Blue Ridge Mountain Rescue Group

Locker Orientation and Communications Training

Instructors:
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October 9, 2002
Course Objectives

- Assemble and operate a handheld radio and a base radio.
- Effectively communicate through either type of radio.
- Identify and pull gear for a search.
- Reshelve gear after a search.

The Locker

What is the “locker”?  

The Locker is the office and storage facility for BRMRG. It is the operational heart of the group. The Locker is made up of four rooms with separate functions:

- **Dispatch Room**: The main room at the Locker that houses all of the stuff you would need to run ASRC and BRMRG Dispatch from the beginning of a search to the end of a search. This room includes BRMRG’s two phones, a computer workstation, the Availability Board, the Dispatching Board, and several different kinds of maps of Virginia and the surrounding states.

- **The Dungeon**: The Dungeon is basically a big closet. Here you can find ASRC mission files for the past decade and beyond, important files for all of the officers, another computer workstation for non-search-critical work (in the event that a search is going on and the Dispatch Room is being used for dispatching), and various odd sorts of things. This is the one room that you shouldn’t be going into for anything related to an ongoing search.

- **Commo Room**: This room is where we store all of the communications equipment that is used at searches. This room’s sole purpose is for the storage of anything necessary to operate communications equipment including radios, antennae, batteries, the mast, base radios, DF’ers, mast supply boxes, and harnesses. Because of the nature of the electronics in this room, we need to keep the room as dry and separated from the rest of the gear as possible.

- **Equipment Room**: As the name implies, this room contains equipment. All of the rest of the group gear that isn’t stored in one of the rooms above is stored here. This includes litters, Ops kits, copiers, cell phones, ropes, flagging tape, etc. You get the idea. You will almost certainly need to know where stuff is in this room so that you can effectively mobilize for a search.

It is very important to know where to find gear and equipment during searches, especially the beginning of the search so pay particular attention to where things are located as we go through the Locker.

Why so much gear?
Geez Louise!! Look at all this cool stuff!! It's a smorgasbord of SAR gear!! So why do we need all this stuff? More gear enables us to be more versatile if there are multiple searches in a given time period. There are three types of gear:

- **First-Run:** This is the gear that should be in the first vehicles going to a search. This includes a map bag, an Ops kit, a copier, radios, the mast, etc.
- **Second-Run:** This is the gear that can be sent to a single search if there is a need for more gear OR more importantly, this is the gear that should be in the first vehicles going to A SECOND SEARCH that starts. The second-run gear is almost an exact copy of the first-run gear (with a few exceptions) so that if another search starts, we have the capability to send our gear to that search as well.
- **Offline:** There are really two types of offline: temporarily offline and permanently offline. Any gear that is on the floor in the middle of the Equipment Room or the Commo Room is considered temporarily offline until an Equipment or Operations Officer can check the gear out and get it ready for search operations again. Once gear has been restored to operational readiness, it is placed back on the shelves. Any gear with one or more strips of black electrical tape on it is considered permanently offline. NEVER take gear to a search that has black tape on it, or that you otherwise know is permanently offline. Gear is put permanently offline if it is considered a safety hazard to be used for its intended purpose (i.e. carabiners, ropes, old litters, etc.).

When taking equipment for use at a search or at a training, make sure you SIGN OUT the equipment in the binder on the table in the Equipment Room, including radios. This equipment must then be SIGNED IN again when you bring it back to the Locker. There is a list of all first-run and second-run gear on the whiteboard closest to the door in the Equipment Room. Refer to this list to know what needs to go when you are grabbing gear for a search (you should also check items off on the whiteboard as they get loaded into vehicles).

- **How do I know which maps, ropes, and technical gear to pull?**

Some of the gear in the Equipment Room is organized specially, and takes more than just intuition and common sense to figure out. The maps, ropes, and technical gear each have different organization systems, and each is explained below:

- **Maps:** BRMRG has topographic maps for the entire state of Virginia. To pull the maps for a certain area, check the map of Virginia above the map drawers for the numbers of the regions that you want maps for. Then, find the numbered files in the drawers that match the numbers of the regions. These entire files can and should be removed for a search. In fact, for any given search in a given area, you should grab the 9 files that correspond to the surrounding area (one for the
region that contains the likely search area, and eight for the regions around it. Put all of these files in a single map bag to take to the search (and don’t forget the map board!!).

- **Ropes:** BRMRG has a working system of 10 different ropes that we use for a variety of circumstances. Some ropes are for training, some for missions; some are for vertical work, some for semi-technical work; some ropes are dynamic, and some ropes are static. There is a whiteboard at the far end of the Equipment Room for quick reference that explains the uses for each rope. Make sure you grab the right rope bag for the right situation. Here is the same reference chart:

  Rope 1 — Mission only, static  
  Rope 2 — Mission only, static  
  Rope 3 — Mission only, dynamic  
  Rope 4 — Vertical training, static  
  Rope 5 — Vertical training, static  
  Rope 6 — Vertical training, static  
  Rope 7 — Vertical training, static  
  Rope 8 — Semi-technical training, static  
  Rope 9 — Semi-technical training, static  
  Rope 10 — Training, dynamic

- **Technical Gear:** When you grab ropes, usually you need the rest of the technical gear to properly use the ropes (i.e. carabiners, webbing, anchors, pulleys, etc.) There are three large packs with different sets of gear in them, that should only be used in certain circumstances (just like the different ropes). These packs are organized by color:

  Red Pack — Training only (S/T or Vertical)  
  Green Pack — Vertical gear only (Mission or Training)  
  Blue Pack — Semi-technical Mission only

Please note!! ALWAYS take helmets when you plan on doing ANY semi-technical or technical work regardless of whether it’s training or a mission!!

**What do I do when I bring back gear from a search/training?**

Simple. Leave it on the floor of the room that it belongs in, because it needs to be temporarily offline until it can be checked and made ready for use again. DO NOT RESHELVE gear without having it checked first!! If you have some gear that is permanently damaged (i.e. dropped carabiner, shredded rope, etc.) please mark it with BLACK TAPE and notify the appropriate officer.
BRMRG
Communications Training

Why are communications soooooo important?

- Understanding

Different ways to communicate at a search:
- radios
- talking
- whistles
- hand signals
- cellular phone

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

Rules and Regulations
FCC (Federal Communications Commission)
They license individuals and groups to broadcast over frequencies. The FCC can listen in and record broadcasts... so can your regular Joe... It is possible to lose our license if we don’t adhere to the regulations, and that would have a mama of an impact on searches.

What ya can’t do:

1. Brand names

2. Profanity

3. Singing

What ya can do:
Be professional and concise. Think of the transmissions as being on a party line
Anything goes in an emergency...

status: McDonalds

Ahm... I think I’ll have another Happy Meal
Equipment

Hand-held Radios
You will have the most contact with this equipment. Very expensive! Use harnesses and ziplock bags (when raining).

Assembly: A-B-C
A: Antenna
B: Battery
C: Channel

Channels/Frequencies
These are located in boxes, and on radios themselves. keep away from press!

These are frequencies which you should know:

<table>
<thead>
<tr>
<th>Call sign</th>
<th>Channel</th>
<th>Frequency (MHz)</th>
<th>Designator</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPEZ758</td>
<td>1</td>
<td>155.160</td>
<td>Alpha</td>
</tr>
<tr>
<td>WNUF458</td>
<td>11</td>
<td>151.625</td>
<td>Lima (Business)</td>
</tr>
</tbody>
</table>

How Radios work...

Line-of-sight

MUST BE ON SAME FREQUENCY

KEEP AWAY FROM EYES

CHANNELS "HOLD" FREQUENCIES
What if?

Not receiving
1. Check A-B-C (antenna, battery, channel)
2. Signal may be getting blocked

Solutions

Not transmitting
Same as above
Make sure you are in H168T power

Repeater
Receives on one frequency, Transmits on another

Mag Mount
-use adapter in case for ICOMs

Cell Phone (extra battery)
-recharge upon return to locker

Assembly of base radios
See sheets inside of cases. Assembly is color coded traffic-light style: Green means Go.
BRO (Base Radio Operator) responsibilities:
- assigning radios/batts
- logs
- recharging spent batts
- USED stickers

Assembly of Mast

Handy-dandy chart:

<table>
<thead>
<tr>
<th>Antenna</th>
<th>Steel</th>
<th>Spaghetti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog's East</td>
<td>First Run w/attachment</td>
<td>X</td>
</tr>
<tr>
<td>Sword</td>
<td>with attachment</td>
<td>First Run</td>
</tr>
<tr>
<td>MagMount</td>
<td>with attachment</td>
<td>with attachment</td>
</tr>
</tbody>
</table>

STEP 1:
Lay out mast & connect

STEP 2:
Attach antenna & coax

STEP 3:
Attach guide lines

STEP 4:
Work mast up & onto spike
"Walk it" w/ people also on lines

STEP 5:
Person in charge guides direction to position mast

ALTERNATIVE SET-UP FOR SPAGHETTI MAST
(for non-conformists)

RAISE UPWARD- ADDING PIECES AS YOU GO.

TOP VIEW

Guidelines in Triangular Fashion

prepared by: Lauren Schiff 10/4/95
APPALACHIAN SEARCH AND RESCUE CONFERENCE RADIO SOP CRIB SHEET
For Internal ASRC Use Only

IDENTIFICATION:
- Each transmission identifies the call sign of who is being called, followed by who is calling.
  "BASE, this is TEAM DELTA.......
- The last transmission between stations is sent by the station that initiated the traffic and ends with that station's call sign.
  ".......TEAM DELTA clear."
- Base announces the time & license call sign on each half hour. In convoys, the LEADER also announces the call sign at least every 30 minutes. When no COMCTR (base) is operating or no mobile station has been designated LEADER, and always on CB, individual stations must use the license call sign at the beginning and end of each transmission.

CALLSIGNS:
- License Call signs – VHF FM: KA81942 CB: KIU0954
- Tactical call signs are issued by the CO or DO on a functional basis. The COMCTR is BASE; the lead vehicle in a convoy is LEADER; the DO is DISPATCH preceded by a Group name (i.e. "BLUERIDGE DISPATCH").
- Each field team uses its letter designator: "TEAM ALFA, TEAM BRAVO, etc". A team specifically tasked as a relay will identify as RELAY rather than TEAM: "RELAY ALFA, RELAY BRAVO, etc".
- Team members identify by their functional titles followed by the team designator: "LEADER ALFA, RESCUE ALFA, MEDIC ALFA, RADIO ALFA, DRIVER ALFA, etc". Each sub-team (or incidental radio operator) identifies as a parent letter designator plus a number: "CHARLIE ONE, etc". Other intra-team call signs are also by function: "LEFT WING, BRAKE, etc."
- Staff identify by title: "MISSION COORDINATOR, etc".

International Telecommunications Unit (ITU) Phonetic Alphabet and Numeric Pronunciation

<table>
<thead>
<tr>
<th>A</th>
<th>Alpha*</th>
<th>K</th>
<th>Kilo</th>
<th>U</th>
<th>Uniform</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Bravo</td>
<td>L</td>
<td>Lima</td>
<td>V</td>
<td>Victor</td>
</tr>
<tr>
<td>C</td>
<td>Charlie</td>
<td>M</td>
<td>Mike</td>
<td>W</td>
<td>Whiskey</td>
</tr>
<tr>
<td>D</td>
<td>Delta</td>
<td>N</td>
<td>November</td>
<td>X</td>
<td>X-Ray*</td>
</tr>
<tr>
<td>E</td>
<td>Echo</td>
<td>O</td>
<td>Oscar</td>
<td>Y</td>
<td>Yankee</td>
</tr>
<tr>
<td>F</td>
<td>Foxtrot</td>
<td>P</td>
<td>Papa</td>
<td>Z</td>
<td>Zulu</td>
</tr>
<tr>
<td>G</td>
<td>Golf</td>
<td>Q</td>
<td>Quebec</td>
<td>S</td>
<td>Sierra</td>
</tr>
<tr>
<td>H</td>
<td>Hotel</td>
<td>R</td>
<td>Romeo</td>
<td>T</td>
<td>Tango</td>
</tr>
<tr>
<td>I</td>
<td>India</td>
<td>S</td>
<td>Sierra</td>
<td>U</td>
<td>Uniform</td>
</tr>
<tr>
<td>J</td>
<td>Juliett*</td>
<td>T</td>
<td>Tango</td>
<td>W</td>
<td>Whiskey</td>
</tr>
</tbody>
</table>

EXAMPLES
1 (WUN) 2 (TOO) 3 (TREE) 4 (POW) 5 (FIFE) 6 (SIX) 7 (SEV) 8 (AIF) 9 (NIN) 0 (ZER)

Commonly Used Prowords and Standard Phrases

<table>
<thead>
<tr>
<th>THIS IS</th>
<th>PREPARE TO COPY</th>
<th>WRITE DOWN (Wait for GO AHEAD before sending message.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVER</td>
<td>READ BACK</td>
<td>For verification, read the message I just sent you.</td>
</tr>
<tr>
<td>GO AHEAD</td>
<td>I READ BACK</td>
<td>I am reading back your message for verification.</td>
</tr>
<tr>
<td>ROGER</td>
<td>THAT IS CORRECT</td>
<td>I verify that you have received or relayed my message correctly.</td>
</tr>
<tr>
<td>AFFIRMATIVE</td>
<td>Yes.</td>
<td>SPELL</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>No.</td>
<td>SPELL____</td>
</tr>
<tr>
<td>STAND BY</td>
<td>I SPELL</td>
<td>A phonetic spelling follows.</td>
</tr>
<tr>
<td>CLEAR*</td>
<td>FIGURE(S)</td>
<td>Numerals and letters follow which do not spell words.</td>
</tr>
<tr>
<td>OUT*</td>
<td>SECURE THE NET</td>
<td>Protect following radio traffic. Sensitive information to follow.</td>
</tr>
<tr>
<td>SAY AGAIN</td>
<td>CLEAR THE NET</td>
<td>All stations cease transmission. Priority traffic to follow.</td>
</tr>
<tr>
<td>I SAY AGAIN</td>
<td>STATUS ONE</td>
<td>Subject found; alive and well.</td>
</tr>
<tr>
<td>SAY AGAIN</td>
<td>STATUS TWO</td>
<td>Subject found; alive, needs evacuation.</td>
</tr>
<tr>
<td>CORRECTION</td>
<td>STATUS THREE</td>
<td>Subject found; dead.</td>
</tr>
</tbody>
</table>

ASRC radio equipment is to be used only during missions and bona fide training operations. All other use is unauthorized. Adjustment and testing (except for brief readiness tests) may be carried out only by FCC licensed technicians authorized by the ASRC Communications Subcommittee.
**Audible and Visual Signals**

*Visual signals require contrast – Watch your background*

<table>
<thead>
<tr>
<th>Message</th>
<th>Whistle/Light/Voice</th>
<th>Hands/Flags/Lights</th>
<th>Ground-to-Air Signals</th>
</tr>
</thead>
<tbody>
<tr>
<td>TROUBLE HELP</td>
<td>HELP HELP HELP</td>
<td>(Obvious attention getter)</td>
<td>X</td>
</tr>
<tr>
<td>STATUS ONE (Subject found alive and well)</td>
<td>HEEEEE ONE</td>
<td>Don’t Cross</td>
<td>II</td>
</tr>
<tr>
<td>STATUS TWO (Subject found needs evac)</td>
<td>HEEEEE TWO TWO</td>
<td>(Similar to TROUBLE)</td>
<td>K</td>
</tr>
<tr>
<td>STATUS THREE (Subject found dead)</td>
<td>HEEEEE 3 3 3</td>
<td>Cross and Uncross</td>
<td>LY</td>
</tr>
<tr>
<td>COME TO ME (or Send a Rescue Team)</td>
<td>COME HEEERE</td>
<td>(Roll)</td>
<td>LL</td>
</tr>
<tr>
<td>DON’T COME TO ME (or Don’t Send a Rescue Team)</td>
<td>DON’T COME HEEERE</td>
<td>(Wave away)</td>
<td>N</td>
</tr>
<tr>
<td>AFFIRMATIVE</td>
<td>(‘C’ in Morse Code)</td>
<td>(Nodding)</td>
<td>A</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>(‘N’ in Morse Code)</td>
<td>(Shaking)</td>
<td>L</td>
</tr>
</tbody>
</table>

**Ground-to-Air Signals**

- **X**: Unable to Proceed
- **II**: Require Medicine
- **K**: Indicate Direction
- **TM**: Am Proceeding In this Direction
- **Δ**: Safe to Land Here
- **LL**: All is Well
- **N**: Negative
- **Y**: Affirmative
- **L**: Not Understood
- **A**: Require Map and Compass
- **L**: Require Commo Equipment
- **A**: Affirmative

**Signal Mirror Use**

- **Line up EYE, MIRROR, THUMB, and TARGET. Flash light from SUN & MIRROR on thumb to hit target**

**Morse Code**

<table>
<thead>
<tr>
<th>ALFA</th>
<th>JULIET</th>
<th>SIERRA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAVO</td>
<td>KILO</td>
<td>TANGO</td>
<td>2</td>
</tr>
<tr>
<td>CHARLIE</td>
<td>LIMA</td>
<td>UNIFORM</td>
<td>3</td>
</tr>
<tr>
<td>DELTA</td>
<td>MIKE</td>
<td>VICTOR</td>
<td>4</td>
</tr>
<tr>
<td>ECHO</td>
<td>NOVEMBER</td>
<td>WHISKEY</td>
<td>5</td>
</tr>
<tr>
<td>FOXTROT</td>
<td>OSCAR</td>
<td>X-RAY</td>
<td>6</td>
</tr>
<tr>
<td>GOLF</td>
<td>PAPA</td>
<td>YANKEE</td>
<td>7</td>
</tr>
<tr>
<td>HOTEL</td>
<td>QUEBEC</td>
<td>ZULU</td>
<td>8</td>
</tr>
<tr>
<td>INDIA</td>
<td>ROMEO</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Light Signals: Use a hand over the source as a shutter; short burst of light is a dot, long burst of light is a dash.

Wigwag (Flags): A flag to the SENDER’S right is a dot, to the left is a dash.

*SEND SLOWLY*