EIS Onboard Software

Informal Discussion Meeting 17/Jun/99 with NRL @ MSSL
Lasco Soho experiences

Those present : Clarence Korendyke, Charlie Brown, Rob Gowen, Matt Whyndham

The meeting informally discussed comments arising from NRL Lasco Soho experiences and in response to the published minutes of the April/99 meeting with RAL.

Again, a useful meeting and a greater mutual understanding of our planned onboard software development established.

GENERAL COMMENTS

1. 1024x2048 CCD is better.
   Less demanding on s/c.
   Telescope tolerances much better.
   Zero tolerances at present !

2. Recommend also talk with John Mariska, Ken Dere, and Dennis Wang (software man) of NRL.

3. SOHO book has Lasco descriptions in (operations, microprocessor, software etc ?)

INDIVIDUAL ITEMS

Comments	Initial Responses
1. Beware of 'smarts' These are intelligent items that can seriously destroy a software development.	- Will separate 'essential' requirements from 'desirable' requirements. - Will prioritize development for high priority essential items first. 'Desirables' later.
2. Advise a real-time multi-tasking operating system.	- This is as planned.
3. Do not get artefacts with compression if cosmic ray spikes present. No need to remove onboard.	- This is not what I have been led to believe elsewhere !!! - ***Need to resolve***
4. Ability to uplink scripts.	- These are like intelligent observing tables a bit beyond what I propose. (A bit like Zombie (HEH) as we know it here). - I consider this in the category of 'smarts', but am

	willing to consider it if sufficient need. (maybe as an upgrade to dumb observing tables ?)
5. Macro command facility useful to save command uplink reqs. e.g. After turn-off or problem :- Uplink code, ram patches, command tables, etc.	- Is worth considering for EIS as command uplink rate is likely to be severely limited. - However, it is proposed that EIS flies PROM and EEPROM which stores code permanently and into which command tables can be entered just after commanding contact period. This will make re-uplink of all items mentioned not necessary with EIS.
6. CCD blocked out pixels may be read out regularly but not necessarily every exposure.	- Need to get detailed requirements. (May be part of calibration mode ? depending on frequency required.)
7. Continuous readout for photon transfer curve. (rather than normal 'expose' then down shutter, then 'readout' cycle).	- This is new to me. Sounds a bit complicated as would require a completely new operational sequence to be developed and tested. *Need to consult Chris McFee*
8. Rice Compression CR~2 to 3 lossless, implemented on Lasco and code can probably be provided to us.	- Would be welcome.
9. Wavelet (lossy/variable) compression scheme, implemented on Lasco, and code can probably be provided to us. (Seems good for spectral data unlike JPEG which seems prone to artefacts.	- Would be welcome. - Will ask for it soon for evaluation, to help resolve EIS-MDP interface 8/12/16 bits decision.
10. Agree that post launch flexibility is good (software uplink capability)	- Is planned for EIS.
11. Web based access to quick look and engineering data would be good.	- Good idea. -Should be considered.

End