CALLISTO status report #9 of 2004-04-28

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FPU (focal plane unit)
Not applicable

RCU (receiver control unit)
During test and presentation to NRAO specialists several software-NCR were detected and solved during daily attendance.
-   wrong handling of ringbuffers lead to an error of 2 pixels in spectra.
-   Another wrong handling of buffers in ImageViewer lead to another error of 1 pixel
-   Bad labeling of y-axis in XYZ-plot will be solved at ETH (due to insufficient PC-resources)
-   24h close/open handling of log-file will be solved at ETH (also due to insufficient PC-resources)

RX (receiver)
Depending on the number of pixels per sweep and depending on number of pixels per second and depending on frequency steps within the frequncy programm we loose up to 1 permille of channels. The reason is given by the voltage controlled oscillator of the inernal synthesizers. It takes a couple of milli seconds to get the frequency stabilized. Thus as a consequence, we loose a few channels at the lower end of the sawtooth-like sweep. These channels contain signals with very high phase noise and they shall be deleted during conversion of raw-format into fits-format.

Host, Server
A tentative laptop based on Win XP was available but with too little memory. For debugging we need at least 512Mbytes of RAM, 256Mbyte is not sufficient for Win XP. The internal COM-port didn't work correctly, it looses data. We spent an USB/RS232-converter linked to COM5 as a replacement for COM1. Due to insufficient memory we switched off "Office-indexing" and disabled Virus-scanning on the directory

\Callisto\data. We have also switched off all sleep-activities on the laptop, all items of the PC have to be powered at all the times.

Peter Messmer updated the JavaViewer in such a way, that it is now possible to select one of the two receivers of Callisto. By starting two instances of JavaViewer, one is able to compare both receiver at the same time using two separate windows on the desktop, where MSB=RX1 and LSB=RX2.

QM (qualification model)
Not applicable

FM (flight model)
FM was delivered to NRAO Charlottesville by hand carrying the spectrometer, cables, connectors and some spare parts. Security checks and customer care fortunately passed without any problem. The operating manual was adapted, sent to our website and also a paper-copy is now available at NRAO lab.

AOB (any other business)
We were shown and explaind the whole antenna farm, especially the 100m GBT by astronomer Frank Ghigo.

Christian Monstein gave a presentation about Callisto at the auditorium in Green Bank West Virginia. Another presentation was given about the status and development of ARGOS spectrometer, followed by intensive discussion with Tim Bastian, Steven Withe and Rick Fischer.

All future software updates and improvements will be sent to Rich Bradley either via email or by using an ftp-account.

A complete copy of Callisto-software was written on a CD as a backup for NRAO laboratory.