
- Early next year we will offer a SHARES HF Radio Orientation class for those interested.

Quick Overview

- Based on Codan Communications equipment (Australia)
- Limited to state civil defense and emergency management agencies and some select agencies within the state of California.
- Shared channels in the 2 to 8 MHz range. Access to 10 channels providing pointto-point emergency radio coverage across the state. 24x7 Link Quality Analysis and Automatic Link Establishment to eliminate ToD propagation concerns
- Operates in accordance with FCC Rules Part 90 Private Land Mobile Radio Services (primary) and Part 97 Amateur
- All "push button"

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SEMS - Reminder Standardized Emergency Management System



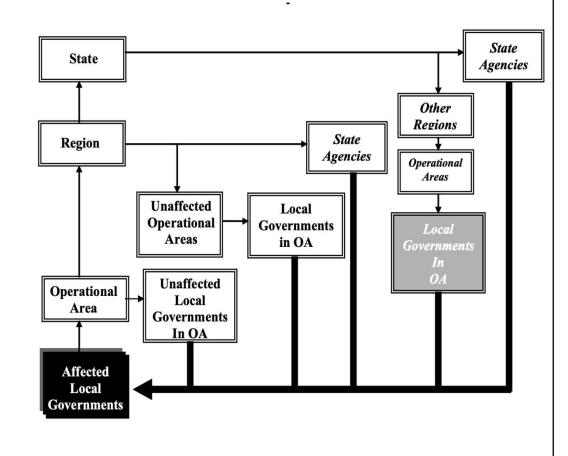
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SEMS General Flow of Requests and Resources

- OA encompasses a county
 - 58 counties
- Six mutual aid regions

NOTES

- Local governments may request mutual aid directly from other local governments where local agreements exist.
- Discipline-specific mutual aid systems may have procedures that provide additional methods of obtaining state resources.
- Volunteer and private agencies may be involved at each level.

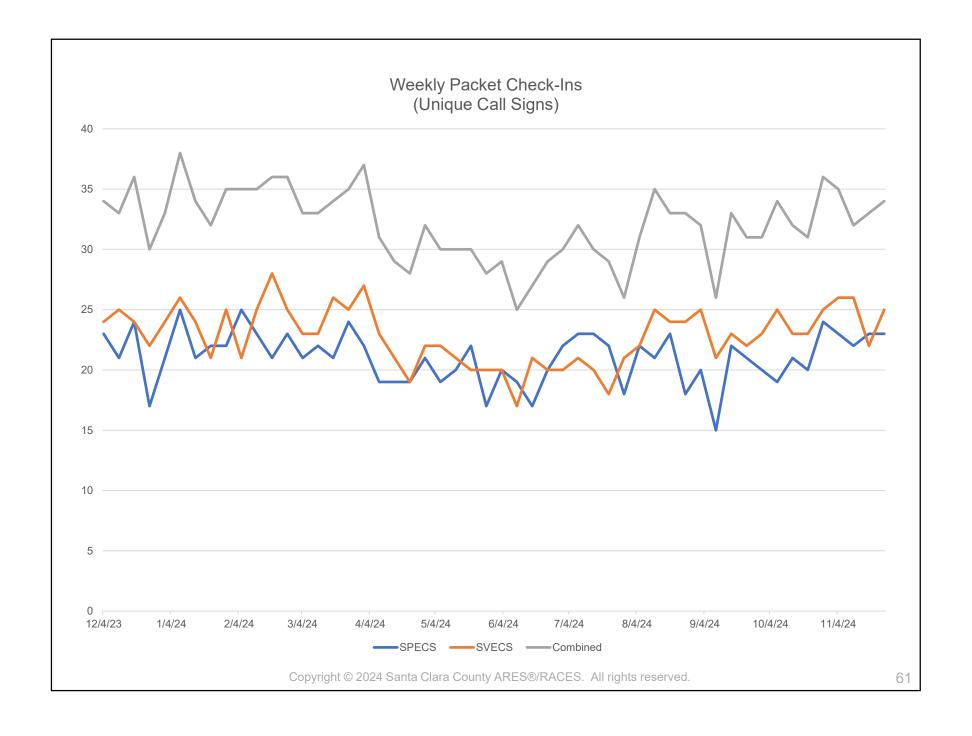


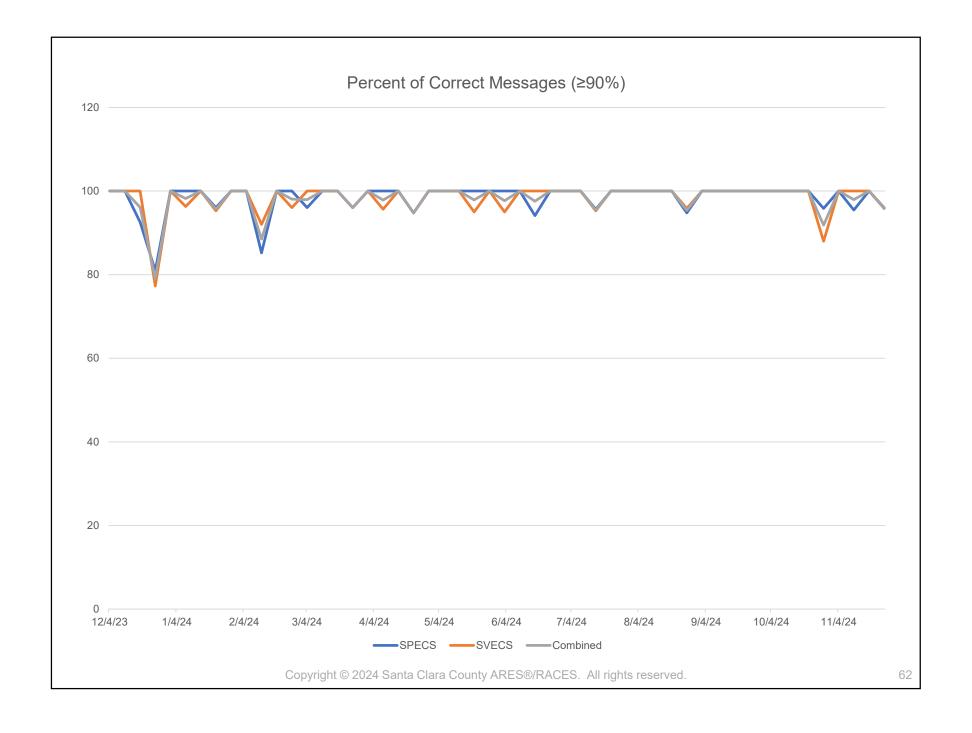
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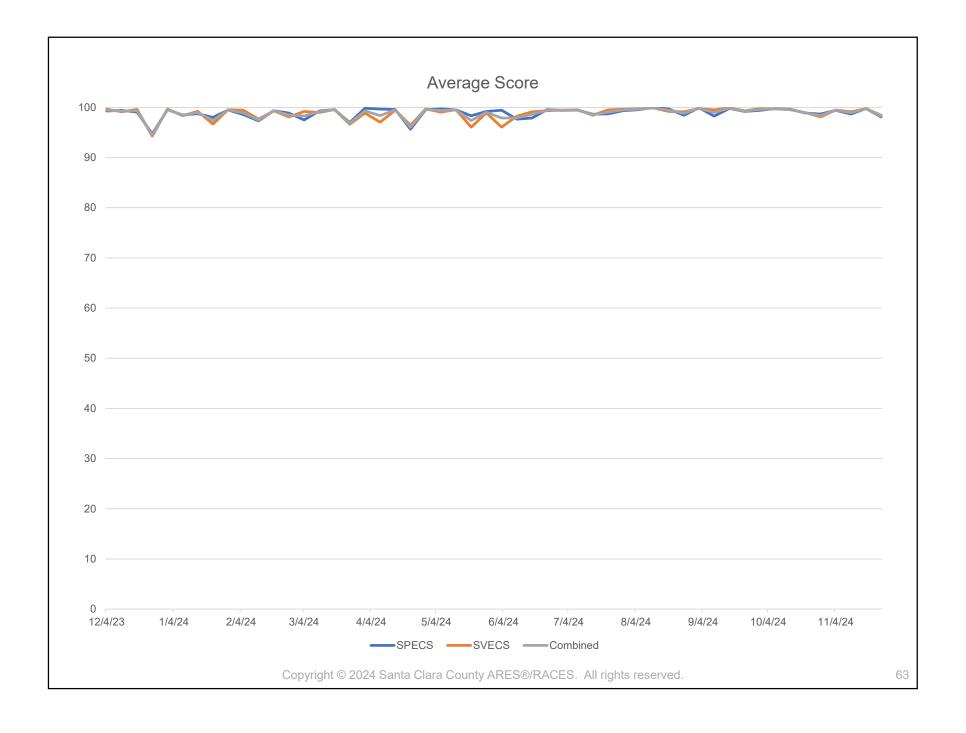
Weekly Packet Practice

Steve Roth, KC6RSC Revised 11-Dec-2024

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Multi-Year Comparison

	2018	2019	2020	2021	2022	2023	2024
Total Messages	2116	2844	3138	3226	3200	2932	2408
% Correct	93.2%	93.7%	95.5%	96.6%	88.4%	83.1%	98.3%
Unique Calls	25.5	29	31	30	27.4	34.3	32.0

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Mailbox Full — Now What?

You are assigned to a rarely used station. You connect to the BBS, and it has 142 messages waiting. That will take forever!

- 1. Abort the connection
- 2. Switch to alternate BBS
- Connect manually, list with LL. If the backed-up messages are obsolete or unimportant, kill them with K.

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Can't Wait for Bulletins to Download?

You're waiting for a critical message but Outpost wants to download the XSCPERM bulletins. That will take too long!

- 1. Abort the connection
- 2. Outpost: Setup \rightarrow BBS \rightarrow Receiving
- Turn off "Retrieve Bulletins" checkbox.
 (Don't forget to turn it back on later!)

Switching between RF and TCP/IP network access in Outpost

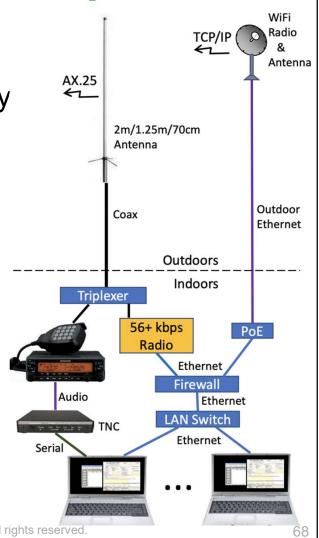
Using Profiles extensively

Andreas Ott, K6OTT Revised 11-Dec-2024

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BBS settings and access paths

- you are in an EOC or tactical location
- you know your primary and secondary BBS, your tactical call, your FCC call – and know how to configure all this in Outpost
- your main access to the BBSen has been over RF
- you recently got connected to the SCCo Systems TCP/IP Subscriber Network (or your EOC location has a wired Ethernet connection to our network)



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Workflows on RF

- No Issues: you are using your primary BBS over RF
- primary BBS "unreachable": you manually switch to the secondary BBS, and announce this fact on a net to the County EOC (and other stations) so that they can adjust sending you messages to your secondary BBS address
- primary BBS "reachable": you have the choice of continuing on the secondary BBS or switching back to the primary BBS (same..., announce it, so others know where to find you)
 - → your easiest way of "switching around" is by using Outpost Profiles

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Create RF Profiles

the default Outpost profile after new install is "Outpost"



- create new profile (naming convention below)
- for your primary BBS, device and StationID
- test it!
- repeat for your secondary BBS, then test some more!
- practice switching between profiles, do not forget to "switch" and verify the radio frequency at the same time
- switching between RF bands on the same BBS without changing the profile

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Profile Parameters

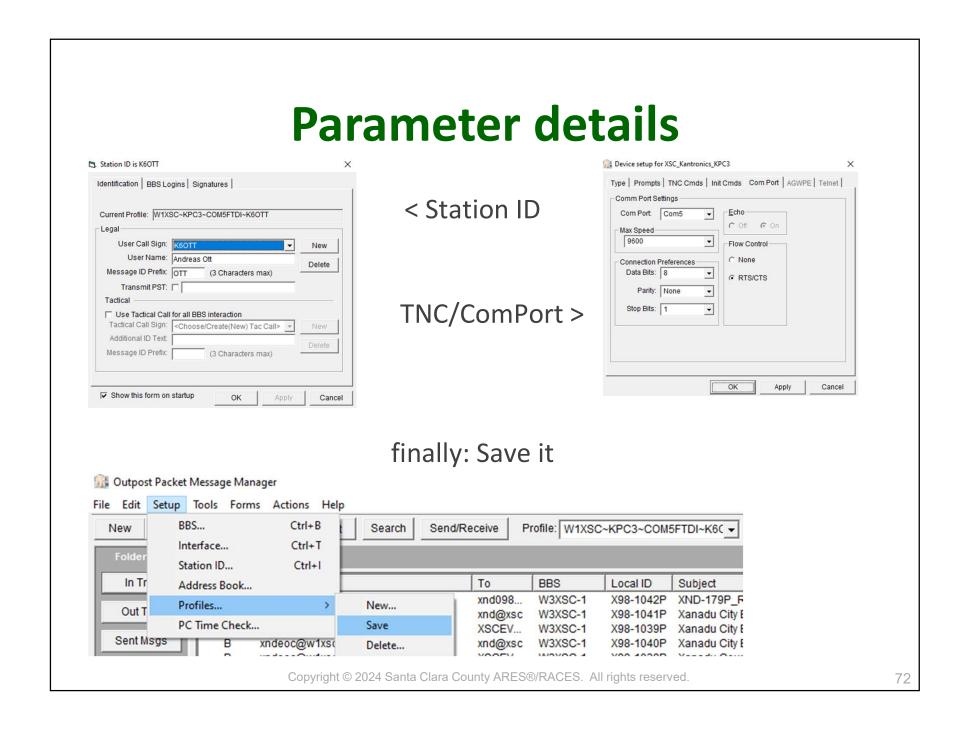
- BBS name
- device/connection
- Interface name
- StationID
 (your callsign, tactical or FCC)
- Create, save as (use ~ in profile name as separator)

Examples:

- W1XSC~KPC3~COM5FTDI~K6OTT
- W1XSC~TELNET-W1XSC~K6OTT

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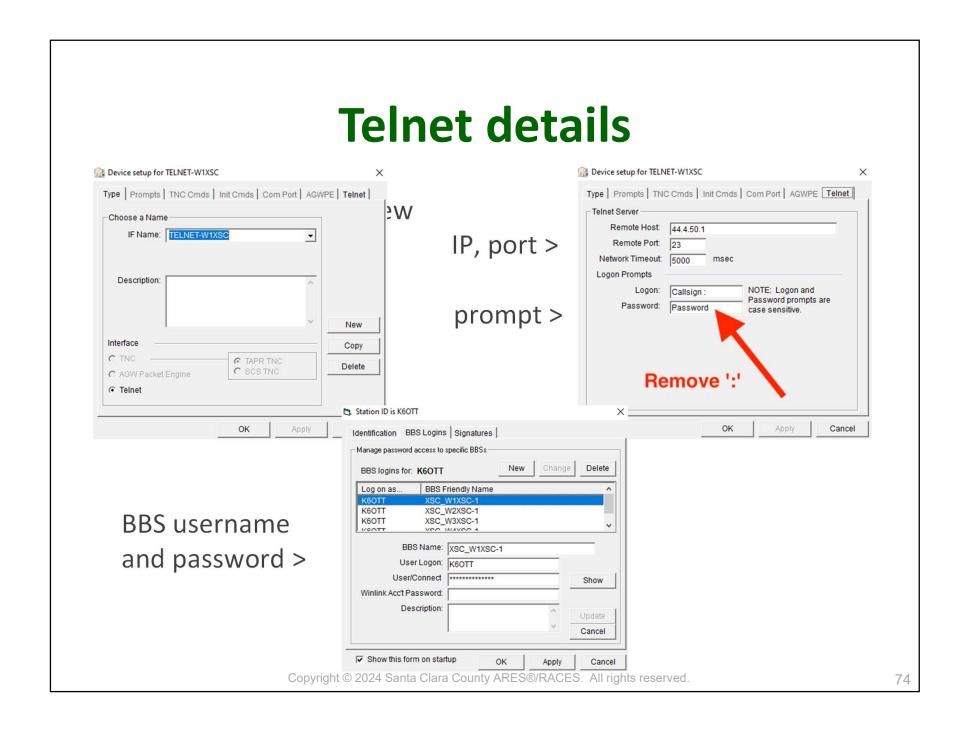
2024 Year End Summary

Create Telnet Profile

- for your primary BBS, telnet connection and StationID
- add username and password, remove colon ":" from password prompt field
- test it!
- repeat for your secondary BBS
- test some more!
- when switching back to any RF profile, do not forget to "switch" and verify the radio frequency to match the BBS frequency on that band at the same time

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2024 Year End Summary



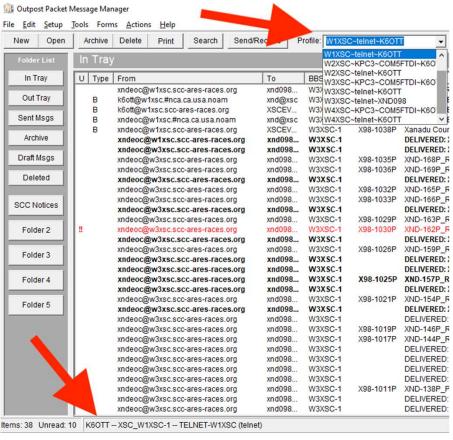
Workflows on Telnet

- No Issues: you are using your primary BBS over telnet
- primary BBS "unreachable": you manually switch to the secondary BBS, and announce this fact on a net to the County EOC (and other stations) so that they can adjust sending you messages to your secondary BBS address
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 - → your easiest way of "switching around" is by using Outpost Profiles

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Switching around

Always verify Outpost status bar on the bottom



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References

For Outpost, see training slide decks from SCCo ARES/RACES Packet Operations classes

Packet Operations - Type III, Part A

Packet Operations - Type III, Part B

Packet Operations - Type II

and of course the Outpost Documentation

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2024 Year End Summary

Safety issue observed: no fuses in power cables Batteries are no fun

Andreas Ott, K6OTT Revised 11-Dec-2024

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Energy content in a battery

- Energy content in a (SLA) battery:
 - 3.6 * voltage * mAh = Energy [Joule]

Example: SLA 12V@18Ah

 $3.6 * 12 * 18,000 \approx 777 \text{ kJ}$

(approximate energy needed to boil 1/2 gal of water from room temp)

- Energy density in LiFePO4 battery:
 - > 3x of SLA battery by weight, also higher load current possible

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The Big Short

Now picture this: if your battery shorts out, you will set free most of the energy in a fraction of one second (aka. boil the water in < 1 second). Until something fails, such as the wire melting, or the battery liquids heat past their boiling point, with "steam" quickly escaping.

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Rapid Unscheduled Disassembly

Escaping electrolyte steam usually leads to the entire battery exploding. [*] Good engineering practice is to insert something into the circuit that will fail before it turns into an incident, preferably a protective device such as a fuse. "All circuits shall have fuses".

* "Don't try this at home - go to a friend's house."

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2024 Year End Summary

Fuses to the rescue

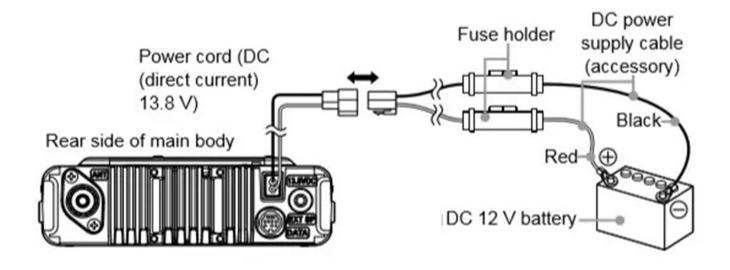


image credit: KOBG/Yaesu

Protecting battery and load (equipment)

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Charge controllers with electronic load limiters

Check the manual: They will recommend minimum wire sizes *and* fuses, at least at the battery and the power source!

DC Load:

Solar Panel Fuse

Battery Fuse

Solar Panel

Battery DC Load

image credit: Renogy

DC Load

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Working with a Served Agency Golden Eagle 2024

Jeff Grafton, AJ6XZ Revised 10-Dec-2024

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Golden Eagle 2024: Hellyer Park C-POD

- Simulated M7.5 earthquake
- County OEM established Type III C-POD in Hellyer Park
 - Simulated cell phone outage at site
- RACES mobilized to provide comms between C-POD site and EOC

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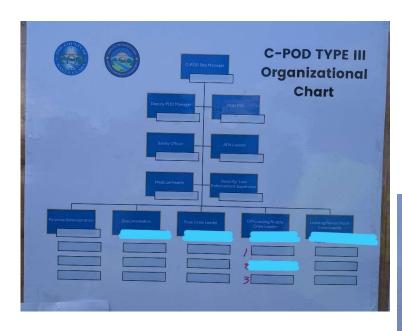
Golden Eagle 2024: Hellyer Park C-POD

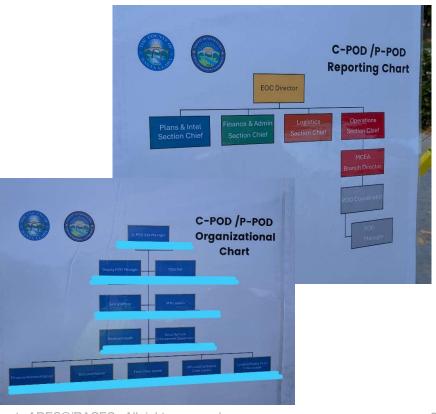


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Golden Eagle 2024: A few surprises

RACES wasn't in the org chart...

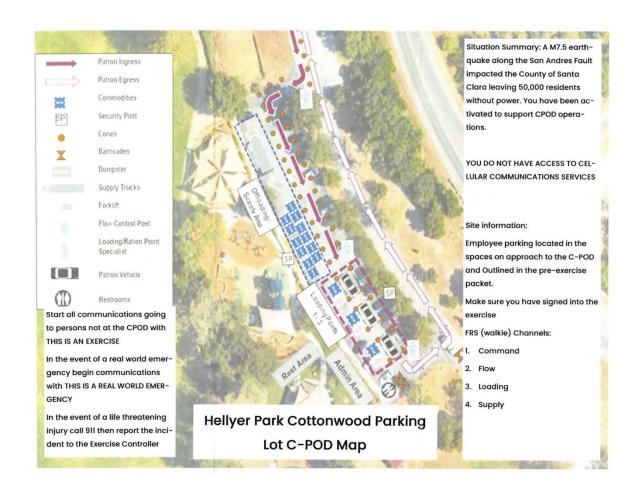




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Golden Eagle 2024: A few surprises

... or the site map



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Golden Eagle 2024: Field Setup

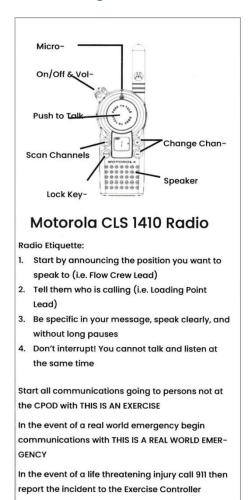




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Golden Eagle 2024: More surprises

- FRS radios were used for on-site comms
- The IC expected RACES would handle all comms, including FRS
- RACES staff had not been briefed on use of FRS



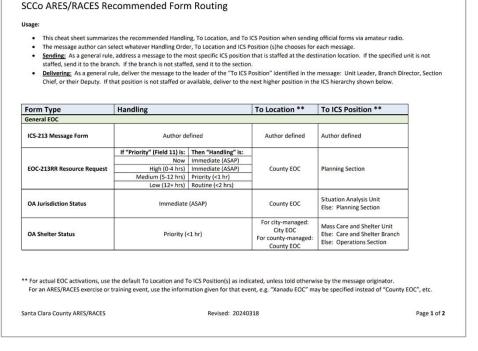
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Golden Eagle 2024: Message flow

 Many incident staff (including IC) were unfamiliar with forms and message flow to

EOC

- RACES provided blank forms and coaching
- Handing off the Recommended Form Routing Cheat Sheet worked wonders



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Golden Eagle 2024: Operations

- RACES sent and received multiple 3rdparty messages over packet and voice
 - ICS-213
 - 213RR with routing slip
 - Informal
- Cross-trained operators
 - Able to fill in while others were coaching incident staff or taking breaks

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Golden Eagle 2024: Takeaways

- Exercising with served agencies is invaluable
- Keep current on training and practice so you know how message flow works
- Semper Gumby!



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W2XSC BBS Failure June 8th – 16th

Tim Howard, KE6TIM Revised 16-Nov-2024

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Initial Evaluation

- Problems with W2XSC were reported
- A number of remote troubleshooting steps were taken.
 - The network connection between the BBS PC and the other network infrastructure at the site had failed.
 - The JNOS BBS, the TNCs, and the Radios were fully functional.
 - The BBS was usable as a standalone BBS without external connectivity to the rest of the network.
- It was determined that a spare computer, data switch, and data cable should be taken to the site.
- Because of the remote location of the site, other parts, tools, and equipment were collected for the trip.

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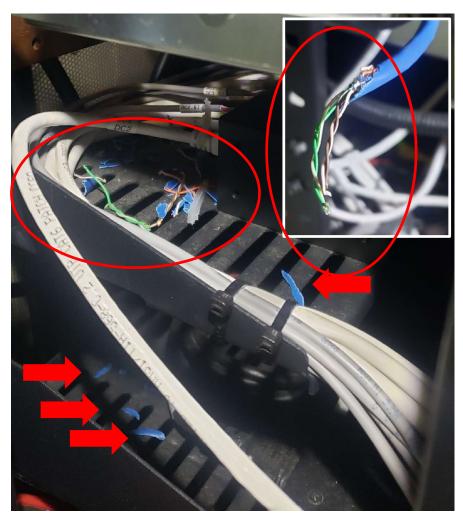
Plan for Trip to Site

- Over a one hour drive one-way
- Take anything you might need. Spare parts for repair and also backup monitor, keyboard, mouse, tools, etc.
- Need a high clearance vehicle in good weather, 4WD at other times.
- Because of the remote location we want to send at least two people.
- It took a couple of days to get the material together.
- The keys to access the site were not readily available.
- Once on site, it was quickly determined there was a cable issue.

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Initial Visit

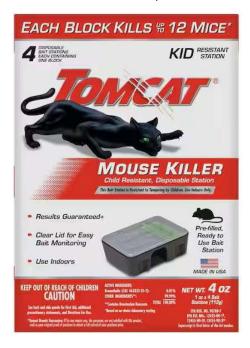
- Cable was replaced
- TNC Firmware updated
- General cleaning and inspection of cabinet
- Remote testers checked all radio, BBS, and email connections to the site
- The site was up and back to normal operation



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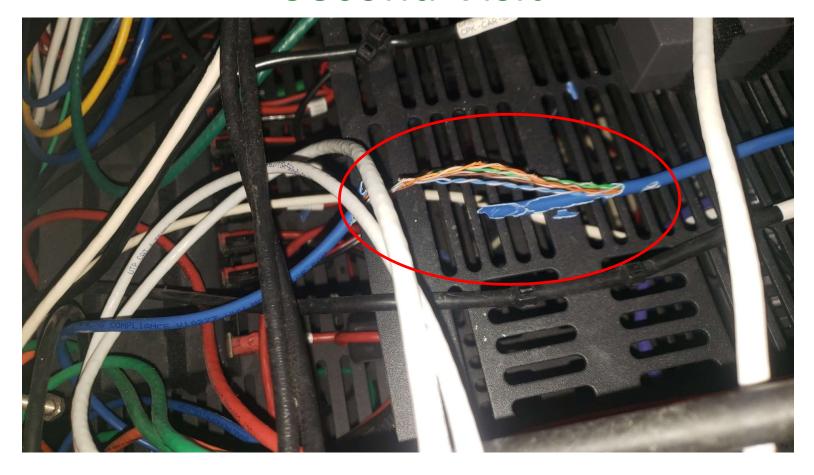
Less than 16 hours later

- The BBS failed with the exact same symptoms. Remote diagnostics indicated a similar failure.
- A second visit the next day was scheduled with spare parts, a hardened data cable, and mouse deterent.



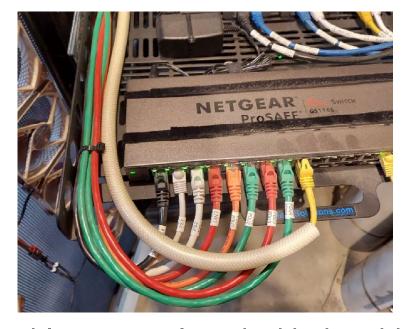
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Second Visit



The same data cable was chewed breaking wires

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- The data cable was replaced with the shielded cable.
- No additional problems with mice eating cables
- Site owner has placed more traps and sealed any openings found. Reminded tenants to keep door closed.
- Thanks to:

Thomas Leibold – spare parts and technical expertice Bertrand Achard – extra tools and computer monitor Tim Howard – driver and support

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Additional W2XSC Issues

- PG&E PSPS power shutdown
 - Generator started but shutdown failed due to overheating
 - Fan Blades were broken providing no cooling air
 - Mice or larger rodents had got inside the fan shroud and when engine started the fan blades broke off.
 - Our batteries did not work due to several years of use with numerous PG&E and generator issues
- Site owner has enclosed all openings to the generator with wire mesh to allow air flow but block mice and other rodents from access
- New batteries are on order and when they arrive a site visit will be scheduled

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All Training Staff

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Thank You!

Please check your email and follow the instructions to complete and return the Course Evaluation.

To get course credit the Course Evaluation is due by next Saturday.

If you have questions or feedback about this or other training activities, you can join our Training discussion group.

https://scc-ares-races.groups.io/g/training
This is a moderated group.

See you at a training class or exercise next year!

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