

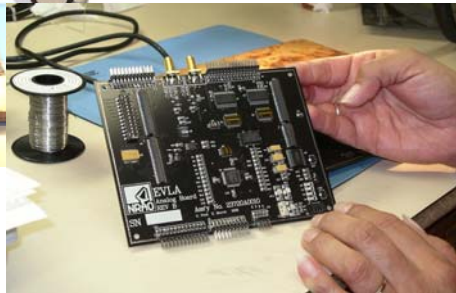
# Building the EVLA

On any given day, one can venture downstairs and see the EVLA in various stages of design, construction and testing.

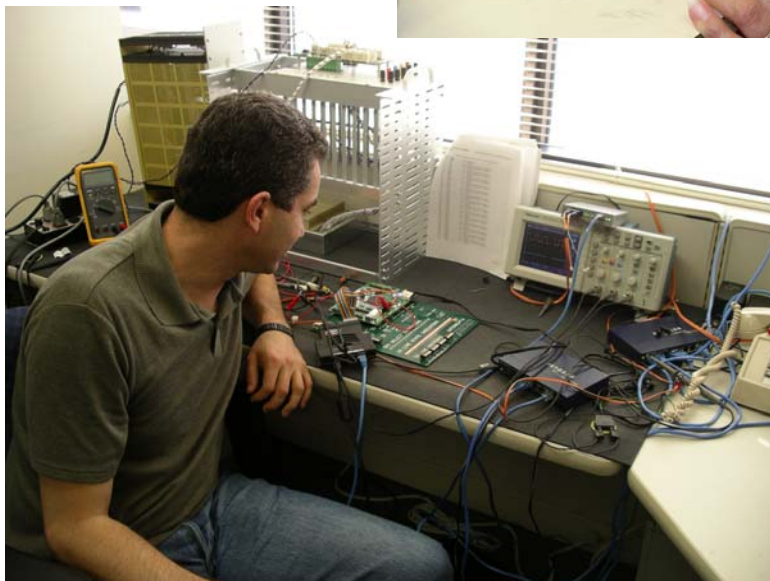
George runs text files through a debugger to test a board for the vertex room. The board controls the switches that determine the path of the signal to the downconverter dependent on the band desired by the observer. A student designed the original board, George corrected the errors and refined it. It is now on its third (and hopefully final!) iteration.



Mary Ellen builds the boards, using a microscope, solder paste, sometimes tweezers. She receives the “picture” of what the finished board should look like, the parts and the parts list from the



design engineer, builds it, and returns it to the engineer for testing. This is an analog board she built. She rarely knows what the board is designed to do or where it will fit in the system, but the system wouldn't work without her expertise.



Hichem writes the software that makes the boards perform. The hardware engineer (George, in this case) has designed the board to do specific tasks—to cause the switches to guide the signal to the appropriate downconverter. Hichem must write code that performs the task, the details of which are transparent to the astronomer who does nothing more than enter the appropriate band designation in his observe file. (BTW, Hichem's office is on the second floor...)



Building the EVLA is not all design and the exercise of fine motor skills. And it doesn't all happen downstairs. Sometimes those who work downstairs go out to the VLA site and do some heavy lifting.



Some of the members of the Front End group are installing a new Q-band receiver in EVLA antenna 13. After they put it in place, the antenna mechanics will realign the feedhorn. It will be turned over to the astronomers to gather data to test it.

Brent and Tony act as ground crew to hoist the receiver up to the vertex room.



Bob, Chuck and Tony wrestle it up the ladder to Brent on the (new!) second floor of the vertex room. Work space is limited and receivers are not lightweight, so it can be a little tricky.



John confers with Chuck about swapping out a P-band receiver on an ailing antenna.