




Field Operations Level 1 Part B, Level 2

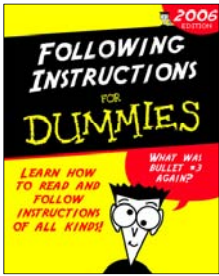
Santa Clara County ARES®/RACES
Last Updated 2010-Sept-03



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Housekeeping


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



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Learning Objectives

Explain how to deal with problems encountered in the field
Explain what types of damage surveys we do, and how to properly log them
Describe best practices for Field Operators
Explain the various types of message traffic and the best practices for handling that traffic
Execute a 213 using the learned techniques and best practices
Explain the role of the advanced field communicator
Describe the typical assignments
Explain what higher traffic levels will be encountered
Describe the various multi-net operations
Explain what logs are kept
Describe what additional materials are needed for a level 2 Field Responder
Explain the proper elements in antenna safety



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Agenda

- Quick Review of Part 1
- Dealing with Problems
- Damage Survey and reporting
- Operator skills and verbal communications
- Radio techniques
- Message handling
- Exercise in passing message traffic
- The Level 2 communicator
- Level 2 Go-Kits
- Quick look at Level 3 – what is involved

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Quick Review of Part 1


We covered the following topics:




- Role of the communicator
- Purpose and usage of the main county nets
- Mobilization, Tracking Demobilization
- Performance On Scene / On Assignment .
- Safety
- Go Kits
- Reporting and Logging

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Dealing with Problems




- Elements
 - Wind
 - Rain
 - Heat
 - Cold
- Loss of Repeater
- Power Outages
- Phone Outages



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Elements



- Wind
 - Picks location with a natural wind block
 - Bushes or trees
 - Wall, fence, or building
 - Creates artificial wind block
 - Canopy with side walls, tent, or other portable structure
 - Tarp hung in tree
 - Carries clip boards or binder clips to secure documentation
 - Properly secures and weights antennas, tripods, canopy, etc.

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Elements



- Rain
 - Picks location with a natural or man-made overhang
 - Trees
 - Building
 - Creates protected structure
 - Tent
 - Canopy with side walls, or other portable structure
 - Carries clip boards or binder clips to secure documentation in plastic sleeves
 - Ensures location is not in path of rushing or ponding water
 - Carries and wears protective clothing that is waterproof
 - Warm fluids and foods
 - Keep YOURSELF and your EQUIPMENT dry

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Elements



- Heat
 - Wear sun protection, clothing and hats
 - Apply liberal sun screens and UV blockers
 - Drink cool water and balanced sport type drinks
 - Need 2-3 liters of water per day
 - Rotate the crew for cool off periods
 - Erect shade screens, canopies, tarps
 - Cool towels
 - Stay in the Shade
 - Watch for signs of heat related problems in your team
 - Watch for signs your equipment is overheating

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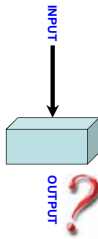
Elements



- Cold
 - Dress warmly and in layers
 - Keep clothing dry
 - Stay out of direct wind
 - Stay warm
 - Keep your feet dry and warm
 - Erect protective shelter
 - Especially if it's raining and windy as well
 - Move around
 - Warm fluids and foods
 - Watch for signs of cold related problems in your team

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Loss of Repeater



- Recognize there is a problem
 - No H&W check
 - No transmission (from anyone) in 15 minute period
 - Unable to contact Net Control
- Check your equipment
 - Volume turned up? On the right frequency?
 - Equipment is operational; adequate battery power
- Try the output frequency of the repeater you are using
 - Program your radio with repeater output simplex frequencies
- Alternate paths of communications
 - Check your comm. Plan
 - Check your safety briefing
 - 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

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Power Outages



- Fielded station:
 - Check to be sure it's not your equipment
 - Batteries
 - Connections
 - Have your flashlights and or battery operated lanterns near by, at all times.
 - Carry one on your belt
 - Switch to alternate sources of back-up power
 - Batteries – multiple sources and types
 - Back-up generator
 - Vehicle
 - Safety, safety, safety (particularly at night)
- Traveling:
 - ATM's, gas stations, banks, stores – all may be closed
 - Signage may be dark and hard to read
 - Keep flashlights handy

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Phone Outages



- Fielded Station:
 - May affect your ability to call 911
 - Check Comm. Plan for alternative method of reaching emergency services
- Traveling
 - No ATMs
 - No gas stations
 - No banks for money for gas stations, food, supplies...

Damage Survey and Reporting

- Types that we perform:
 - Mike-Mike scale
 - ICS 314 Windshield Survey
 - Fielded with a CERT team using their damage survey form
 - Others?

Mike-Mike Scale

SCCO ARES/RACES "MIKE-MIKE" SCALE

- Mike-Mike 1 – Not felt at all
- Mike-Mike 2 – Barely noticed
- Mike-Mike 3 – Know it was an earthquake somewhere
- Mike-Mike 4 – Windows, dishes rattle
- Mike-Mike 5 – Pictures move, doors swing, small items on floor
- Mike-Mike 6 – Glassware broken, books off shelf, floor lamps topple
- Mike-Mike 7 – Furniture broken, cannot stand, chimneys fall
- Mike-Mike 8 – Buildings collapse

TYPICAL RESPONSE TO CALL FOR DAMAGES BY NET CONTROL ON THE SCCo RESOURCE NET: "Los Altos, Mike-Mike 4, this is KE6AGJ."

WINDSHIELD DAMAGE SURVEY

SCCo RACES ICS 314 7:09 Page 1 of 2

Person Reporting	FIELD TEAM #1		Date	February 2, 2010		Activation #	GILD10210-T						
Person Receiving	Net control – EOC radio room		Time	0330 hours									
Reference	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	2.4	4.1	4.2	5.1
	DRUMS	GLASS	GLASS	HOLE/LEAK	ELECTRICAL	OTHER	AFFECTED	MINOR	MAJOR	DESTROYED	DAMAGE	NO ACCESS	Other
Time	Location/Address	FIRE	HAZARDS				STRUCTURE			ROADS			
0200	Maple Street	4	3	10			2	8	3				
0215	John Street	2	6	3	2		3	5	2				
0230	Main Ave	0	6	8	3		5	9	2				
0245	Duane Ave	6	3	2	1		2	8	4				
0300	Peter Way	1	2	2			2	7	4				
0315	Carriage Way	4	5	2	6		6	3	5				
0330	Total for reporting	15	25	27	12		20	40	20				



10 minute Break

Operator Skills

- Verbal Communications
- Radio Technique
- Written Communications
- Call signs and tactical calls



Verbal Communications



- Verbal communication is effective, clear and concise
 - Maintains a clear speaking voice
 - Controls tone of voice, even under stress
 - Has a good command of the English language
 - Uses plain English, no 10-codes, Q-codes, etc.
 - Properly use/pronounces letters and numbers
 - Properly uses phonetics and can recite all ITU standard phonetic letters

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Verbal Communications

- Transmits only facts, not conjecture
- Transmits only information approved by Public Information Officer or Emergency Manager or other appropriate authority;
 - When in doubt, ask supervisor
- Avoids sending personal or confidential information
- Uses standard ICS position titles and facility names

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Verbal Communications

- Properly speaks numbers, including multi-digit numbers and decimal points
- Properly uses ProWords like “say again”, “all after”, “word before”, etc.
- Communicates time using 24-hour local time; unless otherwise instructed
- Formulates thoughts before keying mic; avoids say “uhhh”

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Standard Phonetics

A - alfa (AL-fa)	N - november (no-VEM-ber)
B - bravo (BRAH-voh)	O - oscar (OSS-cah)
C - charlie (CHAR-lee)	P - papa (pah-PAH)
D - delta (DELL-tah)	Q - quebec (keh-BECK)
E - echo (ECK-oh)	R - romeo (ROW-me-oh)
F - foxtrot (FOKS-trot)	S - sierra (see-ALR-rah)
G - golf (GOLF)	T - tango (TANG-go)
H - hotel (hoh-TELL)	U - uniform (YOU-ni-form)
I - india (IN-dee-ah)	V - victor (VIK-tah)
J - juliet (JU-lee-ETT)	W - whiskey (WISS-key)
K - kilo (KEY-loh)	X - x-ray (ECKS-RAY)
L - lima (LEE-mah)	Y - yankee (YANG-key)
M - mike (MIKE)	Z - zulu (ZOO-loo)

- If there is a chance of misunderstanding, spell it out with “I spell”:
 - “go to Kay Street” → “go to Kay, I spell kilo alpha yankee, Street”

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Pronouncing Numerals

0 - zero (ZEE-row)	5 - five (FY-ive)
1 - one (WUN)	6 - six (Sicks)
2 - two (TOOO)	7 - seven (SEV-vin)
3 - three (THUH-ree)	8 - eight (Ate)
4 - four (FOH-wer)	9 - nine (NINE-er)

- Larger numbers are spoken as a string of single digits:
 - 600 = “six zero zero”
- Often preceded by the word “figures”
 - “Please copy 109” → “Please copy figures one zero niner”
 - “Requesting 16 blankets” → “Requesting figures one six blankets”

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Message Handling Prowords

- WORD AFTER “Say again word after...”
- WORD BEFORE “Say again word before...”
- BETWEEN “Say again between... and...”
- ALL AFTER “Say again all after...”
- ALL BEFORE “Say again all before...”
- I SPELL “Alfa, Bravo...”
- FIGURES “Figures Wun, ZEE-row, NINE-er” (= 109)

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Radio Technique



- Radio technique is effective
 - Makes only necessary transmissions
 - Uses procedures and techniques to reduce the number of transmissions
 - Uses a minimum of words to convey a message
 - Leaves a pause at beginning of transmission to allow repeater to key up
 - Leaves sufficient gaps between transmissions for others to break in

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Radio Technique

- If repeaters are linked, leaves an even longer pause at beginning of transmission and an even longer gap between transmissions
- Drops PTT when not speaking; avoids “open mic” or “dead air”

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Written Communications



- Messages forms are completed correctly and concise
- Other standard forms are completed correctly and legibly
- Informal messages are clear, concise and legible
- Writes time as 24-hour local time; unless otherwise instructed
- Logs and other records are clear, concise and legible

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Call Signs and Tactical Calls

- Copies call signs accurately and properly
- Is able to explain the purpose and advantages of tactical calls
- Uses tactical calls frequently and properly when communicating
- Properly IDs with FCC call sign at end of transmissions and according to FCC regulations

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Message Handling

- Message Nets
- Message passing skills
- Types of Messages
- ICS 213-SCCo Message Form



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Message Net

- Official message traffic for served agencies
- Types of Message Nets
 - City to City
 - City to Served Agency
 - City to County

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Message Net

- Types of messages
 - City Status
 - Hospital Status
 - Declaration of Emergency
 - Logistics request
 - Material
 - Resource
 - Messages – ICS to ICS positions
 - Other?

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Message Traffic – Operator Skills

- Clearly states the quantity and nature of traffic
 - e.g.: “I have ## (Emergency | Priority | Routine) message(s) for you”
- Ensures message form is properly completed before sending
- Passes messages at a speed which receiving party can copy
- Passes messages five words at a time
- Effectively send multi-station (broadcast) messages by selecting a “pacer” station and then polling all stations to confirm receipt.

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Types of Messages


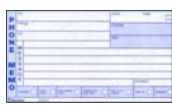
- Informal messages
 - Simple, tactical messages
 - Longer messages - use dual-copy phone message form, radiogram, or other acceptable form
- Formal messages
 - Typically between field site and city; between city and county; between agency and county
 - Use official ICS Form 213-SCCo (Message Form)
 - ICS = Incident Command System
- All messages are always logged

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Informal Messages

- Form 1
 - A simple writing tablet works
 - Lots of uses
 - Writing down assignment
 - Writing down activation number
 - Copying directions
 - Informal notes and messages
 - Scratch paper
 - Food and drink orders for the team
 - ... when you run out of the right form
- Generic phone message pad
 - NCR – provides a copy
- Both types get turned in to your supervisor at end of shift
 - (yes, even informal notes!)





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Formal Messages use ICS 213 Message Form

- Message Numbers
- Header
- Address Info
- Message Body
- Action Taken
- Operator Use

-
-
-
-
-
-



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Message Form – Message Numbers

- Critically important for tracking messages
- Message #
 - YOUR message number (often pre-stamped to ensure uniqueness)
- When Receiving, Sender's Message #
 - If you are receiving a message, put the sender's message number here
- When Sending, Receiver's Message #
 - If you are sending a message, put the receiver's message number here

MESSAGE FORM	When Receiving Msg - Sender's msg. #	Msg. #	When Sending Msg. Receiver's msg. #
Use Ballpoint Pen-Press Hard; Print Clearly (See back for instructions)			

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Need a few volunteers

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Interactive



- Break up into pairs
- Take 5 minutes each to send your message.
- Use all the practices we talked about for sending and receiving messages

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10 minute Break

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How'd You Do?

- Did you copy the message EXACTLY?
- Don't be afraid to ask for spelling of a word – get it right!
- Beware of heterographs
 - “to” vs. “too” vs. “two”
 - “for” vs. “four”
 - “ate” vs. “eight”
- Did you add?
 - Your message number
 - How received
 - Amateur Radio
 - Call sign
 - Name
 - Date
 - Time

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MESSAGE FORM		When Received Msg. Sender's msg. #	Msg. #	When Sent Msg. Recv.'s msg. #
A 4 x 6 Individual Form (Print, Hand, Press & Mail)			SLH 235	
Date (mm/dd/yyyy)	Situation Severity (if any) <input type="checkbox"/> EMERGENCY (e.g. Life Threat) <input type="checkbox"/> PRIORITY (Low Than One Hour) <input type="checkbox"/> OTHER (All others)	Msg. Handling Order (if any) <input type="checkbox"/> IMMEDIATE (On Scene as Possible) <input type="checkbox"/> PRIORITY (Low Than One Hour) <input type="checkbox"/> ROUTINE (On Scene as Possible)	Message Requests You To <input type="checkbox"/> TAKE ACTION (if any) <input type="checkbox"/> YES, by 5:00Z (log) <input type="checkbox"/> No <input type="checkbox"/> FOR YOUR INFO. (if message required)	Time (mm:ss)
2347				1058
ICN Position (required) ¹ Planning	ICN Position (required) ¹ Operations			
To: Location (required) ² SANTA CLARA HOSPITAL Name: (optional) Telephone #: (optional)	From: Location (required) ² SANTA CLARA HOSPITAL Name: (optional) Telephone #: (optional)			
SUBJECT: ¹⁰ Availability of Medication				
REFERENCE (e.g., Number of earlier msg): ¹¹				
Message: ¹² (what, when, where needed; how long; contact name and phone number) KEEP MSG BRIEF				
Need 50 doses of lignocaine to treat two cases of hepatis B. Advise availability and delivery.				
ACTION TAKEN: ¹³ (for use by Dispatcher / Receiver) USE SEPARATE MESSAGE FORM IF SENDING REPLY:				
CC: <input type="checkbox"/> Management <input type="checkbox"/> Operations <input type="checkbox"/> Planning <input type="checkbox"/> Logistics <input type="checkbox"/> Finance				
Operator Use Only: ¹⁴				
How Received <input type="checkbox"/> by 'Send' (if any) <input type="checkbox"/> Telephone <input type="checkbox"/> Dispatch Center <input type="checkbox"/> Operator Call Sign (your call sign)				
<input type="checkbox"/> EOC Radio <input type="checkbox"/> FAX <input type="checkbox"/> Courier <input type="checkbox"/> Amateur Radio <input type="checkbox"/> Other				
Date: (today's date) Time: (send time)				

Message Originator: Send the top copy (left) to radio, follow to PLANS/OPS, retain the pink copy for your reference.

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MESSAGE FORM		When Received Msg. Sender's msg. #	Msg. #	When Sent Msg. Recv.'s msg. #
A 4 x 6 Individual Form (Print, Hand, Press & Mail)			SLH 567	
Date (mm/dd/yyyy)	Situation Severity (if any) <input type="checkbox"/> EMERGENCY (e.g. Life Threat) <input type="checkbox"/> PRIORITY (Low Than One Hour) <input type="checkbox"/> OTHER (All others)	Msg. Handling Order (if any) <input type="checkbox"/> IMMEDIATE (On Scene as Possible) <input type="checkbox"/> PRIORITY (Low Than One Hour) <input type="checkbox"/> ROUTINE (On Scene as Possible)	Message Requests You To <input type="checkbox"/> TAKE ACTION (if any) <input type="checkbox"/> YES, by 5:00Z (log) <input type="checkbox"/> No <input type="checkbox"/> FOR YOUR INFO. (if message required)	Time (mm:ss)
1058				1058
ICN Position (required) ¹ Planning	ICN Position (required) ¹ Operations			
To: Location (required) ² SANTA CLARA HOSPITAL Name: (optional) Telephone #: (optional)	From: Location (required) ² SANTA CLARA HOSPITAL Name: (optional) Telephone #: (optional)			
SUBJECT: ¹⁰ Availability of Medication				
REFERENCE (e.g., Number of earlier msg): ¹¹				
Message: ¹² (what, when, where needed; how long; contact name and phone number) KEEP MSG BRIEF				
Need 50 doses of acetabohyde to treat two cases of asparthritis. Advise availability and delivery.				
ACTION TAKEN: ¹³ (for use by Dispatcher / Receiver) USE SEPARATE MESSAGE FORM IF SENDING REPLY:				
CC: <input type="checkbox"/> Management <input type="checkbox"/> Operations <input type="checkbox"/> Planning <input type="checkbox"/> Logistics <input type="checkbox"/> Finance				
Operator Use Only: ¹⁴				
How Received <input type="checkbox"/> by 'Send' (if any) <input type="checkbox"/> Telephone <input type="checkbox"/> Dispatch Center <input type="checkbox"/> Operator Call Sign (your call sign)				
<input type="checkbox"/> EOC Radio <input type="checkbox"/> FAX <input type="checkbox"/> Courier <input type="checkbox"/> Amateur Radio <input type="checkbox"/> Other				
Date: (today's date) Time: (send time)				

Message Originator: Send the top copy (left) to radio, follow to PLANS/OPS, retain the pink copy for your reference.

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Get it Right!

- Our task is to effectively transfer message traffic
 - Priority ONE is to get the message through accurately
 - Priority two is to do so as quickly and efficiently as possible
- We don't alter the message, we send it as written
- If we don't get that right, there's no point in us being there
- Get it right – the first time, every time

- Remember:
 - “For want of a letter, a word was lost.
 - For want of a word, the message was lost.
 - For want of a message, a life was lost.”

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The Advanced Communicator Level 2



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The Advanced Communicator Level 2

- What is an Advanced Communicator?
- Typical Assignments
- High levels of traffic
- Multiple Net Operations
- Logs and Records

What is an Advanced Communicator?

- All Field Communicator 1 capabilities and services
- Capable of performing advanced field communications assignments
- Equipped with HT (Field Ops 1) and dual-band mobile (25 watts minimum)
- Equipped with mobile antenna, portable base antenna (roll-up J-pole or equivalent) and push-up mast (min 10 ft) with tripod or other self-supporting base.
- Capable of simultaneously participating in two nets (one active; one light duty/occasional)

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Typical Assignments

- Lead operator at a large checkpoint or staging area.
- Lead operator at a shelter
- Lead operator at served agency HQ, communications unit, or Incident Command post
- Coordinates communications for smaller events
- Assist with communications for large events

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Required Participation

- Minimum of 8: monitor weekly SPECS of SVECS Nets
- Minimum of 8: check-in on weekly City Net
- Minimum of 1: field communicator duty (at least 1 hour) at county drill (maybe MAC or Quarterly drill)
- Minimum of 1: field communicator duty (at least 1 hour) at approved public service event or emergency incident

Higher Levels of Traffic

- Accurately and effectively passes medium to high rate of message traffic for at least an hour
- Demonstrates ability to prioritize and handles the following traffic:
 - Multiple ICS 213 Message forms – fill out, send/receive, log and track
 - Multiple informal messages – send/receive and log
- Able to operate on one frequency while monitoring and participating in light activity on another frequency.

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Multiple Net Operations

- Capable of simultaneously participating in two nets (one active, one light duty/occasional)
 - message net and command net
 - message net and EOC-EOC net
 - message net and monitoring served agency channel for occasional traffic.
 - Mobile rig with headphones plus HT with earbud
- Dual VFO – capability to use effectively stereo headsets.

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Logs and Records

- Properly and accurately maintains:
 - ICS 205 SCCo Communications Plan
 - ICS 211 SCCo Comms check-in form for all operations at the location
 - ICS 214 SCCo Unit Activity Log
 - ICS 309 SCCo Comms Log of incoming and outgoing transmissions
 - Submits logs and records to supervisor at the end of shift or event

Go-Kits – the next level



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MAC Equipment Requirements

- Field Communicator 1
 - 2 hr. Carry Kit
 - 12 hr. Go Kit
- Field Communicator 2 = all of the above, plus:
 - 2m/70cm mobile unit (25 watt min.) (dual-band; dual VFO rec.)
 - Headphones (headset and foot switch recommended)
 - Batteries for 12 hr (20 AH min.; 26 AH rec.)
 - Power adapters (powerpole, cig. Lighter, vehicle battery terminals)
 - 2m/70cm portable base antenna (roll-up j-pole...)
 - Portable push-up mast >= 10 ft
 - Tripod or other mast support
 - 25 feet of coaxial cable (RG8/U or better rec.)
 - Coax adapters to connect mobile to BNC, UHF, N (M/F)

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Go-Kits - Improved Preparedness

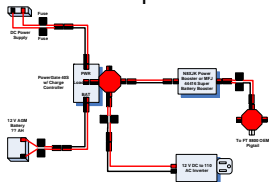
- Strongly suggest you review the go-kit checklist.
 - There is not lot required, but significant amount of recommended.
- Allow for longer deployments and more powerful portable comms equipment.
- Contains things like:
 - 12 hours Go-Kit - For fully independent operation; unknown environment (heat, cold, wind, rain); unknown time (day, night, up to 12 hours). Items for a more complete field deployment
 - Extended Go-Kit - Additional items for fully independent operation over an extended period of time

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Go-Kits - Improved Preparedness

- Ability to set up a complete mobile station at 25W or better, with using portable mast antennas and tripods, with appropriate ballast
- Ability to adapter any type of coax connection to yours or pre-installed antenna drop in the field.
- DC power distribution
- Battery charging



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Go-Kits - Improved Preparedness

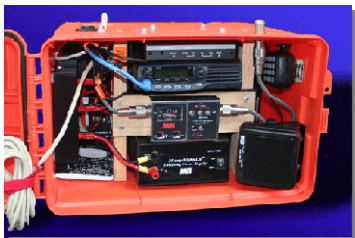
- Ability to set up a completely independent operating position with;
 - Signage for identifying operating location
 - Pop up canopy
 - Folding table with folding chair
 - Tarps
 - Safety flagging for marking cable runs, and other hazards (traffic cones, LED beacons, etc.)
 - Can set up a complete radio room
 - Methodology or equipment for storing and sorting documentation

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Go-Kits - Improved Preparedness

- Usually contains a portable station in the box and or a portable packet station.



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Go-Kits - Improved Preparedness

- Multiple power sources;
 - Larger capacity batteries
 - Equipment for shore power hook-up
 - Adapters for several ways to hook-up to vehicles
- Ability to have extended (12 hours or greater) battery power, and numerous methods to recharge batteries

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Antenna Safety Reminder

- **Assume all overhead power lines are energized and dangerous.**
- The antenna must be located in such a position that *it cannot possibly tangle with power lines, both during normal operation or if the structure should fall.*
- When using slingshots, arrows, or power-assisted antenna launchers to string up the antenna, be sure no one is in range before you launch, and there are no hidden or unseen power lines.



Antenna Safety Reminder

- **Use a safety spotter.** Nobody can do the work alone and assess safety distances. A safety spotter's *only* job it to keep people and equipment safely away from power lines.
- **Remember the 10-foot rule.** Keep all equipment, tools, your antenna, guy wire and tower at least 10 feet away from power lines.

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Field Communications Level 3 Planning



Specialist Level Operator

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Field Communications Planning

- Able to accurately and effectively complete
 - ICS 205 Communications Plan
- Able to logistically plan for
 - Larger set-ups involving
 - Multiple nets
 - Multiple operators
- Interface with served agencies communications units; forms and message handling protocols
- Properly and accurately maintains all logs and records

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Field Communications Planning

- Capabilities and Services (some not all)
 - All Field Communicator 2 capabilities and services
 - Specialist Level operator
 - Capable of the most complicated, highest traffic levels, and critical assignments
 - Capable of planning, designing, deploying, and operating complex multi-radio, multi-antenna equipment configurations for large events or incidents

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Typical Assignments

- Plan, design, set-up, and operate a field operation involving multiple frequencies and multiple operators
- Primary resource and liaison for planning of information flow and communications for large event
- Lead or primary operator for large, complex field communications assignments
- Out of County assignments

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End of Part 2 of 2

Thank You!

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Questions

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