
[Status Report from Subsystems]

Electronics Subsystem

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Tasks of Electronics Subsystem

Design:

- Common mechanical/electric interfaces

Components to be provided:

- Photodetectors
- EOM drivers
- RF oscillators and demodulators
- High-speed servo control out of the digital control subsystem
- CCD beam profile monitors

Related components of other subsystem:

- Conditioning filters for ADC/DAC → Digital control subsystem
- Actuator drivers → Vibration isolation/suspension subsystem
- AC power supply → Facility support subsystem
- Cooling system → Facility support subsystem

Photodetectors

- Photodetectors for RF readout
- Quadrant photodetectors (QPD)
- Photodetectors for DC readout

In vacuum (?)

Mechanical shutters for photodiode protection

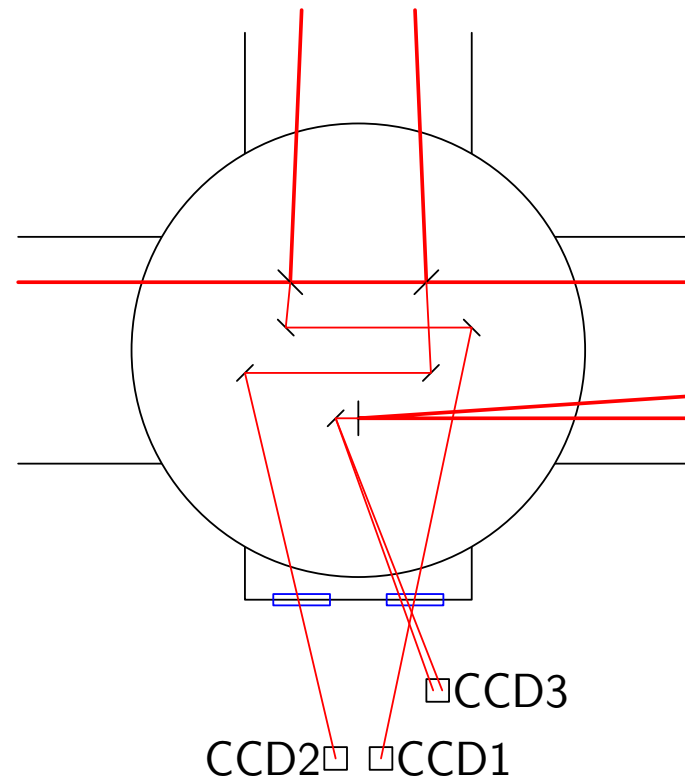
CCD beam profile monitors

- CCD Cameras (or CMOS image sensors)
- Low-rate data transfer using USB or Ethernet

Optical ports to be observed:

- PSL output
- MC output and reflection
- PRM reflection
- Arm transmission
- Dark port
- OMC output and reflection

Out of Vacuum



Example: MC2F chamber

Common mechanical/electric interfaces

To avoid **Electromagnetic noise**...

Circuit modules:

- NIM crates, NIM modules

Hot plugging is possible!

Custom crates with ± 24 V enhancement and separated transformers

- General 19 inch rack modules with DSUB power supply

Signal cabling:

- BNC connectors for AF single-end signals
- DSUB connectors for AF differential signals
- BNC or SMA connectors for RF signals

DC Power supply:

- Linear (Dropper type) regulators
- Switching-mode power supply

Summary

- Components to be provided:
 - Photodetectors
 - EOM drivers
 - RF oscillators and demodulators
 - High-speed servo control out of the digital control subsystem
 - CCD beam profile monitors
- Manage electric/mechanical interfaces
 - Connectors for various signal levels
 - DC power supply