

594 A Underground installation

595 - rack space

596 - cable lists

597 - underground layout, cable routing

Item	Description	pc	space/pc	space	tot
1	HIGH AND LOW VOLTAGE SYSTEM BY CAEN				16U
1.a	A3485 3-phase 400V 2x2.5kW converter, 48V 28kg 50cm	1	3U	3U	
1.b	EASY3000F Easy fan unit	1	3U	3U	
1.c	EASY3000B EASY crate bolt connector 10kg 65cm	1	6U	6U	
1.d	A3009B 12ch 8V 8A LV module bolt connector, 2 + 1 spare	3	in 1.c		
1.e	5527LC 4-slot LC Universal power supply system 14kg 50cm	1	4U	4U	
1.f	A1676 Branch controller, 1 needed + 1 spare	2	in 1.e		
1.g	A1539P SYx527 HV channel 32ch 100V/10mA, 1 + 1 spare	2	in 1.e		
2	DAQ AND NETWORK				13U
2.a	4xHLT box	3	2U	6U	
2.b	DAQ switch	1	1U	1U	
2.c	Local storage unit	1	2U	2U	
2.d	4xECS / Monitoring etc.	1	2U	2U	
2.e	ECS switch	1	1U	1U	
2.f	rackmountable screen, keyboard, mouse	1	1U	1U	
3	DETECTOR READOUT				20U
3.a	LHC crate with power supply and fan unit	1	11U	11U	
3.b	TELL1s	8	in 3.a		
3.c	ODIN	1	in 3.a		
3.d	CTRL boards	2	in 3.a		
3.e	Optical-to-copper converter	1	1U	1U	
3.f	VME crate with power supply	1	8U	8U	
3.g	Optical fan-out	1	in 3.f		
3.h	More needed for clock signals from LHC ?	?	?		
4	CONTROL AND MONITORING				8U
4.a	ELMB unit	2	2U	4U	
4.b	rackmounted PC for SPECS card	1	2U	2U	
4.c	rackmounted PC for CAN bus	1	2U	2U	
5	RACK INFRASTRUCTURE				?
5.a	Turbine and deflector ?	?	?		

Table 3: Rack space needed for BGV.

Notes:

1. A3485 needs 3 phase 400V in rack.
2. Patch panels will be mounted on the back side of BY14 to connect the LV cables which then connect with short cables to the front of the rack. The short cable must either cross inside the rack or next to it.
3. Need to add turbine and air deflector in rack for vertical air flow.
4. PCs will block vertical air flow!! Group them.
5. Dimensions of BY13/14: Width 19 inch (48 cm), height 45 units (200 cm), depth: 75 cm + 15 cm (the first number is the distance between the front and back fixation planes, the second number is an extension in front of the front fixation plane)

Table 4: Proposed approximative rack layout for BGV. Missing: turbine + deflector ??

U	Rack BY13	Rack BY14	Remarks
45	4xHLT computer	LHC crate (TELL1s)	
44			
43	4xHLT computer		
42			
41	4xHLT computer		
40			
39	DAQ switch		
38	Local storage		
37			
36	4xECS computer		
35			
34	ECS switch	Opt-to-copper	
33	Screen-keyb-mouse	Opt fan-out	
32			
31	CTRL PC SPECS		
30			
29	CTRL PC CAN		
28			
27			
26			
25		CAEN Easy crate	
24			
23			
22			
21			
20			
19		CAEN Easy fan unit	fan unit size to be confirmed
18			
17		CAEN Universal PSS	
16			
15			
14			
13		CAEN converter	CAEN converter needs 3 phase 400V in rack !!
12			
11			
10		ELMB unit	
09			
08		ELMB unit	
07			
06			
05		ELMB unit	
04			
03		ELMB unit	
02			
01			