

A QUICK TRAINER AND FIELD RESOURCE GUIDE FOR THE EMERGENCY COMMUNICATOR

Santa Clara County ARES / RACES



This manual is intended to serve as a reference for amateurs deployed in the field for emergency services work, primarily through the Amateur Radio Emergency Service ARES/RACES. It provides basic emergency communications procedural information, frequencies, officials throughout Santa Clara County and contained cities, equipment lists, operating guides and examples, and regulations. A Closing appendix serves as a quick trainer of how to speak on controlled radio nets. There is no substitute for actual training, live, with your own radio.

WHAT TO DO *FIRST* IN CASE OF AN EMERGENCY

- 1. CHECK THAT YOU AND YOUR FAMILY ARE SAFE AND SECURE BEFORE YOU RESPOND AS AN ARES VOLUNTEER.**
- 2. CHECK THAT YOUR PROPERTY IS SAFE AND SECURE BEFORE YOU RESPOND AS AN ARES VOLUNTEER.**
- 3. MONITOR _____
(PUT YOUR ASSIGNED LOCAL ARES/RACES EMERGENCY NET FREQUENCY HERE). See Appendix A**
- 4. FOLLOW THE INSTRUCTIONS YOU RECEIVE FROM THE ARES/RACES/RACES OFFICIALS IN CHARGE ON THE ABOVE FREQUENCY.**
- 5. CONTACT YOUR LOCAL EMERGENCY COORDINATOR, OR HIS/HER DESIGNEE, FOR FURTHER INSTRUCTIONS.**

INITIAL ACTION CHECKLIST

The net control station and/or ARES officials on the designated emergency net will provide additional instructions, including information on frequencies used for other resource and tactical nets. Normally, a resource net will enroll volunteers and provide information on how you can assist.

- ? **Be prepared to operate. Check all equipment and connections.**
- ? **Check-in with your assigned contact. Deploy to assignment with “GO” kit.**
- ? **Obtain tactical call sign for your location/assignment.**
- ? **Initiate personal event log (use form at end of this booklet)**
- ? **Enter assigned frequency(s) on log sheet and on emergency/frequency plan.**
- ? **Use log form to record messages handled.**
- ? **Use a formal message form when a precise record is required.**
- ? **Use tactical call sign for your location, while observing FCC’s ten-minute ID rule.**
- ? **Monitor your assigned frequency AT ALL TIMES. Notify NCS if you have to leave.**

BASIC DEPLOYMENT EQUIPMENT CHECKLIST

When responding to an emergency event, or even a training exercise, there is a minimum set of equipment and personal gear you should bring with you to get the job done. Basic items include:

Minimum Equipment List

	1. A 2m HT.
	2. A DSW ID card.
	3. Radio license.
	4. Message forms, log books, etc.
	5. A 2m magnetic-mount antenna.
	6. Spare batteries.
	7. An ear/head-phone.
	8. An ARES hardhat.
	9. Appropriate clothing including closed toe shoes or boots
	10. Paper and pencil.
	11. County street map. (The Thomas Guide® recommended; assignments may be given in Thomas map coordinates.)

The majority of these items should be kept in a “GO Kit” so that all you need to do is pick up the box and you will be ready to go. You might also consider the items on the following list for inclusion in this ready box. This list is designed to allow you to stay in the field for up to 72 hours.

ABOUT YOUR “GO” KIT

Power -- Your radio 72-hour kit should have several sources of power in it, with extra battery packs and an alkaline battery pack for your HT. For mobile VHF and UHF radios, larger batteries are needed. Gel-cell or deep cycle marine batteries would be good sources of battery power, and you must keep them charged and ready to go. It is also wise to have alternate means available to charge your batteries during the emergency. You can charge smaller batteries from other larger batteries. You can build a solar charging device. If you’re lucky, you may have access to a power generator that can be used in place of the normal electrical lines. Have more battery capacity than you think you might need. Have several methods available to connect your radios to different power sources.

Gain Antennas -- You can expect to need some kind of gain antenna for your HT, as well as an additional gain antenna that can be used on either your HT or your mobile rig. The extra antenna might be needed by someone else, or your first antenna might break. For VHF and UHF, you can build a J-pole from a TV twin lead, for an inexpensive and very compact antenna. Have several lengths of coax in your kit, totaling at least 50 feet and with barrel connectors to connect them together.

Personal -- Include staples: water, or a reliable water filtration and purification system; enough food for three days; eating utensils, a drinking cup and, if needed, a means of cooking your food. Shelter is also important. Here, you are only limited by the size of your kit and the thickness of your wallet. Some hams plan to use their RVs as shelter, conditions permitting. Other disaster conditions may make the use of an RV impossible, so you should have several different plans for shelter. Light is important psychologically during an emergency. Make sure that you have several light sources available. Various battery-powered lights are available, and propane or gasoline-fueled lanterns are also good possibilities.

EXTENDED (72-HOUR) DEPLOYMENT EQUIPMENT CHECKLIST

Extended Equipment List

1. Toolbox (72 hours)

- a) pliers
- b) screwdrivers
- c) socket wrenches
- d) electricians tape
- e) soldering iron and solder
- f) VOM
- g) Power cord connectors (Anderson Power pole 30 amp)

2. Radio gear

- a. Rigs, i.e., other than 2m HT
- b. microphones for the above radios
- c. headphones
- d. power supply
- e. power extension cords (110V and 12V)
- f. sealed lead-acid or gel-cell high cap. batteries (charged)
- g. antennas with mounts
- h. antenna feed lines
- i. SWR bridge(VHF and HF)
- j. extra coax
- k. antenna connection adapters

3. Personal gear (short duration)

- a. snacks
- b. liquid refreshment
- c. throat lozenges
- d. personal medicine
- e. aspirin
- f. extra pair of prescription glasses
- g. sunglasses

4. Personal gear (long duration)

- a. foul weather gear
- b. 3 day supply of drinking water
- c. 3 day supply of food
- d. mess kit with cleaning kit
- e. first aid kit
- f. sleeping bag
- g. toilet articles
- h. alarm clock
- i. flashlight with batteries
- j. candles
- k. 3 day change of clothes
- l. waterproof matches

ARES and RACES

Although RACES and ARES are separate entities, the ARRL advocates dual membership and cooperative efforts between both groups whenever possible. An ARES group whose members are all enrolled in and certified by RACES operate in an emergency with great flexibility. Using the same operators and the same frequencies, an ARES group also enrolled as RACES can "switch hats" from ARES to RACES and RACES to ARES to meet the requirements of the situation as it develops. For example, during a "non declared emergency," ARES can operate under ARES, but when an emergency or disaster is officially declared by government emergency management authority, the operation can become RACES with no change in personnel or frequencies.

AMATEUR RADIO EMERGENCY SERVICE (ARES)

The Amateur Radio Emergency Service (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public interest when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization, is eligible for membership in the ARES/RACES/RACES. The only qualification, other than possession of an Amateur Radio license, is a sincere desire to serve. Because ARES is an amateur service, only amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

ARES Organization

There are three levels of ARES organization--section, district and local. At the section level, the Section Emergency Coordinator is appointed by the Section Manager (who is elected by the ARRL members in his section) and works under his supervision. In most sections, the SM delegates to the SEC the administration of the section emergency plan and the authority to appoint district and local ECs. It is at the local level where most of the organization and operation is effected, because this is the level at which most emergencies occur and the level at which ARES leadership makes direct contact with the ARES member-volunteers and with officials of the agencies to be served. The local EC is therefore the key contact in the ARES/RACES. The EC is appointed by the SEC, usually on the recommendation of the district EC (DEC). Depending on how the SEC has set up the section for administrative purposes, the EC may have jurisdiction over a small community or a large city, an entire county or even a group of counties. Whatever jurisdiction is assigned, the EC is in charge of all ARES activities in his area, not just one interest group, one agency, one club or one band. In large sections, the SECs have the option of grouping their EC jurisdictions into "districts" and appointing a district EC to coordinate the activities of the local ECs. In some cases, the districts may conform to the boundaries of governmental planning or emergency-operations districts, while in others they are simply based on repeater coverage or geographical boundaries. Special-interest groups are headed up by "assistant emergency coordinators," designated by the EC to supervise activities of groups operating in certain bands, especially those groups which play an important role at the local level, but they may be designated in any manner the EC deems appropriate. These assistants, with the EC as chairman, constitute the local ARES "planning committee" and they meet together to discuss problems and plan projects to keep the ARES group active and well-trained. There are any number of different situations and circumstances that might confront an EC, and his ARES unit should be organized in anticipation of them. There is no specific point at which organization ceases and operation commences. Both phases must be concurrent because a living organization is a changing one, and the operations of a changing organization must change with the organization.

RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES)

RACES, administered by local/county/state Emergency Management agencies, with guidance from the Federal Emergency Management Agency (FEMA), is a part of the Amateur Radio Service that provides radio communications for civil-preparedness purposes only, during periods of local, regional or national civil emergencies. These emergencies are not limited to war-related activities, but can include natural disasters such as fires, floods and earthquakes.

Operating Procedure

Amateurs operating in a local RACES organization must be officially enrolled in the local civil preparedness group. RACES operation is conducted by amateurs using their own primary station licenses, and by existing RACES stations. The FCC no longer issues new RACES (WC prefix) station call signs. Operator privileges in RACES are dependent upon, and identical to, those for the class of license held in the Amateur Radio Service. All of the authorized frequencies and emissions allocated to the Amateur Radio Service are also available to RACES on a shared basis. But in the event that the President invokes his War Emergency Powers, amateurs involved with RACES could be limited to certain specific frequencies (while all other amateur operation would be silenced).

While RACES was originally based on potential use for wartime, it has evolved over the years, as has the meaning of civil defense (which is also called civil preparedness), to encompass all types of emergencies. **While operating in a RACES capacity, RACES stations and amateurs registered in the local RACES organization may not communicate with amateurs not operating in a RACES capacity.** (Of course, such restrictions do not apply when such stations are operating in a non-RACES--such as ARES-- amateur capacity.) Only civil-preparedness communications can be transmitted (as defined in the FCC Rules). Test and drills are permitted only for a maximum of one hour per week. **All test and drill messages must be clearly identified as such.**

What should an Emergency Communicator do?

In an Emergency or a Drill, listen for an activation identification and write this down, noting whether it is an ARES event or a RACES activation.

Consider personal dual registration in ARES and RACES.

NATIONAL TRAFFIC SYSTEM (NTS)

The National Traffic System is designed to meet two principal objectives: rapid movement of traffic from origin to destination, and training amateur operators to handle written traffic and participate in directed nets. NTS operates daily, and consists of four different net levels--Area, Region, Section, and Local--which operate in an orderly time sequence to effect a definite flow pattern for traffic from origin to destination.

Local Nets

Local nets are those which cover small areas such as a community, city, county or metropolitan area, not a complete ARRL section. They usually operate at VHF (typically 2-meter FM) at times and on days most convenient to their members. Some are designated as emergency (ARES) nets that do not specialize in traffic handling. Local nets are intended mainly for local delivery of traffic. Some NTS local nets operate on a daily basis, just as do other nets of the system, to provide outlets for locally originated traffic and to route the incoming traffic as closely as possible to its actual destination before delivery--a matter of practice in a procedure that might be required in an emergency. Most local nets and even some section nets in smaller sections are using repeaters to excellent effect. Average coverage on VHF can be extended tenfold or more using a strategically located repeater, and this can achieve a local coverage area wide enough to encompass many of the smaller sections.

Section Nets

Coverage of the section may be accomplished either by individual stations reporting in, by representatives of NTS local nets or both. The section may have more than one net (a CW net, a VHF net and an SSB net, for examples). Section nets are administered by an appointed Section Traffic Manager or designated Net Managers. The purpose of the section net is to handle intra-section traffic, distribute traffic coming down from higher NTS echelons, and put inter-section traffic in the hands of the amateur designated to report into the next-higher NTS (region) echelon. Therefore, the maximum obtainable participation from section amateurs is desirable.

Operation During Disasters

When a disaster situation arises, NTS is capable of expanding its cyclic operation into complete or partial operation as needed. ECs in disaster areas determine the communications needs and make decisions regarding the disposition of local communications facilities, in coordination with agencies to be served. The SEC, after conferring with the affected DECs and ECs, makes his recommendations to the Section Traffic Manager and/or NTS net managers at section and/or region levels. The decision and resulting action to alert the NTS region management may be performed by any combination of these officials, depending upon the urgency of the situation. While the EC is, in effect, the manager of ARES nets operating at local levels, and therefore makes decisions regarding their activation, managers of NTS nets at local, section, region and area levels are directly responsible for activation of their nets in a disaster situation, at the behest of and on the recommendation of ARES or NTS officials at lower levels.

TYPES OF EMERGENCY NETS

Open and Closed Nets -- A net may operate as an Open or "free form" net, or as a closed net where a net control station is used to control the flow of transmissions on the channel. Typically, when the amount of traffic is low or sporadic a net control isn't required, and an Open net is used. Stations merely listen before they transmit. When a net is declared a "closed" net, then all transmissions must be directed by the NCS.

The following are all closed or directed NETS unless you are specifically told otherwise.

Message Net

This countywide net's function is to carry traffic between cities and other jurisdictions to the County EOC, San Jose Red Cross, and Palo Alto Red Cross.

Command Net

This Net's function is to provide an intercom for County ARES/RACES Staff, SCV Section Staff, City ECs, and Shift Supervisors. No formal traffic is to be passed on this net. This net also serves Staff, ECs, and Shift Supervisors when enroute from one location to another.

Packet Data Net

This net's function is to handle damage assessment traffic from cities and other jurisdictions to the County EOC, and logistics traffic between cities and other jurisdictions to the County EOC, San Jose Red Cross, and Palo Alto Red Cross. This net utilizes the Emergency BBS operating system.

Other Tactical Nets

These other nets are created on an as-required basis to handle ARES/RACES operations within a city or other jurisdictions. They may also be created by other agencies, such as the Red Cross, Hospitals, etc; to handle specific kinds of traffic. Tactical Net names are given by the creating jurisdictions or agency. Tactical Net Control from the jurisdiction's or agency's EOC. Tactical Nets will not normally be monitored by the County EOC nor by the Red Cross Chapters (except Tactical Nets created by the Red Cross).

INCIDENT COMMAND SYSTEM (ICS)

The Incident Command System (ICS) is a management tool that is rapidly being adopted by professional emergency responders throughout the country. ICS provides a coordinated system of command, communications, organization, and accountability in managing emergency events. Due to the wide spread use of ICS, Amateur Radio operators should be familiar with the system, as well as how they will interface with agencies employing ICS. Integral to the ICS is the concept of *Unified Command*. There is only one boss, the Incident Commander, who is responsible for the overall operation. For any incident, there are a number of functions that must be performed ranging from planning and logistics to handling the press. The functional requirements of planning, logistics, operations, and finance are always present despite the size of the incident. They may be handled by a single individual for a small incident, or a "Command Staff" in a large incident. Another characteristic of ICS is "span of control." In simple terms, any manager should only directly manage a small number of people. ICS uses the number of five for organizational purposes. The number five isn't hard and fast, but provides a useful organizational guide line.

How does the Amateur Radio volunteer fit into the Incident Command System? We are expected to be communicators, and within the ICS, this would place us in the Logistics Section in the Service Branch as part of the Communications Unit. The communications unit provides all communications services for the operation.

PRINCIPLES OF REPEATER OPERATION

1. **Use minimum power.** Otherwise, especially in heavily populated areas, you may run the risk of keying more than one repeater, thus causing unnecessary interference. Low power also conserves batteries.
2. **Use simplex, whenever possible.** ARRL recommends 146.52 MHz, but it's a good idea to have at least one other simplex channel available. Use a gain antenna at fixed locations for simplex operation.
3. **Observe the "pause" procedure between exchanges.** When it is your turn to transmit, after the transmitting station stands by, count to two or three before pressing your transmit switch.
4. **Listen much, transmit little .** Announce your presence on a repeater when you are certain of being able to assist in an emergency, and don't tie it up with idle chatter.
5. **Monitor local ARES net frequency,** when otherwise not busy.
6. **Think before you talk .** Anyone with an inexpensive public-service-band receiver can monitor. Stick to facts, control your emotions. Remember, during an emergency is the time when you are most apt to act and speak rashly.
7. **Articulate, don't slur.** Speak close to your mike, but talk across it, not into it. Keep your voice down. In an emergency situation one often gets excited and tends to shout. Talk slowly, calmly--this is the mark of an experienced communicator.

PRINCIPLES OF DISASTER COMMUNICATION

1. Keep the interference level down. In a disaster, crucial stations may be weak. All other stations should remain silent unless they are called upon. If you're not sure you should transmit, don't.

2. Monitor established disaster frequencies. Many ARES localities and some geographical areas have established disaster frequencies where someone is always (or nearly always) monitoring for possible calls.

3. Avoid spreading rumors. During and after a disaster situation, especially on the phone bands, you may hear almost anything. Unfortunately, much misinformation is transmitted. Rumors are started by expansion, deletion, amplification or modification of words, exaggeration or interpretation. All addressed transmissions should be officially authenticated as to their source. These transmissions should be repeated word for word, if at all, and only when specifically authorized.

4. Authenticate all messages. Every message which purports to be of an official nature should be written and signed. Whenever possible, amateurs should avoid initiating disaster or emergency traffic themselves. We do the communicating; the agency officials we serve supply the content of the communications.

5. Strive for efficiency. Whatever happens in an emergency, you will find hysteria and some amateurs who are activated by the thought that they must be sleepless heroes. Instead of operating your own station full time at the expense of your health and efficiency, it is much better to serve a shift at one of the best-located and best equipped stations, suitable for the work at hand, manned by relief shifts of the best-qualified operators. This reduces interference and secures well-operated stations.

6. Select the mode and band to suit the need. It is a characteristic of all amateurs to believe that their favorite mode and band is superior to all others. However, the merits of a particular band or mode in a communications emergency should be evaluated impartially with a view to the appropriate use of bands and modes. There is, of course, no alternative to using what happens to be available, but there are ways to optimize available communications.

7. Use all communications channels intelligently. While the prime object of emergency communications is to save lives and property (anything else is incidental), Amateur Radio is a secondary communications means; normal channels are primary and should be used if available. Emergency channels other than amateur which are available in the absence of amateur channels should be utilized without fear of favoritism in the interest of getting the message through.

8. Don't "broadcast." Some stations in an emergency situation have a tendency to emulate "broadcast" techniques. While it is true that the general public may be listening, our transmissions are not and should not be made for that purpose.

9. NTS and ARES leadership coordination. Within the disaster area itself, the ARES is primarily responsible for emergency communications support. The first priority of those NTS operators who live in or near the disaster area is to make their expertise available to their Emergency Coordinator (EC) where and when needed. For timely and effective response, this means

10. DO NOT EVER Broadcast the names of people who are injured or deceased

ARRL MESSAGE PRECEDENCES

EMERGENCY--Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief to stricken populace in emergency areas. On CW, RTTY, AMTOR and packet this designation will always be spelled out. When in doubt, do not use this designation.

PRIORITY--Use abbreviation P on CW, RTTY, AMTOR and packet. This classification is for important messages having a specific time limit, official messages not covered in the emergency category, press dispatches and emergency-related traffic not of the utmost urgency.

WELFARE--This classification, abbreviated as W on CW, RTTY, AMTOR and packet, refers to either an inquiry as to the health and welfare of an individual in the disaster area or an advisory from the disaster area that indicates all is well. Welfare traffic is handled only after all emergency and priority traffic is cleared. The Red Cross equivalent to an incoming Welfare message is DWI (Disaster Welfare Inquiry).

ROUTINE--Most traffic in normal times will bear this designation. In disaster situations, traffic labeled Routine (R on CW, RTTY, AMTOR and packet) should be handled last, or not at all when circuits are busy with higher-precedence traffic .

Radio Net Definitions

Command 1 Net

This countywide net's function is to carry traffic between cities and other jurisdictions to the County EOC, San Jose Red Cross, and Palo Alto Red Cross.

Command 2 Net

This Net's function is to provide an intercom for County ARES/RACES Staff, SCV Section Staff, City ECs, and Shift Supervisors. No formal traffic is to be passed on this net. This net also serves Staff, ECs, and Shift Supervisors when enroute from one location to another.

Packet Data Net

This net's function is to handle damage assessment traffic from cities and other jurisdictions to the County EOC, and logistics traffic between cities and other jurisdictions to the County EOC, San Jose Red Cross, and Palo Alto Red Cross. This net utilizes the Emergency BBS operating system.

Other Tactical Nets

These other nets are created on an as-required basis to handle ARES/RACES operations within a city or other jurisdictions. They may also be created by other agencies, such as the Red Cross, Hospitals, etc; to handle specific kinds of traffic. Tactical Net names are given by the creating jurisdictions or agency. Tactical Net Control from the jurisdiction's or agency's EOC. Tactical Nets will not normally be monitored by the County EOC nor by the Red Cross Chapters (except Tactical Nets created by the Red Cross).

Appendix A

***Santa Clara County, California
ARES/RACES Emergency Coordinators/Radio Officers***

<i>Campbell</i>	<i>Barton Smith, N6HDN</i>	radiocampbell-svecs @ yahoo.com	<i>(408) 379-2875</i>
<i>Cupertino</i>	<i>Jim Oberhofer, KN6PE</i>	kn6pe @ arrl.net	<i>(408) 839-8798</i>
<i>Gilroy, ACS</i>	<i>Pat Moore, KG6RLR</i>	pqm@ix.netcom.com	<i>(408) 842-7873</i>
<i>Los Altos</i>	<i>Tom Smith, KD6SOJ</i>	kd6soj @ arrl.net	<i>(650) 967-9548</i>
<i>Los Altos Hills</i>	<i>Richard Ellinger, KJ6NU</i>	rkellinger @ alumni.carnegiemellon.edu	<i>(650) 941-9429</i>
<i>Los Gatos</i>	<i>Tom Campbell, K6KMT</i>	K6KMT @ AOL.com	<i>(408) 377-1845</i>
<i>Milpitas</i>	<i>Bob Armstrong, K6TBN</i>	bob @ jfcl.com	<i>(408) 956-9387</i>
<i>Morgan Hill</i>	<i>Wayne Rhoten, KD6HMJ</i>	rhoten @ us.ibm.com	<i>(408) 778-2657</i>
<i>Mountain View</i>	<i>Jerry Haag, KF6GAC</i>	KF6GAC @ arrl.net	<i>(650) 949-3827</i>
<i>NASA-Ames</i>	<i>Mark Allard, KD6CWM</i>	mallard @ mail.arc.nasa.gov	<i>(408) 267-3688</i>
<i>Palo Alto</i>	<i>Rich Hyde, KD6WYK</i>	KD6WYK @ ARRL.NET	<i>(650) 858-2829</i>
<i>San Jose</i>	<i>Bob Steinberg, K6RPS</i>	K6RPS @ Comcast.net	<i>(408) 363-0445</i>
<i>Santa Clara</i>	<i>Howard Califf, W6HOC</i>	w6hoc @ arrl.net	<i>(408) 247-3465</i>
<i>Saratoga</i>	<i>Robert Vance, N6ROB</i>	N6ROB @ arrl.net	<i>(408)8724-0815</i>
<i>Stanford</i>	<i>Kenneth Dueker, KB6BPM</i>	kdueker @ post.harvard.edu	<i>(650) 208-2580</i>
<i>Sunnyvale</i>	<i>Bob Gundrum, KG6MOL</i>	pafi9d@rawbw.com	<i>(408) 734-0169</i>

Appendix B

**Santa Clara County, California
ARES/RACES**

The County ARES/RACES Staff

<p>Larry Carr KE6AGJ KE6AGJ @ pacbell.net ARES District Emergency Coordinator RACES Chief Radio Officer Phone: (650) 941-2567 Pager: (650) 845-0533</p>	<p>John Amos, KC6TVM QAwhiz @ aol.net ARES Assistant District Emergency Coordinator RACES Deputy Chief Radio Officer, Hospital Emergency Communications Coordinator Phone: (408) 259-2409</p>
<p>Bob Gundrum, KG6MOL pafidt @ rawbw.com ARES Assistant District Emergency Coordinator RACES Deputy Chief Radio Officer Phone: (408) 734-0169 Cell: (408) 203-7100 Pager: (408) 383-6663</p>	<p>Scott Hensley KB6UOO fshensley @ sjcnet.com ARES Assistant District Emergency Coordinator RACES Deputy Chief Radio Officer, Technology Phone: (408) 218-4777 Pager: (408) 218-4777</p>
<p>Andreas Ott, K6OTT k6ott@arrl.net Ares Assistant District Emergency Coordinator RACES Deputy Chief Radio Officer cell: (408) 431-8727</p>	<p>Art Nilli, WA6RPI anilli @ juno.com ARES Assistant District Emergency Coordinator RACES Deputy Chief Radio Officer Phone: (408) 245-6266 Mobile: (408) 482-1711 Pager: (408) 494-9579</p>
<p>Al Waley, N6RPR ARES Assistant District Emergency Coordinator RACES Deputy Chief Radio Officer, phone: (H) (650) 947-6542</p>	

Appendix C

Silicon Valley Emergency Communications System Santa Clara County ARES/RACES Frequency List

This list is courtesy of Jim Oberhofer, KN6PE of Cupertino ARES

Operational Area	Channel Name	Resource Name	R/S	Frequency	OS	PL	Notes	Reviewed	Contact
County	Command 1	WB6OQS	R	146.760	-	151.4	A	Oct-06	Larry Carr, KE6AGJ
County	Command 1 Alt 1	K6FB	R	145.450	-	100.0		Oct-06	Larry Carr, KE6AGJ
County	Link	WB6OQS	R	224.260	?	100.0		Oct-06	Larry Carr, KE6AGJ
County	Command 2	K1YJ	R	440.100	+	100.0	B	Oct-06	Larry Carr, KE6AGJ
County	Command 2 Alt 1	WB6ZVW	R	442.500	+	100.0		Oct-06	Larry Carr, KE6AGJ
County	Command 2 Alt 2	WB6RNH	R	444.300	+	162.2	C	Oct-06	Larry Carr, KE6AGJ
County	Resource	AA6BT	R	146.115	+	100.0	D	Oct-06	Larry Carr, KE6AGJ
County	Resource Alt 1	W6ASH	R	145.270	-	100.0	E	Oct-06	Larry Carr, KE6AGJ
County	Resource Alt 2	???		444.625	+	110.9		Oct-06	Larry Carr, KE6AGJ
County	Packet 220	Simplex	S	223.660				Oct-06	Larry Carr, KE6AGJ
County	Packet 2M	Simplex	S	144.910				Oct-06	Larry Carr, KE6AGJ
County	Packet 440	Simplex	S	443.530				Oct-06	Larry Carr, KE6AGJ
Red Cross SJ	Command	WB6OQS	R	146.760	-	151.4	A	Apr-01	Scott Hensley
Red Cross SJ	link	WB6OQS	R	224.260	-			Jan-01	Scott Hensley KB6UOO
Red Cross SJ	Command Alt	WB6OQS	R	444.600	+	141.3		Apr-01	Scott Hensley KB6UOO
Red Cross SJ	Talk Around	WB6RNH	R	444.300	+	162.2	C	Apr-01	Scott Hensley KB6UOO
Hospital Net	Command	N6NFI	R	145.230	-	100.0	F	Oct-06	John Amos KC6TVM
Campbell	Tactical	Simplex		146.565				Feb-03	Kevin Smith
Cupertino	Tactical-1	Simplex	S	147.570			2	Jan-03	Jim Oberhofer
Cupertino	Tactical-2	Simplex	S	146.460				Jan-03	Jim Oberhofer
Cupertino	ATV EOC Feed	Simplex	S	427.250				Jan-03	Jim Oberhofer
Gilroy	Tactical	Simplex	S	144.450				Oct-06	Pat Moore KG6RLR

Los Altos	Command	W6ASH	R	145.270	-	100.0	E	Oct-06	Tom Smith, KD6SOJ
Los Altos	Command Alt	W6ASH	R	440.800	+	100.0		Oct-06	Tom Smith, KD6SOJ
Los Altos	Tactical	Simplex	S	145.570				Oct-06	Tom Smith, KD6SOJ
Los Altos	Tactical Alt	KH6N	R	440.875	+	100.0		Oct-06	Tom Smith, KD6SOJ
Los Altos Hills	Tactical	Simplex	R	147.435				Jan-03	Richard Ellinger, KJ6NU
Los Altos Hills	Tactical	???	R	146.745	-	110.9		Dec-03	Richard Ellinger, KJ6NU
Los Gatos	Command	W6PIY	R	147.390	+	151.4		Feb-03	Tom Campbell, K6KMT
Los Gatos	Tactical	Simplex	S	147.480				Feb-03	Tom Campbell, K6KMT
Los Gatos	Tactical	KF6SWR/exp	S	147.165	+	100.0		Feb-03	Tom Campbell, K6KMT
Milpitas	Command	W6MLP	R	224.720	-	100.0		Oct-06	Robert Armstrong, K6TBM
Milpitas	Tactical		R	145.430	-	85.4		Oct-06	Robert Armstrong, K6TBM
Morgan Hill	Tactical	Simplex	S	144.345				Oct-06	Wayne Rhoten, KD6HMJ
Morgan Hill	Tactical Alt	W6GGF	R	147.825	-	100		Oct 06	Wayne Rhoten, KD6HMJ
Mountain View	Command	W6ASH	R	145.270	-	100.0	E	Oct-06	Jerry Haag, KF6GAC
Mountain View	Command Alt	W6ASH	R	440.800	+	100.0		Oct-06	Jerry Haag, KF6GAC
Mountain View	Tactical	Simplex	S	146.535				Oct-06	Jerry Haag, KF6GAC

Mountain View	Tactical Alt	Simplex	S	146.415				Oct-06	Jerry Haag, KF6GAC
Mtn View/BRAG	Command	N6SGI	R	1284.250	-	141.3		Oct-06	Jerry Haag, KF6GAC
Mtn View/BRAG	Tactical	Simplex	S	146.415				Oct-06	Jerry Haag, KF6GAC
NASA-Ames	Tactical	Simplex	S	145.585				Jan-03	Mark Allard, KD6CWM
NASA-Ames	Tactical Alt 1	Simplex	S	145.710				Jan-03	Mark Allard, KD6CWM
NASA-Ames	Tactical Alt 2	Simplex	S	147.585			J	Jan-03	Mark Allard, KD6CWM
NASA-Ames	Event 1	Simplex	S	146.185				Jan-03	Mark Allard, KD6CWM
NASA-Ames	Event 2	Simplex	S	144.985				Jan-03	Mark Allard, KD6CWM
NASA-Ames	Command	NA6MF	R	145.250	-			Jan-03	Mark Allard, KD6CWM
Palo Alto	Command	W6ASH	R	145.270	-	100.0	E	Jan-03	Rich Hyde, KD6WYK
Palo Alto	Command Alt	N6NFI	R	145.230	-	100.0	F	Jan-03	Rich Hyde, KD6WYK
Palo Alto	Tactical	Simplex	S	147.540				Jan-03	Rich Hyde, KD6WYK
Palo Alto	Tactical	Simplex	S	147.480			1	Jan-03	Rich Hyde, KD6WYK
Palo Alto	Tactical	Simplex	S	147.555			1	Jan-03	Rich Hyde, KD6WYK
San Jose	Command	W6UU	R	146.385	+	114.8		Oct-06	Bob Steinberg K6RPS
San Jose	Tactical-1	Simplex	S	146.475		100.0		Oct-06	Bob Steinberg K6RPS
San Jose	Tactical-2	Simplex	S	146.430		100.0		Oct-06	Bob Steinberg K6RPS
Santa Clara	Tactical	Simplex	S	147.510				Oct-06	Howard Califf, W6HOC
Santa Clara	Tactical Alt 1	Simplex	S	147.470				Oct-06	Howard Califf, W6HOC
Santa Clara	Tactical Alt 2	Simplex	S	145.555				Oct-06	Howard Califf, W6HOC
Santa Clara	ATV Broadcast	ATV	S	434.000				Oct-06	Howard Califf, W6HOC
Saratoga	Command	K6SA	R	146.655	-	114.8		Oct-06	Robert Vance N6ROB
Saratoga	Tactical Alt	Simplex	S	146.505				Jan-03	Robert Vance N6ROB
Saratoga	Tactical HF	USB	S	28.400				Jan-03	Robert Vance N6ROB
South County	Resource	WB6ZVW	R	442.500	+	100.0		Jan-03	Pat Moore KG6RLR

South County	Command	W6GGF	R	147.825	-	100.0		Jan-03	Pat Moore KG6RLR
Stanford U	Primary	N6BDE	R	440.200	+	123.0		Jan-03	Ken Dueker, KB6BPM
Stanford U	Tactical-1	Simplex	S	146.490				Jan-03	Ken Dueker, KB6BPM
Stanford U	Tactical-2	Simplex	S	144.325				Jan-03	Ken Dueker, KB6BPM
Stanford U	Tactical	W6YX	R	1282.500	-	88.5	O	Jan-03	Ken Dueker, KB6BPM
Stanford U	Tactical	WA6ITV	R	1292.550	-	88.5	P	Jan-03	Ken Dueker, KB6BPM
Stanford U	Packet tcp/ip 1200	W6YX-9	S	145.750				Jan-03	Ken Dueker, KB6BPM
Stanford U	Packet tcp/ip 9600	W6YX-10	S	433.430				Jan-03	Ken Dueker, KB6BPM
Sunnyvale	Tactical	K6GL	R	145.170	-	94.8		Jan-03	Bob Gundrum,, KG6MOL
Sunnyvale	Primary	Simplex	S	147.405				Jan-03	Bob Gundrum,, KG6MOL
Sunnyvale	Alternate	Simplex	S	147.495				Jan-03	Bob Gundrum,, KG6MOL

Notes to Santa Clara County ARES/RACES Frequency List

BRAG - Bayshore Response Assistance Group

1. Used by industrial groups in the Stanford research properties
2. Cupertino shares this frequency with Foster City ARES (simplex, PL=114.8).
3. County designates Command 1 for Intercity/Interagency tactical traffic. Red Cross uses the frequency as Command. County and Red Cross have an agreement to share OQS with Net Control and final authority on usage resting with County.
 - A. County designates Command 1 for Intercity/Interagency tactical traffic. Red Cross uses the frequency as Command. County and Red Cross have an agreement to share OQS with Net Control and final authority on usage resting with County.
 - B. County designates Command 2 as an intercom for County Staff and EC's.
 - C. County designates RNH as an alternate repeater for Command 2. Red Cross uses RNH as a talk around/intercom among Communications staff.
 - D. Resource is used as a holding repeater for radio volunteers who have not been given a specific assignment somewhere in the County. This is also the repeater volunteers need to check in on until given an assignment.
 - E. Mountain View uses W6ASH 2-meters as a Command repeater if it is not needed as a resource alternate. Palo Alto and Los Altos also uses the repeater.
 - F. Palo Alto uses the N6NFI repeater unless the repeater is needed by the hospital

net.

- J. NASA-Ames alternate 2 is shared with Sunnyvale TRW.
- O. Stanford ARES; Repeater offset is -12 MHz offset, Black Mountain
- P. Stanford ARES; Repeater offset is -20 MHz offset, Stanford Campus

APPENDIX D

FCC Rules: Subpart E—Providing Emergency Communications

§97.401 Operation during a disaster.

(a) When normal communication systems are overloaded, damaged or disrupted because a disaster has occurred, or is likely to occur, in an area where the amateur service is regulated by the FCC, an amateur station may make transmissions necessary to meet essential communication needs and facilitate relief actions.

(b) When normal communication systems are overloaded, damaged or disrupted because a natural disaster has occurred, or is likely to occur, in an area where the amateur service is not regulated by the FCC, a station assisting in meeting essential communication needs and facilitating relief actions may do so only in accord with ITU Resolution No. 640 (Geneva, 1979). The 80 m, 75 m, 40 m, 30 m, 20 m, 17 m, 15 m, 12 m, and 2 m bands may be used for these purposes.

(c) When a disaster disrupts normal communication systems in a particular area, the FCC may declare a temporary state of communication emergency. The declaration will set forth any special conditions and special rules to be observed by stations during the communication emergency. A request for a declaration of a temporary state of emergency should be directed to the EIC in the area concerned.

(d) A station in, or within 92.6 km of, Alaska may transmit emissions J3E and R3E on the channel at 5.1675 MHz for emergency communications. The channel must be shared with stations licensed in the Alaska-private fixed service. The transmitter power must not exceed 150 W.

§97.403 Safety of life and protection of property.

No provision of these rules prevents the use by an amateur station of any means of radio communication at its disposal to provide essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available.

§97.405 Station in distress.

(a) No provision of these rules prevents the use by an amateur station in distress of any means at its disposal

to attract attention, make known its condition and location, and obtain assistance.

(b) No provision of these rules prevents the use by a station, in the exceptional circumstances described in paragraph (a), of any means of radio communications at its disposal to assist a station in distress.

§97.407 Radio amateur civil emergency service.

(a) No station may transmit in RACES unless it is an FCC-licensed primary, club, or military recreation station and it is certified by a civil defense organization as registered with that organization, or it is an FCC-licensed RACES station. No person may be the control operator of a RACES station, or may be the control operator of an amateur station transmitting in RACES unless that person holds a FCC-issued amateur operator license and is certified by a civil defense organization as enrolled in that organization.

(b) The frequency bands and segments and emissions authorized to the control operator are available to stations transmitting communications in RACES on a shared basis with the amateur service. In the event of an emergency which necessitates the invoking of the President's War Emergency Powers under the provisions of

§706 of the Communications Act of 1934, as amended, 47 U.S.C. §606, RACES stations and amateur stations participating in RACES may only transmit on the following frequencies:

(1) The 1800-1825 kHz, 1975-2000 kHz, 3.50-3.55 MHz, 3.93-3.98 MHz, 3.984-4.000 MHz, 7.079-7.125 MHz, 7.245-7.255 MHz, 10.10-10.15 MHz, 14.047-14.053 MHz, 14.22-14.23 MHz, 14.331-14.350 MHz, 21.047- 21.053 MHz, 21.228-21.267 MHz, 28.55-28.75 MHz, 29.237-29.273 MHz, 29.45-29.65 MHz, 50.35-50.75 MHz, 52-54 MHz, 144.50-145.71 MHz, 146-148 MHz, 2390-2450 MHz segments;

- (2) The 1.25 m, 70 cm and 23 cm bands; and
- (3) The channels at 3.997 MHz and 53.30 MHz may be used in emergency areas when required to make initial contact with a military unit and for communications with military stations on matters requiring coordination.
- (c) A RACES station may only communicate with:
 - (1) Another RACES station;
 - (2) An amateur station registered with a civil defense organization;
 - (3) A United States Government station authorized by the responsible agency to communicate with RACES stations;
 - (4) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.
- (d) An amateur station registered with a civil defense organization may only communicate with:
 - (1) A RACES station licensed to the civil defense organization with which the amateur station is registered;
 - (2) The following stations upon authorization of the responsible civil defense official for the organization with which the amateur station is registered:
 - (i) A RACES station licensed to another civil defense organization;
 - (ii) An amateur station registered with the same or another civil defense organization;
 - (iii) A United States Government station authorized by the responsible agency to communicate with RACES stations; and
 - (iv) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.
- (e) All communications transmitted in RACES must be specifically authorized by the civil defense organization for the area served. Only civil defense communications of the following types may be transmitted:
 - (1) Messages concerning impending or actual conditions jeopardizing the public safety, or affecting the national defense or security during periods of local, regional, or national civil emergencies;
 - (2) Messages directly concerning the immediate safety of life of individuals, the immediate protection of property, maintenance of law and order, alleviation of human suffering and need, and the combating of armed attack or sabotage;
 - (3) Messages directly concerning the accumulation and dissemination of public information or instructions to the civilian population essential to the activities of the civil defense organization or other authorized governmental or relief agencies; and
 - (4) Communications for RACES training drills and tests necessary to ensure the establishment and maintenance of orderly and efficient operation of the RACES as ordered by the responsible civil defense organizations served. Such drills and tests may not exceed a total time of 1 hour per week. With the approval of the chief officer for emergency planning in the applicable State, Commonwealth, District or territory, however, such tests and drills may be conducted for a period not to exceed 72 hours no more than twice in any calendar year.

Appendix E

SOME POSSIBLE TYPES OF ASSIGNMENTS

Shadow Duty

A Shadow is an amateur radio operator that is providing a communications channel between the person he or she is “shadowing” and other stations on the net. You have two duties here — one is to stick like glue to the person you’re shadowing without getting in their way. The second duty is to be prepared to communicate successfully from any place that your assignment might travel. You need to ensure that you have the proper equipment to communicate on behalf of your shadow. As you take the assignment make sure that you ask Resource NCS about any special equipment you might need. Quite often a shadow will have to talk from a moving vehicle as well as be able to move around in the field with the VIP. If this is the case then appropriate equipment would include a several watt HT with alkaline batteries, as well as a mag-mount that can be placed on the exterior of the vehicle. If the official is expected to travel into very remote areas then a mobile 2m rig with 10- 25 watts is also appropriate. Powering the larger 2m mobile rig can be tricky so you might also have to provide a 12 to 24 Amp-hour gel-cell if the vehicle doesn’t have a cigarette lighter where you might obtain power. The last consideration and perhaps the most substantial is whether you have the appropriate training for the shadow assignment. Inquire with the Resource NCS as you take the assignment about such special circumstances. You should also make the VIP you are shadowing aware of your level of training so that you aren’t exposed to dangerous situations. An example might be shadowing the Incident Commander of a wildlands fire into the field. You should take this type of assignment only if you have had a formal fire line safety class.

If you are going to be the Net Control Station you will need

1. A 10 Watt base radio.
2. A portable antenna such as a 2m J-pole with mount.
3. A battery with enough capacity to last your shift.
4. Table, chair, and writing implements.
5. Minimum ARES Equipment List items.

If you are on foot

1. An HT with at least a 1 Watt output level.
2. A hot-rod style gain antenna for the HT.
3. Minimum ARES Equipment list items.

If you are mobile in a car

1. An HT with at least a 3 Watt output level or a mobile rig.
2. A mag-mount antenna mounted on the exterior of the vehicle.
3. Minimum ARES Equipment list items.

Red Cross Operations

Amateurs have a long tradition of helping the Red Cross with their communications needs. In keeping with that tradition the ARRL formalized the relationship between the two organizations by signing a Memorandum of Understanding with Red Cross. In providing communications for Red Cross you are most likely to operate either at a shelter, or at the Red Cross chapter headquarters. There is a different set of considerations for each of these assignments. When operating at a shelter site be aware of what are appropriate communications for amateur frequencies. Any message dealing with logistical or Health and Welfare is appropriate for amateur channels. Keep in mind that amateur frequencies are often monitored by news agencies. Traffic of a sensitive nature should be handled by a more secure communications medium such as the telephone. Equipment requirements for shelter duty may vary depending on whether the net is operating on a repeater or a simplex frequency. You should be prepared to bring:

Red Cross Net on a Repeater

1. ARES Minimum Equipment List.
2. Hot-rod style gain antenna for the handheld.
3. Lots of blank message forms.

Red Cross Net on Simplex

1. ARES minimum equipment list.
2. Base or mobile radio with a 10 to 25 watt output.
3. Portable antenna, such as a J-pole.
4. Lots of blank message forms.

Meals are usually provided at Red Cross shelter sites, so bringing your own food is usually not necessary. When reporting for duty at the shelter, inform the shelter manager or amateur radio site supervisor of your level of training. This is to prevent being assigned a task for which you may not be qualified. If you encounter any medical situations make sure that you notify the appropriate personnel instead of trying to deal with it yourself. Again, your primary responsibility is communications.

Red Cross Shadow, or other VIP shadow

Shadow duty for the Red Cross will usually involve either providing communications for a Red Cross official, or acting as a radio operator for a Red Cross mobile unit such as a mass feeding station. You will probably need both a mobile AND a handheld radio when shadowing a Red Cross official. If you are providing radio capability for a mobile unit a mobile radio system should be adequate. When using a mobile amateur radio in a Red Cross vehicle remember that a 12 Volt source may not be available, and you may need to supply your own power source such as a gel-cell battery. Mobile unit duty is also likely to be a longer than average shift since you will be operating on the vehicle's shift assignment. It is conceivable to work as long as eight to ten hours on one of these assignments

Duty at an Emergency Operating Center (EOC)

The government operates from an Emergency Operations Center (EOC) during an emergency, staffing the EOC with senior government officials to help administrate the event from one location. EOC's operate according to Incident Command System Guidelines and Procedures (Nationally defined). In simplest form, messages to titles at identified positions, with date, time and degree of urgency notes. Other details about ICS are available from every city manager.

The EOC may be in a governmental building, at a police or fire department or other location. Amateur radio resources may also be operated from this location, and an Emergency Coordinator or other ARES/RACES official may operate from here. As an emergency responder you may be asked to be a Net Control Station, a messenger, or a channel monitor. The Net Control Station may be handling one of the nets originating from the EOC. Messengers move traffic between Red Cross or other officials and the EOC, or as spare hands as needed during the shift. The channel monitor position listens to public service frequencies to keep officials informed on the status of the incident. The Net Control Station should utilize a fairly experienced operator. Special training should be taken before attempting this position during a major event. The best background for someone filling a Messenger's position is a good knowledge of traffic handling. You can expect to take messages that are destined to go out via radio, and to deliver messages that have arrived from the radio circuit. It is also your responsibility to put any originating messages into proper format before they are sent. For more information, review the section on traffic handling earlier in this handbook. A channel monitor listens to a public service frequency on behalf of the DEC/Shift Supervisor. You can expect to be briefed on the type of information to monitor as you start your shift. Generally anything that will help officials keep abreast of the event as it develops is of interest.

Equipment at the EOC

There generally isn't any required equipment other than perhaps a handheld that might be used on a local intercom frequency. The EOC will normally be equipped fairly early in the event and the equipment can be expected to stay in place for the duration of the event.

MPMP Operations (Santa Clara County)

The Multiple Patient Management Plan (MPMP) has been developed in Santa Clara County to deal with medical emergencies where there are many casualties. Management of such an event is expected to require multiple jurisdictions and mutual aid operations. Amateur Radio is a primary method used within the plan to allow responding agencies to communicate with each other. There are three primary nets that will be used during an MPMP event. These are our standard Resource net, a Hospital Tactical Net, and an on-scene Tactical Net.

A Resource Net is established to begin the process of gathering amateur operators and equipment for response to the MPMP staging area. Under the MPMP plan the Resource net automatically has a set of amateur radio positions to be staffed. This will include sending two amateur radio operators to each of the area hospitals and a number of well equipped operators to respond to the MPMP staging area. A NCS will also be required for the Hospital Net. This position can be staffed by any qualified amateur and operated from any convenient location. The Hospital Nets will coordinate information flow

between the incident and the area hospitals. As stated previously the MPMP calls for two member teams to staff each of the area hospitals. The first member of the team will operate a radio on the Hospital net while the second member of the team should position themselves near the emergency room. Locate the hospital net radio wherever the antenna drop is located. The second team member should notify the head of the Emergency Room that he is present and to what services can be provided, and ask where he may be located to provide communications in a place out of traffic. Both members of this team should choose a convenient intercom frequency that they can use within the hospital. It is suggested that 220 or 440 MHz is a good choice for this intercom channel.

Safety as an ARES/RACES Emergency Responder

Within this manual we've stressed the importance of taking your safety as your own responsibility. There are several aspects to conducting yourself in a safe manner. The first step you can take is to be adequately trained. One way to extend your training is to take classes offered by other agencies. The Red Cross offers classes in First Aid, CPR, etc. throughout most of the year. Any of these classes will enhance your own safety because you'll be more aware of how to take care of yourself. CDF, through the VIP program offers an extensive training program in basic fire line safety. This training includes basic first aid, familiarity with how to equip yourself, what situations to watch out for during a fire, etc. This helps to improve your situational awareness as well as to be knowledgeable about what constitutes a dangerous situation. With all this training it is still important to remember that you should only wear one hat during an ARES/RACES operation. You are there as a communicator, not a first aid provider, or a firefighter. This help avoid confusion about your role, and will prevent you from putting yourself into unsafe situations.

Safety is just as important at home. You should ensure that all is well at home before responding to an emergency. This allows you to keep your mind on the situation instead of worrying. As you're working an emergency, you need to keep yourself aware of what is occurring around you. This is the only way you can expect to see a dangerous situation before it surrounds you! Keep your eyes open and your brain on full alert! Stay situationally aware.

Appendix F

General phraseology training and examples.

What to say and how to say it on a controlled net. “TALKING ON A NET”

PLEASE REMEMBER THAT WHEN YOU ARE PASSING MESSAGE TRAFFIC SOME ONE ON THE OTHER END MUST WRITE IT DOWN EXACTLY AS YOU GIVE IT. SPEAK SLOWLY AND PAUSE ABOUT EVERY 5 WORDS TO INSURE THE RECEIVING STATION IS COPYING YOUR MESSAGE EXACTLY. WHEN YOU ARE FINISHED WITH THE MESSAGE SAY END OF MESSAGE AND THEN BE QUIET. THE RECEIVING STATION WILL FINISH WRITING THE MESSAGE DOWN AND THEN WILL READ IT BACK TO YOU TO INSURE IT WAS COPIED EXACTLY AS SENT.

Identifiers and conversation

Use your tactical call sign during conversation to conserve air time and to make things easier. Please remember to keep call signs and other qualifiers out from your identifiers. Net control will be known simply as “*Control*”. A shelter may be known by their one-word name, for example “Meyer Shelter” rather than “Fred J. Meyer Junior High School shelter”

Always call by saying the identifier of the station you are calling first, then your identifier. So, for example, if you are Meyer Shelter calling control you would say simply “*Control, Meyer Shelter*”. If you are Net Control and you want to call Meyer Shelter you would say “*Meyer Shelter, Control*”.

Answering: For all of you in the field, you should answer calls with just your tactical call sign. For example, if Control calls Meyer Shelter, Meyer Shelter should answer by saying simply “*Meyer Shelter*”. Note that excess baggage like “this is”, or “go ahead” are not really needed (although these two examples are short enough that they are not really a problem). But please try to avoid long strings like: “This is Meyer Shelter, go ahead Net Control” (11 syllables!). Short and sweet should be the rule!

Control answers calls the opposite way. Control always answers with the other station’s identifier. For example, if Meyer Shelter calls Control, Control, answers by saying “*Meyer Shelter*”, *not* “*Control*”. Why? Because there is only *one* Control running the net, so answering with the identifier “Control” does not add much useful information. More importantly, Control needs to specify which mobile is being acknowledged. There may be more than one mobile unit trying to call Control at the same time, so if Control were to answer with just “Control” or “Go ahead” then all the stations who were trying to call would think that Net Control is talking to them. So Control answers with the *mobile’s* identifier, which indicates clearly which mobile is being invited to talk. This is common practice these days in public safety nets, and it is becoming more common in ham nets as well.

Acknowledging The plain text radio acknowledgement to indicate that you have heard and understood is the word “*copy*”. For example if you are Meyer Shelter and you are

acknowledging that you have heard and understood, you should say simply “*Meyer Shelter copies*”. If you didn’t understand, just say “*Meyer Shelter repeat*”. You don’t need to give a long explanation like “Net Control this is Meyer Shelter, I’m sorry, I wasn’t able to get your last transmission, I’m getting a lot of background noise here, could you repeat please?” (36 syllables)

Location If Control asks for your ‘location’, you are probably being asked just to provide your general whereabouts so that Control can decide whether you are in position to be dispatched to an event. So you should give your general whereabouts without taking time to try to pinpoint your exact location. For example you might answer, “Metcalf Canyon” or “Uvas Lake area” or perhaps “Monterey near Bailey”. Your answer should make reference to major roads or landmarks that are likely to be recognized by Control. If you answer giving an intersection of two tiny streets, then Control will probably not recognize them and will probably have to follow up with “Okay, and approximately where is that on the route?” If Control asks for your “exact location”, then Control is probably trying to help someone meet up with you. In this case go ahead and describe your location as precisely as you can.

Giving information Think before keying the mike, then say the fewest number of syllables that will get the information across. The biggest problem with many ham operational nets is verbosity of transmission. Verbosity is great on ragchew nets, because that is what you are there for. But on an operations net it should be pruned as much as possible. . For example, if you want to take a restroom break, just say “I’ll be off the air for 5 minutes”. This is better than giving a lengthy discourse about how long it’s been since you had been to a restroom and so on. Another good example would be for a rest stop operator to say “The Meyers Shelter is asking for more cots if they are available” rather than a long explanation about how many cots they have now and how there has just been a flood of new arrivals in the past few minutes. Always make it short, and transfer only the information that the other station needs to be able to fulfill the request.

Ham Radio Jargon Let’s leave as much of this as possible out altogether. Q signals such as QSL, QSY, etc, are bad news for operational nets. Say “copy”, “switching to tactical”, “location”, “clear”, “off the air” and so on. The same restriction applies to use of 10 codes, but I probably don’t have to mention that, because most hams stay away from these anyway.

Amateur Call Signs

We are all proud of our calls, and when we are working the bands we let our call signs announce to the world who we are. However, for net communications your call sign serves no purpose other than to meet your legal requirement to identify. So please don’t clutter the net with 10 or 15 syllables of call sign as part of your identifier or at the end of every transmission. If you are pretty sure that you are finished talking for a while, then give your call sign at the end. But if you think from the context of the conversation that you will likely be talking again in just a few minutes, then leave your call out for now, and give it later when you are done. It doesn’t matter if you miss your opportunity to identify and Control starts talking with someone else. You can just wait for a lull in traffic and just say “K6AAA ID”. Everyone will know that you are just IDing because you didn’t get an opportunity to do so before.

Breaking in to a conversation vs. the term “Break”

“Break” when said by Control during a transmission means “I’m still continuing to talk, but I am switching the station that I am talking to, so everyone please listen up to hear if I am now calling you.” If you want to break into a conversation just interject during the repeater pause with your identifier, “Maybury Rd IC”. For an emergency break, “Emergency Traffic” is the shortest way to get the point across.

Being conversational? I hope we haven’t scared you into agonizing all day about whether you might utter a non-critical syllable. That’s not our intention, and we don’t want you to worry much about it. We are perfectly fine with the net being conversational and occasionally wordy because there will be things we have to say and explain to each other. So have fun and say whatever you need to say, and no one is going to be counting the syllables. I just wanted to make some suggestions for things we can all consider before we talk so that we will make a reasonable effort to standardize some of the things and not blab a great deal more than needed.

Hypothetical Example

So to conclude, here is a hypothetical few minutes on the air using these principles. I know, it never turns out to be as clean as we would like it, but we have been very successful in this event with approaching this sort of rhythm. Let’s try to get into a nice rhythm of short transmissions without clutter. Also, we purposely added in a bit of conversational flavor here just to make the point that we are not expecting a rigid adherence to an exact formula. It can be conversational as long as it not greatly more verbose than needed.

Control: Meyer Shelter, Control, new message

Meyer Shelter: Meyer Shelter, ready to copy (he adds ready to copy because it’s for a new message)

Control: New message, It’s a request to find out if the Red Cross ERV has been there yet?

Meyer Shelter: Meyer Shelter copies message, I’ll research and advise (He doesn’t ID because he knows that he will be talking again in a couple minutes.)

(some silence)

Los Gatos Mobile one: Control, Los Gatos Mobile one

Control Los Gatos Mobile one

Los Gatos Mobile one: We’re transporting a rider the community center to Meyers Shelter. He’s not injured just needs transportation.

Control: Copy, transporting one to Meyers shelter, advise when clear.

Los Gatos Mobile one: Los Gatos Mobile one copies will advise when KF6AAA (Los Gatos Mobile one IDs because he knows that he is finished talking).

Control: Red Cross one, Control, your location?

Red Cross one : Red Cross one , I'm in Metcalf canyon.

Control: Red Cross one Disregard. Break. Gilroy Mobil, your location? (Notice that Red Cross one did not get a chance to ID, no problem, he just waits.)

Gilroy Mobil: Gilroy mobile on Monterey, at about, um, Cochran. (He may not know the exact tiny cross street, but he was at Cochran a few minutes ago)

Control: Okay, Gilroy mobile, Can you pick up w6you at Santa Teresa and Bailey. I think he needs a ride to the Gilroy EOC

Gilroy Mobile: Gilroy Mobile copies, enroute to Santa Teresa and Bailey, N6YYYY.

(a bit of silence)

RedCross one: KA6YYY, ID. (He's just IDing now because he didn't get a chance to ID earlier. Notice that he added "ID" so Control doesn't think he is trying to call in with something.)

Meyer Shelter: Control, Meyer Shelter

Control: Meyer Shelter

Meyer Shelter: Red Cross ERV just arrived here at Meyer Shelter.

Control: Copy, thank you, I'll close the message . N6DRB, Resource Net Control. (Control IDs because it has been about 10 minutes since Control's last ID.

Meyer Shelter: Meyer Shelter, WB6UUU

Message Forms – these should be in every EOC. If not, make your own with this as a guideline.

Adjust format and size to suit.

Date and time are needed for message follow-up and post incident review.

Message Log Form -					
Message number	Priority	Date/time	To	From	Message

Conclusion

In this manual we have attempted to cover the basic requirements of being an emergency responder and how to go about that task. Just like any other endeavor the basis skills you need to develop require time and practice. Hopefully, the data presented here will help you in that

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73,

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