

# Swapped sonics and other problems at v07

Around 2017-06-03,14:00 UTC, Isabel and I visited v07 to attempt to replace the flaky RMYoung in port 1 with a less flaky RMYoung. We were able to use a ladder to reach the 4m boom and swap in the new sonic, but that did not improve anything on port 1. We discovered a fuse was not quite plugged in the whole way on port 3, so plugged it in. And at some point we "lost" all the serial ports. Probing the bulgin pins only showed 5V on some pins and no pins with 12V. So just to be sure, we powered down the DSM and replaced all the fuses leading up to port 1, including the 7.5A and 3A fuses on the power panel. After that all the ports resumed working, but I don't know if that means we really did have a partially failing fuse somewhere (seems doubtful), or something else got into a funky state.

We still saw almost all flagged samples from the RMYoung on port 1. So then we discovered that the configuration was incorrect. Port 1 is at 8m and not 4m, so we had replaced the wrong sonic. We unclipped all the cable loops hung on the tower and mapped them to their sensors, here's what we found:

Port	Height	Sensor
0	2m	CSAT
1	8m	RMYoung
2	6m	RMYoung
3	4m	RMYoung
6	2m	PTB
7	0m	Soil mote

So ports 1 and 3 were swapped, and I've fixed the configuration to match.

This means the sonic that really has been failing during the day is at 8m, so we cannot replace it without climbing. During our visit, I thought we determined eventually that the replacement did not work any better, but now I'm not so sure that we were looking at the right sonic, so maybe we still have one RMYoung with 2% flagged samples which could replace the 8m. Otherwise we have a METEK we could install, whenever we're able to climb.

Note that we disturbed the flow for the 2m CSAT sonic during our visit because we were working right next to it.