

GBT Systems Reports on Project Coordination for August 1999
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Scheduled activities completed over the month of August include the completion of the S-band receiver, the installation of an emergency motor generator set for the GBT Electronics and Control Rooms, and the installation of the optical fiber cable between the Jansky laboratory and the GBT. The machine shop completed the fabrication of parts for the azimuth track cover, the IF rack thermal plates, and the RFI enclosures for the IF rack. An optical guide telescope (an 8-inch Meade) for the GBT was received, and a frame grabber was purchased for it.

The Digital Electronics Group reviewed the outfitting of the actuator control room on August 26. The major tasks required to outfit the actuator control room include testing the actuator cables, installing the actuator control panels, installing the ground plane plates between panels, wiring the panels, installing the transnet (the communication bus between all of the control modules), connecting the transnet and motor power, securing the panels to the ground grid, installing transnet power supplies, installing the actuator control computer, installing motor power supplies, and terminating the monitor cables. Although the group discussed possible methods for expediting the completion of these tasks, it is clear that the duration of control room outfitting will be long because of the amount of work required and the limited amount of space available to perform the work.

The entire process of measuring the GBT surface with the laser rangefinders, fitting the resulting data, and correcting surface deformations with the active surface was reviewed at a pointing and metrology integration meeting on August 11. Specific areas of responsibility were identified and assigned during the discussion. Most of this work is either done or well underway; however, large amounts of detailed software work still remain.

Building cryogenics systems for the GBT while maintaining other cryogenics systems on site have been challenging tasks for the NRAO-GB cryogenics technician. Unfortunately, and for reasons unrelated to the work to be done, the technician recently resigned. To bolster cryogenics support for all telescopes on the Green Bank site, the technician was replaced and the responsibilities of an RF technician were altered to include cryogenics tasks (i.e. there are now effectively two cryogenics technicians instead of one). A possible consequence of this redistribution of tasks is the ability of the Electronics Division to maintain existing receivers and develop future RF systems may be curtailed.

Problems were encountered with the L-band array feed receiver during test observations on the 140-Foot Telescope. The observations will be repeated later this year. Since the SAO maser and spectral processor are needed at the 140-Foot for these observations, moving them to the Jansky laboratory will be postponed.

GBT telescope operators provided valuable assistance to the Monitor and Control Group by generating the text input which describes the GBT device circuitry. The monitor and control IF

Manager uses the text to describe what the RF/IF circuitry does, to calculate sky frequency, and to provide general feedback to telescope users.

Norrod completed the purchase of major components for the dual beam, dual polarization Q-band receiver. He is now investigating the detailed design of the Q-band tertiary reflector.

Weadon started to develop a cable routing plan for the GBT.

Maddalena made a Beta release of CLEO, the operator and engineer graphical user interfaces for the GBT. He described CLEO to project personnel in a presentation on August 24.