DEIMOS
SSC Presentation: May 20, 1996
Major Milestones: Seventh Quarter

Optics:
- ORA understands the Epps camera design and is working with it.
  - Tuning will probably be done just by respacing the elements.
  - Thermal analysis in progress to study temperature change from 20° C to 0° C.
  - Tolerance study in progress.
  - Camera fabrication plan was reviewed and OK'd.
- Fabrication of camera optical elements has started.
  - All glass received.
  - Elements 7 and 8 are in fine grinding in Lick Optical Shop.
  - CaF_2 elements are being generated at Optovac.
- Collimator is finished. Final tests included profilometer null lens test. Large-scale astigmatism is significant (contributes to distortion), but local smoothness is two times better than spec.
- Technique perfected for potting camera lens elements with RTV in their athermalized, elastomeric mounts. Test cell nearing completion to test the fluid retainment system.

Structure:
- Mini structural review on May 14, 1996.
  - Members: Fabricant, Mast, Nelson, Melsheimer.
  - Format: Round-table discussion of detailed drawings.
  - Focus: Cylinder, drive disk, drive, grating mechanisms.
  - Item status:
    + Cylinder ready to send out for bids.
    + Undercarriage construction starting in Lick Shops.
    + Drive disk flexes, probable solution in hand, bids in July.
    + Grating mount prototype is undergoing flexure tests.
    + We are behind schedule on slitmask inserter, grating slide.
    + A report and response is in preparation.
- CARA will modify the cable wrap; solves clearance problem for grating tray.

Detectors:
- Orbit has solved charge transfer problem. Recent runs had good yields.
- Steady progress on Lick thinning effort and Lincoln Labs development effort.
- SITE is rumored to be accepting orders for flat, thinned 2K $\times$4K devices.

Software/Computers:
- Software PDR held March 22, 1996.
  - Committee: Kent (chair), Jacoby, Knapp, Cromer, Conrad.
  - The committee responded favorably to the proposed list of requirements.
  - Issues:
    + Readout speed of CCD (8 min is not impossible).
    + Availability and capability of Leach-2 CCD controller.
    + IRAF vs. IDL? (see attachment).
    + Better demarcation between instrument ops and proposed database.
    + Finish software priorities and budget.

- DecAlpha 600/255 development platform now in service.
- The instrument FITS keyword list has been completed.
- Prototype software from Lick now skimming headers from LRIS and HIRES to creating prototype Observatory database.

Slitmasks/Cutter:
- The NC end mill was received and commissioned. 3 minutes to cut an LRIS mask.
- Reflective/anodized Al stock located for slitmasks (see TV below).

Electronics:
- Various small tasks were completed.

TV Guider:
- New optical layout stares directly at focal plane. Total FOV is $3\farcm3 \times 3\farcm3$, partly on slitmask/longslit area and partly on adjacent, unused focal plane. The latter will be fitted with a mirror to serve as offset guider.
- No moving parts, only one TV sensor.
- Cannon 200 mm lens has been received and is undergoing tests.
- Photometrics price is $\leq$\$50 K, down from \$80 K. Our default sensor is $1K^2$ with 15 μ px. NIRSPEC and ESI can use the same detector.
- CARA is leading effort to select common sensor by August, to be shared by AO, DEIMOS, ESI, and NIRSPEC.