



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 modified by our staff.

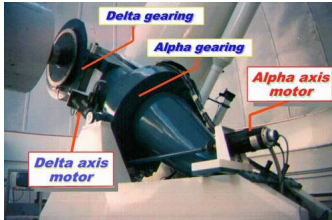
The original system of a.c. motors and gear-boxes was upgrated with only two brushless motors capable of running, with constant torque, up to 5000 rpm.

The same motor, therefore, allows a positioning of the telescope without jerks by a soft moving, up to a fast speed at the telescope 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.

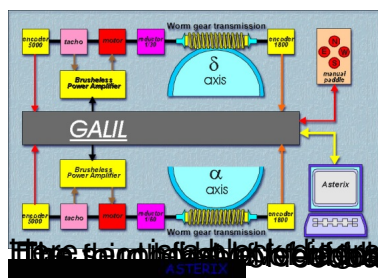
From the *hardware* of motors to the user's interface, the system has four levels of feedback: for the control the speed of the motors, the precision of their speed, their positioning and the position of the whole telescope.



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

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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.



The diagram illustrates the control system architecture for a telescope. The system is designed to control the pointing of the telescope by using a combination of hardware and software components. The GALIL block is the central control unit, which receives input from the Brushless Power Amplifier and outputs to the Brushless Power Amplifier. The Brushless Power Amplifier is connected to the Worm gear transmission, which drives the δ axis. The Worm gear transmission is also connected to the manual override. The GALIL block is also connected to the Asterix block, which is represented by a box with a star symbol. The entire system is labeled ASTRIX.



The AsteriX software is a powerful tool for controlling the pointing of a telescope. It allows users to observe objects in the sky and control the telescope's pointing. The software is designed to be easy to use and provides a wide range of features for controlling the telescope. The screenshot shows the AsteriX software interface, which includes a star field and control parameters. The software is designed to allow users to control the telescope's pointing and observe objects in the sky.