

Assumed exchange rate :
CAD/US 1.333333

Color Code:

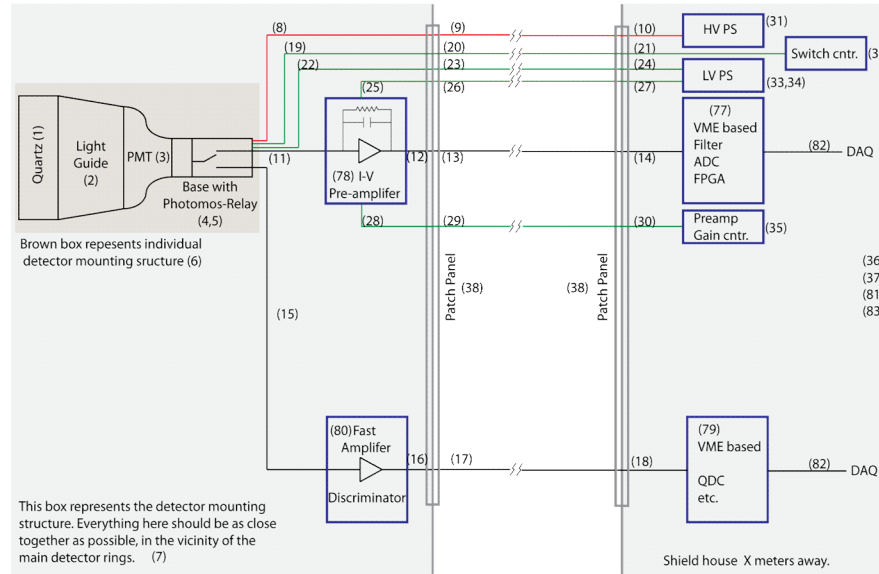
Red text: Un-costed / missing detail
CFI relevant fields

det M. 224
SM det. 28
cont. 0.2

Legend:

PP patch panel
PS power supply
Det Detector
TRK Traking
INT Integrating
PreA Preamp
ADC ADC
PMT PMT
Sig Signal
Cntr Controller/Control

Integrating Detector Work Package Diagram



Main Detectors											
Item	System	Part	Unit	Responsible Institution	Funding Source	Items	items	Cost/item \$US	Cost/item CAD	Total/part US\$	Total/part CAD
1	Quartz	#	UofM/SBU/SU	CFI		224	268	\$900.00	\$1,200.00	\$241,200.00	\$321,600.00
2	Light guides	#	UofM/SBU/SU	CFI		224	268	\$200.00	\$266.67	\$53,600.00	\$71,466.67
3	PMTs	#	UofM/SBU/SU	CFI		224	268	\$1,070.00	\$1,426.67	\$286,760.00	\$382,346.67
4	Bases	#	UofM/SBU/SU	CFI		224	268	\$300.00	\$400.00	\$80,400.00	\$107,200.00
5	Misc. Supplies and Mat.	arb.	UofM/SBU/SU	CFI		224	268	\$50.00	\$66.67	\$13,400.00	\$17,866.67
6	Quartz assembly mounts	#	UofM/SBU/SU	CFI		224	268	\$300.00	\$400.00	\$80,400.00	\$107,200.00
7	Det. package mount	#	JLab	DOE/NSF		1	1	\$0.00	\$0.00	\$0.00	\$0.00
8	HV cables PMT->PP	#	JLab	DOE/NSF		448	537	\$0.00	\$0.00	\$0.00	\$0.00
9	HV cables PP->PP	#	JLab	DOE/NSF		448	537	\$0.00	\$0.00	\$0.00	\$0.00
10	HV cables PP->PS	#	JLab	DOE/NSF		448	537	\$0.00	\$0.00	\$0.00	\$0.00
11	Sig. cables (INT) PMT -> PreA	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
12	Sig. cables (INT) PreA -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
13	Sig. cables (INT) PP -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
14	Sig. cables (INT) PP -> ADC	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
15	Sig. cables (TRK) PMT -> PreA	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
16	Sig. cables (TRK) PreA -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
17	Sig. cables (TRK) PP -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
18	Sig. cables (TRK) PP -> ADC	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
19	Base Switch cables PMT -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
20	Base Switch cables PP -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
21	Base Switch cables PP -> Cntr.	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
22	Base power cables PMT -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
23	Base power cables PP -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
24	Base power cables PP -> PS	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
25	PreA power cables PMT -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
26	PreA power cables PP -> PP	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00
27	PreA power cables PP -> PS	#	JLab	DOE/NSF		224	268	\$0.00	\$0.00	\$0.00	\$0.00

28	PreA gain cntr. cbl. PMT -> PP	#	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
29	PreA gain cntr. cbl. PP -> PP	#	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
30	PreA gain cntr. cbl. PP -> Cntr.	#	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
31	HV Power Supplies	channels	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
32	Base Switch Cntr. board(s)	channels	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
33	Base Switch PS	channels	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
34	PreA PS	channels	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
35	PreA gain Cntr. board(s)	channels	JLab	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
36	Racks	#	JLab	DOE/NSF	1	1	\$0.00	\$0.00	\$0.00	\$0.00
37	Crates	#	JLab	DOE/NSF	1	1	\$0.00	\$0.00	\$0.00	\$0.00
38	Patch panels	#	JLab	DOE/NSF	1	1	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal equipment only									\$755,760.00	\$1,007,680.00

Shower Max Detectors										
System	Part	Unit	Responsible Institution	Funding Source	Items	items	Cost/item \$US	Cost/item CAD	Total/part US\$	Total/part CAD
W. 20% cont.										
39	Quartz	#	ISU/SBU	CFI	112	134	\$1,116.33	\$1,488.43	\$149,587.55	\$199,450.07
40	PMTs	#	ISU/SBU	CFI	28	33	\$1,070.00	\$1,426.67	\$35,310.00	\$47,080.00
41	Bases	#	ISU/SBU	CFI	28	33	\$300.00	\$400.00	\$9,900.00	\$13,200.00
42	Light guides	#	ISU/SBU	CFI	28	33	\$100.00	\$133.33	\$3,300.00	\$4,400.00
43	Misc. Supplies and Mat.	arb.	ISU/SBU	CFI	28	28	\$50.00	\$66.67	\$1,400.00	\$1,866.67
44	Tungsten / Lead	#	ISU/SBU	CFI	112	134	\$538.34	\$717.79	\$72,137.63	\$96,183.50
45	Stack support frame	#	ISU/SBU	CFI	33	33	\$300.00	\$400.00	\$9,900.00	\$13,200.00
46	Detector package mount	#	Jlab	DOE/NSF	1	1	\$0.00	\$0.00	\$0.00	\$0.00
47	HV cables	#	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
48	Signal cables	#	JLab	DOE/NSF	248	297	\$0.00	\$0.00	\$0.00	\$0.00
49	PMT to Preamp cables	#	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
50	Base control cables	#	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
51	Preamp power cables	#	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
52	HV Power Supplies	channels	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
53	PMT control power sup.	channels	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
54	Preamp power sup.	channels	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
55	PMT control interface	channels	JLab	DOE/NSF	124	148	\$0.00	\$0.00	\$0.00	\$0.00
56	Racks	#	JLab	DOE/NSF	1	1	\$0.00	\$0.00	\$0.00	\$0.00
57	Crates	#	JLab	DOE/NSF	1	1	\$0.00	\$0.00	\$0.00	\$0.00
58	Patch panels	#	JLab	DOE/NSF	1	1	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal equipment only									\$281,535.18	\$375,380.24

Scanner										
	Part	Unit	Responsible Institution	Funding Source	Items	items	Cost/item \$US	Cost/item CAD	Total/part US\$	Total/part CAD
						W. 20% cont.				
59	Quartz	#	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
60	PMTs	#	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
61	Bases	#	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
62	Light guides	#	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
63	Motion System	#	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
64	Mounting	#	VT/JLab	DOE/NSF		1	6	\$0.00	\$0.00	\$0.00
65	HV cables	#	JLab	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
66	Signal cables	#	JLab	DOE/NSF		8	6	\$0.00	\$0.00	\$0.00
67	PMT to Preamp cables	#	JLab	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
68	Base control cables	#	JLab	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
69	Preamp power cables	#	JLab	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
70	HV Power Supplies	channels	JLab	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
71	PMT control power sup.	channels	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
72	Preamp power sup.	channels	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
73	PMT control interface	channels	VT	DOE/NSF		4	6	\$0.00	\$0.00	\$0.00
74	Racks	#	JLab	DOE/NSF		1	6	\$0.00	\$0.00	\$0.00
75	Crates	#	JLab	DOE/NSF		1	6	\$0.00	\$0.00	\$0.00
76	Patch panels	#	JLab	DOE/NSF		1	6	\$0.00	\$0.00	\$0.00

Subtotal equipment only								\$0.00	\$0.00
-------------------------	--	--	--	--	--	--	--	--------	--------

Integrating Electronics										
	Part	Unit	Responsible	Funding Source	Items	items	Cost/item \$US	Cost/item CAD	Total/part US\$	Total/part CAD
			Institution			W. 20% cont.				
77	ADC (INT)	channels	UofM/TRIUMF	CFI	512	614	\$200.00	\$266.67	\$122,800.00	\$163,733.33
78	Pre-amplifiers (INT)	channels	UofM/TRIUMF	CFI	512	614	\$75.00	\$100.00	\$46,050.00	\$61,400.00
79	ADC (TRK)	channels	(Jlab ?)	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
80	Pre-amplifiers (TRK)	channels	?	DOE/NSF	224	268	\$0.00	\$0.00	\$0.00	\$0.00
81	VME crates	#	UofM/JLab	DOE	45	54	\$0.00	\$0.00	\$0.00	\$0.00
82	Cables	#	UofM/JLab	DOE	448	537	\$0.00	\$0.00	\$0.00	\$0.00
83	Crate CPUs	#	UofM/JLab	DOE	40	48	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal equipment only									\$168,850.00	\$225,133.33

Overall Total (equipment only)								\$168,850.00	\$1,608,193.57
---------------------------------	--	--	--	--	--	--	--	--------------	----------------

Manpower									
Part	Unit	Responsible Institution	Funding Source	Num of /yr Or FTEs	Num of yrs	Cost/year \$US	Cost/year CAD	Total/item US\$	Total/item CAD
84	Undergraduate Students	#	UofM	NSERC	2	8		\$7,000.00	\$112,000.00
85	Undergraduate Students	#	UofW	NSERC	2	8		\$7,000.00	\$112,000.00
86	Undergraduate Students	#	Memorial	NSERC	1	8		\$7,000.00	\$56,000.00
87	Undergraduate Students	#	Acadia	NSERC	1	8		\$7,000.00	\$56,000.00
88	Undergraduate Students	#	SBU	NSF	0	0	\$0.00	\$0.00	
89	Undergraduate Students	#	SU	NSF	0	0	\$0.00	\$0.00	
90	Undergraduate Students	#	ISU	NSF	0	0	\$0.00	\$0.00	
91	Undergraduate Students	#	VT	NSF	0	0	\$0.00	\$0.00	
92	Graduate Students	#	UofM	NSERC	6	12		\$21,000.00	\$1,512,000.00
93	Graduate Students	#	UofW	NSERC	2	12		\$21,000.00	\$504,000.00
94	Graduate Students	#	Memorial	NSERC	1	12		\$21,000.00	\$252,000.00
95	Graduate Students	#	Acadia	NSERC	1	12		\$21,000.00	\$252,000.00
96	Graduate Students	#	SBU	NSF	0	0	\$0.00	\$0.00	
97	Graduate Students	#	SU	NSF	0	0	\$0.00	\$0.00	
98	Graduate Students	#	ISU	NSF	0	0	\$0.00	\$0.00	
99	Graduate Students	#	VT	NSF	0	0	\$0.00	\$0.00	
100	Research Associates (Postdocs)	#	UofM	NSERC	3	12		\$60,000.00	\$2,160,000.00
101	Research Associates (Postdocs)	#	UofW	NSERC	0	0		\$60,000.00	\$0.00
102	Research Associates (Postdocs)	#	Memorial	NSERC	0	0		\$60,000.00	\$0.00
103	Research Associates (Postdocs)	#	Acadia	NSERC	0	0		\$60,000.00	\$0.00
104	Research Associates (Postdocs)	#	SBU	NSF	0	0	\$0.00	\$0.00	
105	Research Associates (Postdocs)	#	SU	NSF	0	0	\$0.00	\$0.00	
106	Research Associates (Postdocs)	#	ISU	NSF	0	0	\$0.00	\$0.00	
107	Research Associates (Postdocs)	#	VT	NSF	0	0	\$0.00	\$0.00	
108	Engineers	FTE	UofM	NSERC	0	0		\$100,000.00	\$0.00
109	Engineers	FTE	UofW	NSERC	0	0		\$100,000.00	\$0.00
110	Engineers	FTE	Memorial	NSERC	0	0		\$100,000.00	\$0.00
111	Engineers	FTE	Acadia	NSERC	0	0		\$100,000.00	\$0.00
112	Engineers	FTE	SBU	NSF	0	0	\$0.00	\$0.00	
113	Engineers	FTE	SU	NSF	0	0	\$0.00	\$0.00	
114	Engineers	FTE	ISU	NSF	0	0	\$0.00	\$0.00	
115	Engineers	FTE	VT	NSF	0	0	\$0.00	\$0.00	
116	Technicians	FTE	UofM	NSERC	0	0		\$60,000.00	\$0.00
117	Technicians	FTE	UofW	NSERC	0	0		\$60,000.00	\$0.00
118	Technicians	FTE	Memorial	NSERC	0	0		\$60,000.00	\$0.00
119	Technicians	FTE	Acadia	NSERC	0	0		\$60,000.00	\$0.00
120	Technicians	FTE	SBU	NSF	0	0	\$0.00	\$0.00	
121	Technicians	FTE	SU	NSF	0	0	\$0.00	\$0.00	
122	Technicians	FTE	ISU	NSF	0	0	\$0.00	\$0.00	

[illegible]