

SoLID DAQ Cost basis

1.1.5	<u>DAQ/Electronics/Controls</u>		
1.1.5.1	DAQ/Electronics design		
1.1.5.1.1	FADC specification	lab	
1.1.5.1.2	Crate and support module design	lab	
1.1.5.1.3	GEM Readout specification and data reduction	lab	
1.1.5.1.4	FADC VXS readout design	lab	
1.1.5.1.5	Calorimeter trigger design	lab	
1.1.5.1.6	Cherenkov readout design	lab	
1.1.5.1.7	PVDIS trigger design	lab	
1.1.5.1.8	SIDIS trigger design	lab	
1.1.5.2	Detector Power and Cabling		
1.1.5.2.1	HV and LV Power supply specification	lab	
1.1.5.2.2	HV and LV cable/patch design	lab	
1.1.5.2.3	Signal cable/patch design	lab	
1.1.5.3	Slow Controls		
1.1.5.3.1	Slow Controls specification and design	lab	
1.1.5.4	Electronics Shielding		
1.1.5.4.1	Shielding design	lab	
1.1.5.5	Detector tests and prototyping		lab

Labor and procurement for R&D were based on discussion with Fast Electronic and DAQ group based on 12 GeV upgrade work for Hall B and Hall D.

1.2.5	<u>DAQ/Electronics/Controls</u>		
1.2.5.1	DAQ Electronics		
1.2.5.1.1	Flash ADCs	Lab	Lab
1.2.5.1.2	Crates and DAQ support modules	Lab	Lab
1.2.5.1.3	GEM Readout	Lab	Lab
1.2.5.1.4	FADC VXS readout	<u>EJ</u>	-
1.2.5.1.5	Calorimeter trigger	Lab	-
1.2.5.1.6	Cherenkov readout	lab	-
1.2.5.1.7	PVDIS trigger	lab	
1.2.5.1.8	SIDIS trigger	lab	

Labor costs were based on discussion with Fast Electronic and DAQ group based on 12 GeV upgrade work for Hall B and Hall D. Procurement costs were also based on CLAS12 or Hall D experience along with latest quotes from recent orders.

1.2.5.2	<u>Detector Power and cabling</u>		
1.2.5.2.1	High and Low voltage power supplies		vendor
1.2.5.2.2	High and Low voltage cabling and patch panels	lab	lab
1.2.5.2.3	Signal Cables and Patch Panels	lab	lab

Labor costs were based on the 12 GeV upgrade experience for Hall C. Procurement costs were based on quotes from CAEN.

1.2.5.4	<u>Slow Controls</u>		
1.2.5.4.1	Slow controls IOCs and host		lab
1.2.5.4.2	Slow controls programming	lab	

Slow control estimates were based on Hall B Clas12 numbers.

1.2.5.5	<u>Setup and Testing</u>		
1.2.5.5.1	HV/Signal cable install + testing	lab	
1.2.5.5.2	Ecal	lab	
1.2.5.5.3	SPD	lab	
1.2.5.5.4	Light Gas Cerenkov	lab	
1.2.5.5.5	Heavy Gas Cerenkov	lab	
1.2.5.5.6	Full sytem testing	lab	

Labor estimates for testing are based on lab experience in Hall A and in Hall C

1.2.5.6	<u>Shielding hut</u>		
1.2.5.6.1	Shielding hut	lab	lab

The DAQ bunker labor and costs were based on experience in Hall C with the G0 and QWeak electronics bunkers