

# 1. Hardware for Clermont-Ferrand in the test beam

## 2. Status on Fatalic 4b

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This material is provided by LPC and Collaboration:  
in these slides, the material provided by Collaboration is in red,  
this one provided by LPC in blue.

*Comment: first slides borrowed from Francois, and  
the last one were done last minute*

# HV Remote system for the test beam

- Check of the routing of the 125 m long HV cables that can be connected either to the Demonstrator on the EB module at the A side or to the LB module at the C side.
- Check of the working of the 125 m long HV cables.
- Check of the installation of the 2 HV bus cards in the Demonstrator and of the 2 short internal HV cables, with in particular the connections with the flat connectors on the boards, and of the grounding cables.
- Installation of the 2 other HV Bus boards on the pulse and FATALIC drawers, plus the 2 correspondent short internal HV cables and grounding cables.
- Installation of the HV remote crate in the counting room, with its connections to the HV Prague source and to the DCS via CANbus.
- Installation (without connections) of the 50 m long HV cable that will be used for specific tests to lengthen one 125 m long HV cable.
- Working tests of the Remote system:
  - Measurements with a multimeter of the individual applied HVs (That requests the access to the Drawers).
  - Working of the system via the DCS.

Comments: spare elements will be stored somewhere (HV Bus cards, HV Opto cards, HV Micro cards).

# Particle pulse library

- **Mini-Drawer** close to the Patch Panel in LB Module 0 side C.
- **2 PMT Blocks** with **All-in-One** boards equipped with **FATALIC4b**.
- **2 flat cables 3 m long** driving the pulses to the scope(s) and going through the Patch Panel.
- **Laboratory LV Power Supplies**.
- Scope(s) on the Table.
  - Either Clermont-Ferrand scopes**
    - Simultaneous records of 6 or 4 pulses with a common beam trigger.  
or records in several steps.
  - or **CERN scope** if it is compatible with the pulses
    - Records in several steps depending from the scope possibilities.
- **Connections** of the scope to a laptop in the counting room, provided by LPC team or CERN depending from the scope, using an **Ethernet cable**
- **Cooling**.

# FATALIC tests

- Installation of **FATALIC/All-in-one sets** inside **PMT Blocks** (10 maximum).
- Installation of PMT Blocks in the **FATALIC Drawer**.
- Installation of the **Main Board (LPC Version)** and of the **Daughter Board**.
- Installation of the **Laboratory LV Power Supplies**.
- **All connections + cooling.**

In fact, 3 strategies can be considered, depending from the LPC work status:

## Option A: **Main Board + Daughter board set up**

- The requested connections are the **standard Demonstrator connections**, but for the **LVs**.

## Option B: **Main Board + USB connection**

- The DB is replaced by the **2 USB links** via a small card close to the MB.
- The 2 USB links must be routed across the Patch Panel.
- A **dedicated PC** records the data, plus an **Ethernet cable** and a **laptop outside**

## Option C: **Main Board Prototype (1/4 MB) + USB connection**

- The DB is replaced by 1 USB link via a small card close to the MB.
- The USB link must be routed across the Patch Panel.
- A dedicated PC records the data, plus an Ethernet cable and a laptop outside

# FATALIC 4b : status

- Reminder : why FATALIC 4b ?
  - few (small) problems appeared in dynamic regime (pulse)
  - they should be solved with Fatalic 4b
- Received one week ago (finally !)
  - good news : no smoke after turning it on !
  - no time to do proper tests but had a quick look to linearity

Works better than FATALIC 4,  
as expected. The exact gain in  
linearity has to be quantified

N.B. : the linearity was not the  
only concern in the FATALIC 4b

Result on FATALIC are being  
presented in TWEENP this week

