

# Mu3e Wiring diagram style guide.

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## 1 Introduction

The wiring diagram contains all electrical connections between the different components, PCBs, flexes, and crates inside magnet volume, and to the external power supplies. Only the fast LVDS links to the detector ASICs and the optical fibre connections are represented in a compact form. To avoid overlap, we do not repeat PCB schematics. However, the interface to any board, crate, or backplane has to be accurately represented. We do indicate signal termination and lines which are just piped through, e.g. ground through or scl through a backplane.

The wiring diagram is drawn up in KiCad EDA. The human readable text format permits scripting to modify the schematic.

## 2 Style Guide

### 2.1 Hierarchy

The top file contains all connections inside the magnet between feedthroughs, crates, and stand-alone PCBs/components.

Crates are implemented as subsheets. PCB's are preferably also implemented as sheets, so we can indicate signal termination.

### 2.2 Rules

1. Every *wire* corresponds to a physical connection. Either a trace, or a physical wire.
2. Every cable bundle, or differential pair, is grouped into a *bus*.
3. All physical wires are represented.
4. Each PCB/component and feedthrough connector is represented by a sheet or a *symbol* in the local library.

### **2.3 Naming scheme**

To be determined. The wire/bus names in the schematic will need to correspond to the physical cable labels.

**... to be discussed.**

### **References**