



Wire Scanner Reliability Improvement Plans

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Wire Scanner System Overview

41 Wire Scanners (not including Hall C)

- Identified Issues:
 - Turn buckles
(shaft couplings)
 - Fork assembly / wires
 - CAMAC Module (PGA)
 - CAMAC Module
(Transient Recorder)
 - Analysis Tools

'Problem' Wire Scanners

Device	Location	Issue
IHA0L10	Injector	Multiple Problems
IHA0R05	Injector	Intermittent
IHA2D00	Injector	Intermittent
IHA4D00	Injector	Harp Analyzer
IHA1E01	N Extr.	Broken Wire
IHA1E03	N Extr.	Harp Analyzer
IHA5E01	N Extr.	Coupling
IHA9E01	N Extr.	Coupling
IHA8E01	S Extr.	Preamp/BDU Cable
IHAAE01	S Extr.	BDU Bad
IHA2S10	SW	Multiple Problems
IHAAT05	BSY	Sftwr File
IHA1C04A	Hall A Line	Noise Floor
IHA1C04B	Hall A Line	Noise Floor
IHA1C05	Hall A Line	PGA Disconnected
IHA1C07A	Hall A Line	Motor & Coupling
IHA1C07B	Hall A Line	Motor & Coupling
IHA1H00	Hall A	Preamp/Grounding
IHA1H04A	Hall A	Multiple Problems
IHA1H04B	Hall A	Multiple Problems
IHA2C04	Hall B Line	Aurora Module
IHA5C11	Hall D Line	Optics/Match
IHA5C11A	Hall D Line	Optics/Match

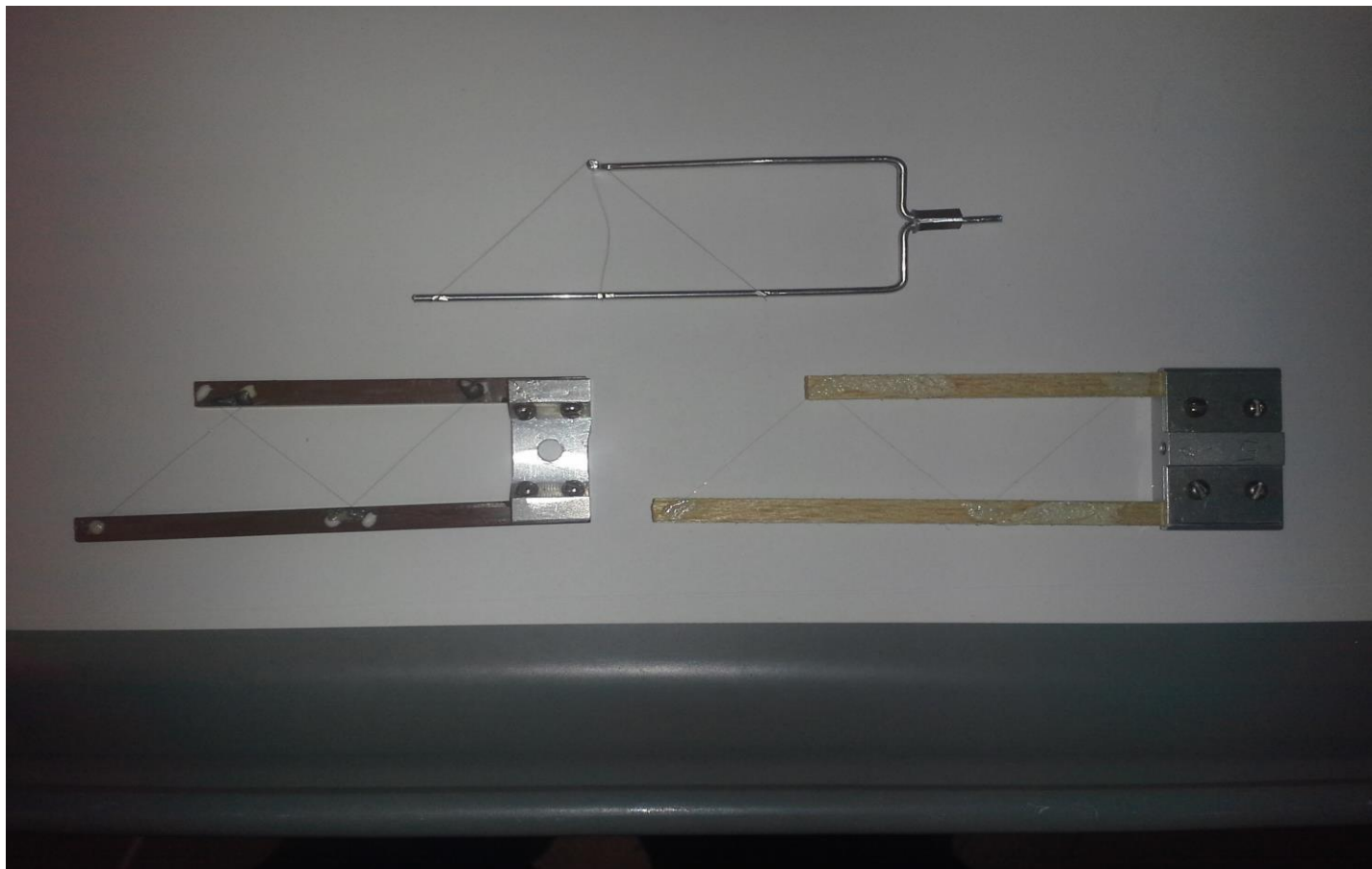
System Reliability Issues Encountered

Turn Buckles (Shaft Couplings)



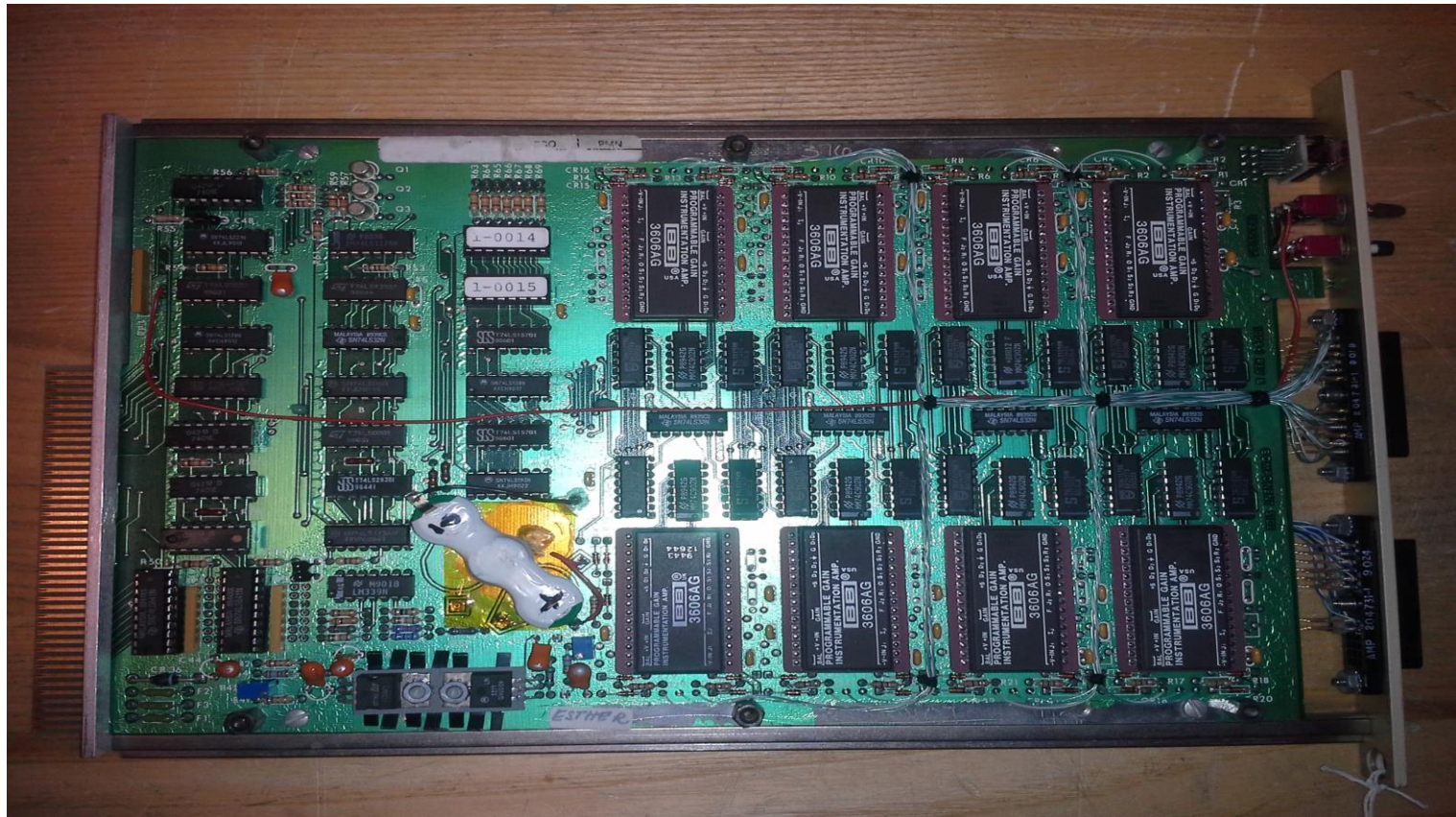
System Reliability Issues Encountered

Wire Fork Assembly



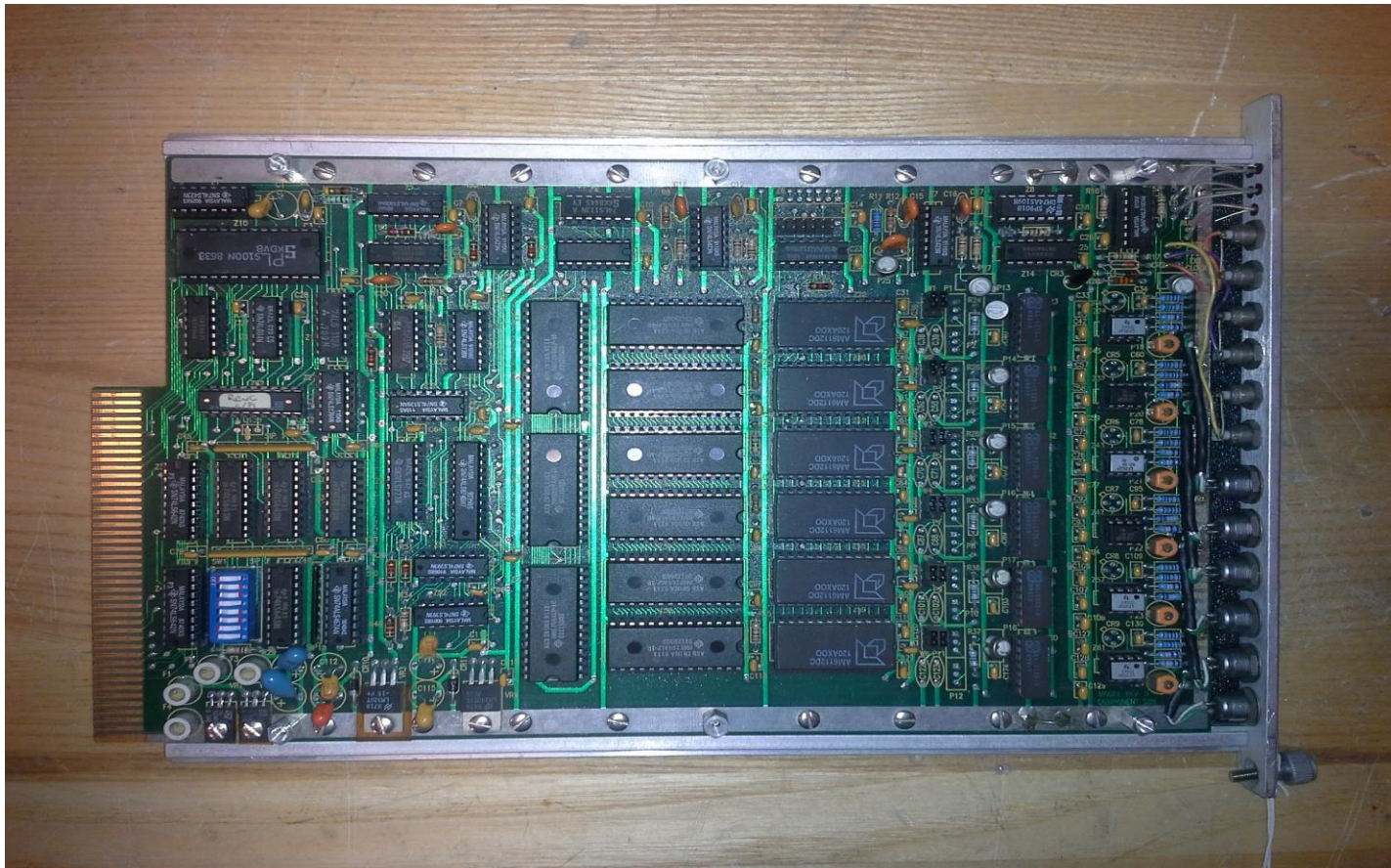
System Reliability Issues Encountered

CAMAC Module (PGA)



System Reliability Issues Encountered

CAMAC Module (Transient Recorder)



Summary of System Reliability Issues

Hardware:

Couplings, Broken Wires, CAMAC
Modules, Preamp, Grounding,
Cabling

Other:

Software-Harp Analyzer Tool,
Operational Outliers

System Reliability Improvements

New Turn Buckles

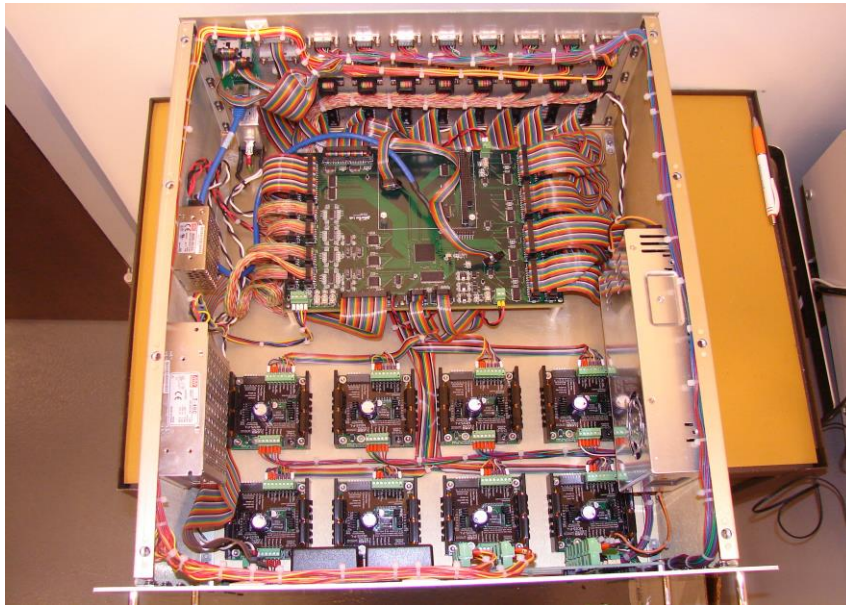


New Fork Assemblies



System Reliability Improvements

8-channel stepper motor driver electronics



Embedded PC-104 with integrated I/O, ADC, and Power channels



Improvement Plans Moving Forward

- Improve Hot Checkout process ~90% complete
- Replace all turn buckles ~ 80% complete
- Replace aging electronics ~ 25% complete
- Replace all fork assemblies
- Baseline all wire scanner electronics (Old-New)
- Integrate PMT interface into existing chassis
- Review Wire Scanner Software Controls and Data Analysis Tools

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