LOgaritmic COnverter and the microIOC family
(www.microioc.com)

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microIOC main benefits:

- plug & play integration of devices into control system; software is part of the package
- standardized solution based on experience and expertise in accelerators
- high reliability; no moving parts, reliable building blocks, each unit tested
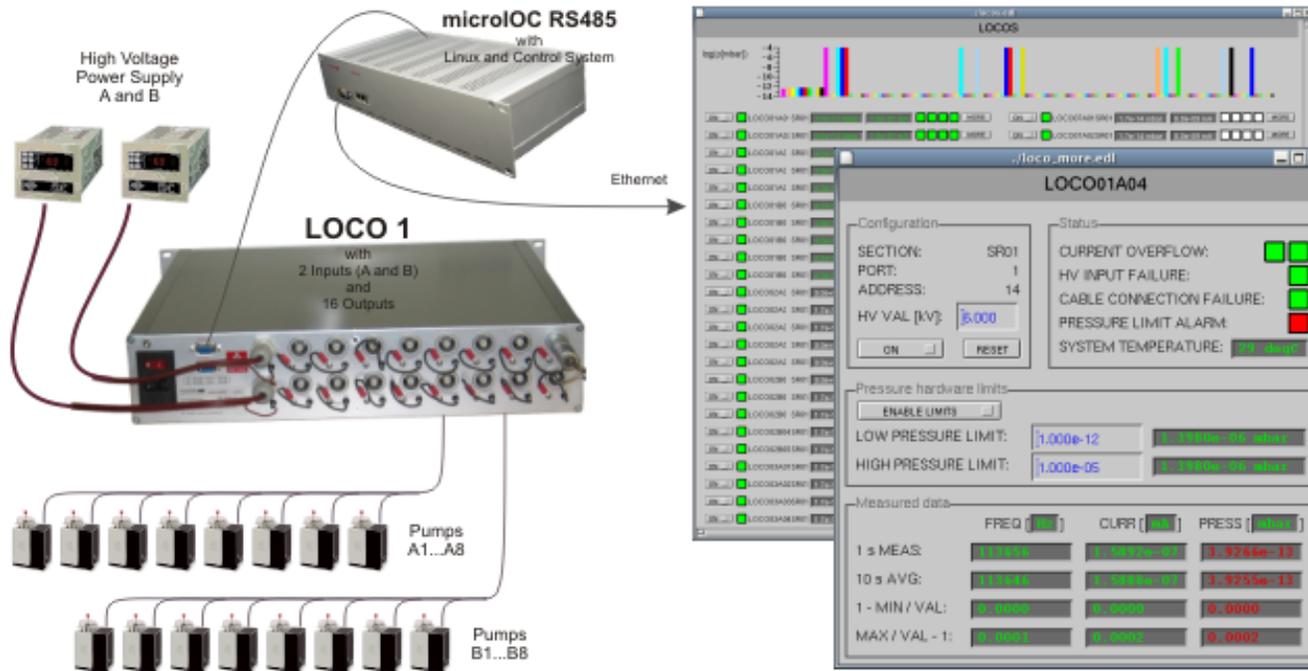- flexible installation and access

… and key features:

- preinstalled Linux or RTEMS OS
- web based configuration, monitoring and control
- application customized back-panel connections
- customizable/modular platform
- a support with expertise in accelerator field and long list of accelerator-related reference projects

		plug		**&**	**play**	
	power supply	LAN	connect device		access remotely	

LOCO: Distribute power and measure vacuum pump pressure.
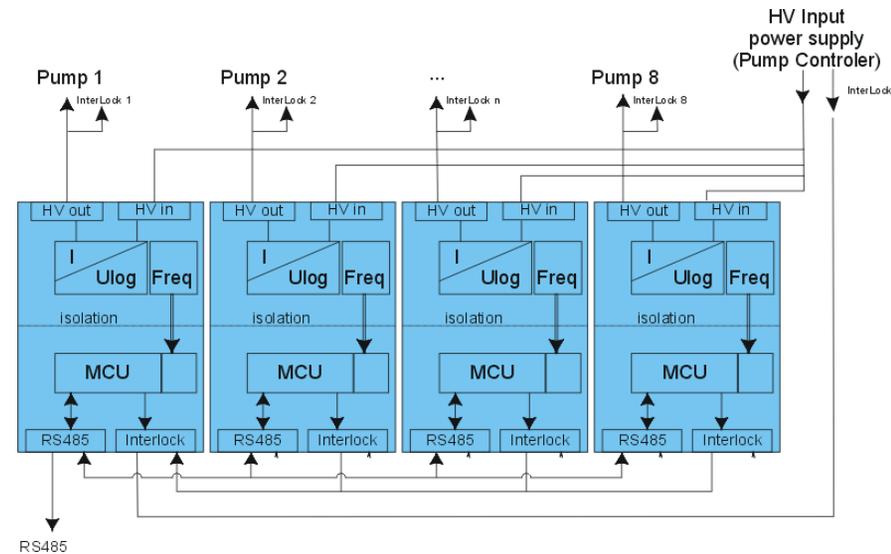

- reduces vacuum-system cost and rack space; up to 16 vacuum pumps can be supplied with a single power supply controller
- measure pressure for each pump
- fully integrated into the control system
- safety interlock feature (for cable disconnection)
- wide normal range of operation
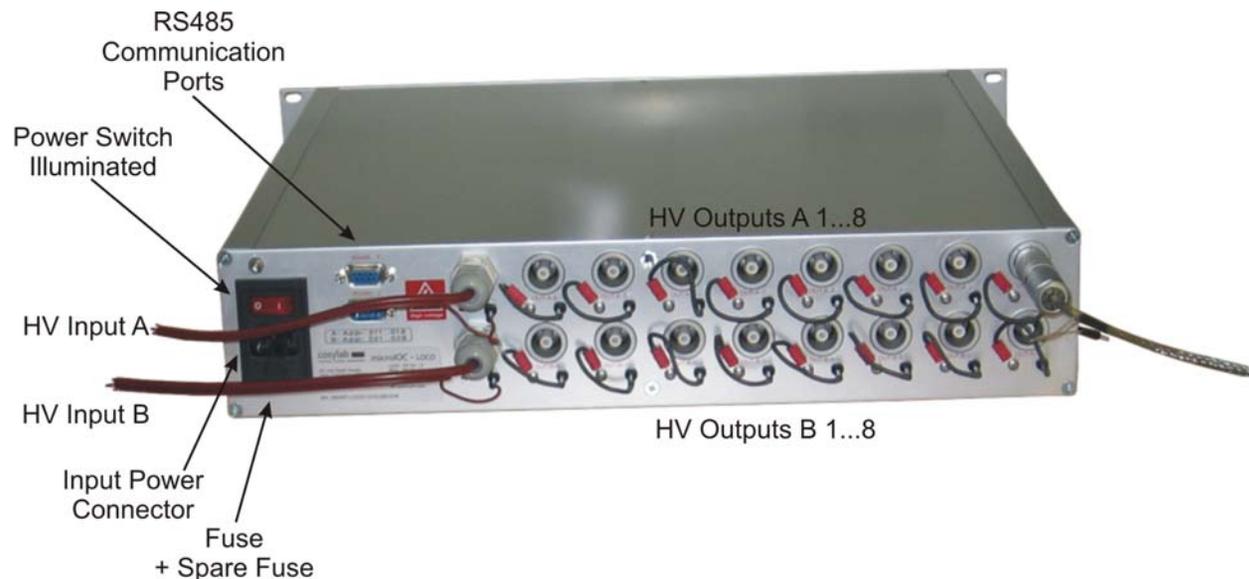- upper and lower pressure limit for each channel

LOCO hardware

- measurement of extremely low currents (~100pA) at high voltages (~10kV)
- logarithmic-scale current measurement
- measurement of highly dynamic pressure range: 10^{-12} to 10^{-4} mbar
- low power dissipation: two-stage current operating range
- interlock signal available to other systems
- support positive or negative high-voltage power supply controllers
- RS485 serial communication
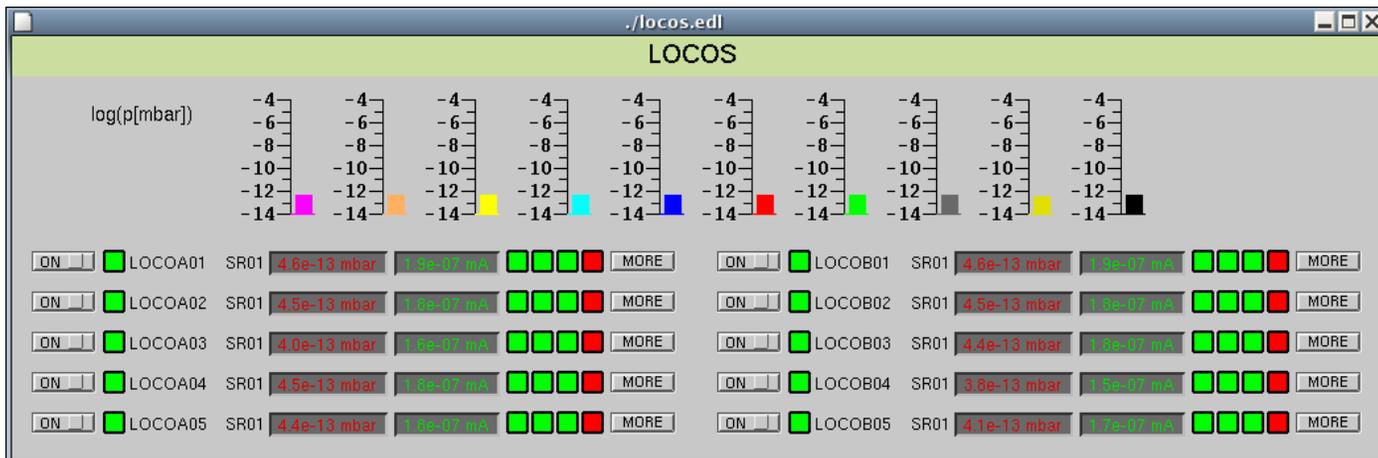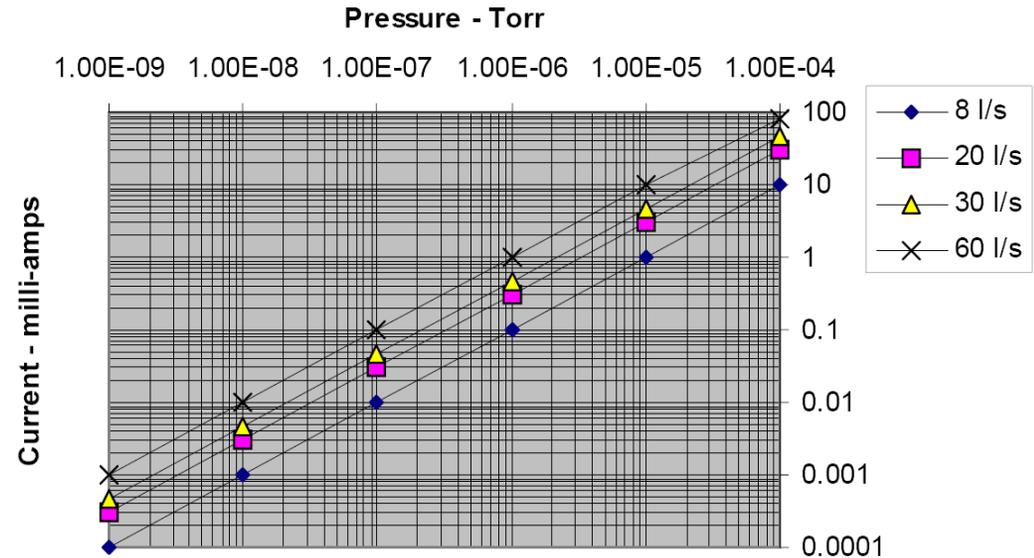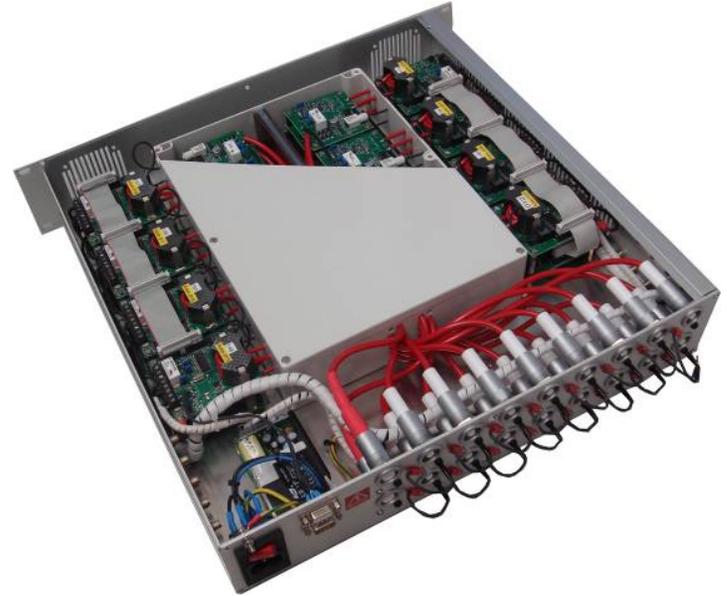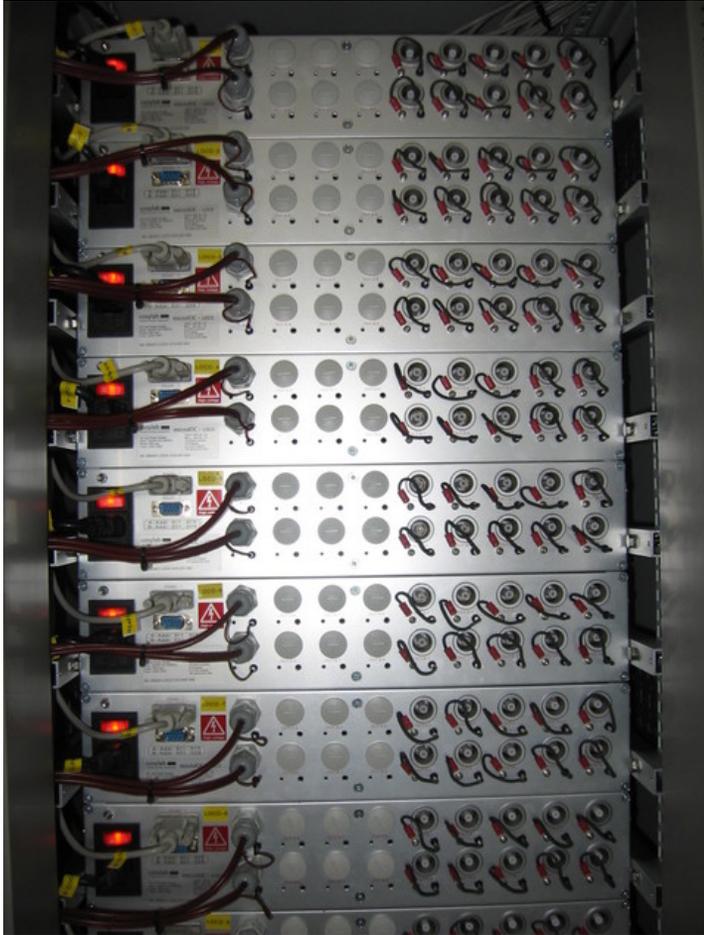- several customization options

LOCO modular design

LOCO software

- measure frequency from HV module part (1 second period and 10 second period)
- check activity of Over-Current Protection circuit
- check failure of Acquisition HV circuit
- measure LV part system temperature
- serial communication slave mode operation (response on request+address come from master RS485 device)
- read status of Cable Interlock
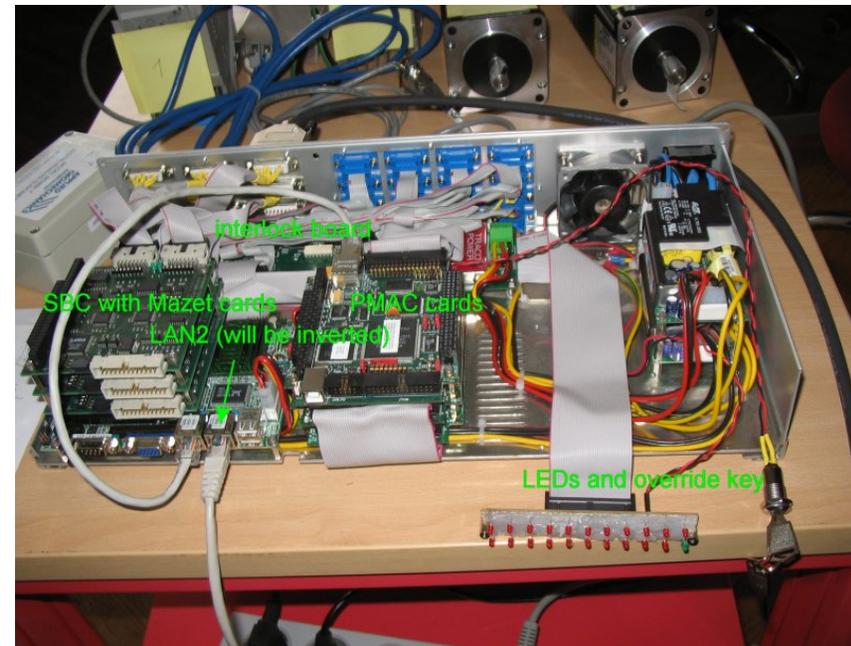- control activity of interlock (only optional)

Pressure - Torr

Check LOCO out at the industrial exhibition session!
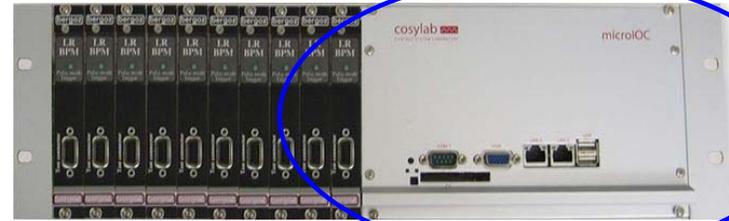
Motor controller (M-Box)

- 8 axes (stepper, servo, pico, piezo, nano)
- Includes:
  - Delta Tau Turbo PMAC2
    - synchronized move (arbitrary complexity)
    - dual encoder loops
    - special algorithms
  - Driver units
  - Encoder and switches readout
  - microIOC as Linux IOC
  - EPICS drivers and templates
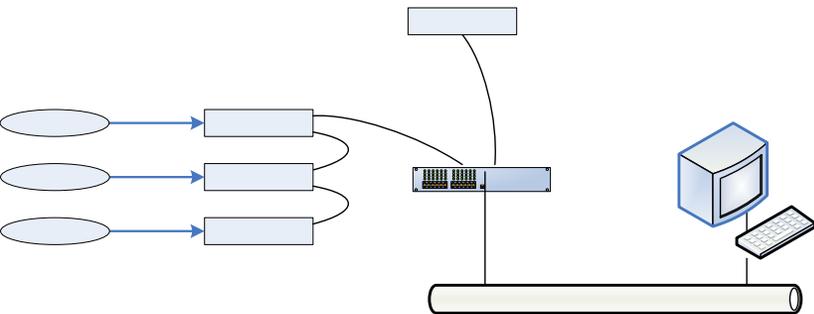- All in 1 box!
- Visit us at our exhibition table!

USB/Ethernet or Firewire
Camera (uses SLS
firewire software)
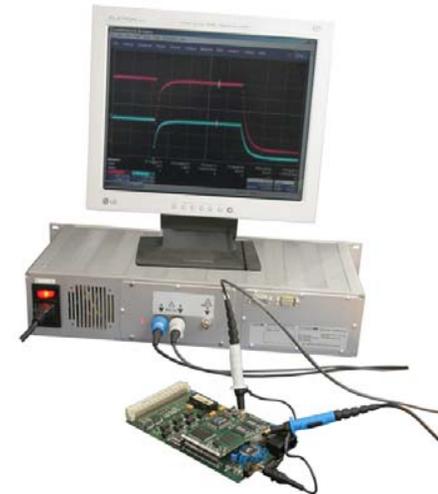
Special casing
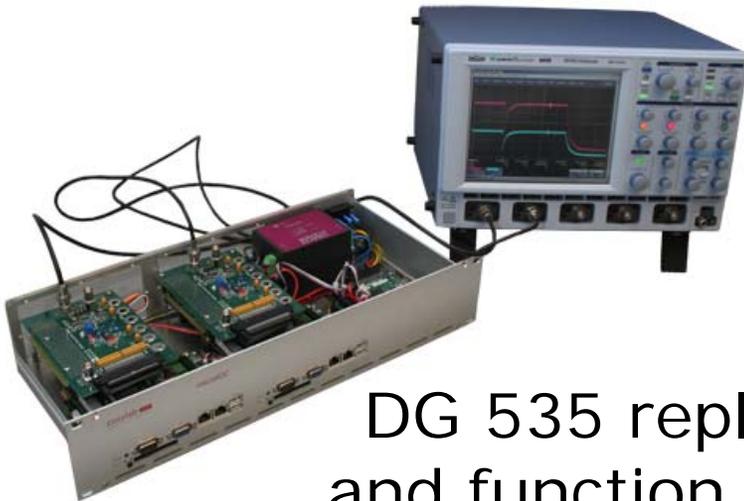(3U)

Bergoz LR and MX BPMs

Beam loss monitor

Oscilloscope

Analog/digital I/O

GPIB

DG 535 replacement
and function generator

RS 232/422/485

Installations

- ASP Booster
- ASP Storage Ring Magnet Power Supplies
- ASP Storage Ring Beam Loss Monitors
- ASP Apple2 Undulator
- ASP PX and PD beamlines
- ASP PX ID and SAXS/WAXS beamine
- Swiss Light Source
- SLAC
- PTB (LOCO solution and ADIO)
- KEK
- CLS
- NSRRC (Taiwan)
- Some non-EPICS installations (ANKA, ALBA)

- Richard Farnsworth (head of CS at ASP): "I wish I had known about this solution 3 years ago. I would use it for the whole facility."