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- The Durand Antenna system has been recently upgraded. To date, the following have been done:
  - Tower was shortened to protect against higher wind loads
  - New location allows for increased visibility

The larger antenna operates in the 144 MHz range. This allows SSDL to receive Automatic Position Reporting System (APRS) packets. The APRS packets received from our high-altitude balloons allow SSDL to track their position. With additional software, the ground station team can take their current position and predict a landing site.

SatTrack is a Linux-based program that takes a satellite’s Keplerian orbital elements and the ground station location as inputs. Using those, it predicts the time for the next several passes, as well as the azimuth and elevation throughout the pass.

The educational mission of SSDL is to train students in all aspects of system design, through the entire life-cycle of a project. Students design, build, and operate vehicles such as rovers, high-altitude balloons, and small satellites.

Students communicate with their missions via the SSDL Ground Station Network. We have an operational station at the Durand Building, and are currently constructing another station in the Dish area. The next addition will be located in Fairbanks, Alaska, and we are partnering with other around the world to build a global ground station network.

During special operations periods, mobile ground stations are deployed. During balloon launches, a large mobile station is sent to the launch area, and a smaller station is set up on Durand.

This poster shows the facilities and software of the ground station, and the projects that it tracks.

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