17 July 2006

Order of Disassembly of IOTA

Notes: All items on this list to be packed for shipping and clearly labeled on outside of shipping boxes. Items 1-15 can be packed before 1 August 2006; other items should wait until then.

1. Telescope optics. Remove siderostat flat, secondary, and primary mirrors. Measure reflectivities in standard way, for reference, if possible. Pack in shipping boxes and store until we decide whether to recoat optics and where to ship them. Nat's presence would be helpful. I need to get time scheduled for Roger and the Crane to remove the siderostats. My son and I will look at the feasibility of removing the primaries this week.
2. Delay lines. Two long, two short (excluding granite per se), one fixed. Pack optics in safe way, suitable for shipping. Pack mechanical parts. Motors, pulleys, gears, cables. Label parts that go together. I will pick up foam for packing the dihedrals.
3. HP Laser system for short delay lines. Lasers, retros from carts, beam-steering optics, and detectors. Small optical table and table hardware. I have started on these parts. This system is integral to the Anorad control system. The cables have been detached.
4. HP Laser system for long delay lines. Lasers, retros from carts, beam-steering optics, and detectors. Small optical table and table hardware. Dedicated PC and pulse-counting card. I would prefer to leave the long delay computer with its 4 cards together
5. Vacuum relay optics. Fixed mirrors and mounts, including corner mirrors, units below telescopes, 45-degree exit mirrors. Mirrors stay in their cells, but removed from mounting stands. Label corresponding parts. Pico motors to stay mounted in stands. Include first-generation Physik mirrors and mounts. I am not certain of the designation "first generation Physik mirrors". we have the first piezo scanner mount, we have 3 or so scanning piezo's and controllers.
6. Tip-tilt systems. Physik fast-steering mirrors and mounts, incl heavy mounting blocks. Include electronics drivers in huts, plus current driver in lab. I have taken the mounting blocks off the telescopes and removed the mirrors & mount units – they are in the cabinet until I am ready to wrap them.
7. Acquisition camera systems. Cameras (old plus new), lenses, flip-in mechanics, 3-camera switching box.
8. Corner optical table. Incl. mounting bracket to granite table. How should the larger aluminum plates be prepared for shipment? The corner table was stripped and removed last Friday.
9. Mid-tank optical table. (Can remove via rectangular door in tank.)
10. Free-space combiner system. Optics and mounts, including OAPs and fibers. Large base plate and optical diagram on wall.
11. Star-tracker system. Optics (flats and lenses) and mounts, CCD camera and drive electronics, thermoelectric cooler power supply, chilled water system. These nominally all belongs to U-Mass. I have drained most of the water out of the system and have "jumpers" between the input and output of the camera as well as the in and out of the tubing.
12. Small TV cameras and monitors. The 16 or so nine inch monitors are packed in their boxes, most of the small cameras are packed together.
13. Alignment system 1. Laser and laser collimator optics.
14. Alignment system 2. TV camera, optics, translation stage, 45-degree mirrors.
15. Alignment system 3. K&E alignment telescope and accessories, mounts, 45-degree mirrors. The 45 degree mirrors have been removed from the kinematic mountings. There are only two which were regularly used – the 4" mirror and the beamsplitter. I have all the kinematic mounts stacked together for easier packing.

The following should be packed after 1 August, when we have firm shipping destinations.

16. Electronics rack systems. Rack, computer, CPLD, Anorad chassis, pulse-rate generator box.
17. Stepper-motor drivers for siderostats. Three wall units, spares, cables. There are 6 wall units.
18. Control computer systems. CPUs, monitors, keyboards, small UPSs, CD burner, and related hardware. What CD Burner? Should the BT fiber link cable be with the VME or the Blade 1000?

19. JP: IONIC system for PTI. Three-beam combiner chip plus feed fibers, fiber connectors.
20. JP: IONIC system for CHARA. Three OAPs, Physik focus 3-axis mounts and drivers, 2 lenses (collimating and camera), mounting stages for lenses and combiner chip.
21. Rapid-scan system. Three piezo-rapid-scan platforms, dichroics (removed), Physik drive electronics, plus 3 fold mirrors.
22. PICNIC dewar system. Dewar, filter wheel mechanisms and drivers, power supplies, ADC box. Do you have any thoughts on whether the motors should be removed for shipping?
23. Telescope and siderostat assemblies.
24. Telescope shelters (3).
25. Optical tables. 8-ft and 10-ft tables. KPNO table.
26. Anorad granite beam.
27. Cabinets and contents.
28. Vacuum-pump shed.
29. Leybold fore pumps (1 working, 1 needs repair).
30. Roots blowers (2 working).
31. Helium leak detector system.
32. One-Hertz concrete pad for vacuum pumps.
33. Visible-wavelength beam combiner ("SMART", J. Monnier's).
34. Steel I-beam rails (tracks for shelters and telescopes when moved).
35. Steel piers (51), roughly 12-inch OD, 48-inch long.
36. Long delay line tank sections, roughly 4 pcs, 18-inch diameter, 16-ft long.
37. Internal vacuum tanks (3), roughly 48-inch diameter, 8-ft long.
38. Laser hut, roughly 6x6x4 ft. I doubt this "hut" has sufficient integral strength to be removed in one piece. the major structural members are probably nailed to the concrete.
39. Flip in mirrors and vanes for initial combination/alignment area along with cables and controller.
40. Numerous extension cords and plug strips used to distribute power.
41. Baseboard, milk can and radiator heaters (give to support?)
42. Extra cables which do not have a current use, along with a few spools of
43. Mechanical tool area
44. Electronic component area
45. Electronic tool bench
46. Six file cabinets full of documentation
47. Refrigerator (leave with building)
48. CB Com units in central station and at telescopes

Timing considerations
I would like to keep the shelters warm while optics like the Siderostat are in there - so we keep power live. The power will need to be cut and the cables detached from the building. I am not certain the cables can be removed with their connectors intact while the power cable goes into the shelter.

Should be cable bundles to the shelters be kept together? Contents-

- Main power 1" diameter 3 conductor in sheath
- Motor power 2 axes, ½" cables
- Motor limit information 2 cables
- CB Com cable – 6 conductor ¼" cable
- PA system cables (2 BNC's – some damaged)
- Video signals – one for top acquisition, one for super wide field or siderostat monitoring
- 2 x 6 conductor cables ½" thick for picomotors
- Telephone cable (2 x 6 conductor) for picomotors (wire size proved to be too small).
- 1 x 4 conductor ¼" Control currents for tip tilt mirror