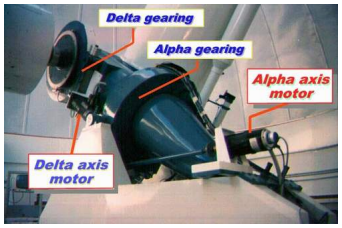
Built in the years '60, this telescope is located at our stellar station at Serra La Nave (mt 1750 asl).
In order to achieve a good level of automation of the pointing system, the original mechanics has been modifyed by our staff.
The original system of a.c. motors and gear-boxes was upgrated with only two brushless motors capable of running, with constant torque, up to 5000 rpm.
The same motor, therefore, allows a positioning of the telescope without jerks by a soft moving, up to a fast speed at the telscope of 1 degree for second.

For both axis of the telescope, the original transission system of endless screw & toothed wheel has been mechanically interfaced with two incremental encoders for a pointing with an accuracy better of 5 arcsec.

The "glue" between mechanics and software is electronics.

From the *hardware* of motors to the user's interface, the system has four levels of feedback: for the control the speed of the motors, the precision of their speed, their positioning and the position of the whole telescope.



A first level of supervision of the motors is performed by the Servo Amplifier with a *T achogenerator*

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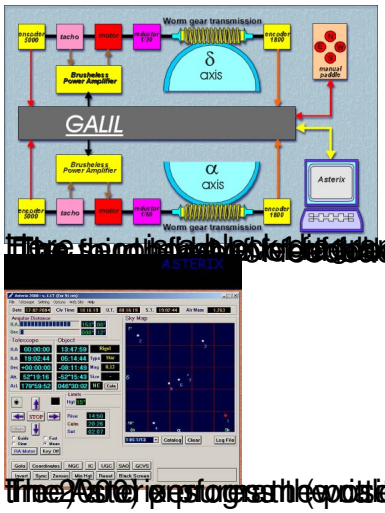
An intelligent *motion controller* (by Galil) performs a second and a third level of feedback with a digital control of the speed and the position of the telescope.

The supervising control is done by a Pentium @ 600 MHz Personal Computer. There the Asterix software check the position of the telescope and ensures that the requested star is into the observing field.


Worm gear transmission
encoder 1000
tacho
motor
encoder 1800
δ
axis
manual paddle
Brushless Power Amplifier
GALIL
Brushless Power Amplifier
α
axis
Asterix
encoder 1000
tacho
motor
encoder 1800
Worm gear transmission