ASRC Basic Commo Handbook

Introduction

This document is meant as a general introduction to search communications for field personnel. The ability to communicate effectively directly impacts the speed and effectiveness of a search. If communication is poor, disaster can strike. For instance, the wrong area can be searched, it can take too long for teams to get out in the field, and base can misinterpret clues and other information given from the field. Approximately 1/2 of the equipment on a search is related to communications. It is therefore important to understand how to use this gear for the safety of your team and the subject.

Radio protocol

Radio protocol ensures that everyone is speaking the same language. There will be hundreds of people needing to comminicate on the same radio channel... and hundreds more listening out of curiosity. It is important to keep commincations professional and effective. Most of your communications will be with base (Note that you must first obtain permission from base to contact another team in the field!)

Important: Be clear and concise, take time to THINK first!

Identification

Always identify yourself team when talking over the radio, giving who you are talking to first and your callsign last: BASE, THIS IS TEAM DELTA... It is important to say things in this order because it alerts the person you want to communicate with to listen. Otherwise, the radio operater may not realize the message was directed at him/her until it is half over. The radio only transmits sound, not eye contact or body guestures. It is important to use this protocol to avoid confusion and increased radio traffic.

Also give your callsign when you are finished with your transmissions... TEAM DELTA CLEAR. There will be many teams in the field, often talking at once.

At the beginning of every training, the training officer should identify the license callsign and time. THIS IS WNUF658 conducting search and rescue training at 1830 on DECEMBER 25, 1996. This is a Federal Communications Commission (FCC) regulation that lets listeners know who is transmitting and that they have a right to transmit on that frequency.

Licensed callsigns are issued by the FCC. Rules and regulations regarding radio transmissions are listed on the license located in each radio box. No inappropriate language is permitted. These are grounds for the revoking of the license.

Business License: WNUF658	ASRC License: WPEZ758

Team Callsigns: Each team uses its letter designator as a callsign. TEAM ALPHA, TEAM BRAVO, etc.

Relay Callsigns: A team specifically tasked as a relay will sign RELAY rather than TEAM: RELAY CHARLIE, RELAY DELTA, etc.

Member Callsigns: Each team member signs with his/her function title followed by their team designator: MEDIC ALPHA, RESCUE ALPHA, LEADER ALPHA, etc.

Subteam Callsigns: Each subteam signs its parent letter designator plus a number: CHARLIE ONE, etc.

Phonetic Alphabet

Radio communications can often be distorted by noise or poor reception. In this environment, it can be difficult to discern words and letters that sound very similar (For example "P" and "B") These communications problems become serious when trying to verify tail numbers on a downed aircraft, explaining a clue to base, or giving directions. Therefore, the ASRC uses the Phonetic Alphabet when spelling over the radio.

Phonetic Alphabet

ALFA	JULIET	SIERRA
BRAVO	KILO	TANGO
CHARLIE	LIMA	UNIFORM
DELTA	MIKE	VICTOR
ECHO	NOVEMBER	WHISKEY
FOXTROT	OSCAR	X-RAY
GOLF	PAPA	YANKEE
HOTEL	QUEBEC	ZULU
INDIA	ROMEO	

Numerical Pronunciation

Numbers can be just as garbled as letters over radio transmissions. Therefore, a special protocol also applies to numbers.

Numerical Pronunciation

Numbers are spoken digit by digit except for multiples or 100 or 1000

0 ZE-RO	8 ATE
1 WUN	9 NINER
2 TOO	16 ONE, SIX
3 TREE	20 TWO, ZERO
4 FOW-ER	1800 ONE, EIGHT, HUNDRED
5 FI-YEV	35000 TREE, FIVE, THOUSAND
6 SIX	3664 TREE, SIX, SIX, FOUR
7 SE-VEN	0093 ZERO, ZERO, NINER, THREE

Prowords and Standard Phrases

Because of the many teams in the field and the need to communicate precisely, the ASRC uses standard prowords and phrases. Think of the radio as a party line, there are literally hundreds of people listening, all with a need to understand what is going on and to communicate their own findings and needs to base. You want to talk as little as possible over this crowded line with as much effectiveness as possible. Prowords keep radio traffic down and understanding high.

Commonly Used Prowords and Standard Phrases

THIS IS	Precedes identification
OVER	It is your turn to transmit; I am listening
GO AHEAD	I am ready to receive your message
AFFIRMATIVE	Yes
NEGATIVE	No
STAND BY	Wait a moment
CLEAR	I have no more traffic, but I will be listening
SAY AGAIN	Repeat your previous transmission
I SAY AGAIN	I will repeat what I just said
SAY AGAIN _____	Repeat the indicated specific information
CORRECTION	I have made an error; what follow is correct
PREPARE TO COPY	Write this down. (Wait for GO AHEAD before sending message)
THAT IS CORRECT	I verify that you have received my message correctly
SPELL	Spell out your message with phonetics
STATUS ONE	Subject found; alive and well
STATUS TWO	Subject found; needs evac
STATUS THREE	Subject found; dead
DO NOT add any words, e.g. "status one find" or "status three victim"	
CLEAR THE NET	Stop all radio traffic, I have something very important
SECURE THE NET	Sensitive information about to be said, turn down vol, keep away from press & family
RADIO CHECK	Am I transmitting OK?
READ YOU LOUD & CLEAR	Response if transmission is good. Whoever initiated contact says OUT.

ASSUMPTIONS:
- Assume that everything said on the radio is heard by a reporter.
- Assume that your whole organization's professionalism is judged by your on-the-air demeanor.
- Assume that reporters have not already figured out what status one/two/three mean.
- Assume that your walk-along radio operator will be eaten by a bear, so you have to be capable of operating the radio.
- Don't assume anything else.

Rules and Regulations

FCC (Federal Communications Commission) licenses individuals and groups to broadcast over frequencies. The holder of this license MUST comply with federal regulations or the license may be revoked.

1. A copy of the license must be with each base station!
2. The FCC call sign must be given at least once every 30 minutes by "each station or system". One interpretation of this rule is that the command post can identify for all radios in the system. An identification includes the call sign of the group operating the radios.
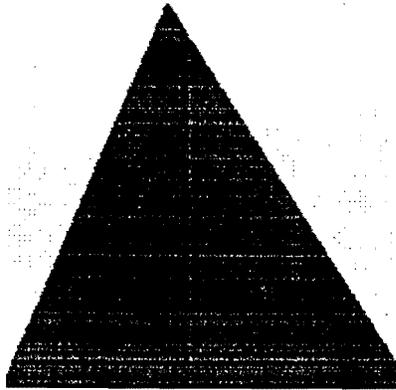
Frequency Overview

Operation

Radio signals travel line-of-sight and looses power with distance.

In this case, Jason would be able to talk to "the other guy" at base holding the radio.

However, if there is a large obstruction in the way (house, car, mountain..) the signal would not get through.

Poor Signal Receiving/Transmitting

There are 5 ways to improve signal reception and transmission:
1. Check the battery! Turn the radio off and then on. If you do not hear an audible beep, the battery may be dead. Replace it with teh spare you are carrying.
2. Check to see that you are transmitting at high power. Base may not be hearing you.
3. If you cannot hear base answer your call, climb to higher elevation.
4. Get a relay from a team closer to base or at a higher elevation.

Equipment Set-up

Cellular Telephones

Additional Resources

GPS

GPS is the Global Positioning System. Receivers can be purchased from $100-$500 at many local outing clubs and distribution centers. The system works by measuring the distance from the until to at least 3 satellites of known position. Most receivers take an average of 10 minutes to determine its location in lat/long or sometimes UTM coordinates. However, this location is scrambled for military concerns and will only be within 30 meters.

GPS is extremely useful for the following:
A second check on land navigation. GPS should _never_ be used as a sole means of location finding! But it is very useful in areas of recent terrain change, night land nav, and for planning purposes in base.

Code	ASRC Def	Really means
000	Disregard Previous Page	Error in page code
100	AO Call this #	Duty Alert Officer call this #
101	Previous Call Handled by	
102	Any Available IC call #	
103	Any ACA call this #	Area Command Authority
105	New Dispatch Phone #	
106	DS call this #	Dispatch
111	Notification of Incident	Notification of local incident
123	TEST Call this #	
222	On alert to respond	We have been alerted, but are not yet to respond
331	Responding Overhead Team	An overhead team is enroute
332	Responding Quick Resp Team	
333	Full callout response	Everyone's help is needed for a local callout
441	Status 1 Find	Victim found alive and well
442	Status 2 Find	Victim found, needs medical attention
443	Status 3 Find	Victim found, dead
444	People enroute, turn around & call dispatch	
445	Incident Suspended	All field units call base, all enroute, return home.
551	Field Base call this #	
552	Dispatch call this #	
553	Enroute PIN call dispatch	Individual (PIN) to call dispatch
554	Group dispatch call conference dispatch	
6xx	PIN call #	
70*	All available * call #	Allows counting of available personnel / resources

* = 0 –> All Group Personnel
   1 –> Alert Officer   For Preston Comm if duty AO doesn't answer
   2 –> OH Team Personnel
   3 –> Ground Personnel
   4 –> Dog Teams
   5 –> Cave Rescue Personnel
   6 –> Dispatcher   To help find new dispatcher

711	Notification - Out of Area	Please call in if available for distant deployment
722	Alert - Out of Area	
733	Respond - Out of Area	Only after you call in
740	Stand-down from previous alert	Releases resources / personnel who were on alert
77 750	Meeting / Training Reminder	Set off about 2 hours before meetings / scheduled training.
799	All field teams contact base	
888	Dispatch has closed	
999	Disaster has occurred	

Format for a page: Code + * + Phone number (if needed) + * + your PIN Number

Example: - entering "111 * 2915820 * 614" Will display "111-2915820-614"
- Which means "Notification of local incident, all available team members, call 291-5820 for mission information and to indicate your availability", and the message was entered by member 614.
- Every page should end with the PIN of the person who entered the page.

Important Telephone Numbers

VA DES (ASRC, ER-NCRC Dispatch)	(804) 674-2400	
AMRG Dispatch (Pittsburgh)	(412) 647-7828	In PA (800) MED-STAT
AMRG Dog Handlers	(412) 772-7837	
SMRG Dispatch (Charlottesville, VA)	(804) 924-3472	
WEMSI Medical Command Physician	(800) 232-5921	
K9 CERT (Local Dog Handlers)	(304) 987-DOGS	(Note, this is a pager number)
Preston Comm Center	(304) 329-1855	Or (304) 329-1611
MARG Pagers	(304) 987-2837	(304) WV SAVES
MARG Voicemail (Announcement)	(304) 987-6274	(304) 987-MARG