

# H-frame sonics moved

Today, since the winds were too easterly and since we wanted to work on the pressure tubing anyway, we lowered both horizontal arrays to adjust the sonics to be more level. We dropped the east array ~1030 and worked on it until ~1400. We then dropped the west array and worked on it until ~1700. A long, hot, day...

I now estimate that the heights of these sonics are within +/- 3cm of each other and with the upwind sonics. The most different sonics are now the fixed ones on the profile mast. This is at least a factor of 5 better than they were. Moreover, they are now close to level. (I'll try tilt plots when I get a chance.)

We accomplished this feat by:

0. Lowering the array to the ground
1. Moving the 1/2" EMT conduit to below the booms, rather than on top
2. Connecting the EMT pieces with the dowel in the middle and with EMT screw couplers
3. Drilling holes in the EMT to accomodate S-hooks at 4 places (not evenly spaced due to flex in the EMT).
4. Attaching short guywire pieces (used to extend the former upwind guys) to the EMT
5. Attaching ratchet straps to each pair of guywires on the bottom array that was secured to the top array ASTER tower
6. Lifting the horizontal array back in place.
7. Attaching ratchet straps to each pair of guywires on the top array to the top crosspiece of the H-frame support.

We're pretty pleased with ourselves and only wish that we'd done this in CHATS!

Note that it is quite likely that at least some of the boom angles are different now. We'll reshoot everything sometime soon. Note that we think that the last (*tw*: *first*?) 2 days in config3 could use the config2 boom angles, since these sonics should not have shifted direction.

P.S. 2 examples of sonic tilts:

	lean,azimuth [before]	lean,azimuth [after]
1b.4.8 m	4.0, -14	0.2, -124
3b.4.8 m	1.4, +30	1.7, +141

Note that 1b is at the end and 3b is the middle of the east array. The middle has become almost perfect. The end is different from vertical by the same amount, but is now in the opposite direction (in pitch angle). The difference between them actually hasn't changed much: 3.8 before and 3.1 after.