

PS - Production status

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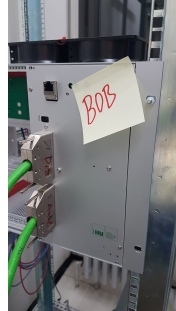


Bundesministerium
für Bildung
und Forschung



- boards for 24 PXD - power supply (PS) units ordered at Binder (including components)
- due to delivery problems many components with large delivery times:
 - Binder unable to finish within deadline (end of funding period)
 - incomplete PS delivered to Munich
- most components have been delivered by now
- replacements have been found for components with still extreme long delivery times

- missing components had to be mounted by hand in Munich
- some modification to the boards
- first working unit completed in January this year (using old OVP)



Additional modifications

- additional modifications compared to previous production
- some had to be done after receiving boards from Binder:
 - HV modification:
 - modifications to the HV board
 - new design of DCDC board already for Binder (high power DCDC converter)
 - MCU fast shut down modification: had to be done by hand
 - include OVP: needed dedicated testing and set up (next slide)
 - max DCD-AVDD voltage increased: reprogrammed Step-Down converter

OVP testing in Krakow

- we sent 29 OVP boards to Krakow for setup and testing
- Krakow reported of wrongly placed resistors
- replacement has been sent to Krakow
- current status:
 - all boards had the resistors replaced and tested electrically
 - passed test with PS supply
 - sent back to Munich

Possible issue with these OVPs

- additional connection set by Krakow
- potential new firmware on OVPs
- introduces delay between shutoff of domains
- asked for confirmation: no response
- as discussed:
 - needs testing first
 - run the old setup: remove connection (???), flash new firmware

current status of produced PS-units

- all missing parts have been put onto the boards
- all boards have been modified
- in total 19 PS units completely assembled
- remaining 5 units: at least one issue, either single board or full box
- 5 of the 19 units sent to Bonn:
 - calibration done
 - need OVP??



PS calibration status

- 5 PS tested and calibrated at Bonn:
 - had to fix some issues
 - afterwards seem to run fine (?)
- remaining 14 fully assembled PS:
 - at least calibrated once
 - one showed an issue with HV channel (needs debugging)
 - else seem to work as expected
 - some issues with OVP trigger test:
 - channels dont trigger at all
 - channels trigger too early
 - use a different OVP test compared to Bonn
 - HV channel calibration only done up to 1mA: need to repeat for allowed range of 28mA



- the PS-Boxes with issues not calibrated yet

Revert OVP changes

- purchased jtag usb programmer (delivered 1 week ago)
- are able to flash old firmware:
 - need correct version
 - need instructions
- test the new setup and firmware of OVPs (???)



Documentation status

LMU: rework after factory

- steps to be done on boards from Binder to get "final" version:
 - setting of jumpers, removing connections, replacing resistors ...
- so far an empty document ⇒ transfer my handwritten notes

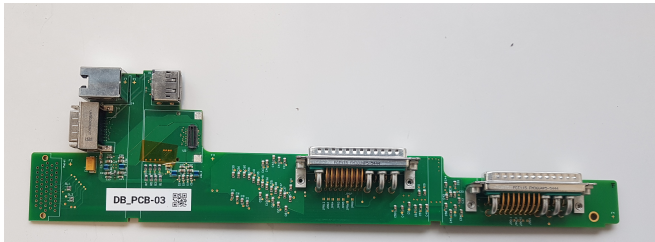
Krakow: OVP

- general OVP documentation exists
- requested documentation for setup and testing procedure
- "should exist" (according to Andrzej)

Stefan: general PS documentation

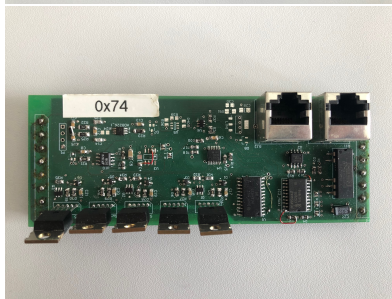
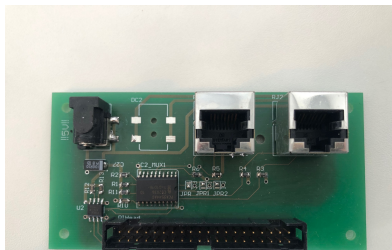
- requested a "general" documentation on the PS from Stefan
- "rudimentary status" (according to Stefan several months ago)
- not seen doc yet, and less responsive Stefan

- found 6 "assembled" dock box PCBs:
 - no version marking on the board
 - observed at least 3 different versions
 - 3 are marked with "beast"
 - one marked as "broken"
 - according to HephyDB:
 - we should have: DB_PCB-3, DB_PCB-7, DB_PCB-8
 - we have Munich ; DB_PCB-3, DB_PCB-4, DB_PCB-7 (broken?)
- some components missing: connector, "optical transceiver" (according to Stefan)
- no bare PCBs found



Request for other material

- Raspberry Pi adapter:
 - one unit in Munich
 - unclear state
- Crate Controller:
 - already sent remaining units to KEK (Boqun) a year ago
 - only remaining one prototype (want to use it?)
 - some PCBs left: 0 - 3 ICs mounted, else bare

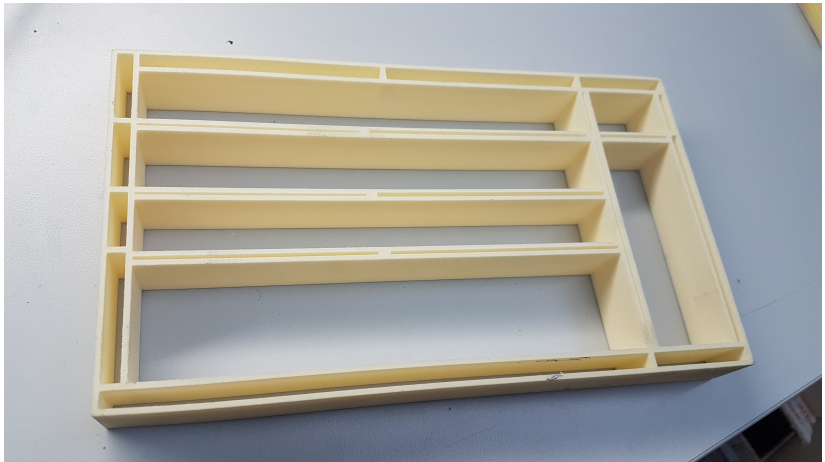


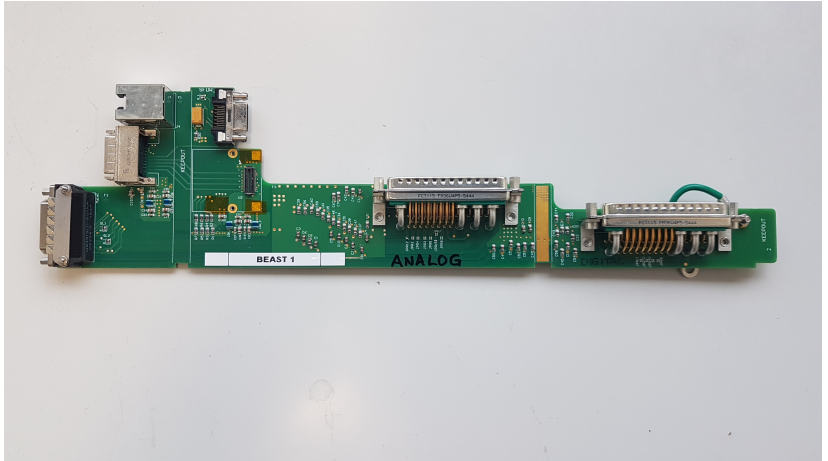
Summary

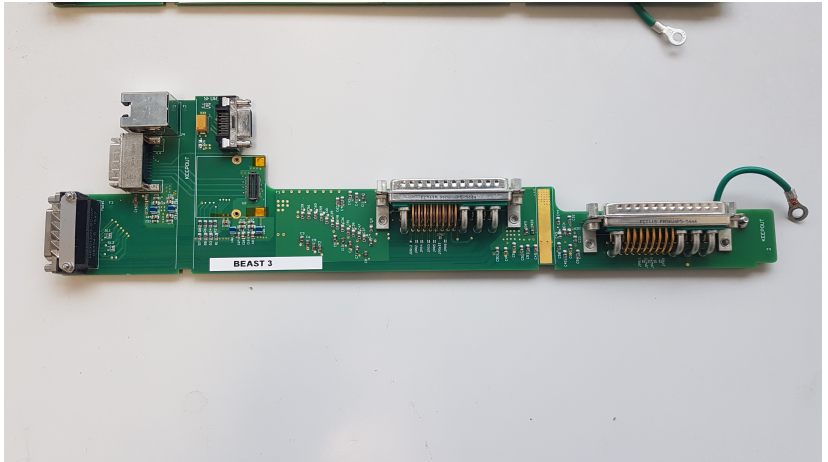
- the production of new PS is ongoing
- in total 19 units assembled:
 - 5 PS sent to Bonn for further testing (no OVP)
 - one unit with issue during calibration
- 5 additional PS units with at least one issue
- documentation is in preparation
- firmware issue of OVP needs to be discussed
- delivery of requested material to KEK:
 - found some
 - need help with paperwork for sending to Japan
 - need to reproduce?

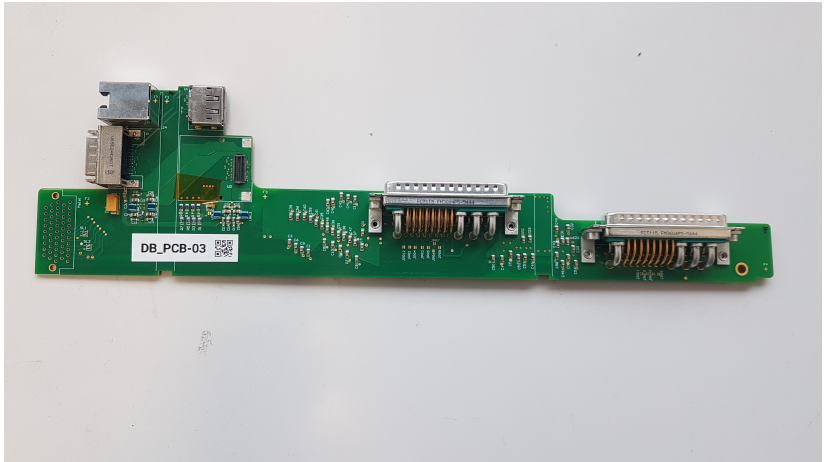
Backup

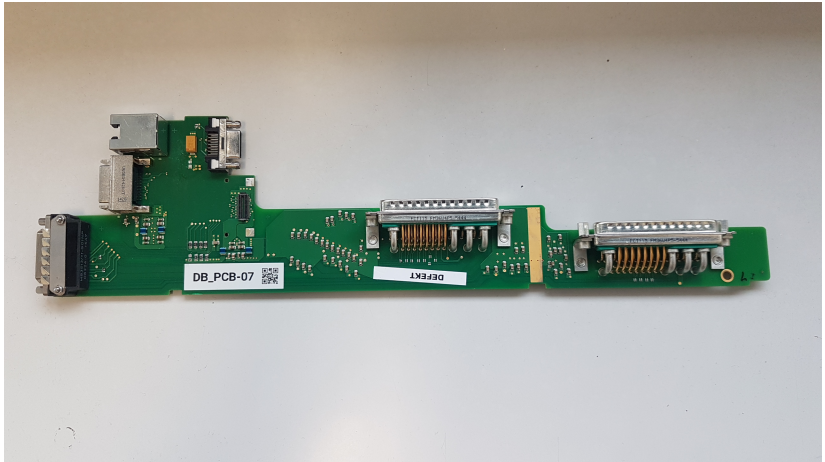
assembly tool

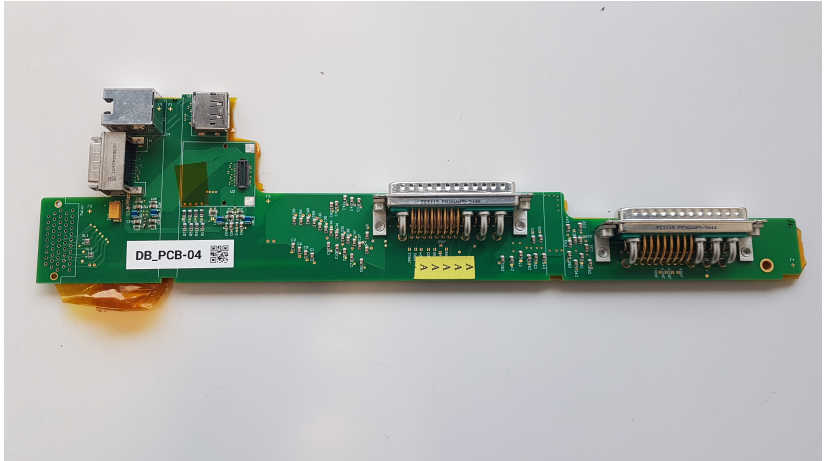












DB_PCB-04



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