

Interferometer Sensing and Control (ISC) CDS Electronics and Beyond

ISC Breakout Presentation
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- **Much will change**
 - » **Manufacturing and Design**
 - **With the limited staff, we must effectively use out-sourcing**
 - Board level testing done outside
 - Contract design where possible
 - **Key design personnel can't become mired in secondary duties**
 - Parts research and ordering can't be done by engineers
 - Better use of technicians for fleshing out test plans etc.
 - Creation of a process that allows site personnel to become involved with building subsystems
 - **Electronics must be more modular**
 - We want to build a mountain of LEGO type chassis with a subsystem rack recipe. Especially useful for common building blocks like AA and AI
 - Pre-fabricated racks that are fully loaded and tested prior to installation
 - Careful attention to the module-level design for efficient racks and cabling
 - Remember, there are no more “*cross-connects*”

- **Monitors on designs to facilitate commissioning and repair**
 - Permits cabling from the back of the rack
 - Discourages wear-and-tear on critical connections
- **More up-front work, less back end commissioning**
 - The use of an automated system emulator
 - We must avoid installing equipment with the notion that we can fix it during commissioning. That didn't work last time
- **Better planning and documentation**
 - System block-diagrams are the norm now
 - Documentation has taken leaps forward
 - Wiki based module test procedures and travelers

- » **What are we changing, what needs to be done?**
 - **For the ISC, just about everything**
 - With no more cross-connects, almost all of the Euro-card format electronics will be re-designed and re-packaged
 - Default standards are differential signal transmission and 19 inch rack mounted RFI chassis
 - **Gee Rich, do you mean everything?**
 - Yes, here's a smattering
 - » Continued low noise ADC/DAC design and prototyping
 - » LSC photodiode redesign
 - » ASC photodiode redesign
 - » LSC Demodulator board redesign
 - » ASC Demodulator board redesign
 - » RF distribution system specification development
 - » MC/CM Servo
 - » IO RF System

Figure 3: HAM6 / ISCT2 ISC Components– Conceptual Electronics Layout

Wednesday, March 07, 2007

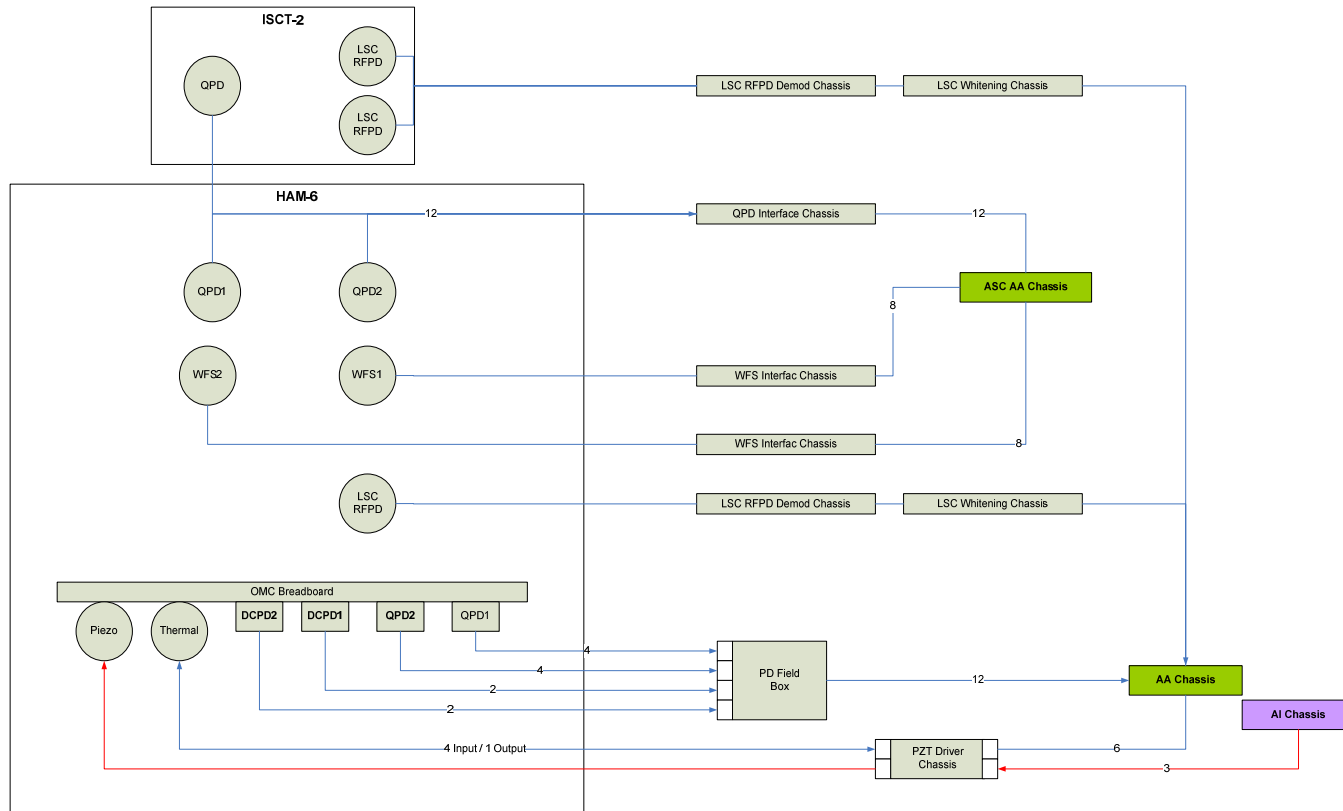


Figure 4: HAM6 ISI/SUS and HAM6/ISCT2 DC Readout/ISC Controls – Conceptual Rack Layout

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