



# 800 MHz Radio Use and Procedures

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# 800 MHz Radio Use and Procedures

The Campus 800 MHz two-way radio system is operated and maintained by Information Technology Services. The system supports both daily campus operations and communication redundancy during emergency or disaster events. The infrastructure of the radio system is intended to provide reliable service in most parts of the campus and the immediate areas surrounding the campus. However, building construction can interfere with radio signals, reducing or completely blocking a signal.

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## RADIO OPERATIONS – BASIC OPERATIONS GUIDE

### SET UP

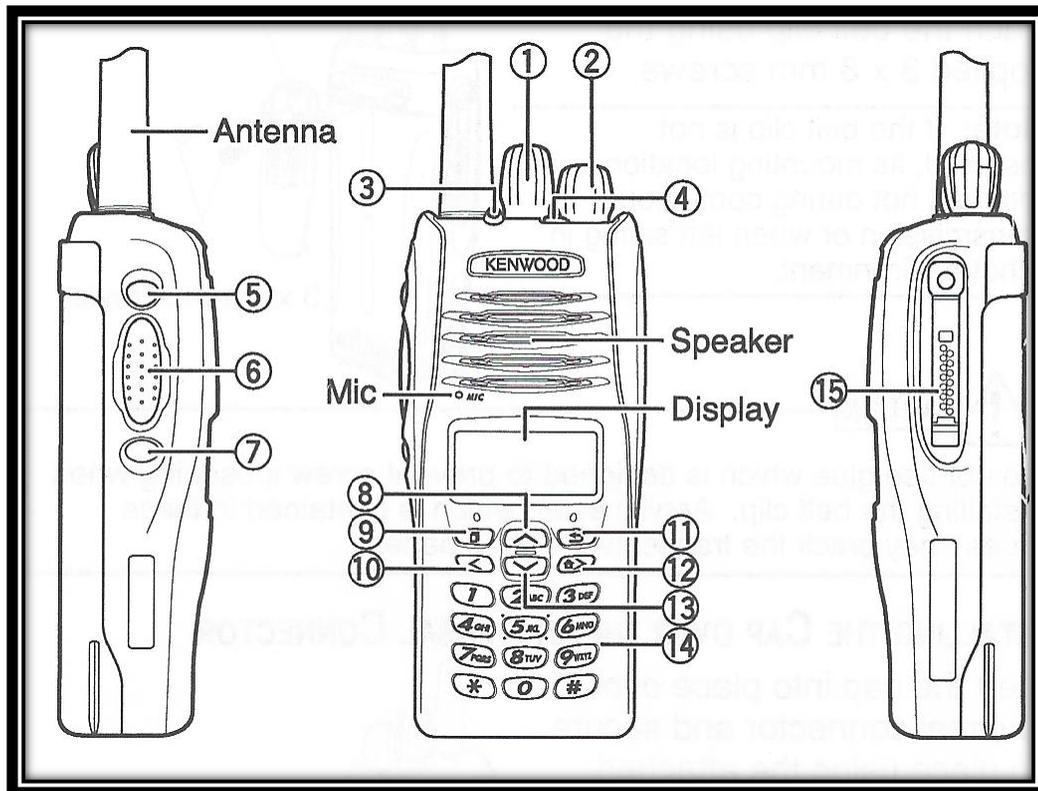
Install antenna on radio. DO NOT operate radio without the antenna attached. Tighten the antenna until snug, make sure not to over tighten!

### TO CHARGE RADIO

- ❖ Connect power cord to charger and plug into standard outlet.
- ❖ Insert radio fully into charging base, be sure the slots on the charger align with the slots on the side of the battery.
- ❖ Be sure red “charging” light illuminates on the charging base. When battery is fully charged, light on charging base will turn green. A full battery should operate the radio for at least 8 hours under normal usage.
- ❖ Do not leave radios sitting in chargers for storage, remove from charger when the charge cycle is complete.

### USAGE TIPS

- ❖ DO NOT carry radio by the antenna as this can cause costly damage.
- ❖ For best performance, hold radio so antenna is straight up and down.
- ❖ Press push to “talk” button before speaking, wait 1 second, and begin speaking. When finished, wait 1 second to release the “talk” button.
- ❖ Test radio coverage and make note of *blackout* areas.



## RADIO CONTROLS

1. Top Center Knob: Channel/Talk Group Select.
2. Top Right Knob: Power on/off, volume.
3. Indicator LED. Red = Transmit. Green = Receive. Flashing Red = Low Battery.
4. Top Orange Button: Direct selection of the “Emergency Talk Group”.
5. Left side Top Button: Keypad lock. Press to lock, press again to unlock.
6. Left Center (large) Button: Push to talk, release to listen.
7. Left Bottom Button: Monitor button, only functions on the “SC Common” channel.
8. Front Up Arrow: Zone (channel bank) select up key.
9. Front Top Left Button: Menu key.
10. Front Left Arrow: Scan add/delete button.
11. Front Top Right Button: Scan on/off.
12. Front Right Arrow Button: Home Channel.
13. Front Down Arrow: Zone (channel bank) select down key.
14. Alpha Numeric keypad (not used).
15. Accessory Connector (Keep covered when not in use).

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## RADIO MESSAGES AND VOICE PROCEDURES

### VOICE PROCEDURE

The fundamentals of a good radio message are: clarity, accuracy, and brevity. Voice clarity can be achieved by paying attention to the rhythm, speed, volume, and pitch of the voice. The rhythm of the voice should be steady and the speed should be slightly slower than normal speech dialogue. Voice volume should be equal to that of “normal” conversation.

### RADIO MESSAGES

- ❖ **Make only necessary transmissions – you are sharing a limited number of radio channels with all of the other UC Santa Cruz radio users; INCLUDING PUBLIC SAFETY AGENCIES.** You cannot know when emergency communications are in progress on other talk groups and your unnecessary transmission may delay other radio user reporting or responding to an emergency incident.
- ❖ **Make all transmissions as brief, clear and concise as possible.** Be aware that the radio system will automatically end an excessively long transmission (over 60 seconds).
- ❖ **Speak directly into the face of the radio, using a normal voice.** You do not need to speak slowly or particularly fast, but it is important to speak clearly, distinctly, and loudly enough to be understood.
- ❖ **Think before you speak!** Do not press the “talk” button until you know exactly what you want to say in your radio transmission.
- ❖ **After you press the “talk” button, always pause a moment BEFORE you begin speaking.** This ensures that the radio system has time to respond to your transmission and prevents the first part of your message from being cut off. Likewise, do not release the “talk” button until you have finished speaking. If you are often asked to repeat part of your message, you may be inadvertently cutting off part of your radio transmission.
- ❖ **Do not swear or use slang when making radio transmissions.**
- ❖ **Use radio identifiers, not personal names, when talking to another radio user.** The University’s radio license does not authorize personal conversations. When calling another radio, say its identifier and then your own personal radio identifier.  
Example: “ITS DOC-2 (pause), ITS DOC-4” or “ITS DOC-2, this is ITS DOC-3.”
- ❖ **The Campus EMERGENCY talk group is monitored at all times by the Campus Communications Center.** If you are unsure whether to use the EMERGENCY talk group, ask yourself if you would dial 9-1-1 in the same circumstance. **To report an emergency,** use the rotary switch on the top of the radio to select the EMERGENCY talk group of switch position 16. The text “EMERG” will appear in the radio display. Press the “talk” button and announce:

“Control, this is ...[your radio identifier]..., reporting an emergency.”

The Communications Center (Control) Dispatcher will answer your call and prompt you for the details of the emergency. **Listen to and follow the instructions from the Dispatcher or other public safety personnel responding to your report.**

## RADIO SHORTHAND

Brevity can be facilitated by using verbal cues as *verbal shorthand*.

Verbal Cues	Meaning
"Affirmative / Affirm"	Yes
"Copy"	I understand
"Go ahead"	I am ready to receive your message
"Standby"	I cannot reply within the next 5 seconds
"ETA"	Estimated time of arrival
"Control"	Communications to Dispatch

## UCSC RADIO CHANNELS AND TALK GROUPS

Your radio has been programmed with talk groups needed for your unit's operations and communications with other radio users. Special Campus-wide talk groups assigned to nearly all radios are described below. Please review the purpose and use of each of these Campus talk groups in addition to familiarizing yourself with the other talk groups programmed into your radio.

Talk Groups	Purpose and Protocol
<b>EMERGENCY</b>	Use the <b>EMERGENCY</b> talk group for report emergencies (e.g. car accident of crime in progress) to the UCSC Communications Center (Police dispatch), <b>ONLY WHEN NORMAL 911 PHONE SERVICE IS UNAVAILABLE. When radioing in an emergency, be concise and allow an open signal for dispatchers to ask questions of you.</b> This channel shall not be used for non-emergencies. <b>If telephone service is operating, call 911 to report emergencies.</b>
<b>COMMUNICATIONS CENTER COMMON (COMM CENTER)</b>	The COMMUNICATIONS CENTER (COMM CENTER) talk group is available to campus units for non-emergency communications with the campus Communications Center. Non-public safety radio users must monitor or scan this talk group if they need to be contacted by COMM CENTER Dispatchers.
<b>CAMPUS EVENTS 1-3</b>	Three CAMPUS EVENTS talk groups are available for scheduled events requiring coordination between multiple Campus unit radio users. For example, graduation or a large outdoor concert. Campus units must request assignment of CAMPUS EVENTS talk group in advance by contacting UCSC Communications Center Supervisor at 9-3333.
<b>EOC TACTICAL 1-3</b>	The three EMERGENCY OPERATION CENTER (EOC) TACTICAL talk groups are programmed into all of the radios to allow radio users to respond to major emergencies or disaster conditions on Campus. In the event of a Campus emergency, EOC staff will assign radio users to EOC TACTICAL talk groups as required. The EOC TACTICAL talk groups are used only under emergency conditions and only under the direction of the EOC.

Channel	Purpose and Protocol
SIMPLEX	SIMPLEX can be used at any time by any user. It is intended primarily as a resource for use off the Campus or outside of coverage area. SIMPLEX is a radio to radio channel, similar to walkie talkies.
SC COMMON BACKUP CHANNEL	SC COMMON backup channel can be used at any time by any radio user. This channel is useful for communications with other UC Campus responders who do not have access to the Campus-wide radio talk groups.

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## RADIO REGULATIONS

The UC Santa Cruz 800MHz radio system uses radio frequencies allocated by the federal government for public safety use and licensed to the University of California System. In the case of governmental organizations such as the University, non-public safety users are permitted to use these frequencies in association with public safety agencies.

The Federal Communications Commission (FCC) is authorized by law to formulate and enforce regulations governing radio frequency use. All radio users are required to follow FCC rules and regulations and failure to comply may result in substantial fines levied against the University and may place the UC Santa Cruz licenses in jeopardy.

The regulations below are of particular importance and are enforced by the FCC:

- ❖ Use of indecent, obscene, or profane language is strictly prohibited: "whoever utters an obscene, indecent or profane language by means of radio communications shall be fined not more than \$10,000 and/or imprisoned not more than two years. (Title 18, US Code, Chapter 71, paragraph 1464).
- ❖ Federal law states that "each licensee [i.e. UC Santa Cruz] shall restrict all transmissions to the minimum practicable transmission time and employ efficient operating procedure to maximize the utilization of the spectrum." FCC interpretation of this rule forbids the use of "CB" type language as a wasteful and inefficient use of radio time.

Federal law states that radio users may transmit only the following types of communications:

- ❖ Any communication related directly to the imminent safety of life and property. Federal law provides such emergency transmission with priority over all other communications.
- ❖ Communications directly related and necessary to those activities which make the licensee eligible for the license, i.e. University business.
- ❖ Communications for testing purposes required for proper radio system maintenance.

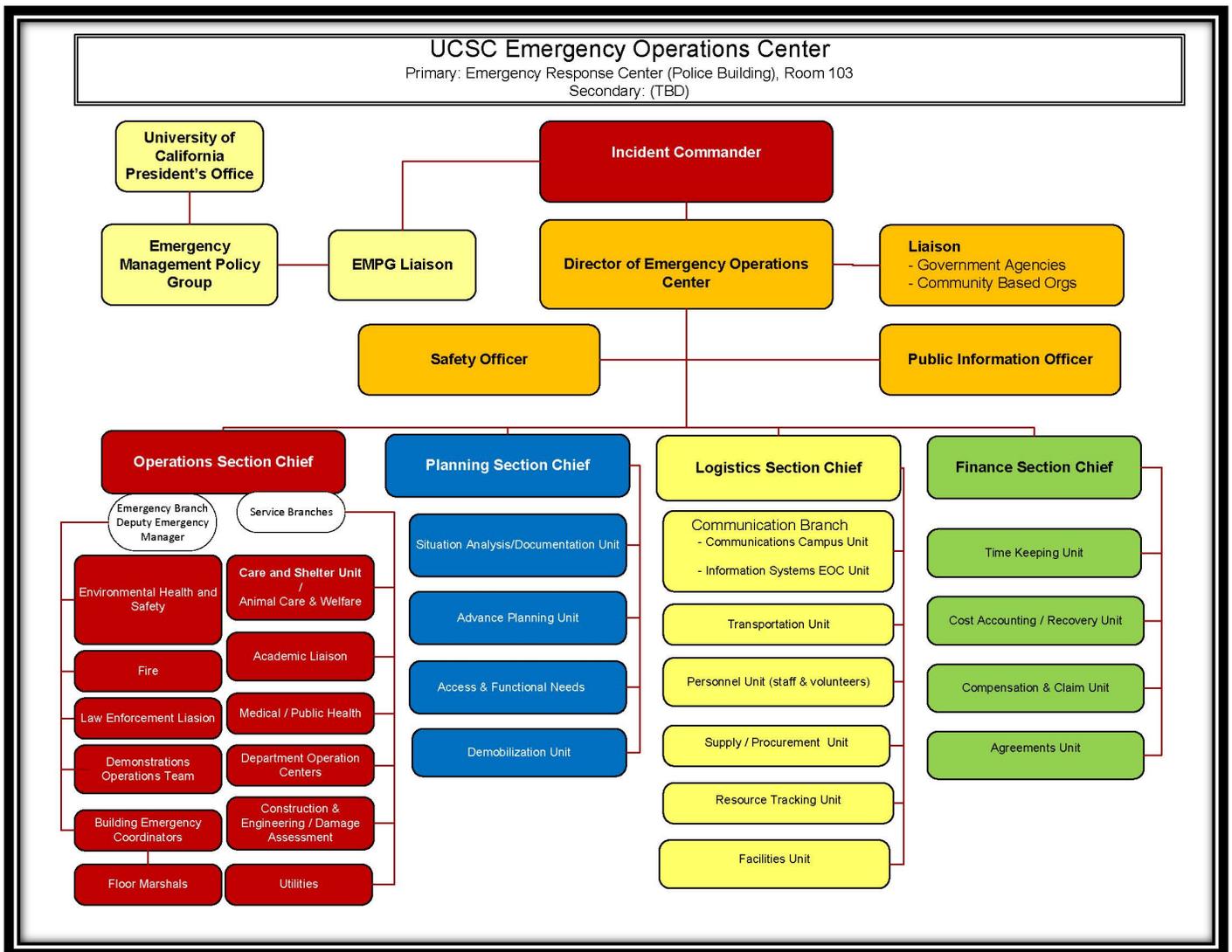
## TROUBLESHOOTING

UCSC operates a two-way radio system that is available for use by any Department on Campus. This system, operated by the Telecommunications Department, provides 24 hour a day, two-way radio service to the entire Campus and surrounding areas. Each radio is capable of communicating with the other rental radios on a pre-assigned rental talk group, and with other Campus units on three available events talk groups.

If you should encounter any malfunctions or have any questions about your radio, please contact ITS – Core Technologies by telephone at 9-5550 or by e-mail at [mmckenna@ucsc.edu](mailto:mmckenna@ucsc.edu).

## EMERGENCY OPERATIONS CENTER STRUCTURE

UC Santa Cruz has adopted the use of the Incident Command System and the Emergency Operations Center is organized structurally as such. The Incident Command System is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective.



## CHAIN OF COMMAND

During critical events, it is essential that identified EOC radio responders follow their department's chain of command for reporting incident status and updates. **Chain of command triages messaging intended for Incident Command, the Director of Emergency Operations Center, and the EOC Section Chiefs.** It is very important that radio users filter information for the Emergency Operations Center through their respective Units and/or Branches within the Emergency Operations Center Organizational Structure. Please refer to the below table for the appropriate communications chain of command. **All communications into the EOC should take place on the "EOC TAC 3" radio channel.**

### EMERGENCY OPERATIONS CENTER RADIO CALL-IN CHAIN OF COMMAND

Department	Section	Branch	Unit	Channel
Colleges, Housing and Educational Services	Operations	Service	Care and Sheltering	EOC Tac 3
Community Safety Officers	Operations	Emergency	UCPD	EOC Tac 3
Information Technology Services	Logistics	Communications		EOC Tac 3
Building Emergency Coordinators	Operations			EOC Tac 3
Physical Planning, Development and Operations	Operations	Service	Facilities	EOC Tac 3
Transportation and Parking Services	Logistics		Transportation	EOC Tac 3