

RDO Locations

- There is a very important effort starting with the goal of defining the locations of the RDO's for all detectors.
 - Locations are critical because of
 - Tight space constraints in the ePIC detector
 - Evaluation of radiation hardness needs
 - Power/Cooling
- The RDO will be a “standard board” but we assume it might need variations
 - Optical transceiver
 - Size / shape
 - # of FEB connectors
 - If necessary, could be integrated in a FEB
 - Will need firmware implementation for specific ASICs
- Electronics and DAQ have agreed to specify features of the default standard RDO
 - Size of board (I am assuming something around 4x4 inches or less)
 - Type and number of connectors
 - Length of drive (depends on rate/cables/voltages)
 - Power need
 - Maximum radiation level for proper functioning
- We will then ask each DSC to define the specific locations

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No board design at the moment, so need to give reasonable requirements:

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 - Location
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- The RDO w
 - Optical
 - Size / s
 - # of FE
 - If need
 - Will ne
- Electronics

Assuming:

- Artix/Artix-like FPGA
- 16-32 serial links / connectors for ASIC connections
- 3(4) fiber links possible, with 2 populated in most cases
- Any boards inside detector need to be pre-installed in their sub-detector and inserted with the detector and can be accessed only once/per year or so...

Do we need specific values or "functions" for:

- Connector space
- Drive length
- Power (ie. do we have to design distribution scheme or only RDO board needs?)

- Size of board (I am assuming something around 4x4 inches or less)
- Type and number of connectors
- Length of drive (depends on rate/cables/voltages)
- Power need
- Maximum radiation level for proper functioning
- We will then ask each DSC to define the specific locations