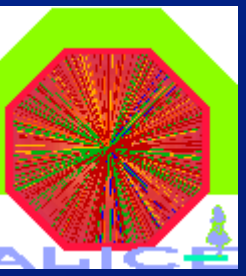
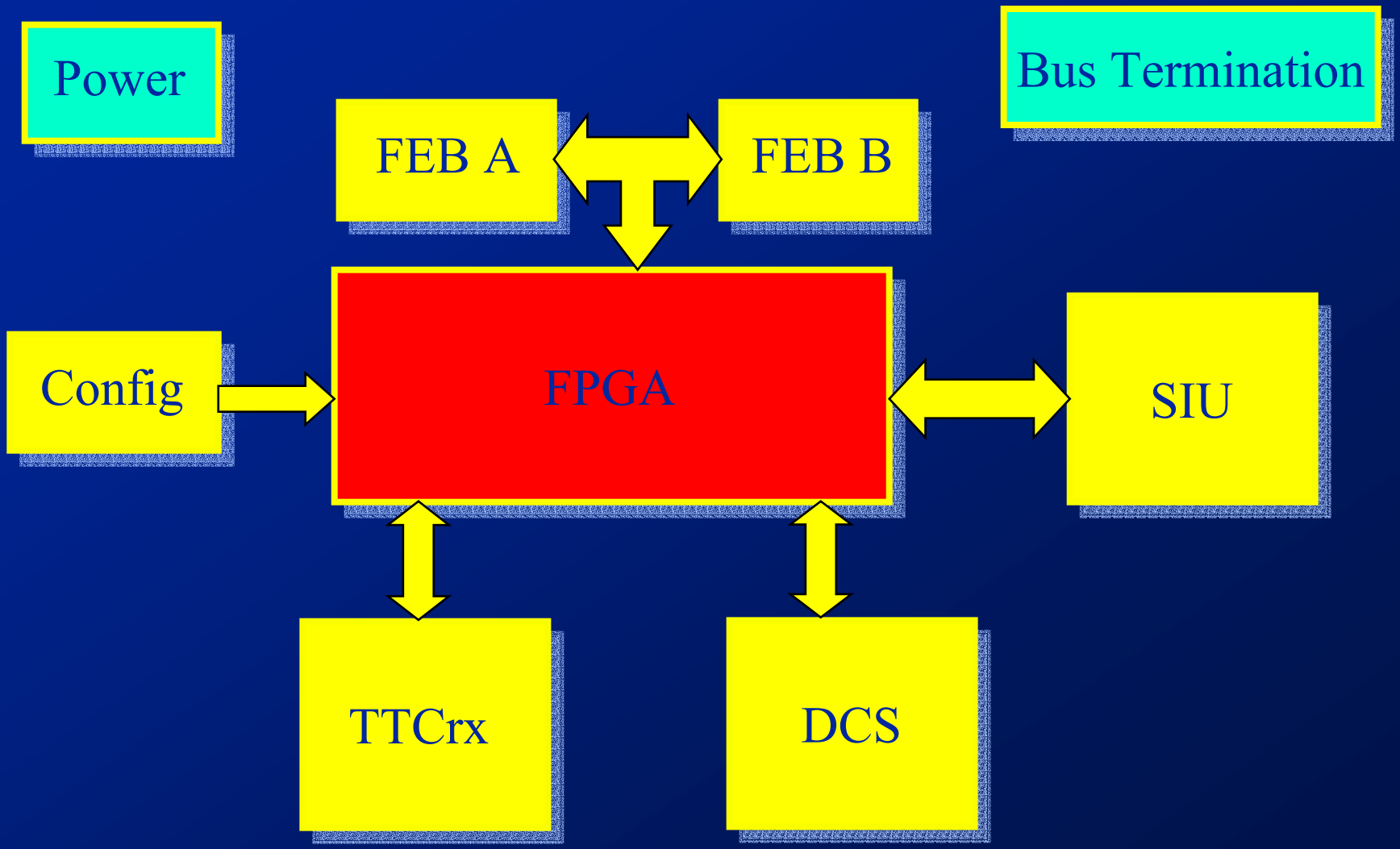
Readout Control Unit Status

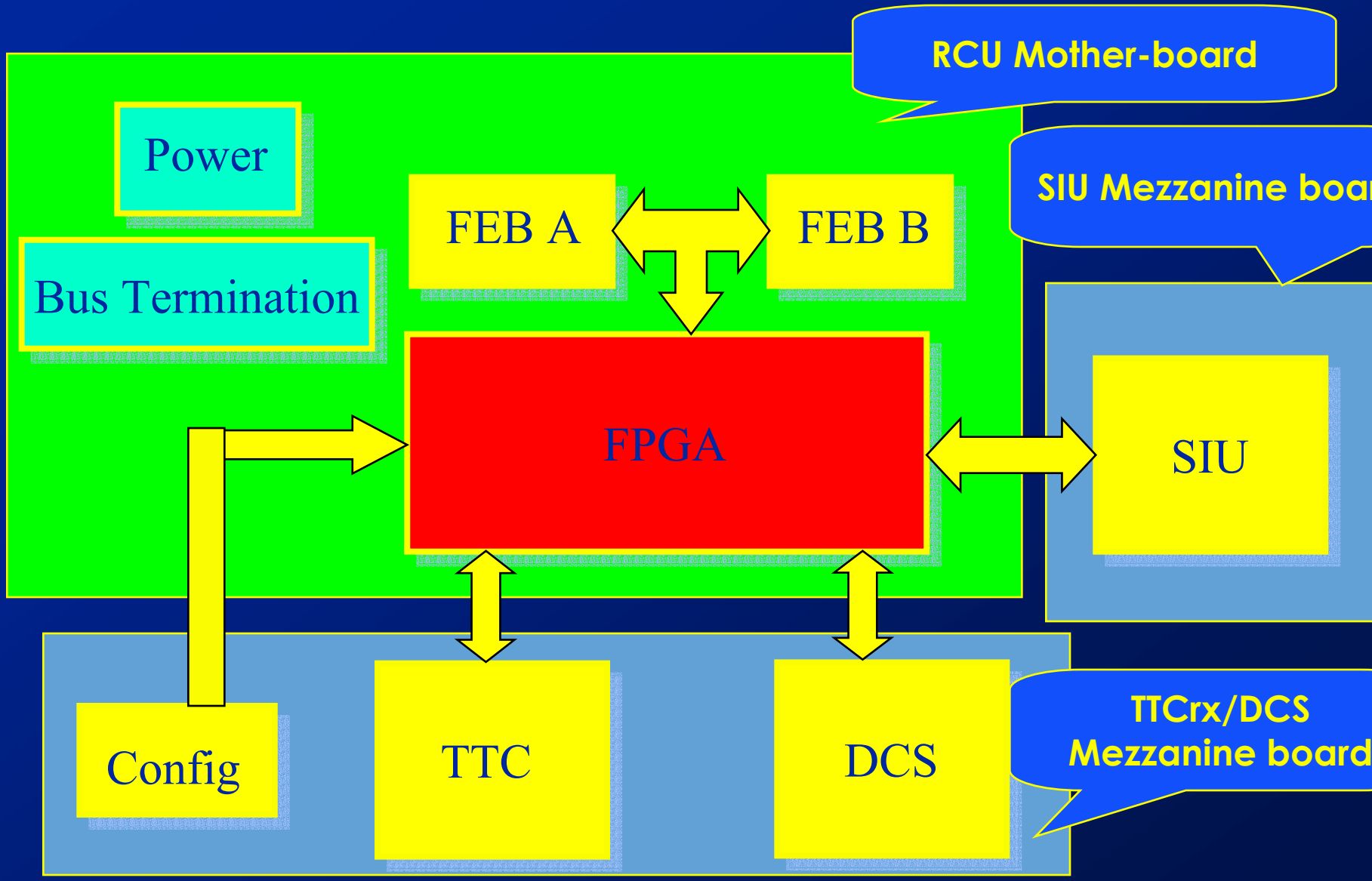
- Overview
- RCU card and sub-cards
- Status of different modules/tasks
- Milestones



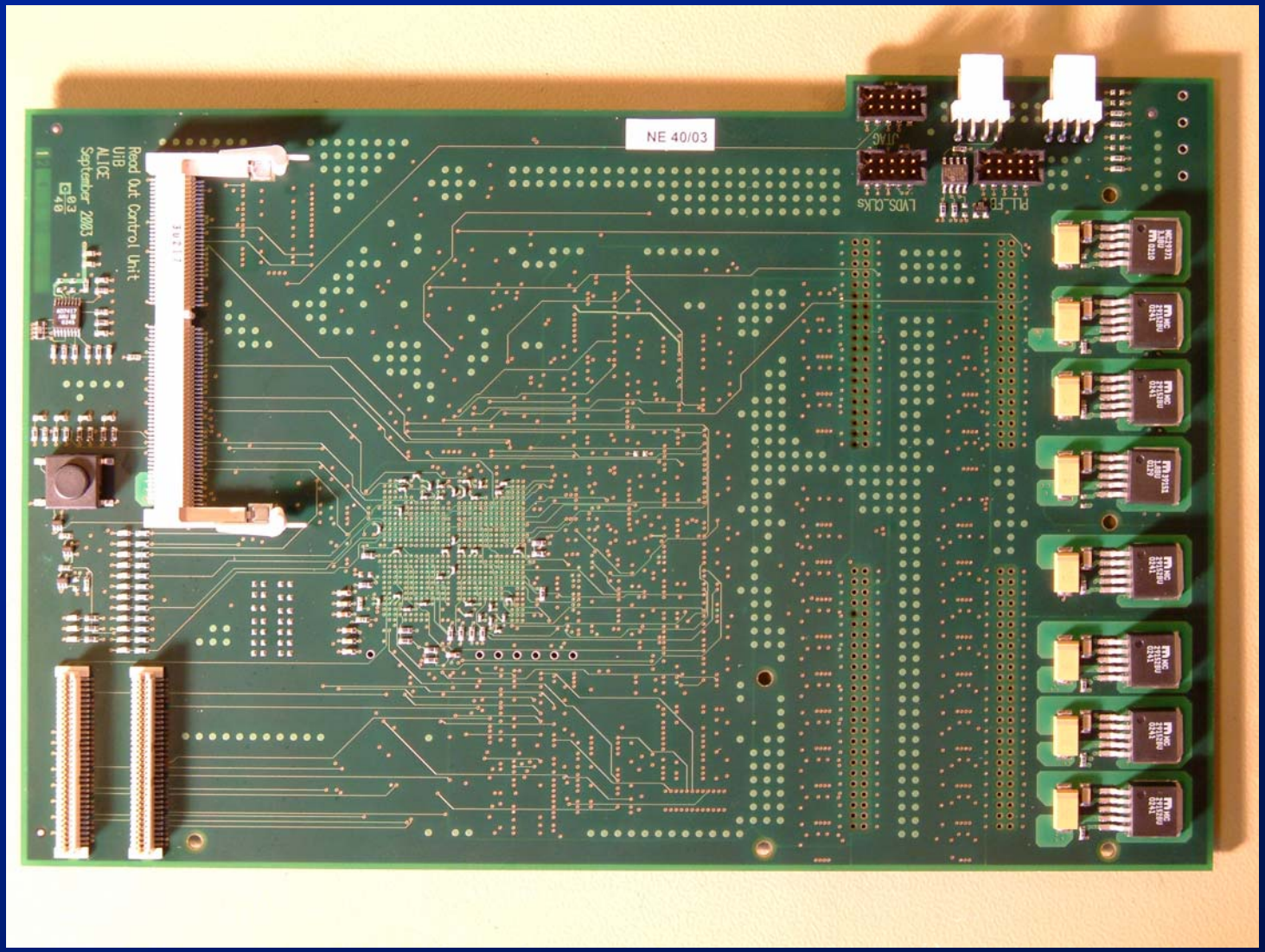
RCU Main Building Blocks



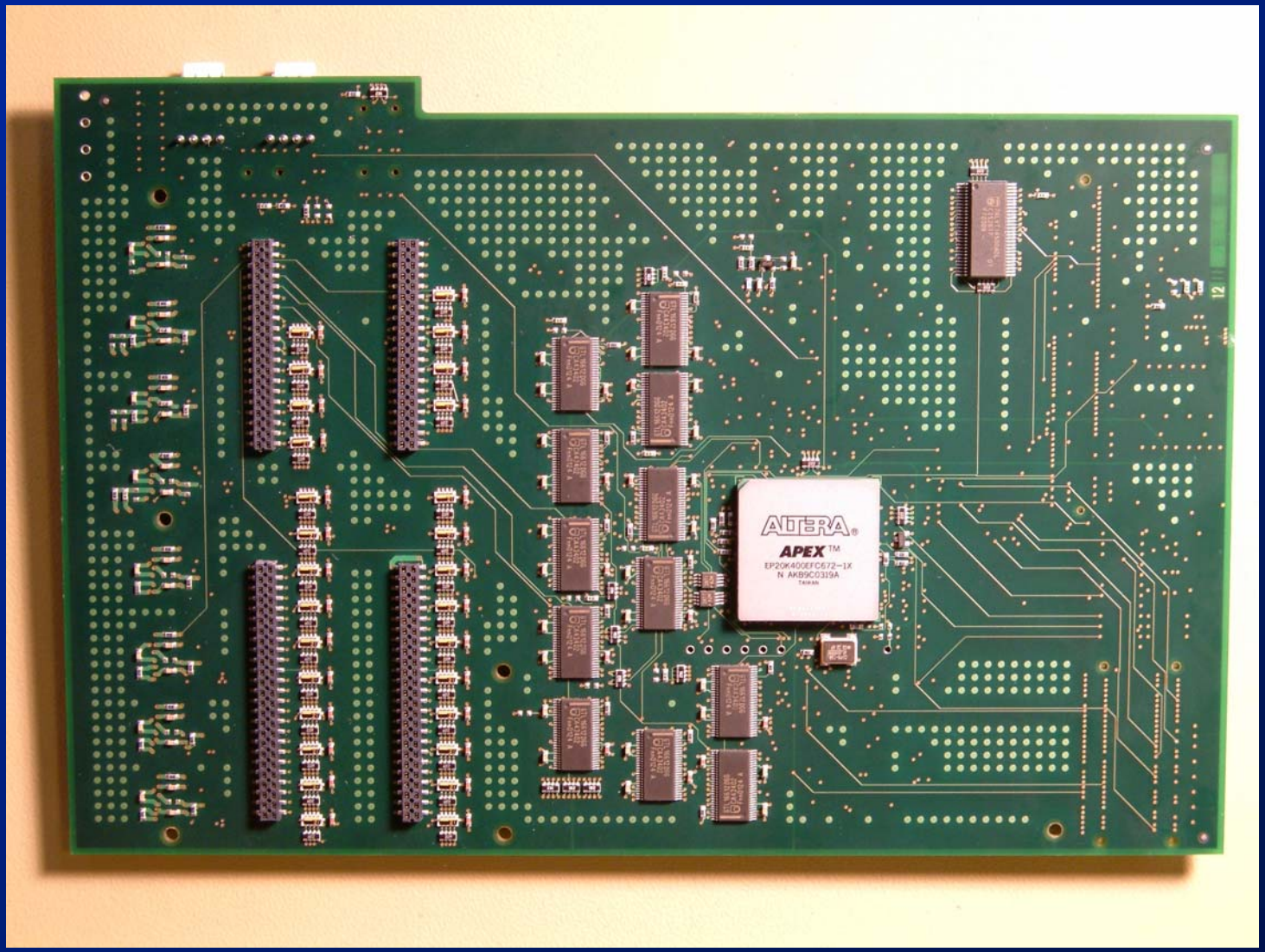
RCU Main Building Blocks Implementation



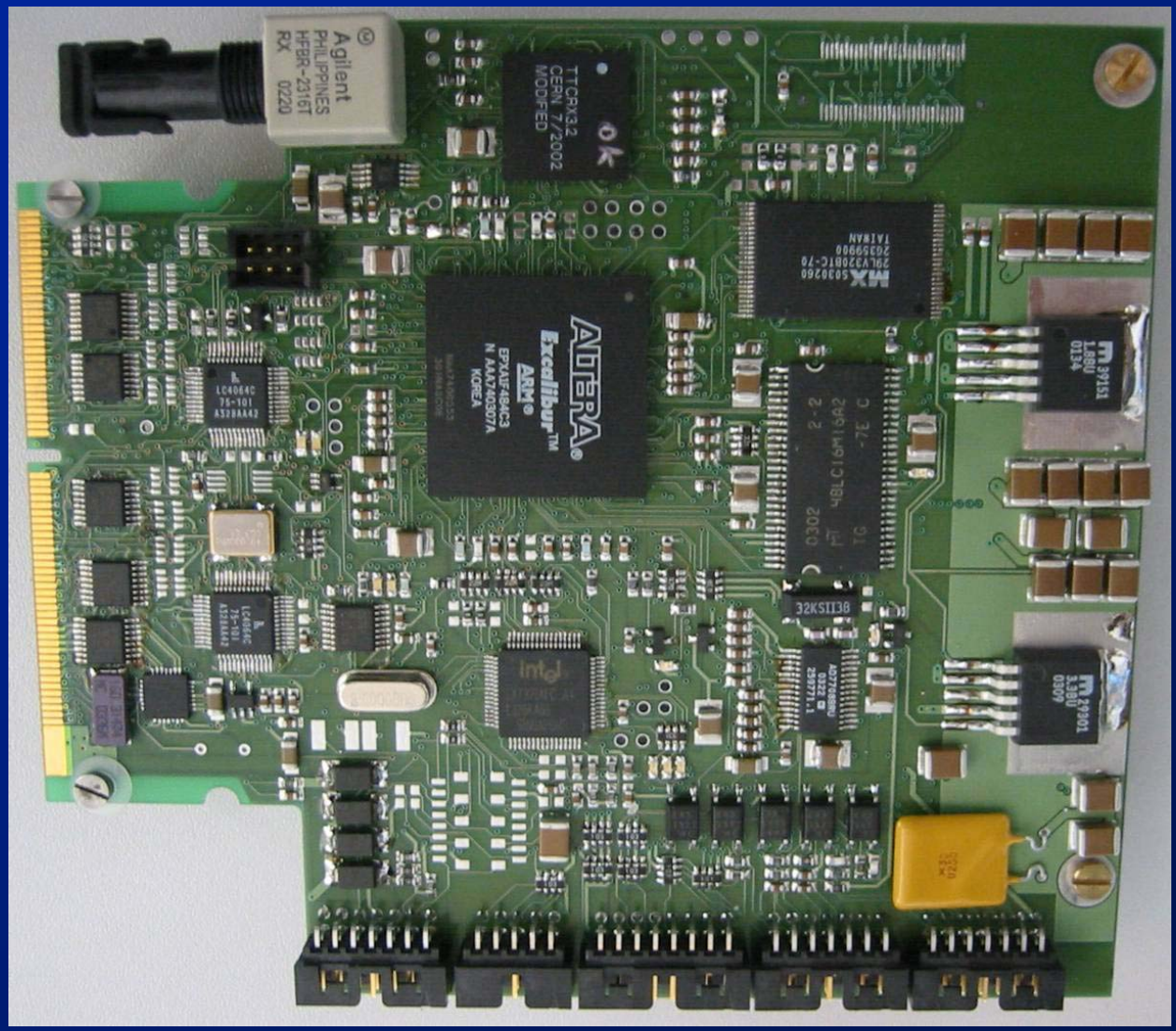
RCU Main PCB Top View



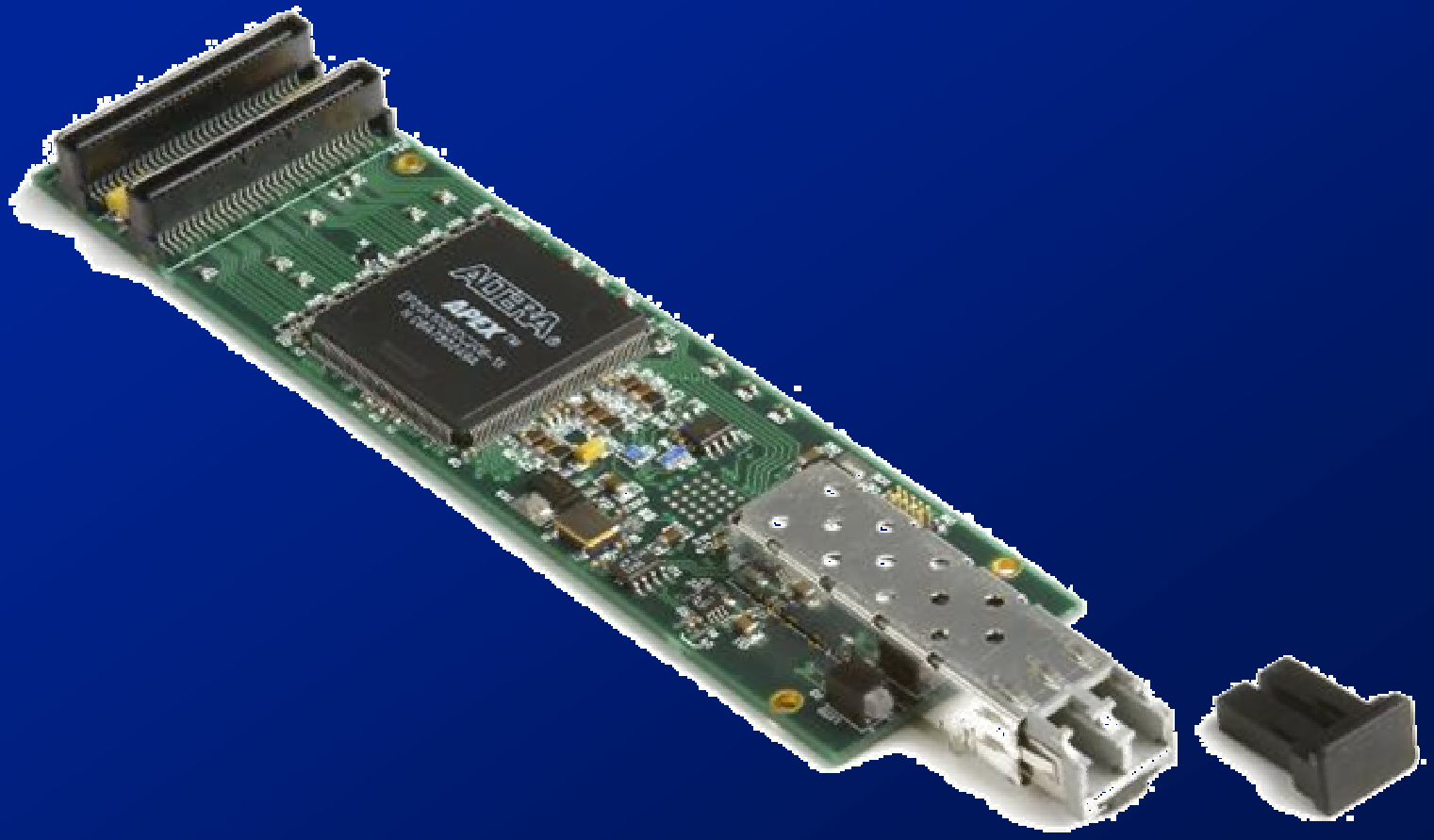
RCU Main PCB Bottom View



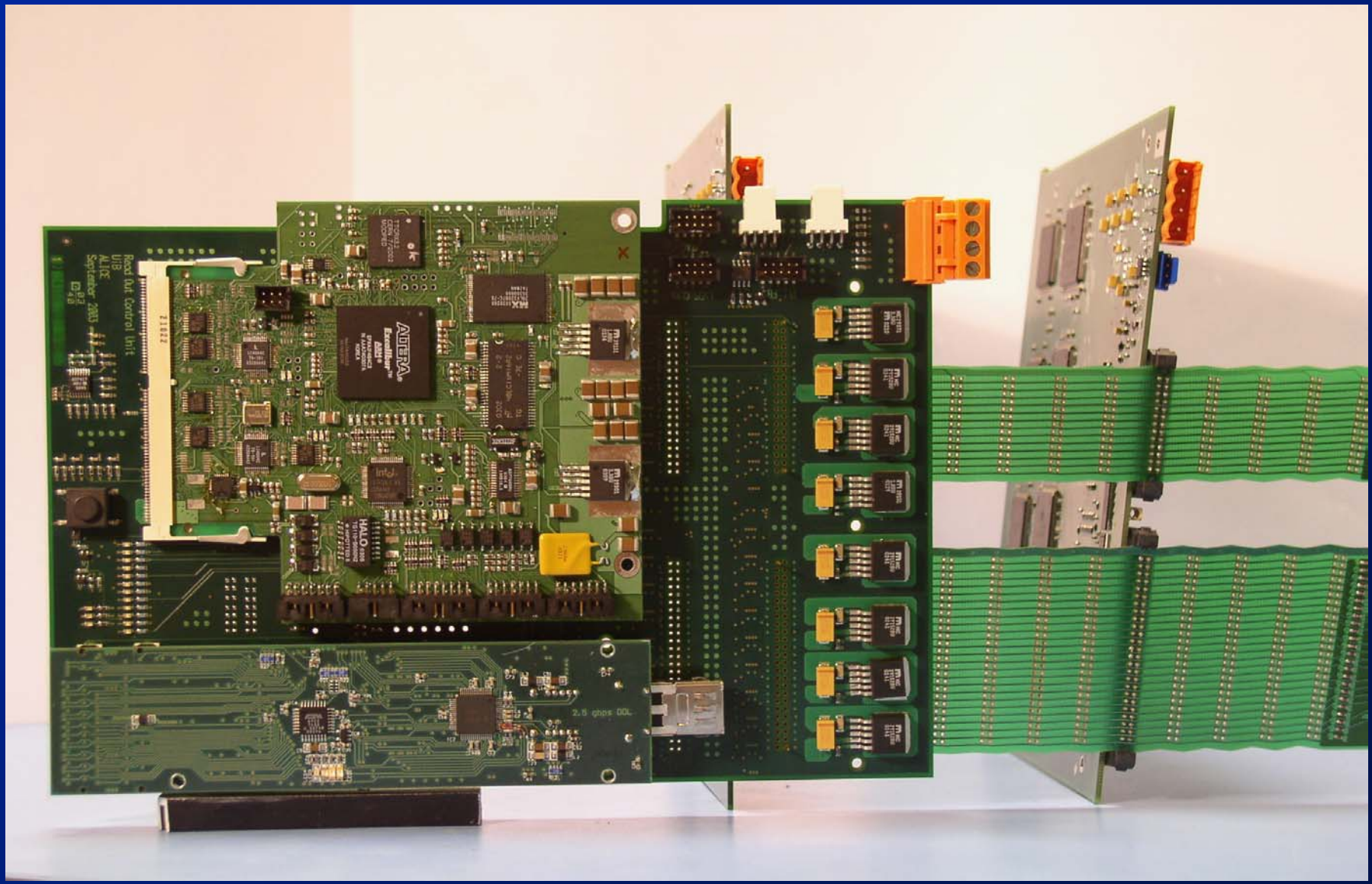
TTCrx/ DCS Mezzanine Board



SIU board



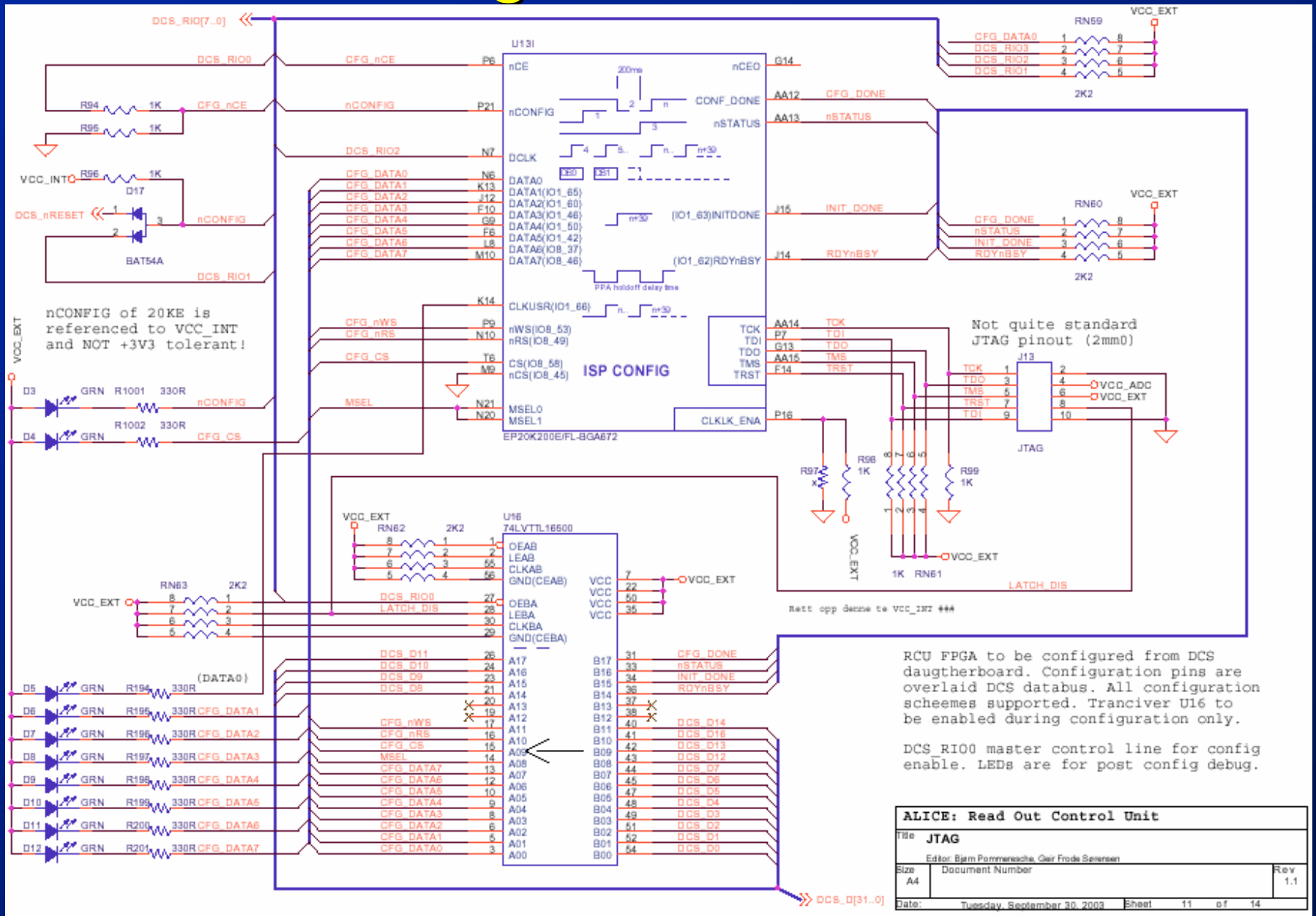
RCU card with FEC



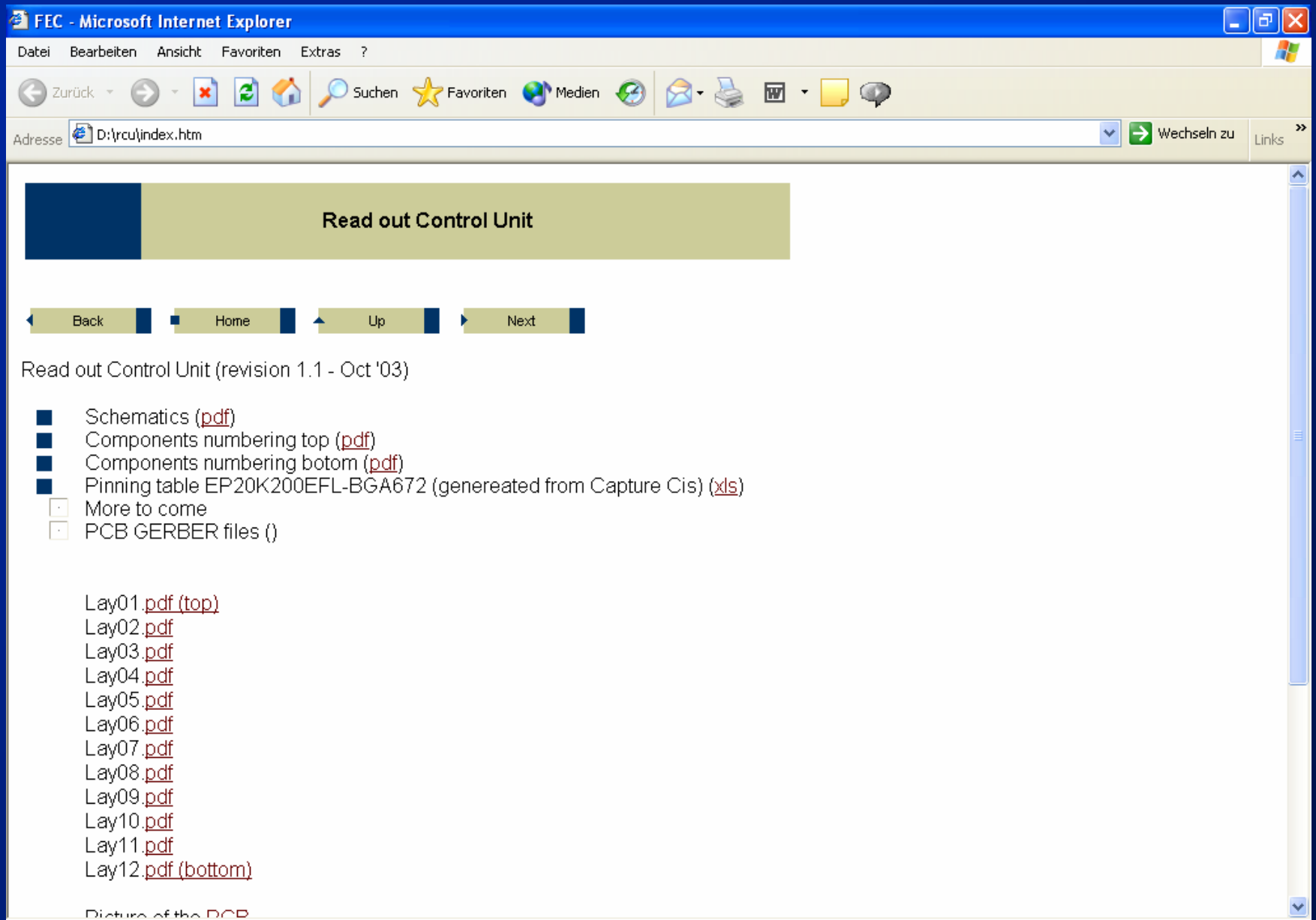
Internal and external connections

- Internal
  - Connections from the FECs via backplane to the RCU MB
  - Connections from RCU MB to TTCrx/DCS board via 144 pin connector
    - Includes programming interface from TTCrx/DCS board to RCU MB
  - Connections from RCU MB to SIU card via CMC connectors
  - Possible JTAG to TTCrx/DCS board from neighbour TTCrx/DCS board
- External
  - Trigger information on Optical Link
  - Data stream from SIU to DAQ on Optical link
  - Power to RCU MB which is distributed to the DCS and the SIU boards
  - Ethernet to TTCrx/DCS board

Configuration Scheme



RCU design Web Page



Status of external Communication

- RCU <-> DCS — DIM Server Client Scheme over ethernet (Presented by Christian Kofler)
- RCU <-> Trigger — VME based test setup (VP 110 CPU board running LINUX, TTCvi – Bergen) Developed during summer 2003 at Cern
- RCU <-> DiU — pRORC or HRORC based Test setup
- RCU <-> FEC — Front End Card Interface (Presented by Bernardo Mota)

Milestones

- **Milestones:**

Design Document:	1st ed Finished
Module interface definitions:	Finished
Module functional definitions:	Finished
Implementation of the essential modules:	June/July 2003
Radiation tests:	Partially finished
Oslo Cyclotron	October/November 2003
Uppsala TSL	November 2003
Schematic design	Finished August 2003
PCB Layout:	Finished September 2003
Engineering prototype:	Finished October 2003
Test Firmware	December 2003
Hardware/Firmware integration	December 2003
Partial System Integration	January 2004
Qualification of the final design	October 2003-March 2004
Production	Apr. 2004-July 2004
Mass.production test	August 2004 - March 2005
RCU ready for installation:	October 2004

Open issues

- Migration to Actel