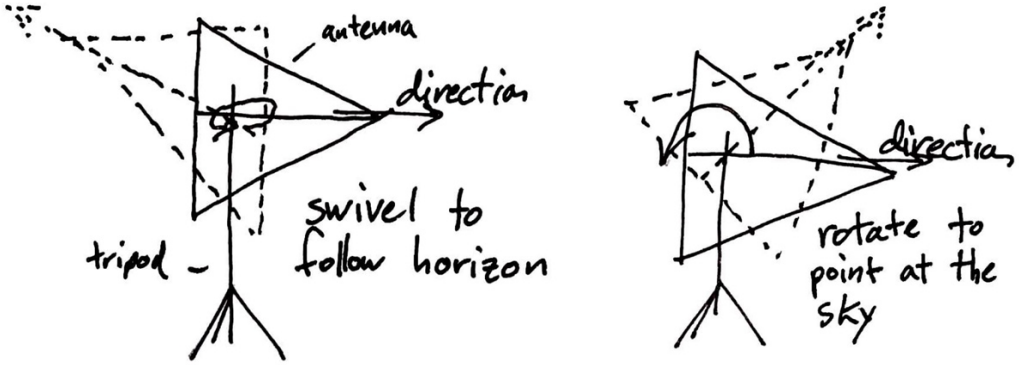
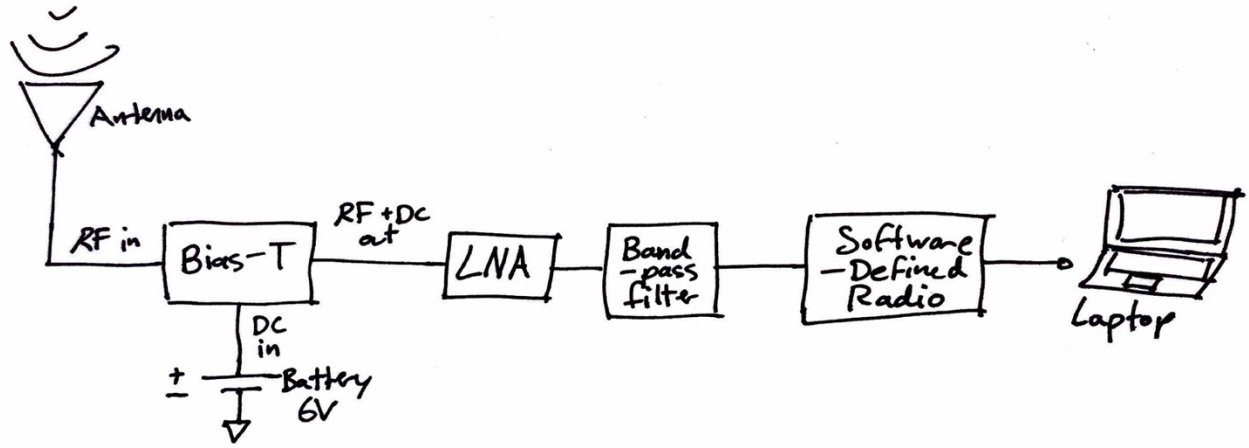
# CUSLI Ground Station Specifications

The largest and heaviest parts of the station will consist of an antenna, tripod, and a box of RF equipment. The most important aspect of the ground station is mobility, as it is unlikely that we will find a permanent place for it in the city, let alone at cooper, that consistently has a good signal. We also need to be able to point the antenna at our satellite to save on power, and if reasonable, this should be done automatically through tracking and/or a pre-programmed estimate of the flight path. A bonus would be an automatic height adjustment of the tripod.

The tripod weighs 6.5 pounds which can hold up to 66 pounds, and our antenna weighs 6 pounds. We want the antenna to be able to fully swivel around the tripod's vertical axis, and the antenna should rotate over the tripod's horizontal axis at least 180 degrees. The rotation parameters are quite flexible, so feel free to contact us about limitations (I am an EE with no ME knowledge). It is unlikely we will need to automatically raise or lower the tripod, but it is a welcome modification.




As for the RF box, we already have a protective container for most of our equipment (I am not sure about the net weight, but the box weighs 6.5 pounds and will be accompanied by a heavy lead-acid battery). There will be a cable coming out of the antenna into the RF box, as well as a cable coming out into a computer. It would be convenient to be able to mount this box to the tripod, however in the chance of sudden rain it needs to quickly detach to protect the expensive equipment inside.



Tripod: https://mfjenterprises.com/products/mfj-1918ex

Antenna: https://www.dxengineering.com/parts/cae-clp-5130-2n#overview
Specs: https://static.dxengineering.com/global/images/instructions/cae-clp-5130-2n_oh.pdf?_gl=1*1w87xpy*_ga*NzIwNDAwMjYyLjE3MDAyMzk1OTc.*_ga_NZB590FMHY*MTcwMDI1NjAxMS4zLjEuMTcwMDI1OTQzOS42MC4wLjA.

RF Box:
https://www.mouser.com/ProductDetail/SERPAC/SE520FBK?qs=GWr7qGobaGOQzPZtaAd5QQ%3D%3D