

## READ-OUT MINICRATE LINKS DISTRIBUTION

Version 2

This new version tries to follow as much as possible the HV distribution proposed by Marco De Giorgi, in order to have the same DT chambers serviced from the same balcony-tower. It is our baseline solution. A different approach, in which both Sector Collectors are placed on the same side of a wheel (USC55 side) is being under study to reduce latency, if possible (Fabrizio Odorici & Fabio Montecassiano).

Minicrate to Read-Out Server (ROS) links have been distributed in order to minimize the required number of connectors on the ROS while maintaining a unique ROS board format for every sector: 25 RO links per ROS.

There will be one ROS per sector, that is 60 boards, mounted in 10 racks, two per wheel: one on the left side of the wheel L and one on the right side R. (Here, and in what follows, “right” means closer to USC55). For the MB1, MB2 and MB3 minicrates the connections are: sectors 1, 2, 3, 10, 11 and 12 to the right side tower and 4 to 9 to the left side tower, as can be seen in the following figure:

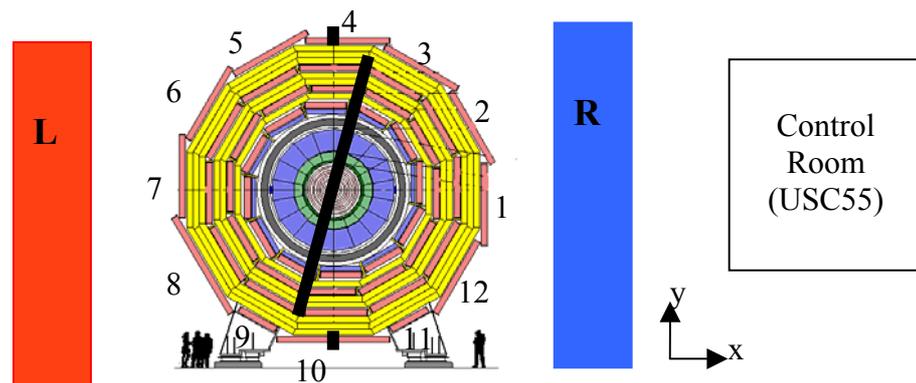


Fig. 1: Diagram of read-out links distribution over a detector wheel.

As MB4 from sector 4 has more links than MB4 from sector 10, in order to keep a configuration with 25 links in each ROS, the links for those chambers have been splitted to both sides. So MB4/4R and MB4/10R will go to the right tower and MB4/4L and MB4/10L will go to the left tower. The rest of the MB4 links will follow the same distribution as MB1. This configuration is explained in Tables 1 and 2. Links from MB4/4R are re-distributed to ROS10 and ROS11, as well as links from MB4/10L to ROS4 and ROS9, through a set of patch panels.

Chamber/Sector (MB1, MB2 & MB3)	Goes to	Number of links out of MC	Comment
MBx/1	ROS1	3+3, 3+3, 4+3	Right Tower
MBx/2	ROS2	3+3, 3+3, 4+3	
MBx/3	ROS3	3+3, 3+3, 4+3	
MBx/4	ROS4	3+3, 3+3, 4+3	Left Tower
MBx/5	ROS5	3+3, 3+3, 4+3	
MBx/6	ROS6	3+3, 3+3, 4+3	
MBx/7	ROS7	3+3, 3+3, 4+3	
MBx/8	ROS8	3+3, 3+3, 4+3	
MBx/9	ROS9	3+3, 3+3, 4+3	
MBx/10	ROS10	3+3, 3+3, 4+3	Right Tower
MBx/11	ROS11	3+3, 3+3, 4+3	
MBx/12	ROS12	3+3, 3+3, 4+3	

**Table 1: MB1-MB3 links distribution.**

Chamber/ Sector	Goes to	Number of links out of MC	Links out of P.P.	Links into ROS	Comment
MB4/1	ROS1	3+3		3+3	
MB4/2	ROS2	3+3		3+3	
MB4/3	ROS3	3+3		3+3	
MB4/4R	ROS10 & ROS11	3+2			
MB4/4L	ROS4	3+2	3+3	3+3	1 from MB4/10L
MB4/5	ROS5	3+3		3+3	
MB4/6	ROS6	3+3		3+3	
MB4/7	ROS7	3+3		3+3	
MB4/8	ROS8	3+3		3+3	
MB4/9	ROS9	3+0	3+3	3+3	3 from MB4/10L
MB4/10L	ROS4 & ROS9	3+1			
MB4/10R	ROS10	3+1	3+3	3+3	2 from MB4/4R
MB4/11	ROS11	3+0	3+3	3+3	3 from MB4/4R
MB4/12	ROS12	3+3		3+3	

**Table 2: MB4 links distribution.**