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Power up and power down instructions

Low-Voltage power supply system

This uses the Wiener Maraton system. More details can be found here, see Figure 2 of that document.

Two of the components (PFCs and controller modules) are located in the RICH racks D3C02 (RICH1) and D3C05 (RICH2). The other components (front-end DC-DC Maraton boxes) are located close to the RICH detectors, on the balcony for RICH1 (rack P1A05) and in the bunker for RICH2 (racks T0A05 for C-side and T0A15 for A-side).

POWER-ON

The power-on sequence (from the off-state) is as follows, and must be carried out in this order.

1) Controller modules: these are mounted in 6U VME crates in racks D3C02 and D3C05. A crate is shown in Fig. 1a. The modules will start-up automatically when the crates are turned on. Each crate has two ON/OFF buttons. One button is on the rear of the crate power supply and can be accessed via the back of the rack. It is shown in Fig. 1b and should be turned on first. The other button is on the front of the crate as shown in Fig. 1c. When the crate is powered correctly, the 'Status' light is green and the display shows the 5V supply and the current (~3A).

The controller modules then configure themselves. When they are ready, the top green LED of the pair labelled 'CPU' is on. This is shown in Fig. 1a.

Note: Rack power distribution: the controller crate is powered from the rack power distribution outlets at the top of the rear of the rack. Each outlet has an individual ON/OFF switch.

- Fig1a:

- Fig1b:

- Fig1c:

2) PFCs (Power Factor Correction): these are mounted in 4U crates in racks D3C02 and D3C05. A crate is shown in Fig. 2a. Each PFC is connected to the rack power distribution at the rear of the rack. The PFCs are turned on with the green switch on the front face. After turning on, the green 'Status' light will flash for a few seconds and then stay on.

- Fig2a:

Note: Rack power distribution: the PFCs are powered from the rack power distribution outlets at the top of the

rear of the rack. Each outlet has an individual ON/OFF switch.

3) Maraton boxes: these are 3U units mounted in racks P1A05 (RICH1), T0A05 (RICH2) and T0A15 (RICH2). RICH1 has three boxes and RICH2 has four, two for each side. The Maraton is turned on with the green ON/OFF switch as shown in Fig. 3a.

POWER-OFF

The power-off sequence is as follows, and must be carried out in this order.

1) Maraton boxes: switch off the green buttons (Fig. 3a).

- Fig3a:

2) PFCs (Power Factor Correction): switch off with the green switch on the front face (Fig. 2a). After turning off, the green 'Status' light will flash for a few seconds and then go off.

3) Controller modules: switch of the VME crate with the switch on the front panel (Fig. 1c). Then switch off the crate power supply at the rear of the crate (Fig. 1b).

Silicon-bias power supply system

This uses the CAEN SY1527 system. More details can be found here, see Figure 3 of that document.

The components (SY1527 crate with modules and patch panel) are located in the RICH racks D3C02 (RICH1) and D3C05 (RICH2).

POWER-ON

The power-on sequence (from the off-state) is as follows, and must be carried out in this order.

1) SY1527 crate: the crate has two ON/OFF switches. The first is on the rear and is shown in Fig. 4a and should be turned on first (to the 1 position). The second is on the front of the crate and is shown in Fig. 4b. This switch should be turned to the LOCAL setting. The five lights at the bottom of the front face turn on.

- Fig4a:

- Fig4b:

Note: Rack power distribution: the SY1527 is powered from the rack power distribution outlets at the top of the rear of the rack. Each outlet has an individual ON/OFF switch.

2) Patch panel: this enables/disables the outputs of the SY1527 crate and is shown in Fig. 5a. Each switch corresponds to a RICH column so the columns to be powered-up should be enabled accordingly.

- Fig5a:

POWER-OFF

The power-off sequence is as follows, and must be carried out in this order.

1) Patch panel: disable all outputs with the switches (Fig. 5a).

2) SY1527 crate: turn the switch on the front panel to the OFF position (Fig. 4b). Then turn the switch on the rear of the crate to the 0 position (Fig. 4a).

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