

GUVI Instrument Testing

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GUVI Test Plan

- SIS subsystem to be tested by vendor before delivery to APL for instrument system integration
 - SIS subsystem tests to include vibration and thermal vacuum
- All electronics packages to be thermal cycle tested in-air before system integration
- Board level thermal tests not required
- Vibration and thermal vacuum tests to be

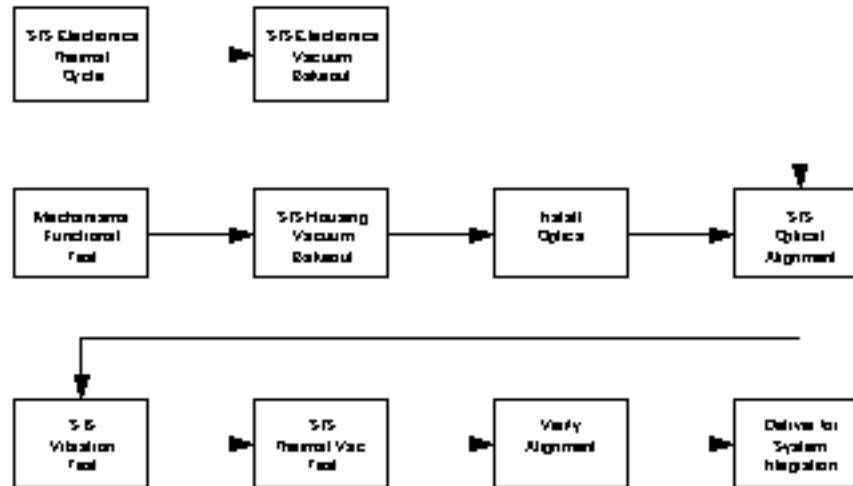
Spacecraft Level Test Issues

- Non-flight test cover installed on SIS Housing during I&T
 - Contains mercury test lamp
 - Remotely controlled by GUVI GSE
 - Protects scan mirror during test
- Nitrogen purge required on SIS Housing
- GUVI Test/Flight POC will control instrument during I&T
 - GUVI personnel will be on site during all tests

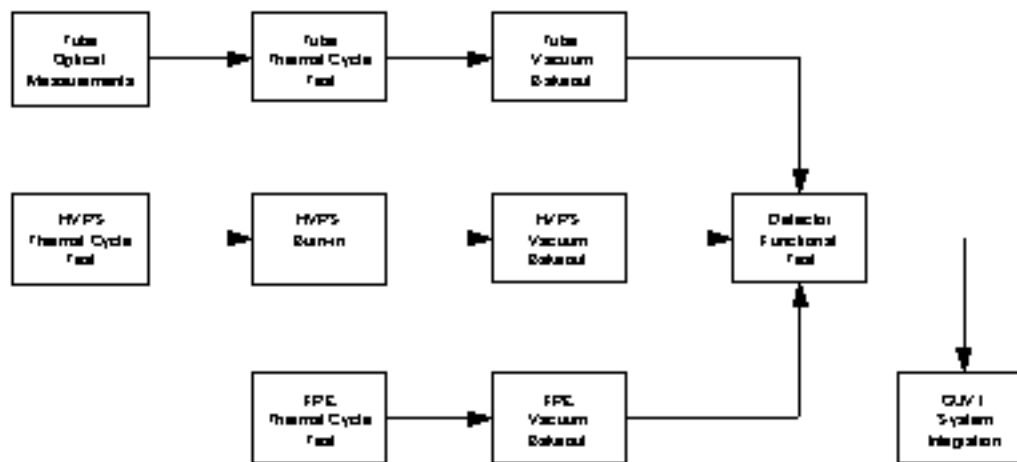
GUVI Contamination Control

- Nitrogen purge required when feasible
 - grade C nitrogen or better
 - flow rate 0.2 to 7.0 liters per minute
 - maximum 72 hours without purge
- Total hydrocarbon count less than 15 parts per million
- Spacecraft surface cleanliness level less than 1000
- Must maintain GUVI scan mirror

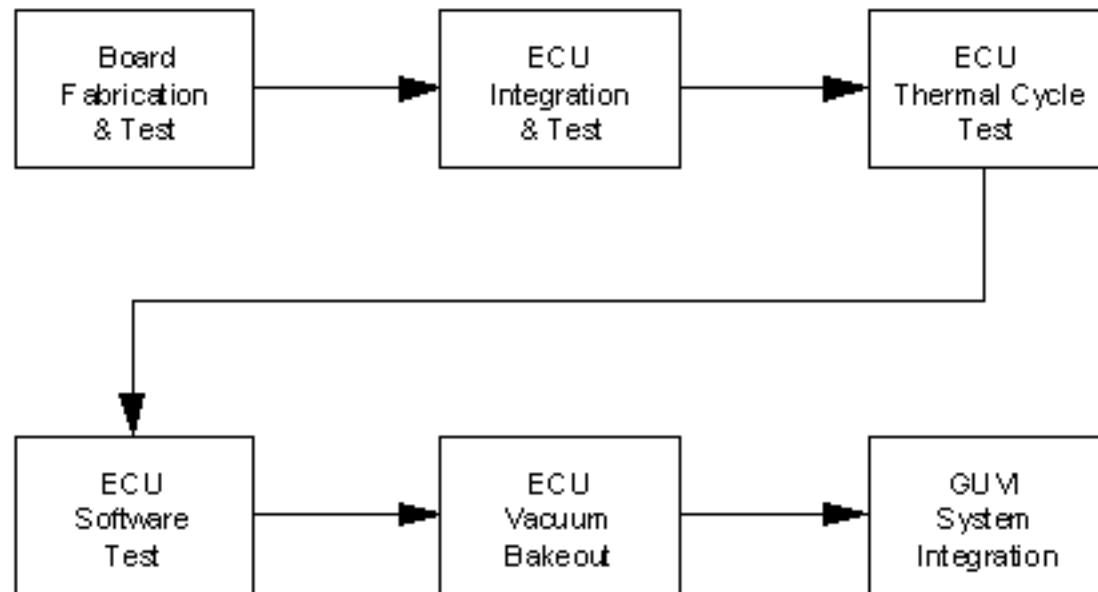
SIS Subsystem Test Flow



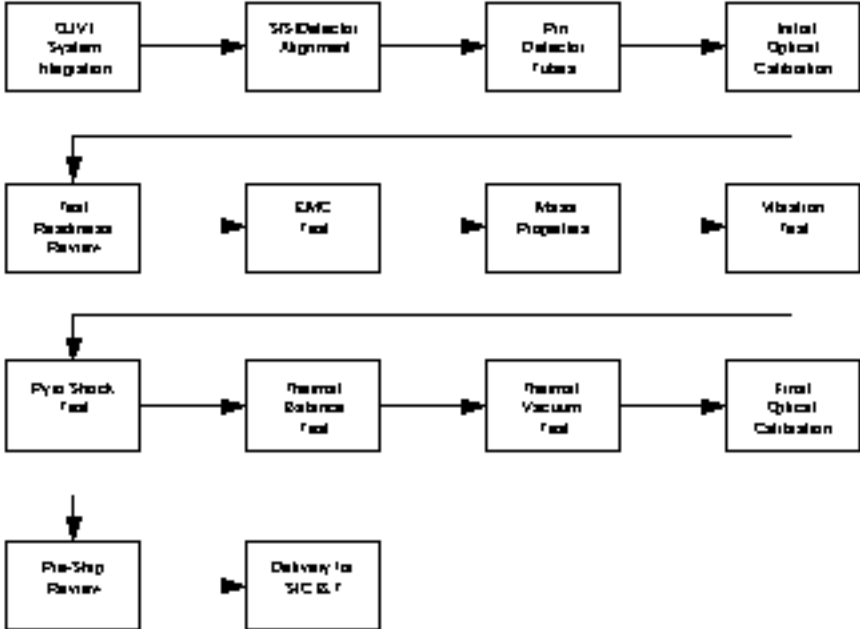
Detector Subsystem Test Flow



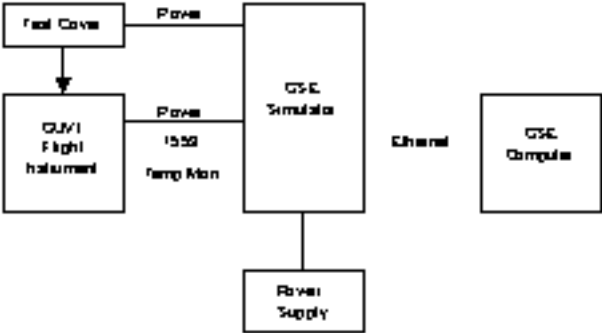
ECU Subsystem Test Flow



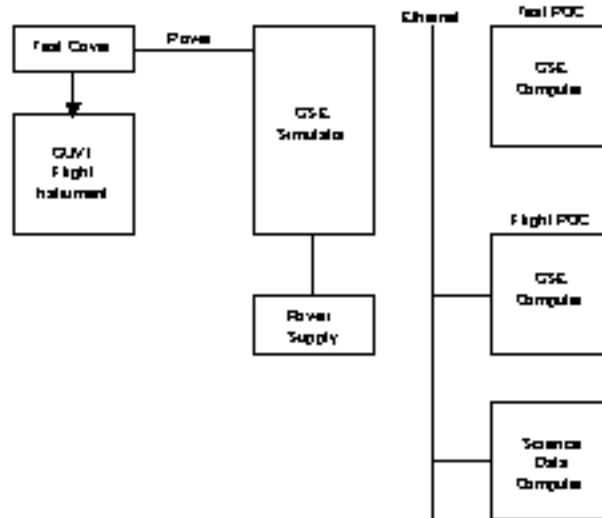
GUVI System Test Flow



GUVI GSE During Stand Alone Tests



GUM GSE During Spacecraft I&T



GUVI Calibration and Characterization

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Calibration Goals for SIS

- **Understand the instrument.**
- **Be able to convert measured counts/pixel on-orbit into accurate radiances from a known emission volume.**
- **Be able to understand on-orbit stellar calibrations.**

OCF OVERVIEW

Facility

Schematic diagram of the Optical Calibration Facility

- shaded blocks indicate detachable modules
- calibration beam is indicated by dashed line

