

### USE AND DISTRIBUTION NOTICE

- Santa Clara County RACES authorization is granted to use and duplicate this material as-is as long as this page and the copyright notices on each page are included, acknowledging Santa Clara County ARES/RACES as the holder of the copyright.
- Permission is granted to adapt this presentation to your needs as long as you acknowledge our copyright and include a note similar to "adapted with permission from Santa Clara County ARES/RACES"
- For additional information on training or any of our programs send an email to: [info@scc-ares-races.org](mailto:info@scc-ares-races.org)

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

---

---

---




---

---

---

---

---

## 2024 Year End Summary, Update, Preview

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

ARES and Amateur Radio Emergency Service are registered service marks of the American Radio Relay League Incorporated and are used by permission.  
Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

---

---

---

---

---

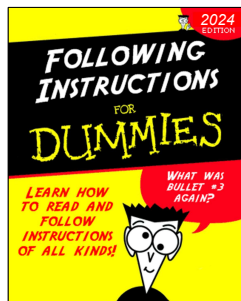
---

---

---

### 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



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

---

---

---

---

---

---

---

---

### 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



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

4

---

---

---

---

---

---

---

---

### Message Passing Skills

Can you send what the served agency needs?

Tim Howard, KE6TIM  
Revised 10-Dec-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

5

---

---

---

---

---

---

---

---

### 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 matter 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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

6

---

---

---

---

---

---

---

---

### Some Examples

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

7

---



---



---



---



---



---



---



---



Santa Clara County ARES®/RACES

### Message Handling Procedures

Revised: 28-June-2024

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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

8

---



---



---



---



---



---



---



---

### Message Passing Skills

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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

9

---



---



---



---



---



---



---



---

**Training**

Judy Halchin, KK6EWQ  
Revised 22-Nov-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 10

---

---

---

---

---

---

---

---

**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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 11

---

---

---

---

---

---

---

---

**Practices**

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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 12

---

---

---

---

---

---

---

---

## 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

---

---

---

---

---

---

---

---

---

---

---

---

## 2025

2025 Santa Clara County ARES/RACES - Training/Activity Calendar													
TRAINING	January	February	March	April	May	June	July	August	September	October	November	December	
WK1	Ham Radio License Test Sat 1/11 10am-12pm San Jose San Jose ARES	Field Day Sat 2/16 0800-1800 San Jose San Jose ARES	Regional Meeting Sat 3/15 1900-2100 San Jose San Jose ARES	Regional Meeting Sat 4/12 1900-2100 San Jose San Jose ARES	Event Report Sat 5/10 1900-2100 San Jose San Jose ARES	Event Report Sat 6/7 1900-2100 San Jose San Jose ARES	Event Report Sat 7/5 1900-2100 San Jose San Jose ARES	Event Report Sat 8/2 1900-2100 San Jose San Jose ARES	Event Report Sat 8/30 1900-2100 San Jose San Jose ARES	Field Day Sat 9/27 0800-1800 San Jose San Jose ARES	Field Day Sat 10/24 0800-1800 San Jose San Jose ARES	Field Day Sat 11/21 0800-1800 San Jose San Jose ARES	Field Day Sat 12/18 0800-1800 San Jose San Jose ARES
WK2		Ham Radio License Test Sat 2/16 10am-12pm San Jose San Jose ARES											
WK3	Event Report Sat 1/11 1900-2100 San Jose San Jose ARES	Event Report Sat 2/8 1900-2100 San Jose San Jose ARES	Event Report Sat 2/22 1900-2100 San Jose San Jose ARES	Event Report Sat 3/15 1900-2100 San Jose San Jose ARES	Event Report Sat 4/12 1900-2100 San Jose San Jose ARES	Event Report Sat 4/19 1900-2100 San Jose San Jose ARES	Event Report Sat 5/6 1900-2100 San Jose San Jose ARES	Event Report Sat 5/13 1900-2100 San Jose San Jose ARES	Event Report Sat 5/20 1900-2100 San Jose San Jose ARES	Event Report Sat 5/27 1900-2100 San Jose San Jose ARES	Event Report Sat 6/3 1900-2100 San Jose San Jose ARES	Event Report Sat 6/10 1900-2100 San Jose San Jose ARES	
WK4	Event Report Sat 1/11 1900-2100 San Jose San Jose ARES	Event Report Sat 2/8 1900-2100 San Jose San Jose ARES	Event Report Sat 2/22 1900-2100 San Jose San Jose ARES	Event Report Sat 3/15 1900-2100 San Jose San Jose ARES	Event Report Sat 4/12 1900-2100 San Jose San Jose ARES	Event Report Sat 4/19 1900-2100 San Jose San Jose ARES	Event Report Sat 5/6 1900-2100 San Jose San Jose ARES	Event Report Sat 5/13 1900-2100 San Jose San Jose ARES	Event Report Sat 5/20 1900-2100 San Jose San Jose ARES	Event Report Sat 5/27 1900-2100 San Jose San Jose ARES	Event Report Sat 6/3 1900-2100 San Jose San Jose ARES	Event Report Sat 6/10 1900-2100 San Jose San Jose ARES	
WK5	Event Report Sat 1/11 1900-2100 San Jose San Jose ARES	Event Report Sat 2/8 1900-2100 San Jose San Jose ARES	Event Report Sat 2/22 1900-2100 San Jose San Jose ARES	Event Report Sat 3/15 1900-2100 San Jose San Jose ARES	Event Report Sat 4/12 1900-2100 San Jose San Jose ARES	Event Report Sat 4/19 1900-2100 San Jose San Jose ARES	Event Report Sat 5/6 1900-2100 San Jose San Jose ARES	Event Report Sat 5/13 1900-2100 San Jose San Jose ARES	Event Report Sat 5/20 1900-2100 San Jose San Jose ARES	Event Report Sat 5/27 1900-2100 San Jose San Jose ARES	Event Report Sat 6/3 1900-2100 San Jose San Jose ARES	Event Report Sat 6/10 1900-2100 San Jose San Jose ARES	
EVENING	Event Report Sat 1/11 1900-2100 San Jose San Jose ARES	Event Report Sat 2/8 1900-2100 San Jose San Jose ARES	Event Report Sat 2/22 1900-2100 San Jose San Jose ARES	Event Report Sat 3/15 1900-2100 San Jose San Jose ARES	Event Report Sat 4/12 1900-2100 San Jose San Jose ARES	Event Report Sat 4/19 1900-2100 San Jose San Jose ARES	Event Report Sat 5/6 1900-2100 San Jose San Jose ARES	Event Report Sat 5/13 1900-2100 San Jose San Jose ARES	Event Report Sat 5/20 1900-2100 San Jose San Jose ARES	Event Report Sat 5/27 1900-2100 San Jose San Jose ARES	Event Report Sat 6/3 1900-2100 San Jose San Jose ARES	Event Report Sat 6/10 1900-2100 San Jose San Jose ARES	

---

---

---

---

---

---

---

---

---

---

---

---

## ICS Forms

Tim Howard, KE6TIM  
Revised 10-Nov-2024

---

---

---

---

---

---

---

---

---

---

---

---

### 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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 16

---

---

---

---

---

---

---

---

### 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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 17

---

---

---

---

---

---

---

---

### 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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 18

---

---

---

---

---

---

---

---







## Credential Updates

Tim Howard, KE6TIM  
Revised 11-Dec-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 25

---

---

---

---

---

---

---

---

## 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 26

---

---

---

---

---

---

---

---

## 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)	0
County EOC Radio Operator (ERO)	17
County EOC RACES Unit Leader (RUL)	5

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 27

---

---

---

---

---

---

---

---

### 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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

28

---

---

---

---

---

---

---

---

---

---

### Credentialing

- **Credibility:** Credentials demonstrate your training, knowledge, skills, and experience; and enhances your credibility with peers and served agency personnel.
- **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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

29

---

---

---

---

---

---

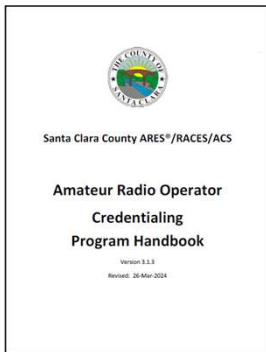
---

---

---

---

### Credentialing Program Handbook



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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

30

---

---

---

---

---

---

---

---

---

---

### 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 31<sup>st</sup>.

---

---

---

---

---

---

---

---

---

---

### 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

**My Contact Information**

<b>Personal Information</b>	<b>Contact Information</b>
Call Sign* <input type="text" value="W6XRL4"/>	Home Phone# <input type="text" value="408-555-1212"/>
First Name* <input type="text" value="Herman"/>	Work Phone# <input type="text"/>
Last Name* <input type="text" value="Munster"/>	Cell Phone# <input type="text"/>
Address 1* <input type="text" value="1313 Mockingbird Ln"/>	Pager <input type="text"/>
Address 2 <input type="text"/>	e-mail #1 * <input type="text" value="inone1@noone.com"/>
City* <input type="text" value="Mockingbird Heights"/>	e-mail #2 <input type="text" value="inone2@noone.com"/>
State* <input type="text" value="TX"/>	* denotes required field
Zip* <input type="text" value="00000"/>	# at least one number is required
<b>Emergency Contact Information</b>	<b>AlertSCC Information</b>
Emergency contact* Lily <input type="text"/>	(Items for phone & SMS numbers: 979-999-9999)
Contact number* <input type="text" value="408-555-1212"/>	Phone #1 : <input type="text" value="408-555-0001"/>
	Phone #2 : <input type="text" value="408-555-0002"/>
	Phone #3 : <input type="text" value="408-555-0003"/>
	e-mail #1 : <input type="text" value="email1@gmail.com"/>
	e-mail #2 : <input type="text" value="email2@gmail.com"/>
	e-mail #3 : <input type="text" value="email3@gmail.com"/>
	SMS #1** : <input type="text" value="408-555-1000"/>
	SMS #2** : <input type="text" value="408-555-2000"/>

You are on the rosters of these agencies:  
County of Santa Clara  
**My Primary Agency**  
County of Santa Clara

If you are on multiple rosters, "Primary Agency" is the agency that you will most likely respond to first in case of a wide-spread incident.  
\* denotes required field

Note: These entries are prioritized. Put your primary information as #1, your second as #2, etc.

You last reviewed this information on: 04/20/2024  
I have reviewed the information on this page  **Save Changes**

---

---

---

---

---

---

---

---

---

---

### Packet Network Update 2024 Year End Review

Jim Oberhofer, KN6PE  
Revised 30 November 2024

---

---

---

---

---

---

---

---

---

---

Highlights -- Outpost and PackItForms

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 34

---

---

---

---


---

---

---

---

**What's in the box?**



- SCCo Integrated Packet Installer 163C  
\*\*\* 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 35

---

---

---

---


---

---

---

---

**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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 36

---

---

---

---

---

---

---

---

### 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

37

---

---

---

---

---

---

---

---

---

---

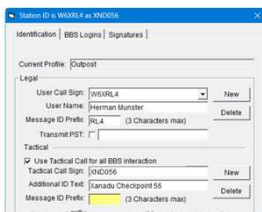
### 1. Setting up Message ID prefix for Tac Calls

**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**

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

38

---

---

---

---

---

---

---

---

---

---

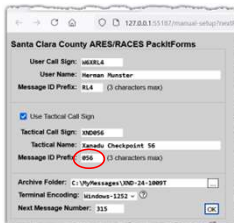
### 1. Setting up Message ID prefix for Tac Calls

**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. PacketForms 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**

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

39

---

---

---

---

---

---

---

---

---

---










**6. Amateur Packet Radio Field Reference, Type III**

**Amateur Packet Radio Field Reference, Type III**  
For SCCo RACES Responders  
October 2024

**Table of Contents**

- 1 QUICK REFERENCE.....
- 2 INTRODUCTION.....
- 2.1 PURPOSE.....
- 2.2 HOW TO USE THIS HANDBOOK.....
- 3 PACKET OPERATOR CHECKLIST.....
- 4 PACKET STARTUP PROCEDURE.....
- 5 CLIENT SOFTWARE.....
- 6 PACKET MESSAGING.....
  - 6.1 PACKET MESSAGING BASICS.....
  - 6.2 FREE FORM (PLAIN TEXT) MESSAGE.....
  - 6.3 SENDING A SPREADSHEET .CSV FILE - ONE APPROACH.....
- 7 MESSAGE ADDRESSING.....
- 8 STANDARD SUBJECT LINE FORMAT.....
- 9 CHECK-IN, CHECK-OUT MESSAGE.....
- 10 RECOMMENDED FORM ROUTING CHEAT SHEET.....
- 11 ARCHIVING EVENT DOCUMENTATION.....
  - 11.1 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.....

<https://bit.ly/PacketT3>



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 49

---

---

---

---

---

---

---

---

---

---

---

---


**6. Amateur Packet Radio Field Reference, Type II**

**Amateur Packet Radio Field Reference, Type II**  
For SCCo RACES Responders  
October 2024

**Table of Contents**

- 1 QUICK REFERENCE.....
- 2 INTRODUCTION.....
- 2.1 PURPOSE.....
- 2.2 HOW TO USE THIS HANDBOOK.....
- 2.3 OTHER REFERENCES.....
- 3 MANUAL PACKET OPERATIONS.....
  - 3.1 TNC COMMANDS.....
  - 3.2 BBS COMMANDS.....
  - 3.3 CONNECTING TO THE TNC WITH PUTTY.....
  - 3.4 START OF SHIFT: CONFIGURE TNC SETTINGS.....
  - 3.5 END OF SHIFT: RESTORE TNC SETTINGS.....
  - 3.6 GETTING READY FOR MANUAL MESSAGING.....
  - 3.7 MANUAL MESSAGE BASICS.....
  - 3.8 SENDING A MANUAL PACKET-FORM MESSAGE.....
  - 3.9 RECEIVING A PACKET-FORM MESSAGE MANUALLY.....
  - 3.10 NOTES ON OUTPOST TAGS.....
  - 3.11 VIEWING SAVED MESSAGES.....
  - 3.12 NOTES ON MANUAL ICS 309 COMM LOG.....

<https://bit.ly/PacketT2>



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 50

---

---

---

---

---

---

---

---

---

---

---

---

**mpmp, P1 and HF Credentials & SHARES**

Mark Laubach, K6FJC  
14-Dec-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 51

---

---

---

---

---

---

---

---

---

---

---

---



### 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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

55

---

---

---

---

---

---

---

---

### 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 point-to-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"

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

56

---

---

---

---

---

---

---

---

### SHARES Base Station HF Equipment



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

57

---

---

---

---

---

---

---

---

### SEMS - Reminder

#### Standardized Emergency Management System

The diagram illustrates the Standardized Emergency Management System (SEMS) hierarchy. It consists of five levels, each represented by an icon and a label:
 

- Field (IC):** Represented by an icon of firefighters.
- Local Government /City:** Represented by an icon of a city hall.
- Operational Area/County:** Represented by the Santa Clara County logo.
- OES Region:** Represented by a map of California highlighting the OES Region.
- State:** Represented by an icon of the California State Capitol building.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 58

---

---

---

---

---

---

---

---

---

---

### 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.

The flowchart illustrates the flow of requests and resources. It shows a hierarchy from State down to Affected Local Governments.
 

- State** is at the top, connected to **Region** and **State Agencies**.
- Region** is connected to **Operational Area** and **State Agencies**.
- Operational Area** is connected to **Unaffected Operational Areas**, **Local Governments in OA**, and **Affected Local Governments**.
- Unaffected Operational Areas** is connected to **Local Governments in OA**.
- Local Governments in OA** is connected to **Local Governments in OA** (a separate box) and **Affected Local Governments**.
- State Agencies** is connected to **Other Regions**, **Operational Areas**, and **Local Governments in OA**.
- Other Regions** is connected to **Operational Areas**.
- Operational Areas** is connected to **Local Governments in OA**.
- Affected Local Governments** is at the bottom, receiving input from **Local Governments in OA** and **Local Governments in OA**.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 59

---

---

---

---

---

---

---

---

---

---

## Weekly Packet Practice

Steve Roth, KC6RSC  
Revised 11-Dec-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 60

---

---

---

---

---

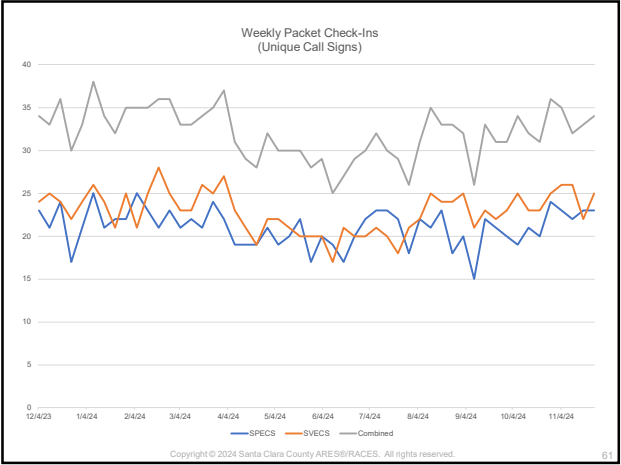
---

---

---

---

---




---

---

---

---

---

---

---

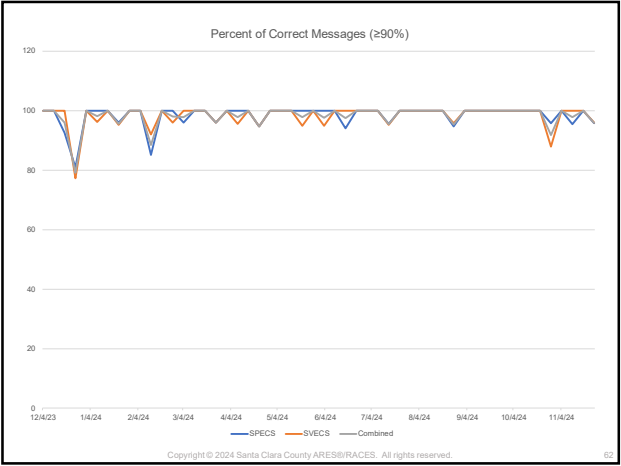
---

---

---

---

---




---

---

---

---

---

---

---

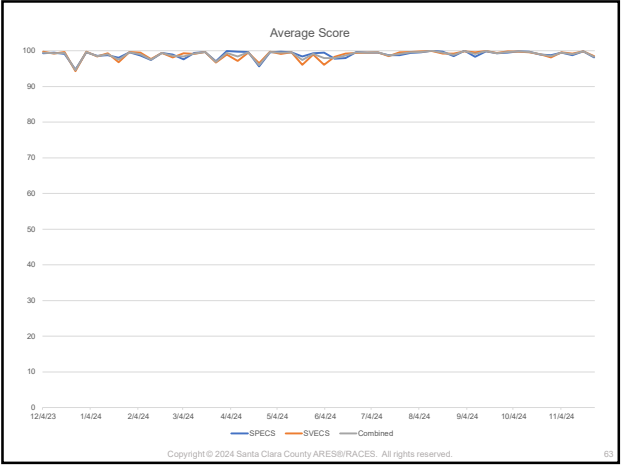
---

---

---

---

---




---

---

---

---

---

---

---

---

---

---

---

---

### 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

64

---

---

---

---

---

---

---

---

### 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
3. Connect manually, list with LL. If the backed-up messages are obsolete or unimportant, kill them with K.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

65

---

---

---

---

---

---

---

---

### 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 → BBS → Receiving
3. Turn off "Retrieve Bulletins" checkbox. (Don't forget to turn it back on later!)

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

66

---

---

---

---

---

---

---

---

## Switching between RF and TCP/IP network access in Outpost

### Using Profiles extensively

Andreas Ott, K6OTT  
Revised 11-Dec-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

67

---

---

---

---

---

---

---

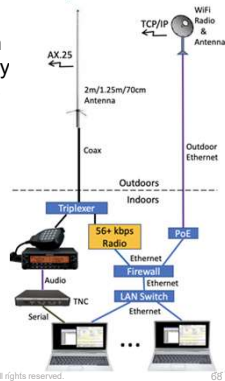
---

---

---

## 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)



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

68

---

---

---

---

---

---

---

---

---

---

## 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

69

---

---

---

---

---

---

---

---

---

---

### 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 70

---

---

---

---

---

---

---

---

---

---

---

---

### 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 71

---

---

---

---

---

---

---

---

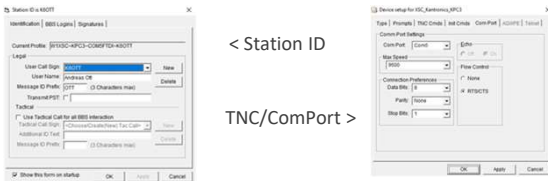
---

---

---

---

### Parameter details



< Station ID

TNC/ComPort >

finally: Save it



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 72

---

---

---

---

---

---

---

---

---

---

---

---



### 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

73

---

---

---

---

---

---

---

---

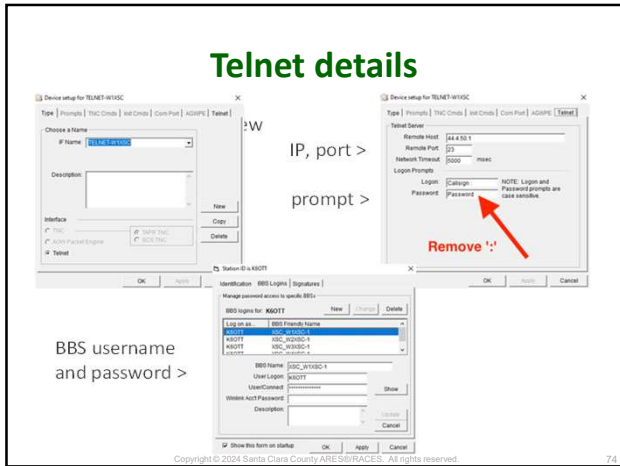
---

---

---

---

### Telnet details



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

74

---

---

---

---

---

---

---

---

---

---

---

---

### 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
  - 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

75

---

---

---

---

---

---

---

---

---

---

---

---



### Energy content in a battery

- Energy content in a (SLA) battery:  
 $3.6 * \text{voltage} * \text{mAh} = \text{Energy [Joule]}$   
 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 79

---

---

---

---

---

---

---

---

### 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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 80

---

---

---

---

---

---

---

---

### 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.”

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 81

---

---

---

---

---

---

---

---

### Fuses to the rescue

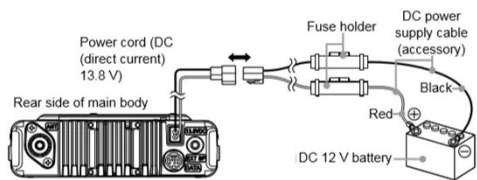


image credit: K0BG/Yaesu

Protecting battery and load (equipment)

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

82

---

---

---

---

---

---

---

---

### 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:  
20 amps  
cutoff

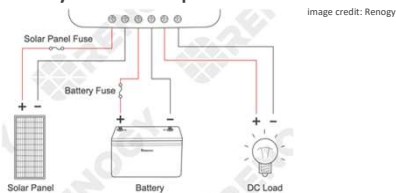


image credit: Renogy

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

83

---

---

---

---

---

---

---

---

### Working with a Served Agency Golden Eagle 2024

Jeff Grafton, AJ6XZ  
Revised 10-Dec-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

84

---

---

---

---

---

---

---

---

### 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

85

---

---

---

---

---

---

---

---

### Golden Eagle 2024: Hellyer Park C-POD



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

86

---

---

---

---

---

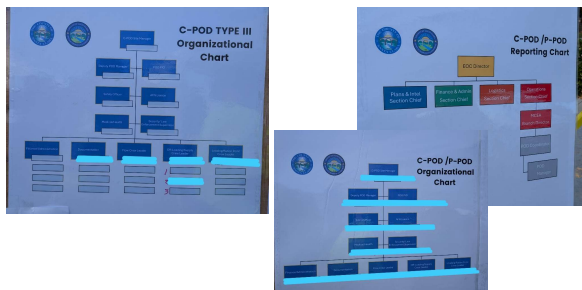
---

---

---

### Golden Eagle 2024: A few surprises

- RACES wasn't in the org chart...



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

87

---

---

---

---

---

---

---

---





**W2XSC BBS Failure**  
**June 8<sup>th</sup> – 16<sup>th</sup>**

Tim Howard, KE6TIM  
Revised 16-Nov-2024

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 94

---

---

---

---

---

---

---

---

**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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 95

---

---

---

---

---

---

---

---

**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.

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 96

---

---

---

---

---

---

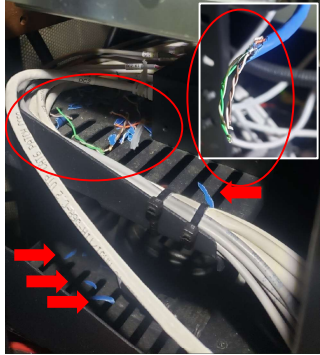
---

---



### 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



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

97

---

---

---

---

---

---

---

---

---

---

### 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 deterrent.



Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

98

---

---

---

---

---

---

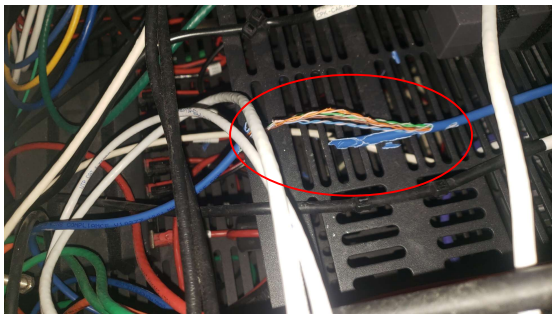
---

---

---

---

### Second Visit



- The same data cable was chewed breaking wires

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved.

99

---

---

---

---

---

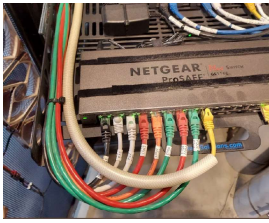
---

---

---

---

---



- 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 expertise
  - Bertrand Achard – extra tools and computer monitor
  - Tim Howard – driver and support

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 100

---

---

---

---

---

---

---

---

### 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

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 101

---

---

---

---

---

---

---

---

### Q&A

All Training Staff

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 102

---

---

---

---

---

---

---

---

# 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!**

Copyright © 2024 Santa Clara County ARES/RACES. All rights reserved. 103

---

---

---

---

---

---

---

---