HARDROCK 100

COMMUNICATOR'S MANUAL

This is a communications specific manual, please look at the general volunteer manual for more information regarding aid station protocol.
https://bit.ly/HRHRunnersManual

This manual as well as the Aid Station Volunteer and Runners' Manuals and other information are available at: www.hardrock100.com

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INFORMATION FOR RADIO OPERATORS

GENERAL

1. **Safety** - Your personal safety is most important.
2. Aid station operators should be prepared for any weather and are **strongly urged to buy the Colorado Outdoor Recreation Search and Rescue (CORSAR) Card.** It costs only a few dollars and covers the cost of search, rescue, and evacuation should you become lost or injured. They can be purchased [online via Colorado Parks and Wildlife](#). A valid Colorado hunting or fishing license provides the same coverage.)
3. If thunderstorms approach, take appropriate cover.
4. **Self Sufficient -** You should be prepared to be self sufficient, "self contained".   This means you need to bring your own: radio equipment, clothing, food and if you're staying overnight in an aid station, your own sleeping equipment and tent.   **Do not expect or depend on assistance from others**.
5. **The Environment** - The terrain is especially fragile at high elevations.   Please be careful to minimize impact.
6. **Aid Station Operators** – We recommend you contact your aid station's captain before the run to coordinate travel to the station.   Names, phone numbers and/or email addresses may be obtained from Brad Bishop at [bradREMOVE@hardrock100.com](#) .
7. Comm Aid Station Packets will be given to you either at the 2pm briefing on Thursday or will be sent with the aid station supplies. Items in the packet include a supply of runner log sheets, an opening comm station sheet and a list of runners
8. Don't forget a watch set as accurately as possible. Bring: pencils, flashlight, and something to write on such as a clipboard and scratch paper.
9. The noise level at busy aid stations can sometimes make it difficult to hear radio communications. A headphone for your radio may be helpful.

FRS / GMRS RADIOS

If you have FRS or GMRS radios, bring them.   In the aid stations, you could use up to three (3).   It has been suggested to send an aid station volunteer out a distance down the trail and then have them radio in runner's numbers.   Then have the second radio with the comm personnel, the third with the aid station volunteers.   This way the aid station can be prepared for runners, by numbers before they arrive at the aid station.

OpenSplitTime (OST) Thanks to all the hard work from our own Mark Oveson, most aid stations can use a Starlink satellite internet system to directly enter times into the online [OpenSplitTime](#) system. We will have a few Starlink systems around the course, including some that will leapfrog from early to later aid stations. If your aid station does not have a Starlink, you will either be radioing your runner data to HQ or to another aid station that does have a Starlink; stay tuned for the latest information closer to the run.

REPEATERS - There is substantial battery and solar panel capacity at both the Kendall Mtn and Engineer Pass repeaters. While this capacity is more than sufficient for normal use, we know from past experience that the volume of Hardrock traffic taxes the entire system.   If we have a string of cloudy days, the solar panels will not recharge the batteries. With this in mind we must be diligent about keeping communications as **brief and concise** as possible and handle only essential communications.

RADIO PROTOCOLS

1. Use frequencies listed in this manual unless directed to do otherwise by Silverton HQ.
2. Headquarters in Silverton is **NET CONTROL**.   All traffic should be directed to Silverton.   Ask permission to talk to others besides Silverton. Do not have side conversations on run frequencies.
3. LISTEN before you transmit.
4. Some stations are transmitting via a linked repeater - in these instances it is important to key your mic, wait 1-2 seconds, then talk. If not, the front end of your message is cut off.
5. THINK before you transmit.   Know what you're going to say.
6. Use tactical calls
    a. For example: "Silverton, Engineer"
    b. Wait for acknowledgment "Go ahead Engineer"
    c. At the end of your transmission close using your call:
        i. For example: "Engineer clear, W3GEY"   Or "Silverton copies, KC0LFF"

7. Don't worry about getting all the runners times in at the stations before or after yours. If you can catch them as you monitor that is fine, however, due to battery and voice traffic concerns please do not call Silverton to ascertain whether a runner has made it to the next, or left the previous aid station, etc. unless you have a concern about any particular runner, in which case, please let HQ know so they can investigate.
8. Silverton HQ may be busy with another transmission when you call, and will respond asap with a "Stand by…" When Silverton HQ is ready for you they will call to let you know.
9. Silverton HQ will keep track of missing/late runners and will alert stations as needed.
10. Silverton HQ will periodically update all stations regarding drops.
11. Keep transmissions short and to the point, no extra talking please.
12. DO communicate problems and issues to Headquarters in Silverton.
    a. Run Director, Dale Garland, has final authority.
13. Traffic is prioritized in the following order:
    a. Injured runner, need medical help, evacuation, etc.
    b. QSO regarding a runner status - (i.e. HQ has broadcast that a runner is late to an aid station and you have contact with the runner - this is important because there have been times when search and rescue have either been called out or are poised to go out so the sooner we can call them off the better.)
    c. Runner times in/out
    d. Aid station needs - response to this will depend upon how busy other transmissions are and availability of the aid station coordinator to respond.
14. Radio traffic is NOT to be used for inquiries by crews, spouses, etc. to ascertain runner location -this information is on the OpenSplitTime website.
15. Radio traffic is NOT to be used by runners to contact crew, spouses, etc.   Runners are responsible for setting contact places, times with crews in advance of the run.
16. Aid station captains and radio personnel may request special circumstance reporting when ABSOLUTELY necessary.
17. Be prepared for darkness, cold, inclement weather and poor RF links.
18. REPEATER TIMEOUTS: Be aware of the timeout limits of the various repeaters
19. **STAY BY YOUR RADIO AND LISTEN**:   Your comm station should be manned while your aid station is opened.   Report to Silverton when your station will be un-manned for more than a few minutes.   If you are a lone radio op at an aid station plan on leaving your radio on if you are taking a break (nap) and have aid station personnel wake you if Silverton calls you.
20. At least one Ham radio operator and one Aid Station Volunteer needs to **REMAIN AT THE AID STATION UNTIL RELEASED** by Silverton. Silverton will release aid stations after all runners are confirmed to have arrived at the next aid station.

COMM STATION OPENING

1. Set up and open your Comm station well before the aid station opening time.

2. Test, confirm the RF link.
   o Check in with Silverton HQ when you are set up and again when you open your station

3. Be prepared to copy from Headquarters:
   o Additions to runners list.
   o Deletions from runners list.
   o Runners who have dropped.
   o Time first runner left previous station
   o Count of runners between your station and the previous station

LOGGING PROTOCOLS
1. Log runners' times out from the previous aid station as you are able to hear them
   o Silverton will NOT provide this in separate communiqué
2. Log runners' times into your aid station.
3. Log runners' times out of your aid station.
4. Log pacers in or out for each runner with a pacer
5. Log runners' times into the next aid station as you are able to hear them
   o Again, Silverton will NOT provide this in a separate communiqué

AID STATION LOGGING FORM

Aid Station Date MilitaryTime By

Count   Runner #   Time In   Time Out   PI PO   DO   Rptd Comments

Aid Station - Fill in aid station name
Date   - Fill in
MilitaryTime - Fill in
By -   Enter your call sign

Count: The total consecutive count of runners logged.
Runner #: Runners' number
Time In: In time for runner for your aid station
Time Out: Out time for runner for your aid station
PI: Pacer In: Check (√) for pacer with a runner leave untouched for a runner alone
PO: Pacer Out: Check (√) for pacer with a runner leave untouched for a runner alone
DO: Check (√) if the runner has dropped
Rptd: Check (√) when reported to and confirmed by Hqters
Comments: list any additional comments regarding the runner here. (i.e. left at 1022, returned and dropped at 11:15)

Return all logs to headquarters after your aid station closes.

REPORTING RUNNER TIMES - PROTOCOLS

Data to be Transmitted - The data to be transmitted is: **runner number, in time, and out time**.   If a runner has a pacer, that should be sent with the in or out time.   **BE SURE TO TELL HEADQUARTERS IF A RUNNER DROPS OUT OR IF THERE IS CONCERN ABOUT A RUNNER'S CONDITION**.

1. Report runner times to headquarters when there is a break in the action.

2. Report in a timely manner so that the people at HQ can log information into OpenSplitTime. That site and data provides "near real-time" updates on runner status for public consumption.

3. Radio runners' numbers in groups of 5 or less, breaking between sets of five
    o For example:
        - "Silverton, Animas"
        - (Silverton) "Go ahead Animas."
        - (Animas) "I have 14 runners to report"
        - "Runner 45, in eleven, oh, eight, out at twelve, fourteen, pacer in, pacer out"
        - "Runner 72, in eleven, oh, nine, out eleven, forty-five"
        - "Runner 110, eleven, twenty-one, eleven, fifty-six"
        - "Runner 23, eleven thirty-one, twelve, oh-one"
        - "Runner 36, eleven three-three, dropped at Animas.
        - "Break" (pause a couple of seconds)
        - (Silverton)   "QSL, continue"
        - (Animas) (continues with 5 more runner times)
4. When transmitting runner in/out times use **MILITARY TIME**
        - 6 AM is written 06:00 and pronounced: "Oh six hundred."
        - 2:12 PM is written 14:12 and pronounced: "Fourteen twelve."

HEADQUARTERS SPECIFIC INFORMATION

Log in duplicate when possible.   In other words, have two ops listening for incoming traffic and both independently logging. (Back-up logger should use legal pad or official form marked backup). Use a single sheet for each QSO, for each group of times coming in from an aid station.

HEADQUARTERS LOGGING FORM

Date Military Time # By Aid Station Names
Compu   Runner #   Time In   Time Out   PI   PO   DO   Comments
Date: Fill in
Military time: Fill in at beginning of transmission
Number all sheets from 1 to ? as they are used.   You will probably not use all spaces on all sheets since different stations will be reporting and must be on separate sheets
By: Enter your call sign
Aid Station: Circle the name of the aid station reporting.
Put ONLY information from one aid station on a sheet
Compu: Checked when information is loaded into the computer
Runner #: Enter bib number of runner
Time In: In time for runner as reported by aid station
Out: Out time for runner as reported by aid station
PI: Pacer In: Check (✓) for pacer with a runner leave untouched for a runner alone
PO: Pacer Out: Check (✓) for pacer with a runner leave untouched for a runner alone
DO: Check (✓) if the runner (or pacer) has dropped out at this aid station
Comments: list any pertinent comments about runner

1. After each QSO, place the log sheet in the "In Box" for computer operator.

2. The computer op logs the information into OST.Remember to check the **Compu**(ter) box for each contact logged.

3. After computer entry place sheets into their appropriate aid station folder.

OTHER HEADQUARTERS INFORMATION

1. Keep the runner drop list up to date.

2. **All requests for search and rescue or other emergency action from the aid stations must be referred to the run director, Dale Garland, or his deputy for action. Shauna and/or Steve should be notified immediately as well.**

3. HQ is the authority for releasing aid stations. Do not release an aid station until all runners have reached the next station unless instructed to do so by HQ. When you release an aid station please note on the aid station release log and include your name/callsign/aid station/ and the day/time the aid station was released.
If you have a question about whether an aid station should be released or not please talk to Shauna or Steve.

4. Only authorized personnel, including comm personnel, the run director, aid station director, medical personnel should be in the comm. room at HQ. Too many people and too much noise jeopardize the communications accuracy.

5. Finish Times must be recorded on the Finish Log Sheet and input OpenSplitTime.