

HV Rack Wiring Proposal

Each sextant has 195 tubes and 94 HV cables according to this map

Layer	# of modules	2x8	3x8	2x7	# of tubes (# of HV ch.)
1	6	2	1	3	13
2	6	3	1	2	13
3	6	5	1	-	13
4	7	5	-	2	14
6	7	3	1	3	15
8	8	4	-	4	16
10	8	8	-	-	16
12	8	6	1	1	17
14	9	8	-	1	18
16	9	8	1	-	19
17	10	8	-	2	20
18	10	10	-	-	20
Total	94				195

Each sextant has 3 HV power supplies each with 80 channels for a total of 240 channels. We try to reserve a 20 channel block in one of the power supplies should we ever have to re-condition tubes (a.k.a. Hospital)

Assuming radial symmetry in the occupancy of the LST detector it is reasonable to assign LST tubes to HV channels layer by layer.
To accommodate potentially high rates in layer 1 we will use 2 HV channels per layer 1 tube.

In the proposed scheme the Hospital is at a central location so it can be reached easily by any HV wire. We also tried to keep those HV blocks that are not completely filled near the center.

Obsolete (see next page)

	HV Channels 0 – 19	HV Channels 20 – 39	HV Channels 40 – 59	HV Channels 60 – 79
HVPS 1	Layer 18 20 tubes	Layer 14 18 tubes 2 free	Layer 8 16 tubes Layer 6 2 tubes 2 free	Layer 4 14 tubes Layer 6 6 tubes
HVPS 2	Layer 1 13 (half) tubes Layer 2 7 tubes	Layer 12 17 tubes 3 free	Hospital 20 free	Layer 1 13 (half) tubes Layer 2 6 tubes 1 free
HVPS 3	Layer 17 20 tubes	Layer 16 19 tubes 1 free	Layer 10 16 tubes 4 free	Layer 3 13 tubes Layer 6 7 tubes

Cable Length: Long enough for every wire to reach the hospital (this corresponds to the distance from HVPS1:channel 0 to HVPS2: channel 59)

Modified Layout (8/14/2004)

This is more in-line with the installation schedule

	HV Channels 0 – 19	HV Channels 20 – 39	HV Channels 40 – 59	HV Channels 60 – 79
HVPS 1	Layer 3 13 tubes Layer 6 7 tubes	Layer 1 13 (half) tubes Layer 2 7 tubes	Layer 1 13 (half) tubes Layer 2 6 tubes 1 free	Layer 4 14 tubes Layer 6 6 tubes
HVPS 2	Layer 10 16 tubes 4 free	Layer 12 17 tubes 3 free	Hospital 20 free	Layer 8 16 tubes Layer 6 2 tubes 2 free
HVPS 3	Layer 17 20 tubes	Layer 16 19 tubes 1 free	Layer 14 18 tubes 2 free	Layer 18 20 tubes

Cable Length: Long enough for every wire to reach the hospital (this corresponds to the distance from HVPS1:channel 0 to HVPS2:channel 59)

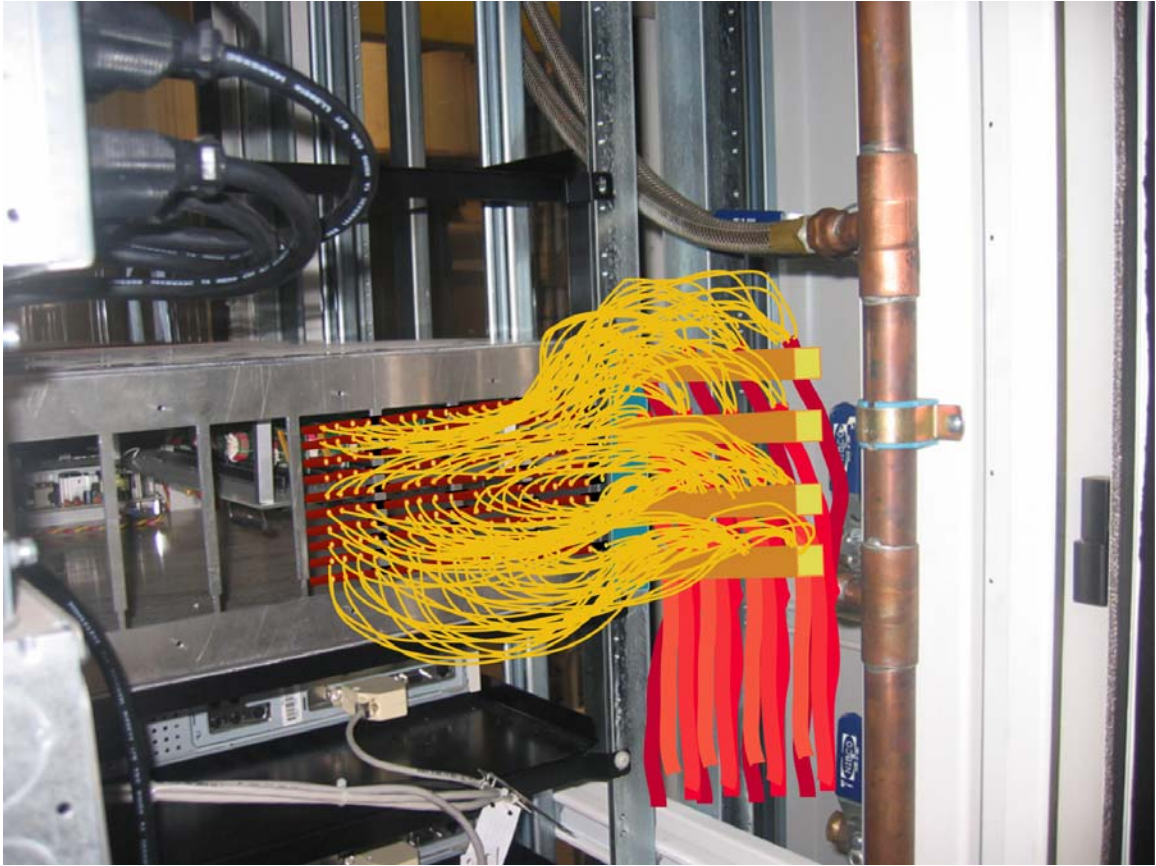


Figure 1 Strain relief for 16 HV cables (1/6 of a sextant)