Once a rocket enters the transonic regime (~Mach 0.8) a barometric altimeter begins reporting junk data, making it useless for determining the true speed of a rocket. An accelerometer-based altimeter suffers no such limit, provided that its acceleration limit is not exceeded by the launch.

The Raven3 by Featherweight www.featherweightaltimeters.com/ is a compact, accurate commercial rocketry flight computer that has a ±70G accelerometer built in. This should be more than enough for most rocket designs this competition. As a result, it has been selected as the official data-logger for this competition. Unfortunately Raven3's are currently out of production (but Raven4 altimeters should be available soon). The competition organizers will lend out Raven3 altimeters at the competition to teams that don't own one.

A schematic for mounting the Raven3 is shown below at right. The Raven3 is mounted to a sled by two 2-56 screws, with holes located at the positions shown. All dimensions are in inches. The screw terminals for power and ejection charges are located at the bottom end of the schematic. Note: the Raven3 must be mounted with its long axis aligned with the axis of the rocket. Read more, and get free software to run a Raven3, at the link given above.
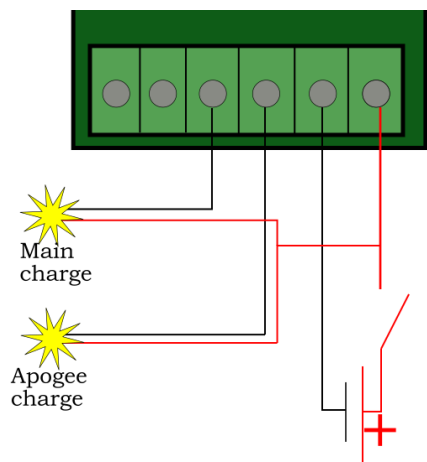
The Raven3 has a slightly-unexpected system for connecting ejection charges, as shown in the wiring diagram at left. One side of each ejection charge is wired to the positive terminal of the battery and the other end goes to the deployment channel. The Raven3 holds each channel "high" then pulls it "low" (i.e. to ground) to fire a charge.

Raven3's can take batteries ranging from single cell LiPos (3.7V nominal) to 9V batteries (Duracell coppertops recommended, due to their spot-welded construction).