"CAN YOU HEAR ME NOW"

A Guide to Effective SAR Communications

What are we not going to cover

- FCC Rules
- Radio Programming

What we will cover

- Radio Transmissions & Systems
- Basic SAR Channels
- Typical Field Radios & Basic Controls
- Basic Communications Skills

Radio Transmissions & Systems

- Radio channels are VHF (very high frequency, 150 mHz)
- Good for line of sight communications
- Some are simplex (same transmit & receive frequencies
- Some are duplex (different transmit & receive frequencies – used with repeaters)

NEVADA COUNTY SHERIFF'S SEARCH & RESCUE

NCSSAR SAR Channels

Zone 1

1- BANNER	Repeater on Banner Mountain
2- SIGNAL	Repeater on Signal Peak
3- BOWMAN	Repeater on Cherry Hill
4- DONNER	Repeater on Donner Peak
5- OREGON	Repeater on Oregon Peak
6- BABBITT	Repeater on Mt. Babbitt
7- TAC 1	Primary Simplex Channel
8- TAC 2	Secondary Simplex Channel
9- CALAW1	State Wide Simplex Channel
10- CALAW2	State Wide Simplex Channel
11- CALCORD	State Wide Simplex Channel (Air to Grnd)
12- STAC RPTR	Repeater on Banner Mtn. (Tactical Only)
13- SAR SGL	Placer Repeater on Signal Peak
14- SAR LINC	Placer Repeater on Mount Lincoln
15- SAR PLUTO	Placer Repeater on Mount Pluto
16- GV TAC	Grass Valley PD Tactical Channel
17- GVPD	Grass Valley PD Primary Channel
18- TRKE TAC3	Truckee PD Tactical Channel
19- TRKE TAC2	Truckee PD Tactical Channel
20- NCSO TAC	Nevada County SO Tactical Channel
21- NSCO ALDR	Nevada County SO Primary Channel on Mount Alder (Truckee)
22- NSCO OREG	Nevada County SO Primary Channel on Mount Oregon (West County)
23- NSCO WOLF	Nevada County SO Primary Channel on Wolf Mountain (South County)
24- TRKE PD	Truckee PD Primary Channel
25- NSCO SGNL	Nevada County SO Primary Channel on Signal Peak (Central County)
26- NSCO BANN	Nevada County SO Primary Channel on Banner Mountain

Radio Transmissions & Systems

- Primarily use SAR Repeater for the area.
- Will use TAC 1 or TAC 2 when line of sight communications is effective.
- Will use the Placer SAR repeaters when our repeaters are ineffective or as a back up.
- Sometimes use searcher as a radio relay to communicate from teams to IC
- If you cannot communicate at all and need to, use NCSO channels to communicate with dispatch as an emergency backup.

Radio Channel Setup - Zones

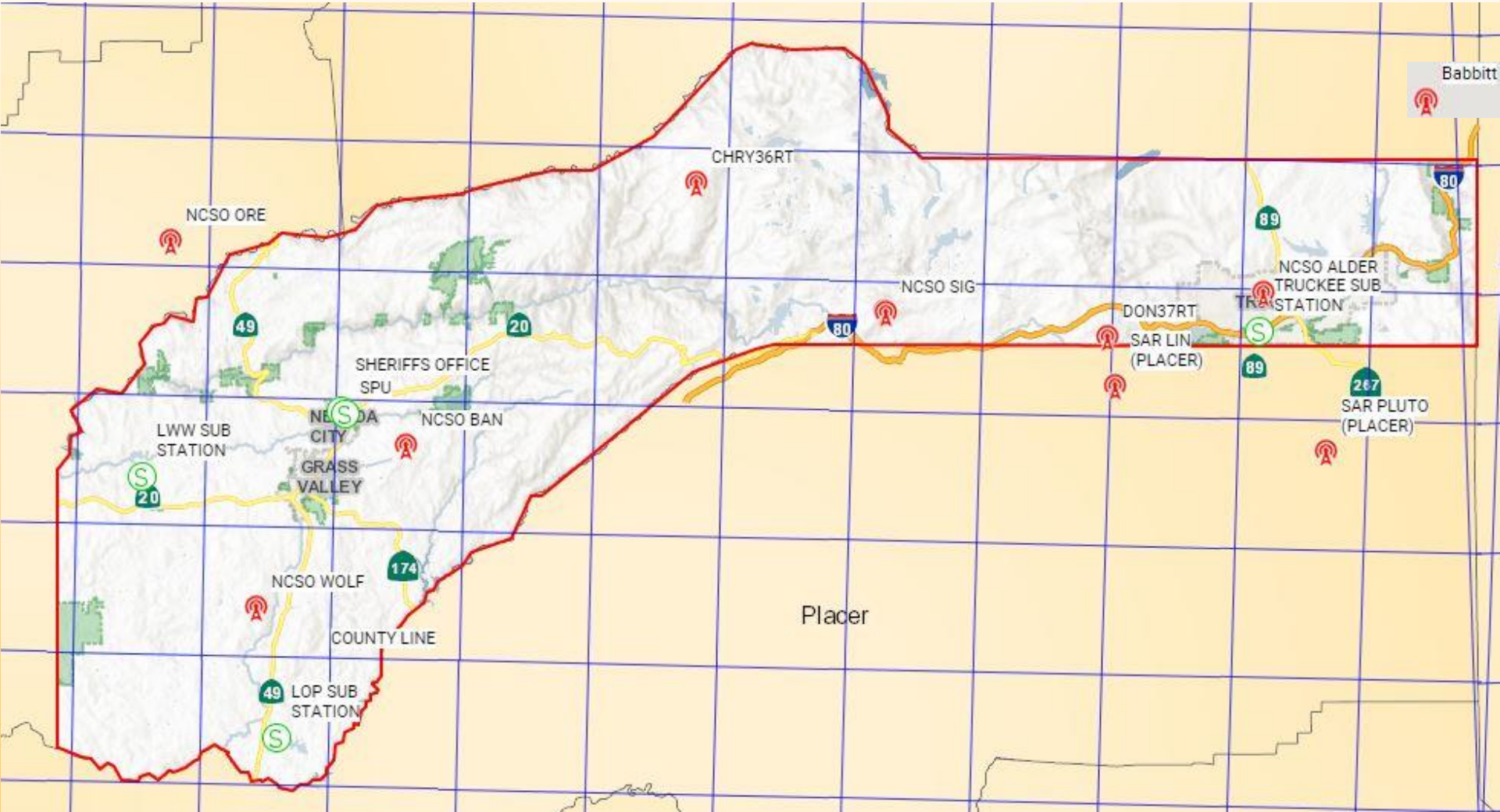
Radio channels have been grouped into 12 Zones to facilitate ease of use.

1. Zone 1(NC) – NCSSAR (Basic SAR Channels) & NCSO (Sheriff's Office Channels)
2. Zone 2(MA) – SARMARS (Mutual Aid Channels)
3. Zone 3(PC) – Placer (Placer County Channels)
4. Zone 4(SC) – Sierra (Sierra County Channels)
5. Zone 5(BC) – Butte (Butte County Channels)
6. Zone 6(FR) – NC Fire (Fire Service Channels)
7. Zone 7(FS) – State/Federal (Other Agency Channels)
8. Zone 8(WX) – Weather (NOA Weather Channels)
9. Zone 9(K9) – CARDA (K9 Agency Channels)
10. Zone 10(HM) – Ham (Amateur Radio Channels)
11. Zone 11(BA) – Banner Communications

SAR Mutual Aid Frequencies
SARMARS

1- VSAR16
2- CALAW 1
3- CALAW 2
4- VLAW 31
5- VLAW 32
6- CALCORD
7- VCALL 10
8- VTAC 11
9- VTAC 36R
10- VTAC 12
11- VTAC 37R
12- VTAC 13
13- VTAC 38R
14- VTAC 14

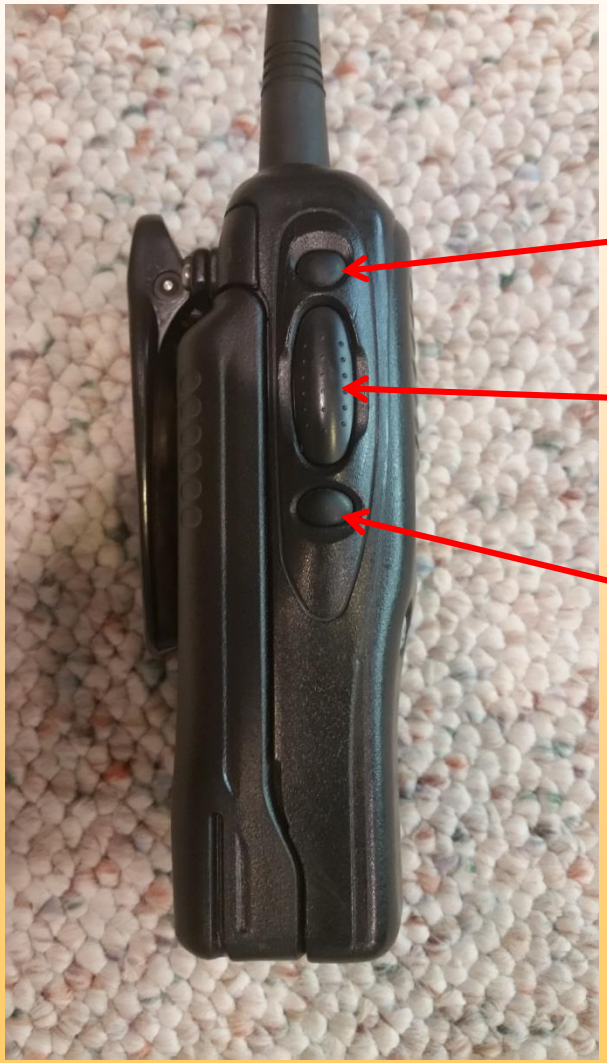
NCSSAR Repeaters



Typical Field Radios

- Kenwood VHF Hand Portable

Typical Field Radios



Programmed Zones

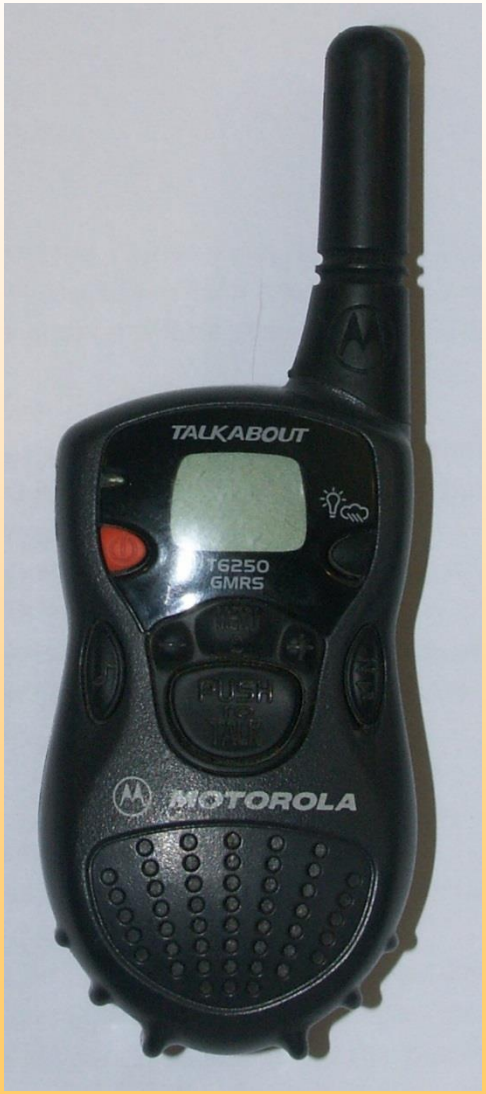
12 Zones

- NCSSAR (NC) - 25
- SARMARS (MA) - 14
- PLACER (PC) - 14
- SIERRA (SC) - 13
- BUTTE (BC) - 4
- NC FIRE (FR) - 18
- FOREST SERVICE (FS) - 27
- WEATHER (WX) - 7
- CARDA (K9) - 3
- HAM (HM) – 8
- BANNER COM (BC) – 1

Zone Control

Typical Team Radios

- Recommend that members acquire a FRS/GMRS Mobile Radio with privacy codes
- Used for intra-team communications



Radio Use

Each team will be assigned 2 radios

- Primary radio will be used for all "Team to IC" and "Team to Team" communications. This radio is equipped with a GPS mike that records your coordinates in IC.
- The second radio is for back up to the primary radio.

Basic Communications Skills

- Listening
- Microphone Techniques
- Brevity & Clarity
- Plain English
- Numbers
- Phonetics
- Ethics
- Procedures

Basic Communications Skills

- Listening
  - At least 50% of communication
  - Focus on your job / tune out distractions
  - Try listening twice as much as you talk

Basic Communications Skills

- Microphone Techniques
  - Hold mic close to cheek ~ 1" away
  - Speak across mic
  - Use normal, calm, clear voice
  - Speak at normal pace
  - Pronounce words carefully
  - Wait one second after keying mic before speaking
  - Always have your brain engaged before keying the mic

Basic Communications Skills

- Brevity & Clarity
  - Think the message through before transmitting
  - Know what you want to say before you say it
  - Say exactly what you mean
  - Communicate one complete subject at a time
  - Don't try and adlib a message

Basic Communications Skills

- Plain English
  - All messages in an emergency should be plain english
  - Refrain from using 10 codes
  - Jargon can cause confusion
  - Avoid words or phrases that carry strong emotions
  - Point out important factors
  - Have the answers available

Basic Communications Skills

- Numbers
  - Numbers are always pronounced individually
  - 14 is spoken "one four", not "fourteen"
  - 789 is spoken "seven eight nine", not "seven hundred eighty nine"
  - Try over-enunciating; One - Wun, Two - Tooo
- UTM Coordinates
  - Coordinates are communicated in a 5 x 5 format
  - 10 S 0671842 by 4344475 would be communicated 71842 by 44475

Basic Communications Skills

- Phonetics
  - Used when words or names might be easily mis-understood
  - Don't use for common words
  - Several different alphabets so use alphabet card previously given to you.

Basic Communications Skills

- Ethics
  - Never use profanity
  - Never use racial slurs or jokes
  - Be kind and courteous no matter how stressed
  - Be aware of what is happening in your area by listening
  - Praise in public, criticize in private
  - Everybody is listening - Be professional

Basic Communications Skills

- Procedures
  - Always check your radio before you use it
  - Make sure it is on the proper channel
  - Do a radio check with command base before leaving base
  - When using, hold radio as high and vertical as possible
  - Wait for a clear channel, minimum of 60 seconds

Basic Communications Skills

- Procedures (continued)
  - Include 3 message elements
    - Identification of unit called, then unit calling
    - Text of message
    - Clearance (unit ? clear) if necessary because of nature of communication the end is not clear

Example Communication

An example of correct radio procedure (Team 3 calling Command Base or IC) to report their position and beginning of their search.

- Team 3: IC, ground team 3
- Command Base: go ahead team 3
- Team 3: beginning search of segment C at coordinates five - nine - three - six – six by four - four - four - seven - two
- Command Base: repeat, beginning search at coordinates five - nine - three - six – six by four - four - four - seven - two
- Team 3: affirmative