



Field Operations

Type III Part B and Type II



Santa Clara County ARES®/RACES

Last Updated 30-January-2023

ARES and Amateur Radio Emergency Service are registered service marks of the American Radio Relay League Incorporated and are used by permission.

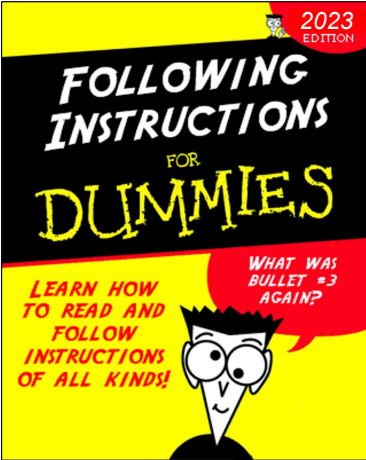
Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

1

1

Housekeeping

- Introductions
- Pen/pencil, paper, course materials
- Cell phones
- Side conversations
- Questions
- Corrected Handouts
- Breaks **Water Only in this room**
- Restrooms
- In case of emergency
- PARKING – move at first break



Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

2

2

Bring your ICS-214 and ICS-211 that you started in the Part A class.

You will need a student number for the exercises. Use your student number from the Part A class.

If you did not attend Part A, please review the slides and complete the ICS-214 and 211 forms from that class. You will be assigned a student number at check-in.

3

Fictitious Examples Used Today

- W6XRL4: Herman Munster
 - Father in 1960’s sitcom “The Munsters”
 - Was an aspiring amateur radio operator
 - Call sign: W6XRL4



- XNDEOC: City of Xanadu Emergency Operations Center



4

Forms and Tactical Call Signs for Exercises


- Take out your partially completed forms from Part A of this class and the other blank forms
 - ICS-211
 - ICS-214
- Remember your tactical call sign from Part A.
 - Your tactical call sign will be “Student ##”, where “##” is your number.

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

5

5

Learning Objectives (Reminder)



At the end of this two-part course, you should be able to:


- Describe the role of a field operator, including
 - Served agency needs, field assignment types, SCCo ARES/RACES credentialing system
- Explain and perform basic safety procedures
- Properly execute an assignment, including
 - Mobilization, selecting equipment, field operations, dealing with problems, demobilization
- Understand and use field operations checklists

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

7

7

Agenda



Type III, Part A (Reminder):

- Mastering Field Communications
- Supporting Our Served Agencies
- Field Comms Assignments
- Credentials
- Safety
- Simulated deployment
 - Mobilization
 - Setting Up a Field Station

Type III, Part B:

- Review of Part A
- Simulated Deployment (cont.)
 - Type III Field Equipment
 - Type II Field Equipment
 - On-Site Operations
 - Traffic Types
 - Message Passing Intro
 - Advanced Techniques (Type II)
 - Dealing with Problems
 - Demobilization
- Field Ops Checklist

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

8

8

Review:

Field Operations Type III Part A

5m

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

9

9

Review: Communicating

- The definition of “communicate” is:
 - com·mu·ni·cate: to transmit information, thought, or feeling so that it is satisfactorily _____ and _____.
- Field Emergency Communications can involve threats to ____ and _____
- To be effective and efficient in such critical situations, we strive to _____ field communications.

Review: Served Agency Procedures

- Most of our served agencies are required by law to use _____ and _____
- It is important for us to understand these systems because
 - We can be more _____ and _____ at supporting our agencies if we understand how they work
 - Messages are usually addressed to/from ____ positions, which are grouped into these five sections:
_____, _____, _____, _____, and _____
 - Requests for resources move between agencies following the hierarchy defined in _____, which is:
_____ > _____ > _____ > _____ > _____



14

Standard Go Kit

- **2-hour Carry Kit**
 - Keep it nearby
 - Use to make resource net damage reports
- **12-hour Go Kit**
 - Needed for any deployment
- **Extended Kit**
 - 12+ hours
- **Includes:**
 - X = Required
 - R = Recommended
 - O = Optional
- **Always wear a safety vest**
 - Unless the served agency has something else to wear

15

6

Radio – Portable: “Handie-Talkie” (HT)

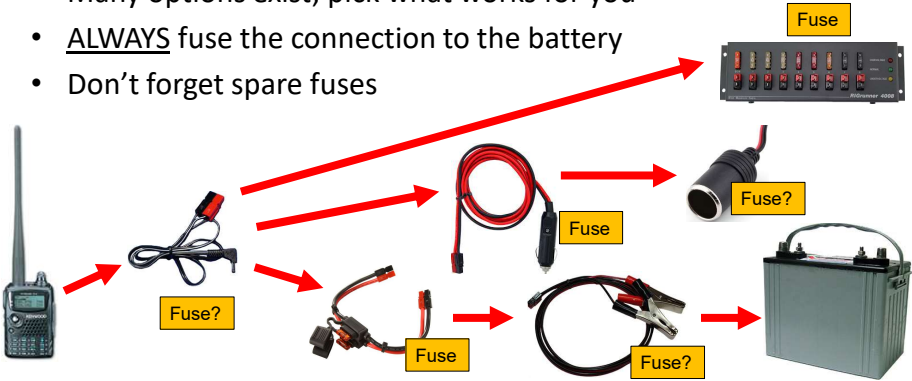
- Radio
 - 5 Watts
 - Dual-band (2m, 70cm)
 - Recommended: dual-receive
 - Charged batteries for 12 hours (min. 3000 mAh)
 - Be careful with AA battery packs. On some HTs it will lower the power output to about 1 Watt max!
 - Recommended:
 - After market antenna can be a significant improvement
 - Chest pack or vest pocket to carry radio up high, not at waist
 - “Surveyor” and “Engineer” vests usually have two chest pockets
 - Rubber band(s) for headset plugs on some HTs
 - Beware of cheap, non-Part 97 compliant junk radios



16

Radio Power Adapters

- Required: adapters to get power from three sources
 - 1) Anderson Powerpoles, 2) cigarette lighter socket, 3) car battery terminals
- Many options exist; pick what works for you
- ALWAYS fuse the connection to the battery
- Don’t forget spare fuses



17

HT Headset/Mic Options

- You need to hear and be heard in noisy environments
- Minimum required: earbud or headphones
 - Only improves what you hear, not your ability to be heard by others
- Recommended: headset
 - Alternatives: earbud/mic, speaker/mic/earbud



Headset

- **Usually best** for
 - Hearing
 - Being heard
- Consistent mic position
- Noise cancelling mics available from some manufacturers



Earbud/mic

- Simple, inconspicuous
- Poor mic location, picks up surrounding noise



Speaker/mic

- Hard to hear in noisy environment
 - May support attached earbud
- Mic location depends on how used
 - Not ideal if left clipped to clothing

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

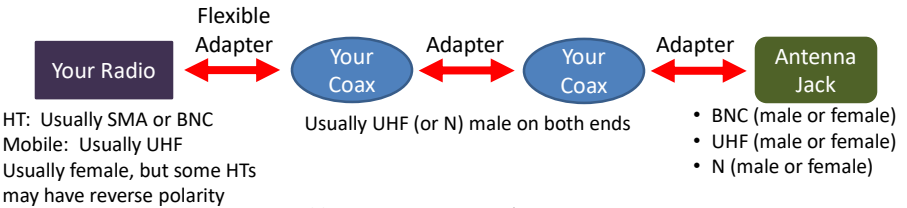
18

18

Coax

More Info: Antenna Fundamentals Class

- Need to connect to existing installed antenna
 - Required
 - 25 feet of 50 ohm
 - Adapters to connect radio, coax to common antenna connector types
 - Recommended
 - 25-50 feet of low-loss (LMR-400 UF equiv.) to reach station
 - When you add an antenna and mast (Field Type II):
 - 25 feet of lightweight (LMR-240 UF or equiv.) to go up antenna mast
 - Sufficient adapters to connect radio, coax(es), antenna



Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

19

19



Equipment for
Field Communications, Type II

20

Radio - Mobile



- Minimum 25 Watts (50 Watts recommended)
- Dual band (2m, 70cm)
- Dual-receive
- Cross-band repeat capable (CW-ID recommended)
- Data connector for packet is recommended
- Power adapters (with fuses) for: Anderson Powerpoles, cigarette lighter socket, vehicle battery

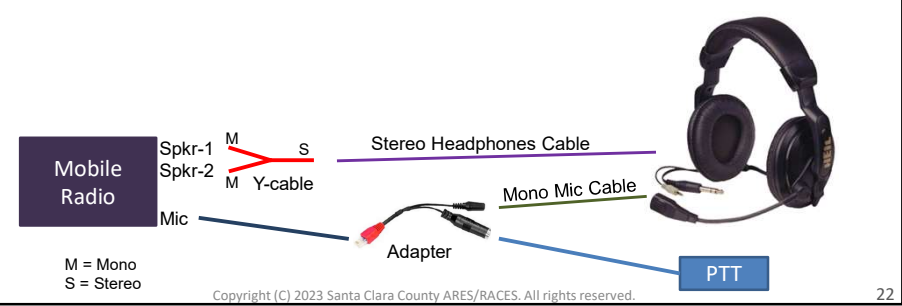


<https://www.scc-ares-races.org/operations/vhf-uhf-mobile-voice-radio-considerations.html>

21

Headset

- Stereo headset is best for dual-receive
- Y-cable needed for most dual speaker-jack mobile radios
- Radio-specific adapter cable needed for external PTT, headset
- Foot switch or hand switch for PTT



22

Push-to-Talk (PTT) Options for Headsets

- Headset needs hand or foot-switch for PTT
- Hand switch (usually best for outdoors)
 - Doesn't sit on the ground - good in dirt or rain, vehicle
 - One hand occupied
 - But can now be repositioned; can hold down papers
 - Hard to type and use a computer
- Foot switch (usually best for indoors)
 - Frees both hands for typing, computer logging
 - Beware of hinged, gas-pedal style
 - Ankle fatigue; chasing it around under the desk
 - Round, heavy is preferred by many
 - Stays put, allows different foot positioning, prevents fatigue
 - Local contesting favorite: Linemaster Gem V2 (shown here)
 - Not ideal outdoors (in dirt or rain)



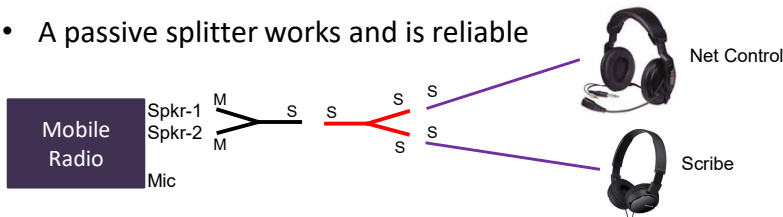
Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

23

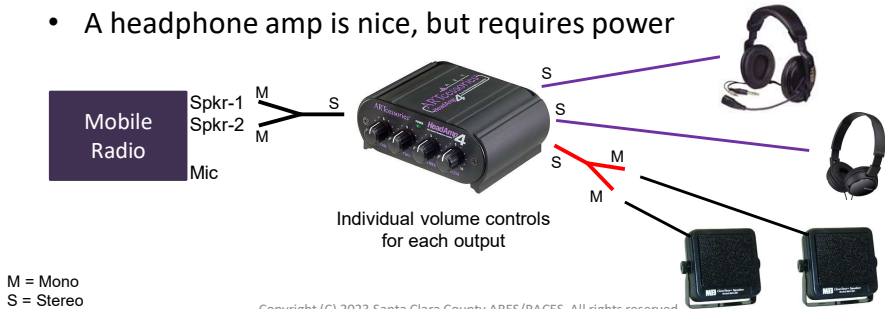
23

Headset + Headphones and/or Speakers

- A passive splitter works and is reliable



- A headphone amp is nice, but requires power



Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

24

24

Antenna and Mast

More Info: Antenna Fundamentals Class

- Mast
 - Telescoping mast is light, compact
 - Minimum: Base of antenna > 10 ft
 - Recommended: 32' puts your antenna above all single story and most two-story buildings
- Antenna
 - Roll-up J-pole, dual-band (2m, 70cm)
- Tripod
 - “Speaker stand” tripods are excellent
 - Use 15+ lb sand bag on each leg
 - Be sure collapsed length fits in your vehicle
- Also helpful
 - Heavy-duty Velcro straps to secure mast to tripod or pop-up tent legs



<https://www.scc-ares-races.org/operations/vhf-uhf-antenna-considerations.html>

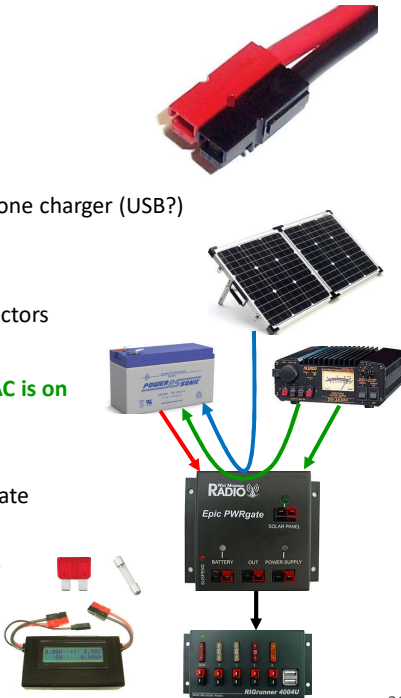
Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

25

25

Power Distribution

- Power requirements
 - Radio(s), fan, lighting, HT charger, cell phone charger (USB?)
 - Scribe’s equipment, others
- DC Power Supply
 - Consider one with multiple output connectors
- Battery charger/battery backup switch
 - Powers radio and charges battery while **AC is on**
 - Switches to battery power if **AC fails**
 - Optional solar for battery charging
 - Shown: West Mountain Radio Epic PWRgate
- Fused distribution
 - Shown: West Mountain Radio RigRunner
 - Don’t forget the spare fuses!
- An in-line V/A/W meter can be useful



The diagram illustrates a power distribution system. At the top, a red and black power cable is shown. Below it, a solar panel is connected to a battery charger/battery backup switch (labeled 'Epic PWRgate'). The switch is connected to a battery (labeled 'POWERSONIC'). The switch also has a 'POWER SUPPLY' input. The switch is connected to a fused distribution unit (labeled 'RigRunner'). The switch has a 'BATTERY' input and a 'POWER SUPPLY' input. The switch is connected to a battery (labeled 'POWERSONIC'). The switch also has a 'POWER SUPPLY' input. The switch is connected to a fused distribution unit (labeled 'RigRunner'). The switch has a 'BATTERY' input and a 'POWER SUPPLY' input. The switch is connected to a battery (labeled 'POWERSONIC'). The switch also has a 'POWER SUPPLY' input. The switch is connected to a fused distribution unit (labeled 'RigRunner').



Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

26

26

Batteries for Field Operations

- SCCo Go Kit recommended battery size
 - AGM: 20 Ah minimum; 26 Ah recommended
 - LFP (LiFePO4): 20 Ah; No firm requirement yet
- Expected [Busy] Duty Cycle (per hour)
 - 5% idle: 3 minutes
 - Nothing received
 - 20% transmit: 12 minutes
 - Send 2 formal messages
 - Receive two formal messages
 - Send/receive informal traffic
 - 75% receive: 45 minutes
 - Listening to other traffic



The image shows a hand holding a stopwatch, indicating time measurement. Below it is a large blue and silver battery labeled 'POWERSONIC'. The battery has a blue top and a silver bottom. The label on the battery includes the text 'Sealed Rechargeable Battery', 'POWERSONIC', 'MODEL PS-12250-10', '12V 25Ah 100Ah', and 'www.power-sonic.com'.

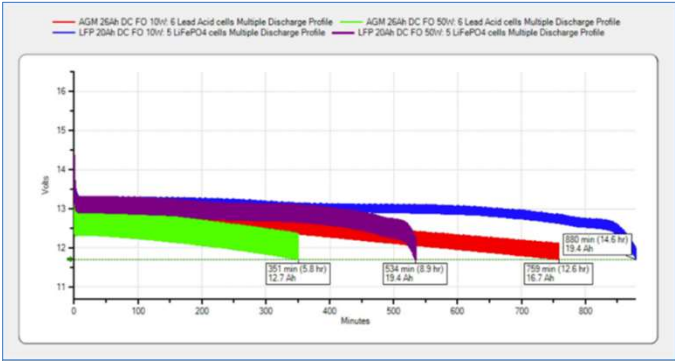
Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

27

27

Field Operations Duty Cycle Testing

- Tested: 10 W and 50 W transmit power; AGM and LiFePO4 batteries
- Results: Use 10 W
 - 50 W with 26 Ah AGM battery will not last a full shift
 - 50 W with 20 Ah LFP battery will last 8+ hours



<https://www.scc-ares-races.org/operations.html#equip>
Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

28

Battery Runtime Rule of Thumb



- **Recommended size:**
 - AGM: Minimum 20 Ah minimum; 26 Ah Recommended (SCCo Go Kit)
 - LFP (LiFePO4): 20 Ah Recommended (no required min. value defined yet)
- **Battery size rules of thumb:**
 - AGM: runtime (hr) = 50% of Rated Capacity (Ah) / weighted avg. current (A)
 - LFP: runtime (hr) = Rated Capacity (Ah) / weighted avg. current (A)
- Example: Field Operator field operator using 50 W transmit power
 - Duty cycle = 5% idle @ 0.5A; 20% transmit @ 9.2A; 75% receive @ 0.6A
 - Weighted avg. current = (0.05)(0.5 A) + (0.20)(9.2 A) + (0.75)(0.6 A) = 2.3 A
- Example: 26 Ah AGM Battery
 - Runtime = (0.50)(26 AH) / (2.3A) = 5.7 hours (actual test result = 5.8 hours)
- Example: 20 Ah LFP Battery
 - Runtime = (20 Ah) / (2.3A) = 8.7 hours (actual test result = 8.9 hours)

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

29



Operating On-Site, in the Field

Example Deployment - Operations

- Net Check-in
- Logging
- Voice Technique
- Examples

Check-In



- As soon as your station is set up ...
- Check into the assigned net
 - Use phonetics for your call sign since this is the first time net control is hearing it
- If you were assigned a tactical call sign
 - You are checking in as a function or location, not yourself
 - Say: Net Control, <tactical call sign> checking in, <FCC call sign>
 - Example: Net Control, Shelter 1 checking in, W6XRL4
- If you were not assigned a tactical call sign
 - You are checking in as yourself
 - Say: “Net Control, <FCC call sign> checking in”
 - Example: “Net Control, W6XRL4 checking in”
- Update your ICS-214

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

32

32

Exercise: ICS-214 Update

- Exercise:
 - Assume the time is now 09:00
 - You have set up your station
 - You have checked out of the staging net
 - You have checked into the student net
- Update your ICS-214

The date on your forms are from last months class, use that date

01/07/2023

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

33

33

| | | |
|--------------|----------------------------------------------------------------------------------------|--|
| 6. | ACTIVITY LOG | |
| Time (24:00) | Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text) | |
| 08:00 | Assignment: attend Field Ops III/II Training Class. Sheriff's Office | |
| 08:05 | Depart home, initial odometer 123 | |
| 08:25 | Arrive staging, final odometer 134 | |
| 08:50 | Assignment: participate as student, tactical call "student <your number>" | |
| 09:00 | Station set up complete; checked out of staging, into student net; see ICS-309 | |
| | | |
| | | |
| | | |

34

[illegible]

35

16

Exercise: ICS-309 Communications Log

- You just checked into the student net
 - Assume the time is 09:00
 - Log your communications
-
- We are still using the assignment from the Part A class:
 - Activation # TC-23-02T
 - Operational Period used in last class
MM/DD/YYYY 09:00 to MM/DD/YYYY 12:00

01/07/2023

36

Exercise: ICS-309 Communications Log

| | | | | | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------|-------|----------|
| COMM Log ICS 309-SCCo ARES/RACES | 1. Incident Name and Activation Number <i>Field Ops III/II Training Class</i> <i>TC-23-02T</i> | | 2. Operational Period (Date/Time) <i>MM/DD/YYYY</i> <i>MM/DD/YYYY</i> From: <i>09:00</i> To: <i>12:00</i> | | |
| | 3. Radio Net Name (for NCOs) or Position/Tactical Call <i>Student <your number></i> | | 4. Radio Operator (Name, Call Sign) <i><your name>, <your call sign></i> | | |
| 5. COMMUNICATIONS LOG | | | | | |
| Time (24:00) | FROM | | TO | | Message |
| | Call Sign/ID | Msg # | Call Sign/ID | Msg # | |
| 09:00 | | | NC | | Check-in |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Suggestion:
If you leave the field representing you or your position blank,
it can make the log a little easier to read as it fills up

37

Communications Technique



- Verbal communication must be effective, clear and concise
 - Plain English; No 10-codes, Q-codes, etc.
 - Proper (ITU) phonetics, prowords, numbers
 - Follows standard procedures
- Radio technique is effective
 - Proper power levels: repeaters vs. simplex
 - Pause for repeaters, especially when linked
- Written communication is effective, clear, concise, legible
 - Correct forms used for each function; properly completed
- Call signs and tactical calls are used properly

Reference: SCCo Performance Standards, page 7

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

38

38

Methods and Procedures - General

- Understands and is able to describe the purpose and appropriate usage of the main nets
 - Resource, Message, Command, Hospital, City, Tactical, Packet, EOC, ...
- Makes proper use of the Resource Net
- Passes messages appropriately
- Maintains contact with Net Control
- Keeps logs and records correctly
- Follows served agency protocols and procedures
- Provides complete and accurate relief briefings
- Attends debriefing, if available


Reference: SCCo Performance Standards, pp 10-13

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

39

39

Responding to Health & Welfare Checks



- Health and Welfare Checks 
 - Key Points
 - Field operators responded with tactical call (good)
 - Identified any problems or needs (none in this case)
 - Ended with FCC call sign, as requested (excellent)
 - Note:
 - Checkpoint 1A has Yaesu Wires turned on. Notice the beep and the suppression of audio at the beginning of his transmission. The words “Checkpoint 1 Alpha” are completely missed!
 - If you have a Yaesu radio, you MUST disable and avoid activating that terrible “feature”!

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

40

40

Keep Net Control Informed At All Times



- Example: assignment change 
 - Staging has reassigned this operator to a new position
 - He does an excellent job of telling net control:
 - Old assignment (old tactical call sign)
 - New assignment (new tactical call sign)
 - The fact that he is on his way there
 - Ends with FCC call sign
- Example: restroom break 
 - Never leave the net without telling net control
 - Operator arranged for a stand-in, reducing the load on net control
 - Ends with FCC call sign

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

41

41

Making Reports


- Example: crowd count reports  
 - Checkpoints report number of rows of people on each side of the block they are monitoring, first left, then right
 - Technically, they should use the proword "figure(s)" before saying the number. But the requested information is a number. So, the answer is understood to be a number anyway.
- Key points for both example recordings:
 - They are called by their tactical call sign
 - They answer as their tactical call sign
 - They give the required information, nothing more, nothing less
 - They end with their FCC call sign to satisfy the FCC and indicate that the transmission is completed

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

42

42

Requesting / Receiving Information

- Example: directed net, always go through net control 
 - Both checkpoint 10 and staging use their tactical call signs to communicate
 - Both stations go through net control
 - Both end their transmissions with their FCC call signs. Excellent.

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

43

43

Exercise: ICS-309 Logging (1)

- At 09:30, net control conducts a health and welfare check
- At 09:45, you ask Xanadu EOC (XNDEOC) for some water
- At 09:50, Xanadu tells you that water is on the way
- At 10:00, net control performs a health and welfare check

Exercise: ICS-309 Logging (1)

| | | | | | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------|--|-------------------------|
| COMM Log ICS 309-SCCo ARES/RACES | 1. Incident Name and Activation Number <i>Field Ops III/II Training Class</i> <i>TC-23-02T</i> | | 2. Operational Period (Date/Time) <i>MM/DD/YYYY</i> <i>MM/DD/YYYY</i> From: <i>09:00</i> To: <i>12:00</i> | | |
| | 3. Radio Net Name (for NCOs) or Position/Tactical Call <i>Student <your number></i> | | 4. Radio Operator (Name, Call Sign) <i><your name>, <your call sign></i> | | |
| 5. COMMUNICATIONS LOG | | | | | |
| Time (24:00) | FROM Call Sign/ID Msg # | | TO Call Sign/ID Msg # | | Message |
| <i>09:00</i> | | | <i>NC</i> | | <i>Check-in</i> |
| <i>09:30</i> | <i>NC</i> | | | | <i>H&W</i> |
| <i>09:45</i> | | | <i>XNDEOC</i> | | <i>Requested Water</i> |
| <i>09:50</i> | <i>XNDEOC</i> | | | | <i>Water on the way</i> |
| <i>10:00</i> | <i>NC</i> | | | | <i>H&W</i> |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |



Traffic Types

Typical for field operators

46

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

46

Traffic Types in the Field


- Operator-to-Operator Traffic
 - Ex: Check-in/out, health & welfare, damage reports, status reports, etc.
- 3rd Party Traffic (messages we deliver for others)
 - Spoken
 - Message that are told to us; usually brief
 - Ex: “Ask Steve to call Jenny at 867-5309”
 - Common for shadows
 - Written
 - Messages that are written down and handed to us
 - Ex: ICS-213 and other forms, message written on plain paper

47

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

47

3rd Party Spoken Messages




- For simple spoken messages, no need for a message form
 - Example: Most messages between shadows are simple, spoken messages
 - “Ask Steven to call Jenny at 867-5309”
- Use your judgement
 - IF message is longer or more complicated
 - Such as: a complicated message that needs to be delivered exactly
 - OR if it needs routing information for delivery outside the radio room
 - Such as: a message to be delivered to an ICS position in an EOC
 - OR if the message should be tracked
 - Such as: the 3rd parties may need to refer to it again
 - THEN write it down on the appropriate form; handle as a written message
- Log all 3rd party spoken messages on an ICS-309 Comm Log
 - (Shadows can log on their ICS-214)

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

48

48

3rd Party Written Messages



- 3rd party written messages always use an appropriate form
 - General messages on ICS-213; resource requests on EOC-213RR; etc.
- If the message is not on the appropriate form:
 - Best: Ask the author to use the correct form
 - If they don’t have one, provide it to them
 - Else: Transcribe the message to the form, asking the author to clarify and fill in missing information as you go
 - Clarify spelling, other details
 - Last Resort: Staple to an appropriate form only if necessary
 - Papers can become detached, separated
 - Staples, paper clips, and odd paper sizes can cause problems when scanning/copying
- Log all 3rd party written messages on an ICS-309 Comm Log
- See: <https://www.scc-ares-races.org> > Operations > Forms

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

49

49

Shelter Status

- 2 page form
- Who:
 - From: Shelter
 - To: Managing jurisdiction
 - City or County EOC
 - Red Cross
- When:
 - Responding to info requests
 - Submitting updated info
- Instructions
 - Last page


Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

Allied Health Status

- Who
 - From: Allied Health Facility
 - Skilled nursing, assisted living, dialysis, out-patient surgical, clinic, ...
 - To: Public Health or EMS
- When:
 - Responding to request for bed counts
 - Submitting updated general info
- Instructions
 - Last page

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

- Used to request non-mutual aid resources from the county
 - Not for Law, Fire, EMS or RACES mutual aid
- Usually sent from city EOC to county EOC (Op Area)
- Other uses
 - County-managed shelter or unincorporated area command post
 - Some cities for internal requests
- Instructions
 - Last page(s)

|  <div> <p>County of Santa Clara</p> <p>Emergency Operation Center (EOC)</p> <p>Resource Request Form 213RR</p> <p>COMPLETED BY REQUESTOR</p> </div> | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|
| 1. Incident Name | 2. Date Initiated | 3. Time Initiated | 4. Tracking Number (Continued by DA EOC) | | |
| <p>5. Requested By (name, agency, position, email, phone)</p> | | | <p>How to use the EOC Form 213RR</p> <p>The EOC Form 213RR is used to request non-emergency aid supplies, services, personnel, trains, equipment, utilities, fuel, facilities, or any other resource or individual emergency activity (bound to the Operational Area (OA)).</p> <p>The Form 213RR may be used anytime during any Operational Period. If the OA EOC is not activated the Duty Officer will need to coordinate the request.</p> <p>When to use:</p> <p>Any EOC position or agency requesting resources from the OA.</p> <p>Approved by:</p> <p>Section Chief of the requesting EOC or Supervising Officer at requesting agency.</p> <p>Filed with:</p> <p>Planning Section -Vulgation Section -1/ Planning Section -EOC Director -1/ Logistics Section -1/ Logistics Section</p> <p>Used Notes</p> <p>From 12/1/2019, this form is no longer used. Side info is completed by the requester. Side info is completed by the OA EOC. Please check side info for details are available.</p> | | |
| <p>6. Prepared by (name, position, email, phone)</p> | | | <p>7. Approved by (name, position, email, phone)</p> | | |
| <p>Signature:</p> | | | | | |
| REQUESTED RESOURCE DETAILS | | | | | |
| 8. City/Unit | 9. Resource Description (include priority, # available) | 10. Arrived (estimated) | 11. Priority | 12. EOC'd (circle) | |
| | | | High (24 hours) Medium (2-24 hours) Low (1-24 hours) | <input type="radio"/> | <input type="radio"/> |
| <p>13. Deliver to (name, agency, position, email, phone)</p> | | | <p>14. Location (address or lat./long. site type)</p> | | |
| <p>15. Substitute/Suggested resources (name, phone, website)</p> | | | | | |
| <p>16. Supplemental Requirements (include priority or # if 7)</p> | | | <p>17. Special Instructions</p> | | |
| <p> <input type="checkbox"/> Escorted Operator <input type="checkbox"/> Loading <input type="checkbox"/> Fuel <input type="checkbox"/> Power <input type="checkbox"/> Fuel Type _____ <input type="checkbox"/> Maintenance <input type="checkbox"/> Meals <input type="checkbox"/> Other _____ <input type="checkbox"/> Water <input type="checkbox"/> Other _____ </p> | | | | | |

Approved: 1/17

Last Revised: 8/17

Form 213RR

Emergency Operations Center (EOC)

Page 1 of 1

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

52

52

- Hospital Forms
 - HAvBed Report, Medical Facility Status, Medical Resource Request
- City/Agency specific
 - CERT Damage Assessment
 - Other: Message, ... Status, Resource Request
- Vendor specific
 - Food orders, Equipment orders
- In general, use the most appropriate form for the specific message. Otherwise, use an ICS-213 Message form.

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

53

53

ICS-213 Message

- Any general message that isn't better suited for a more specific form
- If someone hands you a message on a scrap of paper, politely ask that they fill in an ICS-213
 - If they refuse, do it for them!
- Instructions
 - Last page

MESSAGE FORM

For paper use ballpoint pen - blue or black ink only (see back for instructions)

Origin Msg #: [] Destination Msg #: []

Date: [] Time: [] Handling: ☐ Immediate (ASAP) ☐ Priority (< 1hr) ☐ Routine (< 2hr)

This Message Requests Your Tx: ☐ Yes ☐ No

TAKE ACTION: ☐ Yes ☐ No

REPLY: ☐ Yes ☐ No

ICS Position: (required) * []

Location: (required) * []

Name: (optional) []

Telephone #: (optional) []

SUBJECT: []

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

MESSAGE: [] (what, when, where needed; how long; contact name and phone number - KEEP MSG BRIEF)

ACTION TAKEN: [] (For use by Originator / Recipient) * USE SEPARATE MESSAGE FORM IF SENDING REPLY

CC: ☐ Management ☐ Operations ☐ Planning ☐ Logistics ☐ Finance

Operator Use Only: []

Relay: []

How: ☐ Received ☐ Sent ☐ (e-mail)

Operator Call Sign: []

Operator Name: []

Date: [] Time: []

Message Originator: Send the original to radio. Retain a copy for your reference.

Radio: After sending, complete Operator Use Only and file in radio.

Incoming (Receiving): []

Radio: Complete Operator Use Only then route to the Addressee. Retain a copy in radio if directed by Supervisor.

Addressee: Take appropriate action.

SCCs RACES ICS Form 213 (01/18/2022, Revision 3/1/2022)

What is Radio Routing Info?

- The extra information that a radio operator needs to send, deliver, and track a message
 - Message Numbers
 - Date, Time, Handling Order
 - To/From
 - Radio Operator Info

MESSAGE FORM

For paper use ballpoint pen - blue or black ink only (see back for instructions)

Origin Msg #: [] Destination Msg #: []

Date: [] Time: [] Handling: ☐ Immediate (ASAP) ☐ Priority (< 1hr) ☐ Routine (< 2hr)

This Message Requests Your Tx: ☐ Yes ☐ No

TAKE ACTION: ☐ Yes ☐ No

REPLY: ☐ Yes ☐ No

ICS Position: (required) * []

Location: (required) * []

Name: (optional) []

Telephone #: (optional) []

SUBJECT: []

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

MESSAGE: [] (what, when, where needed; how long; contact name and phone number - KEEP MSG BRIEF)

ACTION TAKEN: [] (For use by Originator / Recipient) * USE SEPARATE MESSAGE FORM IF SENDING REPLY

CC: ☐ Management ☐ Operations ☐ Planning ☐ Logistics ☐ Finance

Operator Use Only: []

Relay: []

How: ☐ Received ☐ Sent ☐ (e-mail)

Operator Call Sign: []

Operator Name: []

Date: [] Time: []

Message Originator: Send the original to radio. Retain a copy for your reference.

Radio: After sending, complete Operator Use Only and file in radio.

Incoming (Receiving): []

Radio: Complete Operator Use Only then route to the Addressee. Retain a copy in radio if directed by Supervisor.

Addressee: Take appropriate action.

SCCs RACES ICS Form 213 (01/18/2022, Revision 3/1/2022)

Message Number Fields on Forms

Example: Shelter A1 sends to Xanadu EOC

- Origin Station:** assigns origin msg. number; sends message

| | | |
|----------------------|-------------------------------------|--------------------|
| Radio Operator Only: | ¹ Origin Msg #: SA1-1001 | Destination Msg #: |
|----------------------|-------------------------------------|--------------------|

- Destination Station:** receives message; adds destination #

| | | |
|----------------------|-------------------------------------|-----------------------------|
| Radio Operator Only: | ¹ Origin Msg #: SA1-1001 | Destination Msg #: XND-4321 |
|----------------------|-------------------------------------|-----------------------------|

- Origin Station:** updates message with destination number

| | | |
|----------------------|-------------------------------------|-----------------------------|
| Radio Operator Only: | ¹ Origin Msg #: SA1-1001 | Destination Msg #: XND-4321 |
|----------------------|-------------------------------------|-----------------------------|

- But some forms have no message number fields, so ...

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

56

56

Message Prioritization

- Prioritize messages by:
 - Handling Order
 - Date
 - Time
 - Set by message author (3rd party)

| | | | | | |
|----------------------|-----------------------------|--------------------------|----------------------------------------|----------------------------------------|---------------------------------------|
| ² Date: 2 | ³ Time (24hr): 3 | ⁴ Handling: 1 | <input type="radio"/> Immediate (ASAP) | <input type="radio"/> Priority (<1 hr) | <input type="radio"/> Routine (<2 hr) |
|----------------------|-----------------------------|--------------------------|----------------------------------------|----------------------------------------|---------------------------------------|

- But some forms have no prioritization fields, so ...

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

57

57

3rd Party Message Addressing

- Messages are addressed TO and FROM ICS Positions and Locations
 - These are required fields on all messages
- Individual names and contact info are optional fields and are usually not present

| | | | |
|--------|-----------------|------------------|------------------|
| T O | 5 ICS Position: | F R O M | 9 ICS Position: |
| | 6 Location: | | 10 Location: |
| | 7 Name: | | 11 Name: |
| | 8 Contact Info: | | 12 Contact Info: |

- But some forms have no To/From fields, so ...

58

Radio Routing Slip

- Like a fax cover sheet or departmental routing slip
- A place to put the radio routing info if the form doesn't have those fields
 - Message Numbers
 - Date, Time, Handling Order
 - To/From
 - Radio Operator Info
- Reference info about the message form
 - Form Type
 - Topic/Subject of message

Santa Clara County RACES – Radio Routing Slip

Reset Form Rev: 10/02

Radio Operator Only: Origin Msg #: Destination Msg #:

This Section to be Completed by Message Author/Creator: (Underlined-Required)

Date: * Time (24hr): * Handling: * Immediate (JCSAF) * Priority (c1-h) * Routine (c1-h)

5 ICS Position:

6 Location:

7 Name:

8 Contact Info:

9 ICS Position:

10 Location:

11 Name:

12 Contact Info:

13 Topic:

Instructions for Message Author/Creator:

1. Complete section above, surrounded by BOLD line (see instructions on back)

2. Fill in all Required fields

3. Attach to the front of a form to be sent via radio

4. Deliver to radio operator for transmission

Radio Operator Only:

Relay: How: Sent: Date: Time (24hr):

Page 1 of 2

59

When/How To Use a Radio Routing Slip

- When sending or receiving a form that does not contain radio routing info
- It is NOT a substitute for the ICS-213
 - NOT a (short) message form
 - Do NOT write a message on the routing slip
- Attach to the front of the form being sent/received
- Write Origin Msg Nbr on top right of form being sent/received
- Enter Form Type and Topic (Subject) on the Routing Slip

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

60

Where do we get the missing information

- Handling Order
- To ICS Position
- To Location

- These forms are normally sent via WebEOC over the Internet.
- The message author often does not know where the form goes.

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

61

Recommended Form Routing Sheet

- Recommended values for key form fields
 - To Position/Location
 - Handling Order
- Can help get forms to the right place faster when sent by radio
- 2 sided
 - Front is General EOC Forms
 - Back is Medical Forms and RACES Mutual Aid Request form

SCCo ARES/RACES Recommended Form Routing

Usage:

- This cheat sheet summarizes the recommended Handling, To Location, and To ICS Position when sending official forms via amateur radio.
- The message author can select whatever Handling Order, To Location and ICS Position (the chosen for each message).
- Sending:** As a general rule, address a message to the most specific ICS position that is staffed at the destination location. If the specified unit is not staffed, send it to the branch. If the branch is not staffed, send it to the section.
- Delivering:** As a general rule, deliver the message to the leader of the "To ICS Position" identified in the message: Unit Leader, Branch Director, Section Chief, or their Deputy. If that position is not staffed or available, deliver to the next higher position in the ICS hierarchy shown below.

| Form Type | Handling | To Location ** | To ICS Position ** |
|----------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| General EOC | | | |
| ICS-213 Message Form | If "Handling" is: Immediate (ASAP) Priority (1-1 hr) Routine (2-3 hrs) | Author defined | Author defined |
| EOC-213RR Resource Request | If "Priority" (field 13) is: High (0-4 hrs) Medium (5-12 hrs) Low (13+ hrs) | County EOC | Planning Section |
| QA Jurisdiction Status | Immediate (ASAP) | County EOC | Situation Analysis Unit Eber: Planning Section |
| QA Shelter Status | Priority (1-1 hr) | For city-managed: City EOC For county-managed: County EOC | Mass Care and Shelter Unit Eber: Care and Shelter Branch Eber: Operations Section |

** For actual EOC activations, use the default To Location and To ICS Position(s) as indicated, unless told otherwise by the message originator.
For an ARES/RACES exercise or training event, use the information given for that event, e.g. "Kamadu EOC" may be specified instead of "County EOC", etc.

Santa Clara County ARES/RACESRevised: 2/20/23Page 1 of 2

Form Handling Exercise

- For each of these forms:
 - Shelter Status (city managed)
 - Allied Health Facility Status (MHJOC open)
 - EOC-213RR Resource Request
 - ICS-213 Message
 - Jurisdiction Status

Santa Clara QA Jurisdiction Status

Radio Operator Only:Origin Msg #:Destination Msg #:

This section to be completed by Jurisdiction Personnel:

| Form | Type (0-10) | Handling | ICSPriority (1-10) | ICSPosition (1-10) |
|--------------|-------------|----------|--------------------|--------------------|
| ICS Position | | | | |
| Location | | | | |
| Name | | | | |
| Contact Info | | | | |

Contact Information

| | |
|------------------------|-------------------------|
| EOC Phone | EOC Fax |
| EOC Email Contact Name | EOC Email Contact Phone |
| EOC Email Contact Name | EOC Email Contact Phone |

Government Office Status

| | | | |
|------------------------|------------------------|-------------|-------------|
| Office Status | Unknown (0-10) | Open (0-10) | Open (0-10) |
| Expected to Open Date | Expected to Open Time | | |
| Expected to Close Date | Expected to Close Time | | |

EOC Status

| | | | |
|------------------------|------------------------|----------------|----------------|
| EOC Status | Unknown (0-10) | Open (0-10) | Open (0-10) |
| EOC Officer | Officer (0-10) | Officer (0-10) | Officer (0-10) |
| Activation | Officer (0-10) | Officer (0-10) | Officer (0-10) |
| Expected to Open Date | Expected to Open Time | | |
| Expected to Close Date | Expected to Close Time | | |

Declarations

| | | | |
|--------------------------------------|----------------|-------------|-------------|
| State of Emergency | Unknown (0-10) | Open (0-10) | Open (0-10) |
| Attachment (Indicate where/how sent) | | | |

SCCo ARES/RACESPage 1 of 4

- Does it need a routing slip? Why or why not?
- What is the recommended Handling?
- What is the recommended To Location?
- What is the recommended To Position?



Message Passing Intro

A very basic intro

64

Message Initiation

- Step 1: Announce quantity and handling order
 - Sender calls receiver (Example: Sender is Shelter 1; Receiver is Net Control)
 - “Net Control, I have 2 Priority messages for you”
 - “Net Control, I have 1 Immediate and 1 Routine message for you”
 - Receiver prioritizes by handling order
 - “Shelter 1, go ahead with your Immediate message”
- Step 2: Announce message type [and need for routing slip]
 - Sender tells receiver
 - “Message type is ICS-213”
 - “Message type is Shelter Status form”
 - “Message type is EOC-213RR with routing slip”
 - Receiver readies the right form, then:
 - “Go ahead” or “Go”
- Step 3: Send the message as usual
 - Five groups/fields at a time, starting with “Message number ...”

65

Message Logging

- Assume you sent this message to Xanadu EOC
- Assume Xanadu (receiver) assigns message number: XND-205
- The time is now 10:10
- Log it! On which form?

MESSAGE FORM
For paper use ballpoint pen - blue or black ink, only use back for instructions

Origin Msg #: *S##-100* Destination Msg #: *XND-205*

Date: *MM/DD/YYYY* Time: *1005* (mm/dd/yyyy) (0000 to 2400)

Handling: ☒ Immediate (ASAP) ☐ Priority (< 1hr) ☒ Routine (< 2hr)

This Message Requests You To: ☐ Yes ☒ No

TAKE ACTION: ☒ Yes ☐ No

REPLY: ☒ Yes, by ☐ No

ICS Position: (required) *T* Situation Status Unit *O* Location: (required) *Xanadu EOC* Name: (optional) Telephone #: (optional)

ICS Position: (required) *R* Student # *M* Location: (required) *Sunnyvale FSS* Name: (optional) Telephone #: (optional)

SUBJECT: *Classroom Status*

REFERENCE: (e.g., Number of earlier msg.): *1*

MESSAGE: *Field Operations Type III B and Type 2 is underway. Anticipate completion at 1200 hours. Will call Jenny at 408-555-1234 when done.*

ACTION TAKEN: *1* (For use by Originator / Recipient) **USE SEPARATE MESSAGE FORM IF SENDING REPLY!**

CC: ☐ Management ☐ Operations ☐ Planning ☐ Logistics ☐ Finance

Operator Use Only: *1*

Relay: ☐ Recv: ☐ Sent: ☐ How: ☒ Received or ☐ Sent (✓ one): ☐ Telephone ☐ Dispatch Center ☐ FOC Radio ☐ FAX ☐ Courier ☒ Amateur Radio ☐ Other

Operator Call Sign: *<your POC call sign>*

Operator Name: *<your name>*

Date: *MM/DD/YYYY* Time: *1010*

Outgoing (Send): *1* Message Originator: Send the original to radio. Retain a copy for your reference.
Radio: After sending, complete Operator Use Only and file in radio.
Incoming (Received): *2* Radio: Complete Operator Use Only then route to the Addressee. Retain a copy in radio if directed by Supervisor.
Addressee: Take appropriate action.

SCCo RACES ICS Form 213 (5/11/2022, fillable 3/31/2022)

Exercise: ICS-309 Logging (2)

| | | | | | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|----------------|-------------------------------|
| COMM Log ICS 309-SCCo ARES/RACES | 1. Incident Name and Activation Number <i>Field Ops III/II Training Class</i> <i>TC-23-02T</i> | | 2. Operational Period (Date/Time) <i>MM/DD/YYYY</i> <i>MM/DD/YYYY</i> From: <i>09:00</i> To: <i>12:00</i> | | |
| | 3. Radio Net Name (for NCOs) or Position/Tactical Call <i>Student <your number></i> | | 4. Radio Operator (Name, Call Sign) <i><your name>, <your call sign></i> | | |
| 5. COMMUNICATIONS LOG | | | | | |
| Time (24:00) | FROM Call Sign/ID Msg # | | TO Call Sign/ID Msg # | | Message |
| <i>09:00</i> | | | <i>NC</i> | | <i>Check-in</i> |
| <i>09:30</i> | <i>NC</i> | | | | <i>H&W</i> |
| <i>09:45</i> | | | <i>XNDEOC</i> | | <i>Requested Water</i> |
| <i>09:50</i> | <i>XNDEOC</i> | | | | <i>Water on the way</i> |
| <i>10:00</i> | <i>NC</i> | | | | <i>H&W</i> |
| <i>10:10</i> | | <i>S##-100</i> | <i>XNDEOC</i> | <i>XND-205</i> | <i>[213] Classroom Status</i> |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

- **Message Passing Class**

- **Practice**

- **On Air Practice from Home**

- Other Drills and Exercises

68

68

[illegible]

ICS 209-2CCo-ABSTRACTS (Rev. 2021-Apr-06)

Logging with message numbers

69

69

Exercise: ICS-309 Logging (3)

- At 10:20, you send an EOC-213RR Resource Request form asking for more donuts.
- Your message number is S##-101. Xanadu’s message number is XND-206.
- Log it on your ICS-309.

Exercise: ICS-309 Logging (3)

| | | | | | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------------------|---------|------------------------|
| COMM Log ICS 309-SCCo ARES/RACES | 1. Incident Name and Activation Number <i>Field Ops III/II Training Class</i> <i>TC-23-02T</i> | | 2. Operational Period (Date/Time) <i>MM/DD/YYYY MM/DD/YYYY</i> From: <i>09:00</i> To: <i>12:00</i> | | |
| | 3. Radio Net Name (for NCOs) or Position/Tactical Call <i>Student <your number></i> | | 4. Radio Operator (Name, Call Sign) <i><your name>, <your call sign></i> | | |
| 5. COMMUNICATIONS LOG | | | | | |
| Time (24:00) | FROM Call Sign/ID Msg # | | TO Call Sign/ID Msg # | | Message |
| 09:00 | | | NC | | Check-in |
| 09:30 | NC | | | | H&W |
| 09:45 | | | XNDEOC | | Requested Water |
| 09:50 | XNDEOC | | | | Water on the way |
| 10:00 | NC | | | | H&W |
| 10:10 | | S##-100 | XNDEOC | XND-205 | [213] Classroom Status |
| 10:20 | | S##-101 | XNDEOC | XND-206 | [213RR] More donuts |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Exercise: ICS-309 Logging (4)

- At 10:30, Net Control performs a health and welfare check
- At 10:45, Xanadu sends you an ICS-213 Message form with a subject of “Donut Status”. Their message number is XND-207. Your message number is S<your number>-102.
- Log these messages.

Exercise: ICS-309 Logging (4)

| | | | | | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------|---------|------------------------|
| COMM Log ICS 309-SCCo ARES/RACES | 1. Incident Name and Activation Number <i>Field Ops III/II Training Class</i> <i>TC-23-02T</i> | | 2. Operational Period (Date/Time) <i>MM/DD/YYYY</i> <i>MM/DD/YYYY</i> From: <i>09:00</i> To: <i>12:00</i> | | |
| | 3. Radio Net Name (for NCOs) or Position/Tactical Call <i>Student <your number></i> | | 4. Radio Operator (Name, Call Sign) <i><your name>, <your call sign></i> | | |
| 5. COMMUNICATIONS LOG | | | | | |
| Time (24:00) | FROM Call Sign/ID Msg # | | TO Call Sign/ID Msg # | | Message |
| 09:00 | S## | | NC | | Check-in |
| 09:30 | NC | | S## | | H&W |
| 09:45 | S## | | XNDEOC | | Requested Water |
| 09:50 | XNDEOC | | S## | | Water on the way |
| 10:00 | NC | | S## | | H&W |
| 10:10 | S## | S##-100 | XNDEOC | XND-205 | [213] Classroom Status |
| 10:20 | S## | S##-101 | XNDEOC | XND-206 | [213RR] More donuts |
| 10:30 | NC | | S## | | H&W |
| 10:45 | XNDEOC | XND-207 | S## | S##-102 | [213] Donut status |
| | | | | | |
| | | | | | |
| | | | | | |



Advanced Techniques

For Field Operator Type II

10m

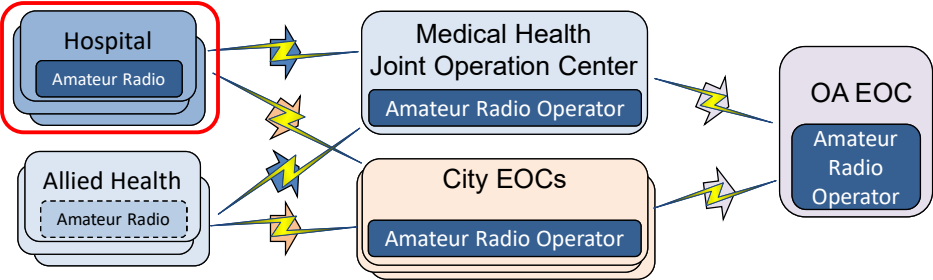
Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

74

74

Operating on Two Nets Simultaneously

- Some field assignments require simultaneous operation on two nets
- Example:
 - Hospital Net: Hospitals to MHJOC; medical issues
 - City Net: Municipal issues, such as fire, law, utilities, public works



```
graph LR; subgraph " " direction TB; H[Hospital Amateur Radio]; AH[Allied Health Amateur Radio]; end; MHJOC[Medical Health Joint Operation Center Amateur Radio Operator]; CE[City EOCs Amateur Radio Operator]; OAE[OA EOC Amateur Radio Operator]; H <--> MHJOC; H <--> CE; AH <--> CE; MHJOC <--> OAE; CE <--> OAE;
```

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

75

75

Operating on Two Nets Simultaneously

- Establish your primary net
 - All other things being equal, which net will you answer first?
- Use at least a dual-receive mobile radio, stereo headphones
 - If possible, use a separate radio for the secondary net so you can hear both nets while you are transmitting
 - An HT with an earbud under your headphones usually works well
- Use a separate ICS-309 Message Log for each net
 - Include net name in field 3: Radio Net Name or Position/Tactical Call
 - Ex: "Hospital Net / Kaiser SC" and "Santa Clara Tac 1 / Kaiser SC"
- Inform both net controls
 - "Net control, be advised that I am operating two nets simultaneously. This is my {primary|secondary} net. I may not hear you or be able to answer right away if I'm handling higher priority traffic on the other net."
- Work at your own pace; you're still just one person
- Use previously covered techniques to avoid stress, fatigue

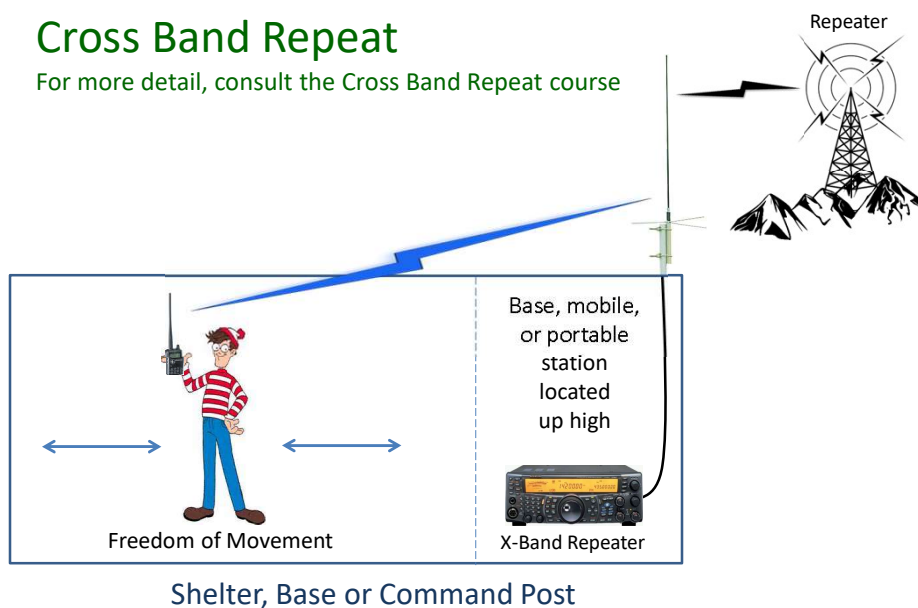
Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

76

76

Cross Band Repeat

For more detail, consult the Cross Band Repeat course



Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

77

77

Cross Band Repeat

For more detail, consult the [Cross Band Repeat course](#)

- Advantages
 - Freedom of movement within the shelter, base, or command post for message pick-up and delivery, or locating people with the information you need
 - May be the only practical option you have if you're the only operator
- Challenges
 - HT audio is usually not very good, for either TX or RX
 - Use a headset with boom mic, instead of earbud with inline mic
 - Monitor your duty cycle
 - HT batteries will run down
 - Use extra-low power, have extra batteries charging at all times
 - Cross band repeater radio will overheat
 - Use low power on local/user side
 - Use a good antenna and lowest possible power on the remote/uplink side
 - Consider using a base station radio capable of higher duty cycle
 - Remember to use tone squelch to prevent repeating of noise

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

78

78

Higher Traffic; Higher Speed




- A Type II operator is expected to have higher traffic levels
- Speed comes with practice and following procedures
- Net procedures
 - Proper net procedures speed up overall net operations
 - Check-in/out, constant monitoring, pauses, reporting formats, phonetics
- Message passing procedures
 - Most net traffic is message traffic
 - Proper message passing procedures speeds up most nets
 - Message prioritization, prowords
 - Those skilled at message passing can transfer a message two to four times as fast as others; as much as 10 more messages per hour!
- Take every opportunity to practice
 - On air message passing practice, weekly nets, drills and exercises

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

79

79



Schwadron

Dealing with Problems in the Field

Challenges and What to Do About Them

10m


Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

80

80

Loss of Repeater

- How to recognize
 - No courtesy tone (and there used to be one)
 - No squelch tail
 - Not receiving responses
 - No health & welfare checks; no traffic at all
 - You might hear people on the input but not the output
 - Use “Reverse” button to check




Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

81

81

Loss of Repeater – What to Do




- Check your equipment
 - Volume turned up? On the right frequency?
 - Equipment is operational; adequate battery power
- Switch to simplex on repeater output
 - Switch to high power; include tone, in case others are using tone squelch
 - Program into your radio memory for fast recovery
- Alternate paths of communications
 - Check your Comm. Plan (ICS 205)
 - Check your briefing notes/documents
 - Have a list of frequencies for the area you are in.
- Try tactical simplex frequency for served agency
- Contact other fielded operators on tactical simplex

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

82

82

Power & Phone Outages




- Field station
 - Check to be sure it's not your equipment
 - Have your flashlights and or battery-operated lanterns nearby, at all times.
 - Configure station to automatically switch to back-up power
 - Batteries – multiple sources and types
 - Back-up generator
 - Vehicle
 - Safety, safety, safety (particularly at night)
 - May affect your ability to call 911
 - Check Comm. Plan (ICS 205) for alternative method of reaching emergency services
- Traveling
 - ATM's, gas stations, banks, stores – all may be closed
 - Signage may be dark and hard to read
 - Keep flashlights handy

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.


83

83

High Temperature



- Situation
 - You are operating in the middle of the summer in an area with very high temperatures which could affect equipment performance and your health.
- Action
 - Use a pop-up or other means to create shade for yourself and radio
 - Use lowest radio power possible
 - Switch radios
 - Position radio for sufficient air flow
 - Sufficient space around cooling fins
 - “Radio in a box” is not the best approach in a hot environment unless it includes forced air (fan) ventilation
 - Consider sealed “blue” ice packs (but watch for condensation!)
 - Use a 12v DC fan (consider CFM > 50 and dB < 25)





Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

84

84

Rain, Wind



- Situation
 - You have to operate in rain, wind or both
- Action
 - Protect your paperwork and equipment from wind, rain
 - Plastic bags for radio, clipboard
 - Clipboard(s) and weights for paperwork
 - Use a pop-up or other means to create shelter
 - Add sides to protect from blowing rain
 - Add weights to protect against wind, especially if pop-up has sides
 - Typically 40+ lbs per leg are needed
 - Keep electrical connections off wet ground

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

85

85

Difficult People



- Situation
 - People may be scared, tired, stressed, or all of the above
 - This applies to other staff as well as the general public
- Action
 - Stay calm; project calmness, confidence
 - Focus on the problem, not the personality
 - Most people will calm down when they see their concern is being addressed
 - If you are unable to address the problem or if the situation persists, seek help from your supervisor

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

86

86

Safety

- Pay attention to your health and those around you
 - Hydration
 - Cold and heat
 - Stress
 - Fatigue
- Do not go places that you feel are not safe
 - Moving water
 - Mud/Land slides
 - Active fires

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

87

87

Safety

- Perform an RF Exposure Calculation
<http://www.arrl.org/rf-exposure-calculator>

Example: Kenwood TH-F6A HT with 4 dB gain antenna

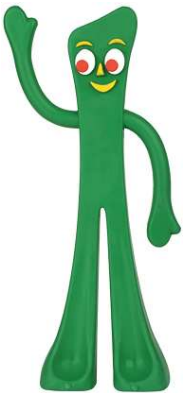
| POWER | CONTROLLED | UNCONTROLLED |
|-------|-------------------|--------------------|
| 5 W | 0.9468’ (11.36’’) | 1.339’ (16.0737’’) |
| .5 W | 0.2994’ (3.59’’) | 0.4234’ (5.081’’) |
| .05W | 0.0947’ (1.14’’) | 0.1339’ (1.607’’) |

- More details in the Antenna Class

Key To Success ...

Semper Gumby

(“Always Flexible”)





Demobilization

Demobilization

- Shift Change
- Closing out your assignment
- Paperwork
- Returning home

Shift Change

- If someone will be relieving you, they should arrive early to set up their station and receive a relief briefing from you
 - See SCCo Performance Standards for relief briefing contents
- What are some key elements of the relief briefing?
 -
 -
 -
 -
 -
 -
 -

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

92

92

Closing Out Your Assignment

- Check out of the net you’ve been using
- Check into the staging net

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

94

94

Exercise:

- Assume it is 12:00 and your assignment is completed
- You checked out of your assigned net
 - In this case, the student net
 - Typically, a tactical net
- You checked into the staging net
 - Or whatever net is appropriate (local tactical, resource, ...)
 - In this case, it’s the staging net
- Update your ICS-309, ICS-214

Exercise: ICS-309 Logging

| 5. COMMUNICATIONS LOG | | | | | |
|-----------------------|--------------|---------|--------------|---------|--------------------------|
| Time (24:00) | FROM | | TO | | Message |
| | Call Sign/ID | Msg # | Call Sign/ID | Msg # | |
| 09:00 | | | NC | | Check-in |
| 09:30 | NC | | | | H&W |
| 09:45 | | | XNDEOC | | Requested Water |
| 09:50 | XNDEOC | | | | Water on the way |
| 10:00 | NC | | | | H&W |
| 10:10 | | S##-100 | XNDEOC | XND-205 | [213] Classroom Status |
| 10:20 | | S##-101 | XNDEOC | XND-206 | [213RR] More donuts |
| 10:30 | NC | | | | H&W |
| 10:45 | XNDEOC | XND-207 | | S##-102 | [213] Donut Status |
| ... | ... | ... | ... | ... | --- other activities --- |
| 12:00 | | | NC | | Check-out |

| | | | |
|-------------------------------------------------------------------|---------------------------------|---------------------------------------------|----------------|
| 6. Prepared By (Name, Call Sign) <your name>, <your call sign> | 6A. Signature Your Signature | 7. Date & Time Prepared MM/DD/YYYY 12:00 | 8. Page 1 of 1 |
|-------------------------------------------------------------------|---------------------------------|---------------------------------------------|----------------|

Required

Next operator (if any) begins a new 309 form

Example: Updated ICS-214

| 6. ACTIVITY LOG | |
|-----------------|----------------------------------------------------------------------------------------|
| Time (24:00) | Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text) |
| 08:00 | Assignment: attend Field Ops III/II Training Class. Sheriff's Office |
| 08:05 | Depart home, initial odometer 123 |
| 08:25 | Arrive staging, final odometer 134 |
| 08:50 | Assignment: participate as student, tactical call "student <your number>" |
| 09:00 | Station set up complete; checked into student net; see ICS-309 |
| ... | ... other activities |
| 12:00 | Shift complete; checked out of student net; check into staging net |
| | |

Return or Hand Off Forms

- If a new operator is relieving you
 - Take only your ICS-214 Unit Activity log with you
 - Leave everything else at the station for the next operator
 - ICS-309 Communications Log, various message forms, notes, ...
 - The new operator may need to refer to previous communications
- If you are the last operator at the site
 - Bring all forms and notes with you to staging

Return to Staging

- Pack up your station
- Complete any procedures requested by local staff
 - Debriefing, review forms, time accounting, etc.
- Return to staging
- Close out your ICS-214
- Turn in all paperwork
- Sign-out on the ICS-211A
- Check out of Staging Net

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

99

99

Exercise: Finish Up at Staging

- The time is now 12:20
- Close out your ICS-214
- Sign-out on the ICS-211A
- Check out of staging net

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

100

100

| | | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------|
| 6. ACTIVITY LOG | | | |
| Time (24:00) | Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text) | | |
| 08:00 | Assignment: attend Field Ops III/II Training Class. Sheriff's Office | | |
| 08:05 | Depart home, initial odometer 123 | | |
| 08:25 | Arrive staging, final odometer 134 | | |
| 08:50 | Assignment: participate as student, tactical call "student <your number>" | | |
| 09:00 | Station set up complete; checked into student net; see ICS-309 | | |
| ... | ... other activities | | |
| 12:00 | Shift complete; checked out of student net; check into staging net | | |
| 12:20 | Sign-out of staging; heading home | | |
| | | | |
| 7. Prepared By (Name, Call Sign, ICS Position) <your name>, <your call sign> | | 7A. Signature Your Signature | 8. Date & Time Prepared MM/DD/YYYY 12:20 |
| | | | 9. Page <u>1</u> of <u>1</u> |

Required

101

ICS 211A Check-in List (Communications)

| ICS 211A CHECK IN LIST (COMMUNICATIONS) | 1. INCIDENT NAME: <i>Field Ops III/II Training</i> | 2. DATE: <i>MM/DD/YYYY</i> | 3. INCIDENT NUMBER: <i>TC-23-02T</i> | 4. CHECK IN LOCATION <i>Sheriff's Office</i> | | |
|----------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------|----------------------------------------------------|---------|
| 5. INFORMATION | | | | | | |
| PERSONNEL NAME | CALL SIGN | AGENCY | TIME IN | TIME OUT | HOURS | REMARKS |
| <your name> | <your call> | <your org> | 08:30 | 12:20 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| ICS 211A SCCo RACES | 6. NUMBER OF PAGES: <u> 1 </u> of <u> 1 </u> | 7. PREPARED BY (RESOURCE UNIT): <i><your name and call sign></i> | | | 8. MISSION NUMBER <i>XSG-- TC-22-02T</i> | |

102


Copyright (C) 2023 Santa Clara County ARES®/RACES. All rights reserved.

Return Home

- Check into resource net for tracking home
 - Exception:
 - IF AND ONLY IF the event is a public service event (not a real emergency incident, not a drill), ...
 - AND IF you don’t need/want to be tracked home,
 - THEN you can skip the resource net on the way home
 - No need to wait around just to “check-in/checkout”
- Same Resource Net operating procedures apply
 - Check-in with your FCC call sign
 - Provide location, odometer, FCC call sign for health & welfare checks
 - Check-out when you reach your destination (Do not forget)

Congratulations!

- You have completed a simulated full activation
 - Mobilization
 - Operations
 - Demobilization
- You learned about equipment
- You learned about handling problems
- Can you remember it all?
- Can you repeat it over and over without missing anything?



Checklists

For Field Operations

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

105

105

Checklists

- Each role has a checklist
 - Field
 - Net Control
 - Packet
 - Shadow
- Doesn't replace proper training
- Operator expected to
 - Review checklist at each stage of deployment
 - Understand meaning of each step
 - Complete each step correctly
- The Performance Standards & Best Practices has a more extensive list.

Santa Clara County ARES/RACES

Field Operations Checklist

Last Revised: 28-May-2023

Alert

- Provide damage report to county Resource Net (or city net, as directed by local city procedures)
- Monitor for escalation - Resource Net level 2, 3
- Verify home and family are safe
- Verify vehicle is fueled and ready
- Verify go kit is ready
- Verify you are ready

Assignment and Activation

- For city activation:
 - Check into city net and request assignment
- For county activation:
 - Get released by city EC
 - Check into county Resource Net and request assignment
- Copy assignment details
- Copy activation number
- Update KCS-214

Travel to Assignment

- Contact Resource Net Control
 - "Ready to Deploy"; Provide location & odometer
- Obey all traffic laws
- Pay attention and respond to health & welfare checks
- Do not go into areas that you feel are unsafe

Santa Clara County ARES/RACES

Field Operations Checklist

Page 1 of 3

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

106

106

Summary

You should now be able to:

- Describe the role of a field operator, including
 - Served agency needs, field assignment types, SCCo ARES/RACES credentialing system
- Explain and perform basic safety procedures
- Properly execute an assignment, including
 - Selecting equipment, mobilization, field operations, dealing with problems, demobilization
- Understand and use field operations checklists

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

107

107

Final Assignment

Please complete the Class Evaluation within one week.

To get course credit you need to:

- a) Attend at least 90% of the class
- b) Participate in class
- b) Complete the class evaluation

If you do these, you will get credit for the course.

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

108

108

Online Class Evaluation

Log into <https://www.scc-ares-races.org/activities/events.php>
Click “Submit Class Evaluation” in Events

Home

Log Out

Activities Home

SCC ARES/RACES Home

Comments/Bugs

Events

List Events By Date

List Events I Joined

Create a New Event

Modify an Event

Delete an Event

List/Print an Event Roster

Log Event Participation

Submit Class Evaluation

My Profile

Calendar of Events

Show: Current events ☒ Past events ☐ Event Descriptions ☒

Field Operations Type III, Part B and Type II

| Date: | Start: | Type: | Credential Credit? | Location: |
|----------|---------|-----------------|--------------------|----------------------------|
| 06/05/21 | 9:00 AM | County Training | Yes | 55 W Younger Ave, San Jose |

Prerequisites, Course Description, and Course Materials: See the Field Communicator Type III Part B and Type II page for co...

Introduction to Emergency Communications - NIGHT CLASS (Zoom)

109

Thank You!

If you have questions or feedback about this or other training activities, please join our **Training discussion group**:
<https://scc-ares-races.group.io/g/training>

Sign up for:

- Message Passing Class – July 1st
- Monthly Training Net (3rd Tuesday each month)

110

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

Copyright (C) 2023 Santa Clara County ARES/RACES. All rights reserved.

111

111