

APPENDIX A COMMUNICATIONS

FIRESCOPE RADIO COMMUNICATIONS GUIDELINES

FIRESCOPE Radio Communications Guidelines are derived from the Cooperative Agreements for Use of Radio Frequencies between fire service agencies of California allowing for mutual use of radio frequencies during mutual aid efforts.

There are 32 specific channels that should be preprogrammed into all radios utilized by fire service agencies providing mutual aid in California. See the FIRESCOPE STATEWIDE FREQUENCY CHANNEL PLAN on page A-3.

IMPORTANT COMMUNICATIONS ISSUES FOR THE 2004 FIRE SEASON

Effective with the 2004 fire season, ALL VHF radios used on Federal and some State of California radio channels must be reprogrammed.

The National Telecommunications and Information Administration (the Federal Government's frequency manager) has mandated that Federal agency VHF frequencies must be narrow-banded by January 1, 2005. Although the FCC rules provide that most state and local government frequencies are not required to be narrow-banded until sometime in the future, this migration affects state and local government agencies **immediately**.

During the fall of 2003, USFS started the process of narrow-banding all VHF communications systems. NIFC has implemented the same changes to the National Interagency Radio Support Cache. In addition to the federal changes, certain State of California frequencies have been converted to narrow-band operation.

It is imperative that qualified service personnel inspect all mobile and portable VHF radio communications equipment immediately in order to determine if it is capable of, and programmed for, narrow-band operation. Of particular importance is the inspection of all VHF radio equipment manufactured prior to January 1, 2000.

Any non-compliant radio equipment used on narrow-band channels may present a **life-safety hazard** for all users.

The FIRESCOPE Communications Specialist Group and the California Statewide Interoperability Executive Committee (CALSIEC) are formulating revised standards for radio equipment and frequency utilization to address interoperability concerns within the California Fire Service.

For additional information, check the FIRESCOPE website (www.firescope.org) regularly.

GUIDELINES

1. While numerous frequencies can be preprogrammed into radios, it is important to note that in order to use those frequencies (including those frequencies listed in the FIRESCOPE STATEWIDE FREQUENCY CHANNEL PLAN) an agency: 1) must be licensed for those frequencies, or 2) must have a frequency use agreement or memorandum of understanding with the agency that is licensed for the frequencies, or 3) must be specifically authorized based on an approved Incident Radio Communications Plan (ICS Form 205).
2. Each agency requesting mutual aid will advise responding agencies of initial contact frequency for the incident. Generally these initial contact channels will be WHITE 1 or CALIFORNIA TRAVEL NET.
3. Local policy will dictate frequency assignments for an incident until an Incident Radio Communications Plan is established.
4. The Communications Unit Leader (COML) is responsible for managing assigned frequencies. The COML must clear the use of local, state and federal frequencies with the controlling agencies prior to inclusion in an Incident Radio Communications Plan.
5. Clear text (plain English) should be used for all communications. CODES SHALL NOT BE USED. Actual frequencies and channel names should be stated, e.g. "154.265, White 2", or "168.200, NIFC Tac 2". Channel numbers should not be used.
6. Data communications (i.e., automated or push button status keeping for "computer aided dispatch" [CAD] systems) shall not be used outside the local agency's normal area of operation.
7. Frequency (mobile) extenders shall not be used outside the local agency's normal area of operation.

VHF (150-174 MHz) OPERATIONS

The FIRESCOPE Radio Communications Guidelines were developed to assist California Fire Service agencies in buying and programming synthesized radios so as to maximize their effectiveness for Mutual Aid. The Guidelines are based on "VHF High Band" (150-174 MHz) as most of the California Fire Service operates in this band. Only certain frequencies are available for use statewide; these are the "White" Fire Mutual Aid channels, OES channels, CDF channels, and U.S. Forest Service (NIFC) channels, all of which are "VHF High Band."

These channels should be preprogrammed into all radios utilized by fire service agencies providing mutual aid in California:

FIRESCOPE STATEWIDE FREQUENCY CHANNEL PLAN

Channel ID	Receive and Xmit Direct	Repeater Transmit	Band-Width	Transmit Power	Usage Notes
WHITE 1	154.2800		WIDE	HIGH	1
WHITE 2	154.2650		WIDE	HIGH	1
WHITE 3	154.2950		WIDE	HIGH	1
CALCORD	156.0750		WIDE	HIGH	2
CDF COMMAND 1	151.3550	159.3000	WIDE	HIGH	3
CDF COMMAND 2	151.2650	159.3300	WIDE	HIGH	3
CDF COMMAND 3	151.3400	159.3450	WIDE	HIGH	3
CA TRAVEL NET	169.1250	168.3250	NARROW	HIGH	3, 4
OES 1	154.1600		WIDE	HIGH	
OES 2	154.2200		WIDE	HIGH	
CDF TAC 2	151.1600		WIDE	HIGH	
CDF TAC 10	151.4000		WIDE	HIGH	
NIFC COMMAND 1	168.7000	170.9750	NARROW	LOW	3, 4, 5, 6
NIFC COMMAND 2	168.1000	170.4500	NARROW	LOW	3, 4, 5, 6
NIFC COMMAND 3	168.0750	170.4250	NARROW	LOW	3, 4, 5, 6
NIFC COMMAND 4	166.6125	168.4000	NARROW	LOW	3, 4, 5, 6
NIFC COMMAND 5	167.1000	169.7500	NARROW	LOW	3, 4, 5, 6
NIFC COMMAND 6	168.4750	173.8125	NARROW	LOW	3, 4, 5, 6
NIFC COMMAND 7	162.9625	171.7875	NARROW	LOW	3, 4, 5, 6
NIFC TAC 1	168.0500		NARROW	LOW	4, 5, 6
NIFC TAC 2	168.2000		NARROW	LOW	4, 5, 6
NIFC TAC 3	168.6000		NARROW	LOW	4, 5, 6
NIFC TAC 4	164.1375		NARROW	LOW	4, 5, 6
NIFC TAC 5	166.7250		NARROW	LOW	4, 5, 6
NIFC TAC 6	166.7750		NARROW	LOW	4, 5, 6
NIFC TAC 7	168.2500		NARROW	LOW	4, 5, 6
USFS R5 TAC 4	173.9125		NARROW	LOW	5, 6
USFS R5 TAC 5	173.9625		NARROW	LOW	5, 6
USFS R5 TAC 6	173.9875		NARROW	LOW	5, 6
USFS AIR-GROUND	170.0000		NARROW	LOW	5, 6
CDF AIR-GROUND	151.2200		WIDE	LOW	5
BLM AIR-GROUND	167.9500		NARROW	LOW	5, 6

USAGE NOTES:

- 1. The White channels require individual agency licensing from the FCC. White Channel operational policies are outlined in OES Fire Operations Bulletin 28.
- 2. Use of CALCORD is subject to the CALCORD Plan, under an executed CALCORD agreement with OES. Contact OES Telecommunications (916-845-8630) for information.
- 3. Federal and State of California agencies use the following sixteen standard tones for repeater access. These must be included for repeater use. These tones must be programmed on the transmit side **only** of mobile and portable radios.

1. 110.9	2. 123.0	3. 131.8	4. 136.5
5. 146.2	6. 156.7	7. 167.9	8. 103.5
9. 100.0	10. 107.2	11. 114.8	12. 127.3
13. 141.3	14. 151.4	15. 162.2	16. 192.8

- 4. In order to program California Travel Net, all "Note 4" channels (NIFC Command and Tactical channels) must be programmed in the radio.
- 5. Transmitters are to be set to lowest available power setting on this frequency.
- 6. For use when assigned by an Incident. Incident COML's must obtain authorization for the use of these channels through the NIFC Communications Duty Officer (208-387-5644).

800 MHz OPERATIONS

The following Interoperability Channels in the 800 MHz band are available for use by the California Fire Service:

Channel ID	Receive and Xmit Direct	Repeater Transmit	Usage Notes
Int'l Calling Channel (ICALL)	866.0125	821.0125	7
Int'l Tactical Channel 1 (ITAC 1)	866.5125	821.5125	7
Int'l Tactical Channel 2 (ITAC 2)	867.0125	822.0125	7
Int'l Tactical Channel 3 (ITAC 3)	867.5125	822.5125	7
Int'l Tactical Channel 4 (ITAC 4)	868.0125	823.0125	7
Statewide Fire / EMS Tactical (FIREMARS)	868.9875	823.9875	8
Northern CA Fire / EMS Tactical (FIREMARS 2)	866.9125	821.9125	8, 9

USAGE NOTES:

7. These channels are for inter-agency/inter-discipline use. No single-agency, routine communications permitted. Tone 6 (156.7 Hz.) is used as the International common tone (transmit and receive).
8. Use as a Fire and EMS single-agency or strike-team common channel is permitted. Tone 6 (156.7 Hz.) is used as the common tone (transmit and receive). Use is subject to an executed use agreement with OES. Contact OES Telecommunications (916-845-8630) for information.
9. **Not available for use** in Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.