
FEE: STATUS AND PLANNING FOR 2002

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OUTLINE

- ◆ **Progress**
- ◆ **Milestones**
- ◆ **Work to be completed in 2002**

Detailed planning: <http://ep-ed-alice-tpc.web.cern.ch/ep-ed-alice-tpc/>

PROGRESS (DEC '01 – APR '02)

- ◆ **PASA final version**
 - Characterization of 3 samples
 - PASA meet all design requirements

- ◆ **ALTRO final version**
 - Characterization of 110 samples
 - ALTRO meet all design requirements
 - Production yield > 85%

- ◆ **New FEC card (final version of all components):**
 - Standalone test completed: good signal integrity of FEC internal bus up to 100 MHz (required frequency \leq 40MHz)

- ◆ **Upgrade of pRCU-I (PCI-RCU)**
 - Hardware complete
 - Firmware/software almost complete

TPC FEE STATUS – MILESTONES

		LHCC	STATUS
◆	PASA (40 000 chips)		
	■ Prototyping:	January '02	done
	■ Engineering run:	April '02 – August '02	2 mm delay
	■ Full production:	September '02 – January '03	
	■ Testing:	February '03 – September '03	
◆	ALTRO (40 000 chips)		
	■ Prototyping:	January '02	done
	■ Engineering run:	April '02 – August '02	on schedule
	■ Production:	September '02 – January '03	
	■ Testing:	February '03 – September '03	
◆	FEC (4500 boards)		
	■ Prototyping (test of 50 FEC +IROC):	August '02	on schedule
	■ Production:	October '02 – January '03	??
	■ Testing:	May '03 – January '04	
◆	READOUT BUS (216 units)		
	■ Prototyping:	September '01	done
	■ Production:	January '03 – June '03	
◆	READOUT CONTROL UNIT (216 boards)		
	■ Prototyping:	April '03	
	● RCU-I (PLDa-based RCU)	March '02	2 mm delay
	● RCU-II (delivery)	May '02	2 mm delay
	■ Production:	May '03 – July '03	
	■ Testing:	July '03 – Nov '03	

PASA

◆ Tests:

- Test of packaged chips in FEC (CERN): May
- Radiation test – tolerance to SEL in FEC (CERN): September

◆ Engineering Run

- Layout optimization (Heidelberg): June
- Manufacturing of full-sheet wafer (AMS): July - September
- Delivery of ER samples: October
- Test of ER samples (Heidelberg?): November

◆ Automatic Test Equipment (ATE)

- Design and construction of ATE (Darmstadt TU): October
- Validation of PASA ATE (Darmstadt - Heidelberg): October - November
- Test software (???): ??

ALTRO

◆ Tests:

- Test of additional 187 chips (CERN): May '02
- Radiation test – tolerance to SEU and SEL (CERN):
 - Test setup (under construction): May '02
 - Test : July

◆ Engineering run

- Manufacturing of the full-sheet wafer (STM): started
- Delivery of ER samples: September
- Test of ER samples: October

◆ Test equipment

- Design and construction of ATE (LUND): July
- Validation of ATE (LUND): July - August
- Test software (CERN-LUND): well advanced

FRONT END CARD

◆ Tests:

- Test of standalone FEC (CERN): done
- Test of FEC + pRCU-I (CERN + BERGEN): May
- Radiation test – tolerance to SEU and SEL (CERN): July - August
- Test of 50FEC, 2 pRCU-II, LVPS, COOLING, IROC: from August onwards

◆ FEC final version

- Modification of card layout (CERN): May
- Manufacturing (Lund - CERN): June
- Test (CERN): August - September

◆ Test equipment

- Design and construction of ATE (Frankfurt): June
- Validation of ATE (Frankfurt-CERN): July
- Test software (Frankfurt): ??

◆ Market survey and Price Enquiry / Call for tenders (Lund)

READOUT CONTROL UNIT

- ◆ **Test of PCI-RCU (pRCU-I) (Bergen - CERN):** **May**
- ◆ **Design of pRCU-II (Bergen – Oslo - Heidelberg):** **May**
- ◆ **Manufacturing of pRCU-II (Bergen):** **June**
- ◆ **Test of pRCU-II**
 - **Standalone pRCU- II (Bergen – Oslo - Heidleberg)** **August**
 - **pRCU-II + FEC (Bergen – CERN)** **September**
 - **pRCU-II + RORC (Bergen)** **October**
- ◆ **Market survey and Price Enquiry / Call for tenders (Lund)**

TASKS TO BE COMPLETED IN 2002 AND NOT YET ASSIGNED

- ◆ **Characterization of PASA ER samples**
- ◆ **Software for PASA ATE**
- ◆ **Database for FEE components sorting and history**