ORTEC®

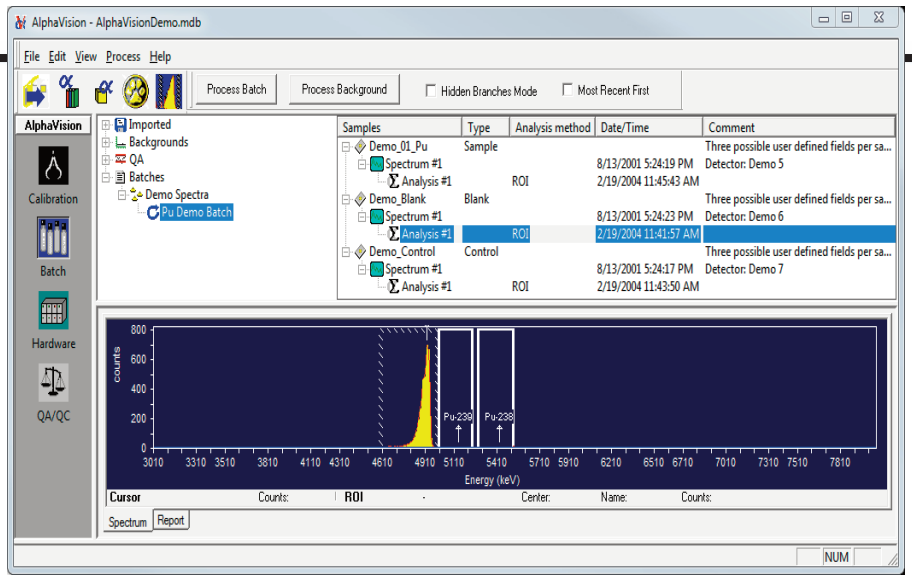
AlphaVision®

Alpha Spectrometry Management Software

"The Comprehensive Alpha Spectrometry Solution for Compatible, Efficient, and Defendable Alpha Measurements."

AMETEK®
ADVANCED MEASUREMENT TECHNOLOGY

AlphaVision



AlphaVision is a comprehensive PC-based alpha spectrometry application that combines rich features and intuitive processes to meet the demands of modern Radiochemistry Laboratories.

In large scale commercial laboratories with hundreds of alpha detectors or small labs with only a few detectors, AlphaVision is your solution to optimize routine measurement processes and monitor system performance.

Why AlphaVision?

Compatibility

- Operates in the most common PC environments — Windows 7 (32 & 64 bit) and Windows XP.
- Microsoft Access Database with Data Management tools and LIMS integration capability.
- Crystal Reports integration for Rich Standard Reports and Custom Report capability.
- Extensive Analysis capability to accommodate a wide variety of Radiochemistry processes.

Process Efficiency

- Batch Configuration process with LIMS[1] integration to maximize throughput and minimize errors.
- Intuitive Sample Management including Query tools to quickly locate Batches and Samples.
- Rapid Data Review and Analysis modification process.
- Integrated Hardware control for up to 256 detectors in a common interface.

Defendable Results

- Security controls to limit user access to authorized functions.
- Compliance with Industry Standards such as ANSI N13.30 and N42.23.
- Comprehensive Quality Control features.
- Historical Analysis retention when re-analyzing samples.
- Detailed Event Logging for routine operations, warnings, and errors.

Now Introducing AlphaVision 6.0!

New! **64-Bit Windows 7 Compatibility.**

New! **Crystal Reports Version 11.5 Integration** for reliable custom reports compatible with common file formats.

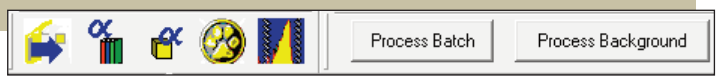
New! **Integrated Hardware Control** to instantly change vacuum, pulser, or high voltage status on large detector groups.[2]

New! **Automated ROI Adjustment** for gain shift corrections during analysis.

New! **Automated Spectrum and Report Export** during batch counting processes for use with external applications.

New! **Formal Verification and Validation** test results available as an option.

New! **Toolbar Controls** for rapid access to the most common menu functions.



[1] Laboratory Information Management System.

[2] Hardware control is available for instruments with software control capability.

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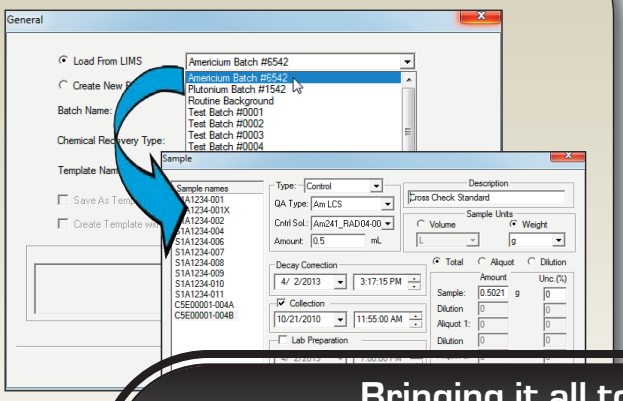
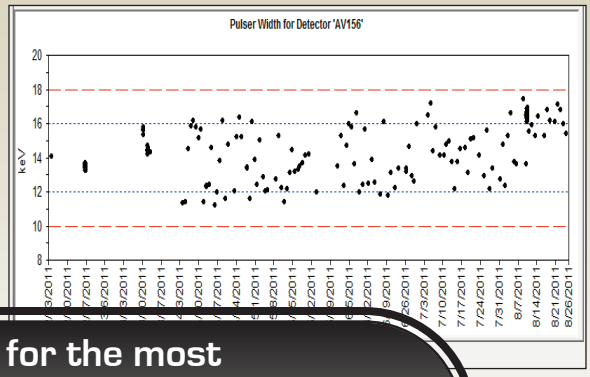
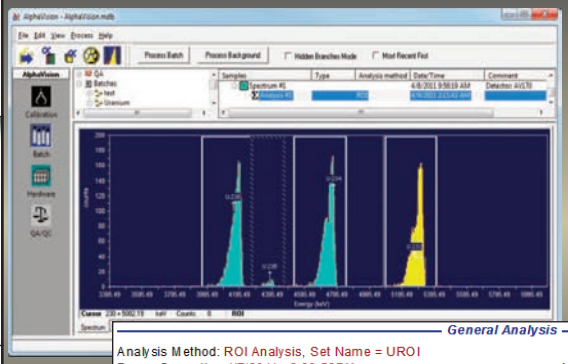
Batch Automation

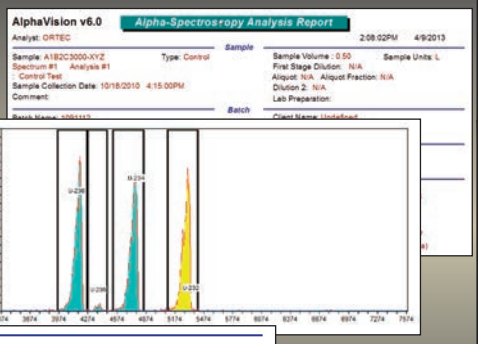


Quality Assurance



Bringing it all together for the most Compatible, Efficient, and Defendable Results Possible!





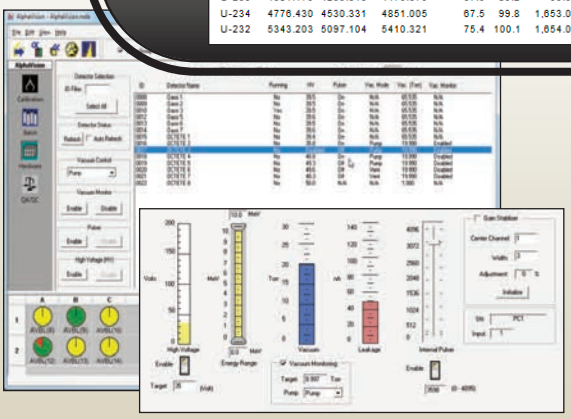
General Analysis

Analysis Method: ROI Analysis, Set Name = UROI
Decay Correction: 4/7/2011 3:26:52PM
MDA Constants: Kα = 1.64 , Kβ = 1.64
Nuclide Library: Uranium
MDA Source: Background

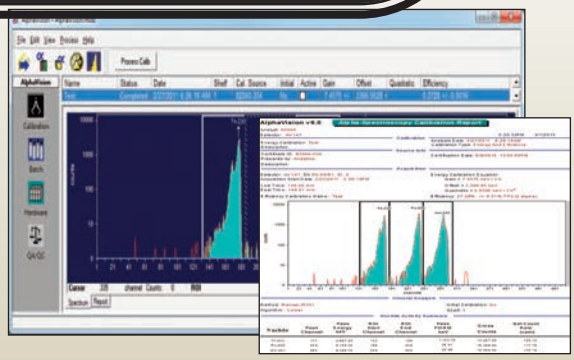
Nuclide Summary (ROI)

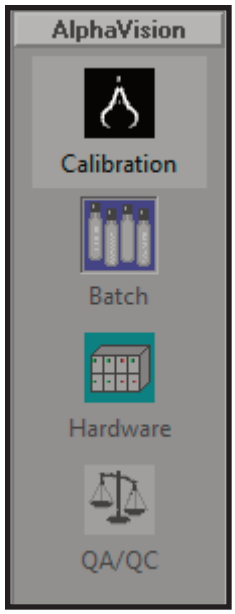
Nuclide	Peak Energy keV	ROI Start keV	ROI End keV	FWHM keV	B.R. %	Gross Counts	Bkgd Counts	Net Counts	Activity pCi/L	1.00Sigma TPU pCi/L	Critical Level pCi/L	MDA pCi/L
U-238	4157.453	3956.099	4261.858	70.9	100.0	1,777.00	0.0000	1777.00	6.959E+000	4.274E-001	0.000E+000	1.060E-002
U-235	4381.179	4269.316	4470.670	67.9	80.2	59.00	0.0000	59.00	2.881E-001	4.109E-002	0.000E+000	1.321E-002
U-234	4776.430	4530.331	4851.005	67.5	99.8	1,653.00	0.8000	1852.20	6.483E+000	4.004E-001	7.746E-003	2.611E-002
U-232	5343.203	5097.104	5410.321	75.4	100.1	1,654.00	2.4000	1651.60	6.116E+000	3.437E-001	1.445E-002	4.033E-002

Hardware Control



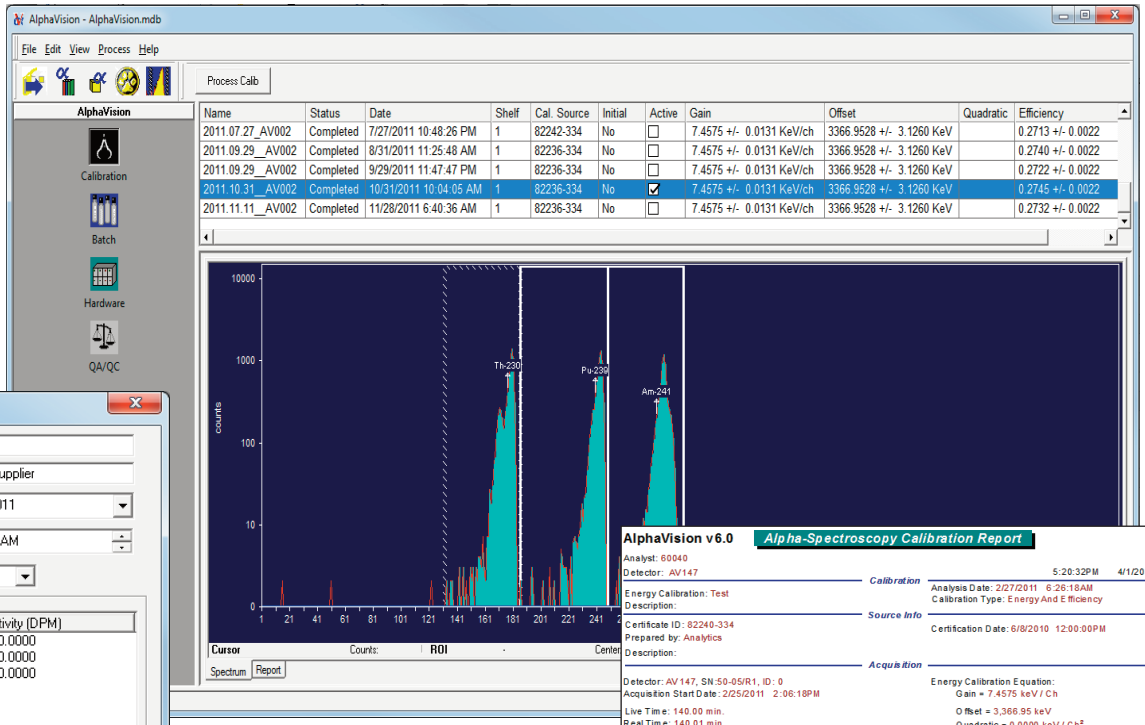
Calibration

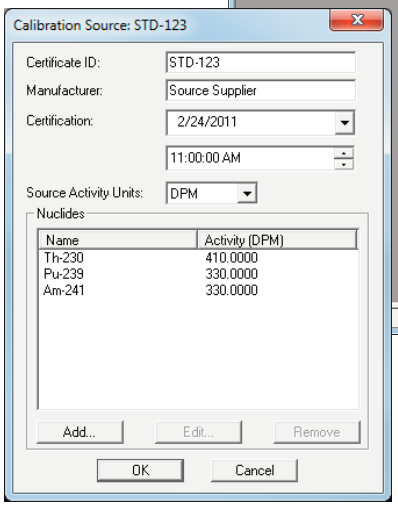


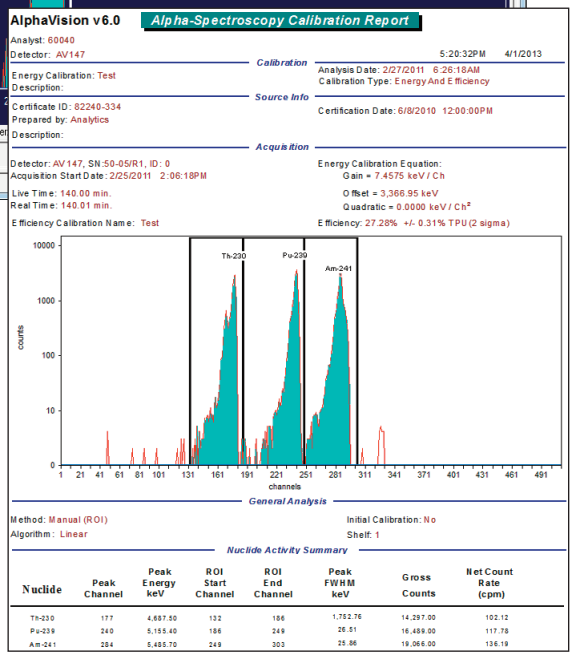


Calibration

- α Energy and Efficiency Calibration
- α Automated and Interactive Peak Fit
- α Traceable Historical Calibration Records
- α Active/Deactivate Calibrations
- α Customizable Calibration Report
- α Unlimited Calibration Standards

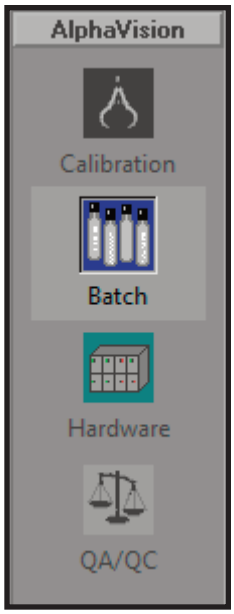


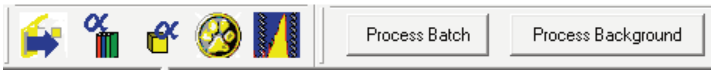


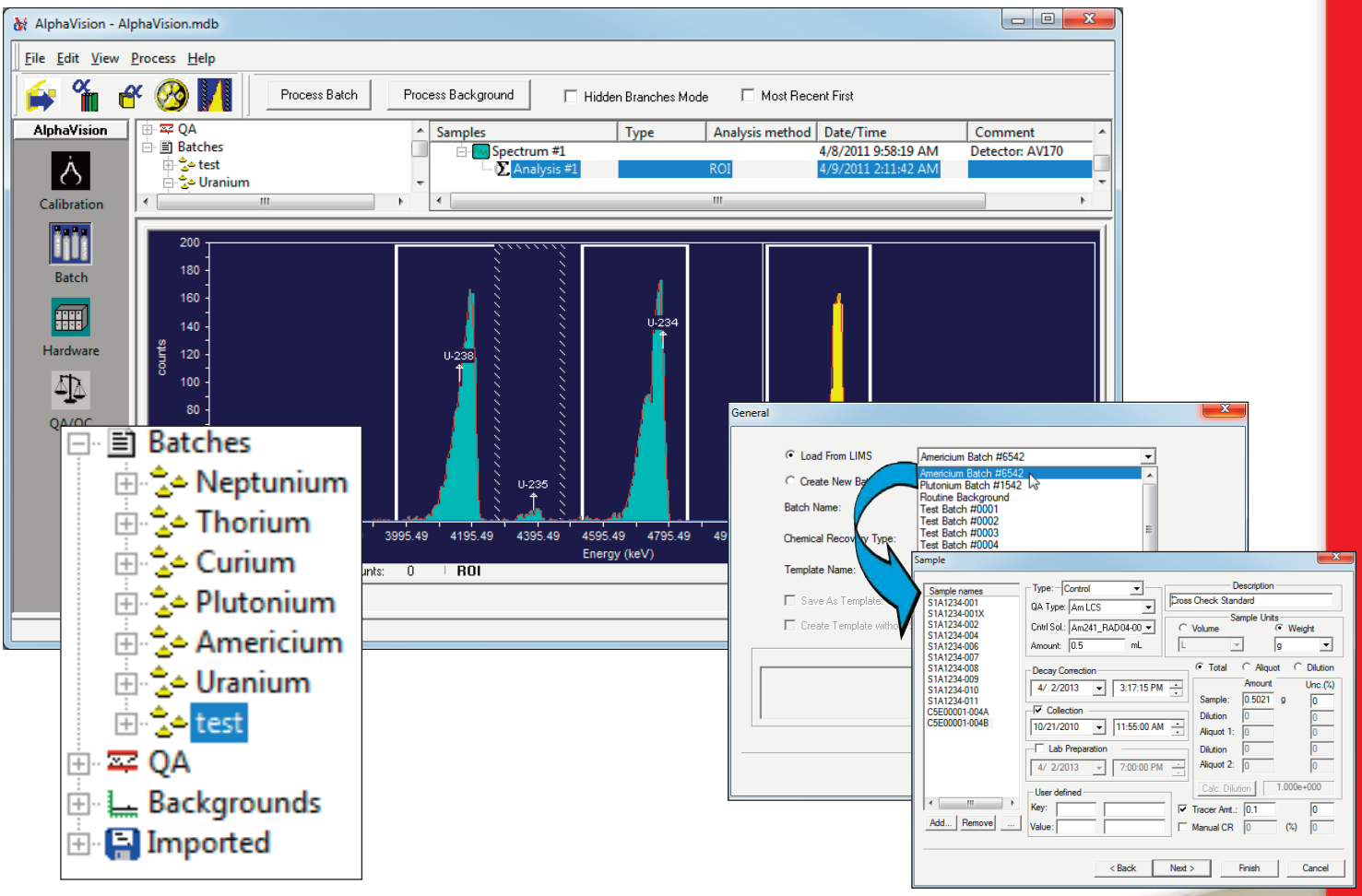


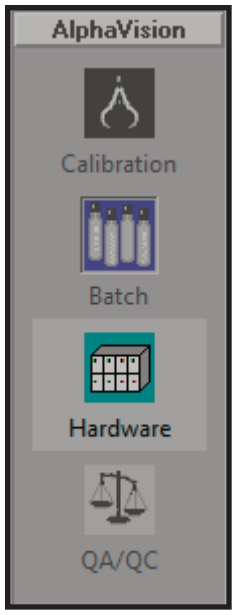
Batch Automation

- Analysis Templates for Consistent Processes
- LIMS Integration Capability
- Extensive Analysis Options for Peak Fit, Activity Calculations including Tracer and Dilution Schemes, and Detection Limits
- Custom Reports with Crystal Reports 11.5
- True "Count to MDA" Presets
- Interactive Review/Reanalysis



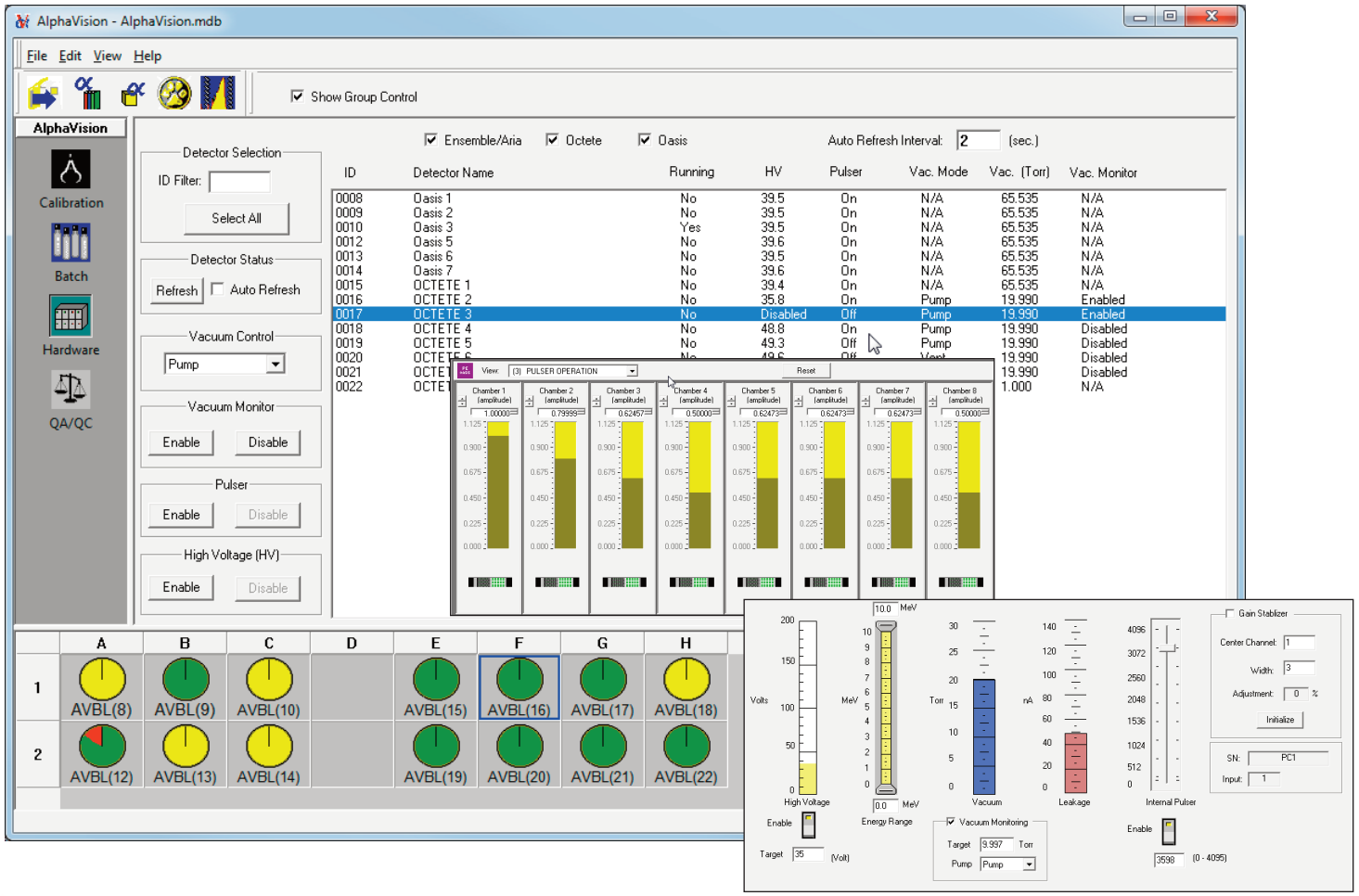






Hardware Control

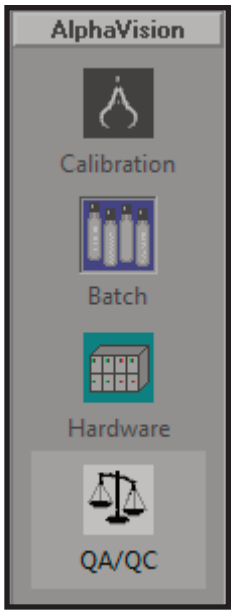
- Rapid Detector “Group” Operations
- Integrated Instrument Control Based on Instrument Type
- Detector Status Indicators “at a glance”
- Automated Instrument Setup
- Configurable Detector Grid

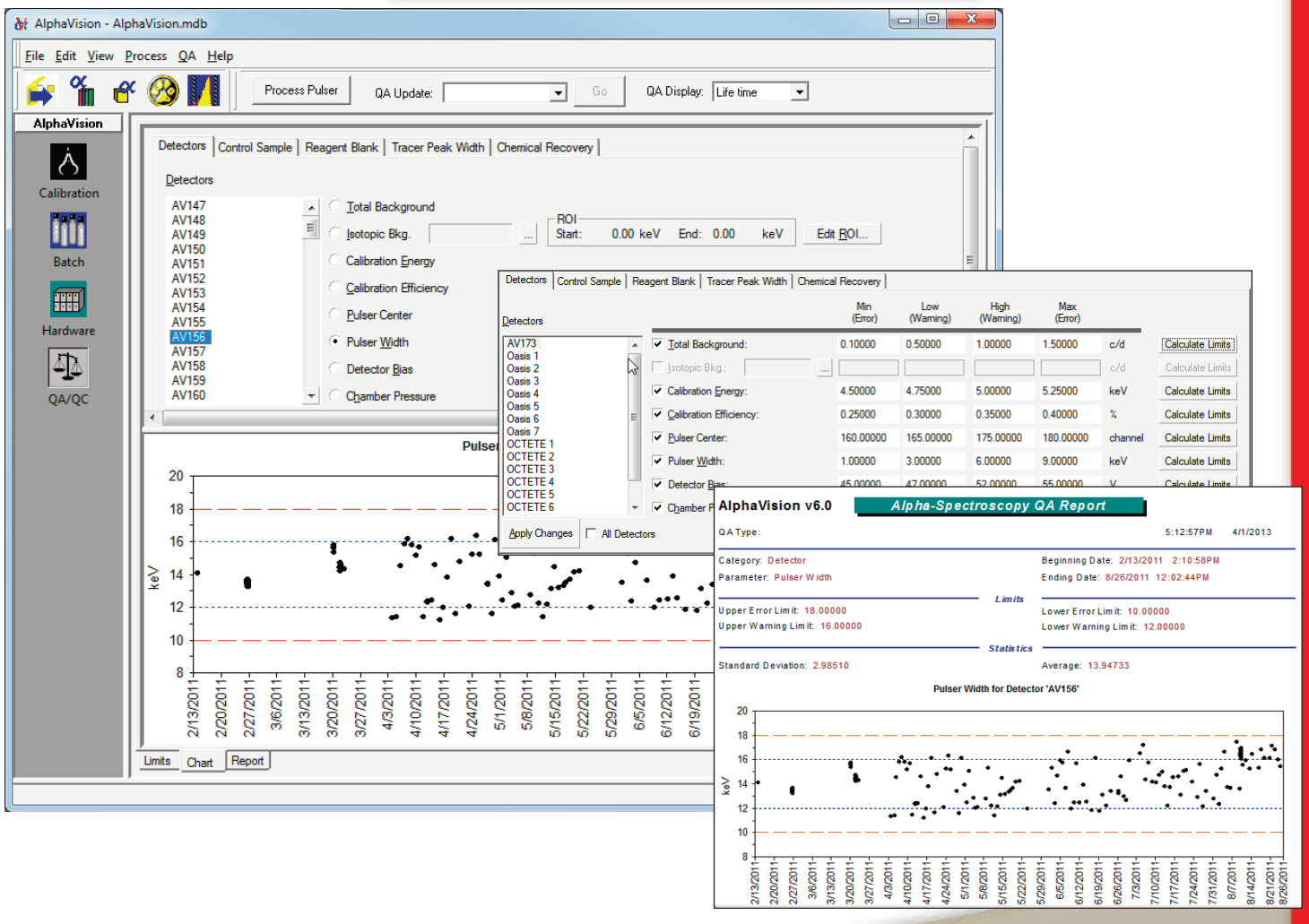


Quality Assurance

- α ANSI N42.23 and ANSI N13.30 Compliant
- α Automated Control Charts and Reports
- α Warning/Alarm Limit Calculations
- α Monitoring Parameters:

√ Detector Background (Total and Isotopic)
√ Calibration Energy and Efficiency
√ Pulser Centroid and Width
√ Detector Bias and Chamber Pressure
√ Reagent Blank Nuclide Activity
√ Control Sample Nuclide Activity
√ Tracer Peak Width
√ Chemical Recovery





AlphaVision

Specifications

Operating System Requirements	Windows 7 (32 and 64-bit) and Windows XP (32-bit)
Supported Hardware	ORTEC Alpha Suite integrated spectrometers (Alpha Aria, Duo, Ensemble, and Mega) are recommended in order to take advantage of the software controlled operations and Windows 7 64-bit USB connectivity. Legacy instrumentation compatible with ORTEC CONNECTIONS such as ORTEC OCTÊTE-PC, OCTÊTE-Plus, 576A, Soloist, 920 series, and Oxford OASIS, as well as the ORTEC 676 Alpha King, Tennelec TC-256, and Canberra 7401/7404 models which are supported through ORTEC MCBs. Connectivity to these devices may be limited to Windows XP or Windows 7 32-bit operating systems depending on the communication protocol employed. Contact your local representative to determine if your instrument is supported in the desired operating systems, or if an alternative communication protocol, such as the DPM-USB, is available.
Analysis Methodology	• Peak Search/Fit Methods: Second Derivative (Mariscotti)[3], Top Hat Correlation[4], Peak Interference Correction, ROI (Regions of Interest) including automatic shift of ROIs based on the Tracer Peak, Best Peak, or All Peak positions, and Interactive ROI Adjustment to optimize peak fit during reanalysis. • Nuclide Activity Calculations: Absolute (no Tracer), Tracer Recovery Correction, Chemical Recovery Correction (Automatic and Manual), Background Subtraction, Blank Subtraction, Total Propagated Uncertainty. • MDA Methods: KTA, Currie, ANSI N13.30, (corrections such as dilution scaling, tracer and chemical recovery, etc. included). • Presets: Real and Live Time, Tracer Peak Area, MDA.
System Management	• Select, Archive, and Compact Database. • Search Samples by Batch/Sample ID or Batch Tree Navigation. • Event Log captures process information, warnings, and errors. • Purge Data. • Security: ◆ Configuration – Save Batch Template, Edit Sample Properties and Client Info, Edit Master Nuclide Library, Nuclide Libraries, Standards, Tracers, and ROIs. ◆ Detector Management – Add, Remove, Configure, Move, Edit Properties, Calibrate, Edit Chamber Pressure and Leakage Current Thresholds. ◆ Quality Assurance – Edit QA Types and Limits. ◆ System – View and Clear Event Log, Edit Batch Tree, Edit Users and Security Levels.

Ordering Information

Model	Description
A36-BW	AlphaVision Alpha Spectrometry Management Software for Windows. Includes standalone or first network copy and binary use license.
A36-BVW	AlphaVision software (A36-BW) with V&V Test Results and Certificate of Validation (A36-VW).
A36-NW	Single Use Network Copy. Requires current version of AlphaVision. Example: For a three-station network, order one copy of A36-BW and two copies of A36-NW.
A36-UW	Update from A36-B32, A36-BW, or A36-NW to latest version of AlphaVision.
A36-UVW	AlphaVision software update (A36-UW) with V&V Test Results and Certificate of Validation (A36-VW).
A36-GW	Additional Hard Copy Documentation for AlphaVision.
A36-VW	AlphaVision V&V Test Results and Certificate of Validation.

[3]M.A. Mariscotti. "A Method for Automatic Identification of Peaks in the Presence of Background and its Application to Spectrum Analysis," Nuclear Instruments and Methods 50, 309–320 (1967).

[4]K. Debertin and R.G. Helmer. Gamma- and X-Ray Spectrometry with Semiconductor Detectors, Elsevier Science, 1988. (If peak shapes are well-controlled (through good sample preparation) the Top-Hat method is likely to yield better results than the Mariscotti method in which peak width is a free parameter.)

Specifications subject to change
050213

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