



SMT IF Upgrade 2006

Engineering Minutes

Author: Robert W. Freund

2006-06-29

An engineering meeting was held Thursday afternoon, 29 Jun 2006 to discuss the upgrade sequence, refinements to the block diagram and schedule issues concerning the SMT IF upgrade and the 1.3 mm side-band separating receiver. Attending the meeting were Dr. Lucy Ziurys, David Forbes, Gene Lauria, George Reiland, and Robert Freund. The topics discussed were:

1. Upgrade sequence
2. Refinements to the phased block diagrams
3. Project schedule.

Bob started the discussion with a description of what system capabilities would be available and their time scales.

Bob distributed new versions of two block diagrams showing the system configuration as expected this fall and after the installation of the upgraded 345 GHz receiver with the new ASIAA mixers sometime later in early 2007. He also distributed a short written summary describing these same capabilities as expected at the end of each upgrade phase.

The first phase involves the initial IF system upgrade and the installation of the 1.3mm two side-band separating mixers by mid October. The second phase involves the installation of the "Facility Total Power System" in early 2007. The third phase involves the installation of the new 345 GHz receiver using the ASIAA mixers in early 2007. Phases 2 and 3 may be coincident. A corrected copy of the "Upgrade Sequence" summary is included with these minutes.

The availability of 2mm and 870 um receiving capabilities was discussed. Gene proposed to install the upgraded JT receiver system with two 2mm cartridges. He indicated that the installation would be low risk because:

1. All the parts already exist
2. The cartridges have been used previously.

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However, the cartridge installation would proceed on an "as feasible" basis and would be canceled if problems occurred. The 2mm cartridge installation would not be a priority task.

George indicated that the dual-channel 870 micron receiver would be removed from the SMT and never replaced in its original form. Parts from the receiver would be used to build its replacement. The SMT would be without an 870 micron receiver until the new receiver system would be installed sometime during the first quarter of 2007.

Gene described his receiver schedule by distributing a second version of his Gantt chart. He summarized the 5 major critical path tasks:

1. 4-channel IF module
2. receiver support electronics
3. 1.3mm cartridges
4. AOS signal processors
5. LO system.

A decision was taken to eliminate task 1, the 4-channel IF module, because the new receiver system can be temporarily operated with the existing 2-channel IF module.

The 2 action items are summarized below:

1. Modify the block diagrams.
2. Correct the written upgrade sequence.

The 4 decisions taken are summarized below:

1. Add 2mm capability to JT receiver for fall,
2. Remove and disassemble 870 um receiver.
3. Remove the 4-channel IF receiver module from the major tasks list

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4. Use the existing 2-channel IF receiver module during initial evaluation and operation.