Analyser Control Upgrades

Get Ready for the Next Generation of Analyser Control

Efficient and accurate communication between the Analyser and the software is essential for achieving high-performance measurements. The latest standard for this system incorporates Ethernet-compatible hardware and software components. Upgrading these components will elevate your Analyser Control system to its highest possible performance level

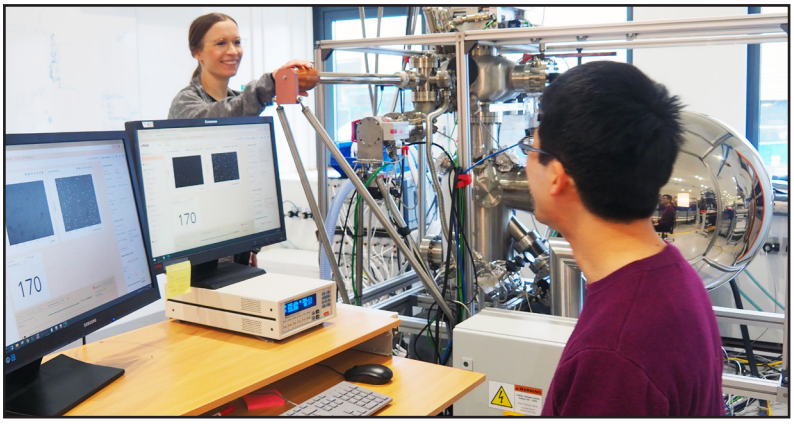
Key Features of the Upgraded Components

- A complete Windows 11 Solution for Analyser control
- Improved signal integrity
- Most recent SES software version
- Ethernet interface simplifies rack add ons
- Future ready: PEAK software compatibility

Scienta Omicron has released PEAK, a fully functioning software platform for electron spectroscopy control and acquisition. PEAK features web-based technologies that enable remote control from any device. It remains a highly prioritized R&D project, ensuring continuous improvements in functionality and usability. Upgrading these four components will ensure compatibility with the future advancements of the PEAK software platform.

*** Enhanced Upgrade: USB 3.0**

Enhance your upgrade Package with the USB 3.0 Camera Upgrade. Enjoy a frame rate that's approximately three times higher than the GigE version. This upgrade replaces the GigE version at no additional cost, with PEAK as a prerequisite



Card HVC2023

Windows 11 Instrument PC

CMOS Ethernet Camera *

Ethernet Rack Upgrade

PEAK

The Next Generation Software Platform for Analyser Control

- Flexible live data visualization
- Supports high data rates
- Improved workflows
- Network based API for integration with external control systems
- Based on modular architecture

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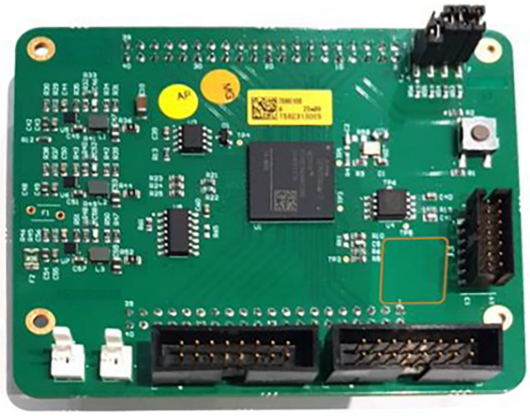
Card HVC2023

Updated High Voltage Control



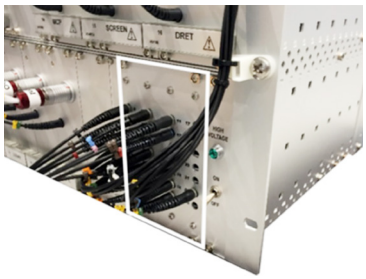
The HVC2023 FPGA mezzanine board handles the communication in the High Voltage rack. New firmware implements the latest updates and improves the stability of the data link.

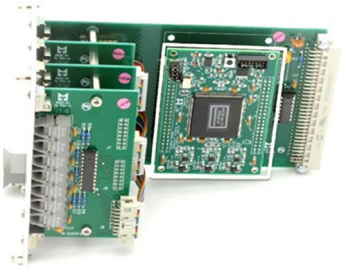
The HVC2023 card sits on the Digital Output Module (DOM) and controls the voltage supplies via optical fibres. Card HVC20 v 6.0 or later is required for ethernet communication and PEAK compatibility.

Features

- Fast ethernet communication
- Improved stability of the data link
- v 7.0 implements 'Heartbeat Functionality'*
- PEAK compatibility

* Available in PEAK





Windows 11 Instrument PC

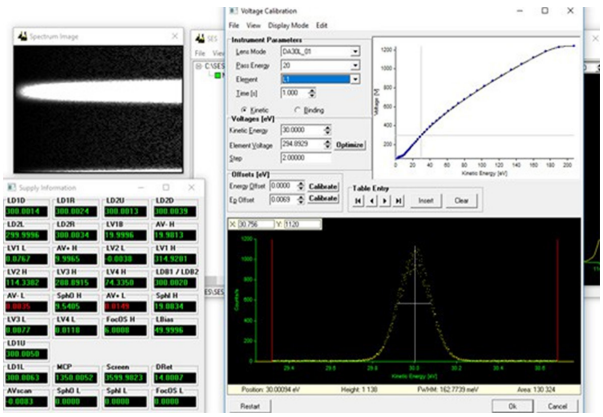
Pre-configured and Customised High-end Windows 11 PC with Full Support

A pre-configured and customised computer that meets the new PC requirements and provides the latest platform technology for PEAK software compatibility.

Pre-configured ethernet computer with customised SES analyser control software, Pylon5, Igor Pro 9, and Team Viewer for support installed.

Features

- Windows 11 64-bit computer with hardware and software necessary for analyser control
- "Plug and Play", customised and pre-installed
- Most recent SES software version with real-time straight slit compensation
- Igor Pro 9 software license
- PEAK compatibility



CMOS Ethernet Camera Assembly

Customised High-Speed Detector Module

New CMOS sensor type for higher resolution and speed. A fully integrated hardware and software digital ethernet camera with a customised lens for the specific analyser and application type.

- Sensor type CMOS
- Resolution 1440 x 1080 pixel
- Frame rate 73 fps **
- Interface GigE
- Consists of a Basler ethernet camera, integrated camera holder and support tube, power supply and 10 m ethernet cable
- Customised camera lens for your analyser

** Maximum theoretical frame rate at full resolution

Features

- Advantages to previous assemblies with CCD Sensor
- Faster (higher frame rate)
- Higher resolution
- Better noise performance
- Improved signal integrity gives unlimited cable length
- PEAK compatibility

Ethernet Rack Upgrade

Completes the All Ethernet Solution

Replaces the RS422/USB data link between the Instrument PC and HV-Rack with a GigE interface. Once the Ethernet card, rack(s), and camera are installed, the system will be wired according to the block schematics in lines in figures 1 or 2. Standard spectrometer configurations use one Ethernet card for the HV rack(s) and a USB3 port for camera communication. Note that the PEAK base package is required for the USB3 camera. When using SES, the Ethernet camera connects to the Ethernet card in the PC.

Separate rack and camera ports ensure maximum data transfer rate between the camera and the PC without interfering with HV rack activity.

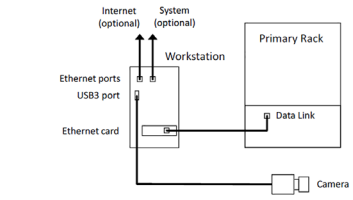


Figure 1: Single HV rack setup with USB3 camera

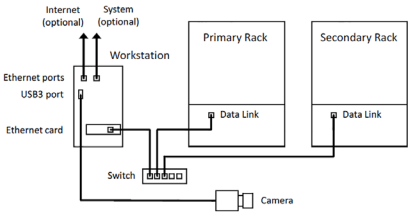


Figure 2: Dual HV rack setup with USB3 camera and stand-alone Ethernet switch

Features

- Enabled ethernet communication between PC and rack
- Improved signal integrity gives unlimited cable length
- The ethernet interface simplifies rack add ons
- PEAK compatibility

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Technical Data

Analyser Control Upgrade Package

Part number:	201241 Analyser Control Upgrade Package

Card HVC2023

Part number:	7060900 Card HVC20 (with firmware)
Parts included:	7060900 Card HVC20 (with firmware)
Prerequisites:	A compatible Digital Output Module (please contact us to discuss a separate DOM Upgrade if required)
Onsite effort:	Does not require SO Engineer on-site
Options:	Card HVC2023 can be upgraded (70581XX) Combine with other upgrades, installations or on-site training

Windows 11 Instrument PC

Part number:	201240 Windows 11 Instrument PC
Parts included:	201240 Windows 11 Instrument PC (does not include monitor/display) Power cable
Prerequisites:	102133 DOM Upgrade 7060900 Card HVC20 (with firmware ≥3.3) Depending on current configuration, additional upgrades may be required
Onsite effort:	Does not require SO Engineer on-site
Options:	201040 Ethernet Rack Upgrade (required for PEAK compatibility and remote support) Ethernet Camera (required for PEAK compatibility and remote support) Combine with other upgrades, installations or on-site training

CMOS Ethernet Camera Assembly

Part number:	201068 Camera Assembly Basler
Parts included:	201068 Camera Assembly Basler Power cable, 12 V adapter Camera lens (customised to your analyser specificiations) 10 m ethernet cable
Prerequisites:	102133 DOM Upgrade 201240 Windows 11 Instrument PC 201040 Ethernet Rack Upgrade (not required but recommended) Depending on current configuration, additional upgrades may be required
Onsite effort:	Does not require SO Engineer on-site
Options:	Combine with other upgrades, installations or on-site training

CMOS Ethernet Camera Assembly

Part number:	201040 Ethernet Rack
Parts included:	New inlet plate for the HV-Rack. Pre-assembled with ethernet connection and cabling
Prerequisites:	7060900 HVC20 v 6.0 or later 201240 Windows 11 Instrument PC 201068 Camera Assembly Basler
Onsite effort:	Does not require SO Engineer on-site
Options:	Combine with other upgrades, installations or on-site training