



SMT IF Upgrade 2006

Engineering Minutes

Author: Robert W. Freund

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An engineering meeting was held Thursday afternoon, 14 Sep 2006, to discuss the SMT IF upgrade and the 1.3 mm side-band separating receiver. Attending the meeting were Dr. Lucy Ziurys, Tom Folkers, Gene Lauria, George Reiland, and Robert Freund. Dave Forbes arrived late. Project status and schedules were discussed.

Mixer/LNA Cartridge -

Gene started the meeting by describing the current cartridge status. The 0.005" thick OFHC copper shims had just arrived today. This will permit Mark to finish construction of the thermal straps and to plan on annealing the straps on Monday. The final assembly of the two cartridges will begin Tuesday. George will soon be ready to mount the LO waveguide sections within the second cartridge.

John has finished the improvements to the Dewar interior infrastructure. The new "spider" has been assembled onto the hybrid GM/JT refrigerator along with new temperature sensors and wiring harness. Lucy reminded us to document as much of the project with photographs as possible.

Support electronics -

After finishing work on the cartridges, Mark's next activity will be the card cage modifications. There was a short discussion on some technical aspects concerning space availability. It was concluded that there was sufficient volume for the additional cards and their respective connectors.

Gene indicated that as of this Thursday, the expected project completion date was Friday, November 10.

Gunn/multiplier LO system -

George stated that the receiver LO project was on schedule. He stated that he expected the Steward machine shop to deliver the external LO waveguide mounting brackets by next Wednesday. This would then permit the installation of the LO waveguide inside the receiver frame and onto the bottom of the Dewar. Only one mixer needs this done because the brackets for the other mixer already exists.

John will fabricate and assemble the custom waveguide pieces next week.

Page 2 of 4	SMT IF Upgrade 2006	Doc: Engineering Minutes Date: Thursday Sep 14, 2006
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The mechanical parts for the dual-Gunn PLL chassis will be finished and delivered by the shop text Friday, September 22. A protective chromate conversion coat will be applied and the parts finished around the middle of the following week and ready for installation in a 3U high chassis. A larger, 5.25" high, chassis has been ordered to accept the pair of PLL circuits. George expects the dual-Gunn chassis will be finished by Tuesday, October 2.

Receiver IF Processor -

The 4 to 8 GHz bandpass filters and the 10.3 GHz bandpass filters from MicroTronics were delivered yesterday, on the promised day. The 4 to 8 GHz filters have been installed in the receiver IF Processor chassis but have not been connected into the circuit with semi-rigid coax. The coax needs to be made and installed.

IF Converter System -

The Steward shop has delivered most of the material for the IF Converter System chassis. There are still a few parts outstanding. The internal mounting plate for the Inverter power supply chassis are still in the Steward shop.

Interim Receiver Selector -

Gene reported that DowKey still had not delivered any RF switches. This was irritating because a premium had been paid for immediate delivery of the "in-stock" 4-port transfer switches. He expected delivery of the transfer switches soon and the filter bank switches by September 25.

Miscellaneous -

Lucy described anticipated changes to the ARO purchase order processing when purchase orders or the University's FRS system must be used. The Steward business has requested that ARO supply addition information so that all ARO purchase orders can be submitted directly to the University Purchasing Office.

Tom asked for a truth table for the Receiver IF Processor selection switch configurations. Dave agreed to provide one.

Action items are summarized below:

Page 3 of 4	SMT IF Upgrade 2006	Doc: Engineering Minutes Date: Thursday Sep 14, 2006
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1. Dave will provide Tom with the Receiver IF Processor switch selection truth table.

No decisions were taken.

Robert