



University of Nova Gorica,
Elettra - Sincrotrone Trieste,
Kontrolni Sistemi

CITIUS MEETING

SOFTWARE ISSUES

April 24th, 2013

Basovizza, Trieste





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Kontrolni Sistemi

Meeting Summary

Invited participants:

LP:	University of Nova Gorica	Giovanni De Ninno, Barbara Ressel
PP1:	Elettra - Sincrotrone Trieste	Marcello Coreno
PP5:	Kontrolni Sistemi	Damjan Golob

When all invited people arrives, GDN officially starts the meeting at 15.00.

Topics:

- Software issues presentation
- Lab visit
- Budget discussion

BR starts a presentation with the new software requirements for the HHG beamline, whose slides are following.

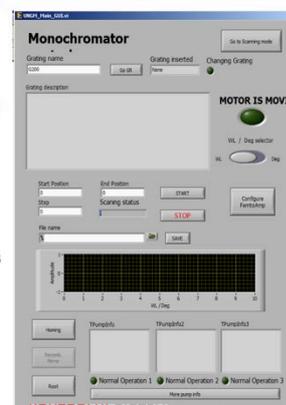
CITIUS Meeting: Software issues

Elettra - Sincrotrone Trieste
April 24th 2013

Existing software

MAIN PANEL

- Pumps communication/control: ok
We need 4 serial cables 10 m, F/M (pumps and Keithley)
- Insert serial communication for existing "delay line" (i.e. motorized linear translation stage from P.I.)
We need more serial ports for communication with all instruments
- Prepare USB communication for new delay line
- Local network of sources





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Monochromator existing sw

- Controls are not enough:
 - 8 MICOS motors (5 mono + 3 refoc)
 - Delay line
- Independent control of each motor
- Big STOP button
- All motors status/position should be visible at any time also during moving
- Insert the possibility of scanning any motor (Delay Line included)
- Flexibility in modifying the "configuration file":
Combine Grating selection and Recomb. Mirr files into one that should contain all axis

What is needed (urgently, before sept. 2013)

- Insert control of delay lines (both serial and USB)
- Insert the "scan mode" on all motors (delay line included), with save file + Nscan
- Add the possibility to make 2D (2 axis) scan
- Insert "chart mode" panel (signal vs time) with possibility of saving
- Insert manual control of all motors
- Read current from a second Keithley
- Interlocks: laser shutters and pumps

What is needed (future)

- Insert delay line control and manipulator (?) control inside Scienta software

What we need (hardware and software)

- 2 Computers, normal PC of good quality, no server, like this:

Processor	3rd Generation Intel® Core™ i5-3330 processor (up to 3.20 GHz)
Operating System	Windows® 7 Home Premium, 64Bit, English
Memory	8GB Dual Channel DDR3 SDRAM at 1600MHz
Hard Drive	2TB Hard Drive, 3.5", 7200rpm, SATA
Video Card	Intel® HD Integrated Graphics

- 3 Monitor 24" (1 PC should support 2 screens)
- Serial board (3 for pumps, 1 for picoammeter, 1 for mono)
- LeCroy refurbished oscilloscope 1 GHz (~ 10 k€)
- Laser shutters

- N.I. GPIB card on 1 PC and 3 meters GPIB cable
- 1 Labview license
- 1 DAQ I/O board NI

NI PCIe-6351 e Accessori Subtotale hardware: € 1.777

NI PCIe-6351 - 781048-01	Qty 1	€ 1.101 ognuno
Connector Block - BNC Terminal BNC-2099A - 172556-01	Qty 1	€ 444 ognuno
Cavo - Schermato SHC68-68-EPM Cable (10m) - 192061-10	Qty 1	€ 232 ognuno

Seleziona lunghezza: 10m

Cambia accessori

Maggiori informazioni su tutti gli accessori NI compatibili in base alle tue esigenze applicative.

Giorni previsti per la spedizione: 12 - 20

Prezzo Package: € 1.777

- Or implement AH501 4channels picoammeter (LV)

After the presentation there is a short visit to the lab, to make clear which are the requirements for the software.

Budget discussion:

On the basis of what has been found out during the commissioning of the laser, HHG source and from the first experiments, LP, PP1 and PP5 will agree on what is necessary in terms of hardware and software, to complete the control system of CITIUS.



DG shows all the expenses that Kontrolni Sistemi did within the project. He agrees in sending everything to UNG as soon as the new lab is ready. From a rough analysis of PP5 budget, it is possible to purchase equipment for an amount of money in the range of 10.000 EUR.

PP5 complains for the delay in being reimbursed for accounted expenses, so PP5 asks LP to check the status of the expense allowance procedure.

DG expects a new document with the specifications for the new software that has to be written, and BR is in charge of this.

MC (PP1) shows his list of hardware for the VMI acquisition system: 1 ACAM card GPX + 1 PC control (+ net cards) + 2 net switches + 1 PC_ACAM + 1 laptop + 1 PC_ACAM (to check if compatible with those already in Ljubljana) + 1 PC control + 1 ACAM card.

At 17.00 the meeting is over.

1) additional electromechanics components - total cost was approx. 25.000€ 2012

2) We bought also 2 computers and software licenses 7.000€ 2012
1 piece Server: IBM x3250M3 2.53G 8MB 2x500G (4252K7G)
1 piece Workstation: HP P3500 MT i5/4/500/DOS (QB299EA#BED)
2 pieces, WIN 7 license DSP Windows 7 Pro ANG 64b (FQC-04649)
2 pieces Monitor Samsung S24B300B LED (LS24B300BS/EN) LS24B300BS/EN, PC
1 piece LabVIEW Professional Dev. System (776678-35)

3) We bought also 2 laptops and desktop computer with monitor for SW development, desktop computer HP with monitor, keyboard, mouse and SW (3.500€) 2011

4) Embedded control computers for monochromator 4500€ 2012
Intel Atom 1.8GHz computer, Flash HDD, 2GB memory space with RS232/GPIB ports and Win7/LabView RunTime Application (2 pieces)

5) NI development equipment (5.000€)
NI PCI-6023E – 777742-01 200 kS/s, 12-Bit, 16 Analog Input Multifunction DAQ 775€
776844-01 SCB-68 Noise Rejecting, Shielded I/O Connector Block 470 EUR
NI cRIO-9074 Integrated 400 MHz Real-Time Controller and 2M Gate FPGA, compact version, integrated controller and module housing 2.600,00 €
NI 9401 8 Ch, 5 V/TTL High-Speed Bidirectional Digital I/O Module 260,00 €
NI 9870 RS232 Serial Interface Module for CompactRIO 580,00 €
QUINT-PS-100-240AC/24DC/5 DIN rail power supply unit, primary-switched mode, 1-phase, output: 24 V DC / 5 A 200,00 € 2011

6) Siemens PLC equipment (15.000€)
Rack cabinet, ventilated, switches, cables channels, small parts for rack mount equipment, wheels 1 rack 2000
cabinet Rack cabinet ventilation
PLC controller and IO modules, for safety loops and interlocks 1 PLC controller form Siemens with IO 9000
modules and Ethernet, S7-300 series
Display for PLC 2010
Power supplies 24V/48V (10A, 20A) Power supplies 200

Kontrolni Sistemi (PP5) expenses