

GammaVision Productivity Add-On Software

Optimization Tools for Automation, Custom Reporting, Quality Assurance, and Data Management



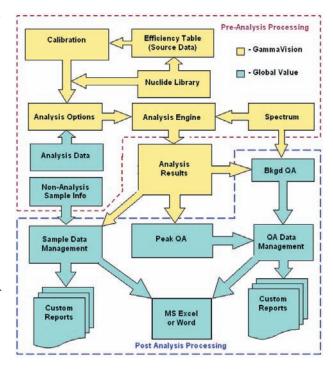
What can Global Value do for you?

- Reduce Errors
- Simplify Processes
- Improve Productivity
- Save TIME and MONEY!!!
- Your Data, Your Way Custom Reports with No Special Expertise or Software Required!
- **NEW** Advanced Data Management with Instant Access to Analysis Data and Reports, Electronic Editing, Digital Signatures, and Encrypted PDF Reports. Paperless Reporting in the Count Room is a Reality!
- **NEW** Completely Automated Analysis Routines Enforce Proper Counting Procedures for Every Sample with Minimal Training
- **NEW** Seamless Integration with Microsoft Excel for Unlimited Calculations, QA Data Evaluation, and Post-Analysis Data Processing
- **NEW** Powerful Quality Assurance Module with Custom Reports and Robust Data Management, Review, and Evaluation
- NEW Complete Sample Changer Operation Package
- NEW Optimization Tools for Sample Data Entry, Source Certificate Generation, and Report Output

Cutting-Edge Analysis Automation and Data Management

Global Value was originally created as a powerful custom reporting tool with electronic data editing capabilities. Version 2 of Global Value has gone well beyond the custom reporting process and has developed into a comprehensive package for automation and data management in the production environment. It provides the tools necessary to convert the standard gamma spectroscopy system into a state-of-the-art production package including optimization of sample data input and automation routines, generation and electronic review of user-defined reports, advanced QA features, sample changer operation, and virtually unlimited custom calculations in a secure, reliable, and efficient manner. Some modules in Global Value replace functionality currently available in GammaVision with enhanced capabilities, such as sample data entry and QA, while others add new functionality in the production environment for data management, reporting, automation, and security.

Global Value is very flexible and easy to use. Unlike many other custom-reporting programs this software uses standard text report templates that require no special programming skills or 3rd party development tools. It is also tightly integrated with Microsoft WORD and EXCEL for displaying reports, creating custom calculations, or sharing data in an environment with which many users are familiar. The use of Visual Basic for Applications (VBA) within these programs also allows end-users to generate full featured programs or simple functions to seamlessly transfer data to database systems or web servers, share data using standardized methods, or automate virtually any post-analysis data processing. Global Value provides several ready made templates to help you get started, or you can have our expert staff create Turn-Key applications to meet your needs right out of the box.

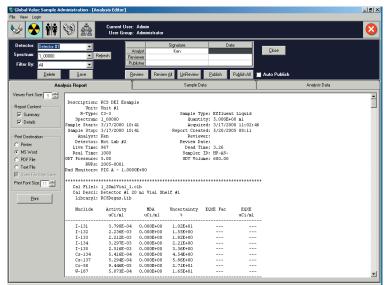


Advanced Data Management and Paperless Reporting

Standard spectroscopy systems rely on paper reports annotated with comments by the analyst and often illegible signatures. This process is time consuming, insecure, and expensive. Storing paper reports or scanning them back to electronic media can be a huge expense for production labs, reports can be lost in transit, data can be changed after the final review signature without anyone knowing, duplicating reports for end-users can be tedious, and searching for a specific sample result may be next to impossible. This is no longer the case with Global Value in your lab.

Global Value provides instant access to secure analysis results from any configured computer in a networked environment. Sample and analysis data can be modified and reports reviewed electronically with appropriate user permissions to eliminate the need for paper reports altogether. The review process is simplified using filtering options to determine which results are ready for review or archive, and any calculated parameters on custom reports are automatically updated when changes are made to analysis results. The finalized reports can also be output to encrypted PDF files for archiving in your Document Control system.

Labs that prefer paper can still benefit from the electronic editing process because the data is more legible, accurate, accessible, and available for custom processing using the Excel Add-In functions.



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Cal File: 1_20mlVial_1.clb Efficiency: Detector #1 20 ml Vial Shelf #1 Library: RCSDegas.Lib

Do-It-Yourself Custom Reports

All analysis reports present data, but few are easily understood by the End User without detailed training. Global Value's custom reports provide analysis data, calculations, and related sample information exactly how you specify for a more meaningful presentation. Now your reports can convey quality information rather than convoluted data.

Global Value generates concise analysis summaries based on user-defined report templates that are extremely easy to create or modify. These templates consist of special parameters and standard text in a WYSIWYG format. When reports are generated all text is displayed exactly as specified in the template, and the special parameters are replaced with information in the Global Value database. For nuclide data, such as activity, uncertainty, MDA, and calculated fields, simple formatting codes ensure that the data is presented in a way that is clear to you and your customers.

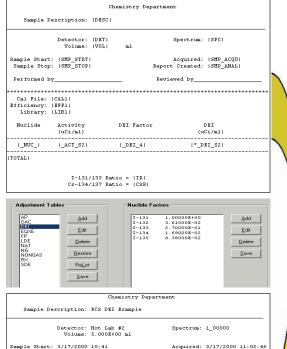
Even inexperienced users with no special software or programming skills can quickly create tailor-made reports to meet site-specific needs!

Custom Calculations

Global Value can generate a wide range of adjustment factors to nuclide activity such as:

- Derived Air Concentration (DAC) fractions
- Shallow and Lens Dose Equivalent (SDE/LDE)
- Dose Equivalent Iodine (DEI)
- Effluent Concentration Limit (ECL) fractions

... or any similar calculation where nuclide activity is multiplied or divided by a nuclide specific adjustment factor. A common use of this methodology is to categorize nuclides into various groups such as Noble Gases and Particulates, or Fission, Activation, and Natural Products which are commonly encountered in Nuclear Plant operations. The adjustment factor tables are maintained using Global Value's configuration editor which is security controlled with audit trail features indicating when changes are made and by whom. By separating the adjustment factors from libraries used for analysis, nuclides can have unlimited adjustment factors while significantly reducing library maintenance.



	(uCi/ml)		(uCi/ml)
I-131	3.79E-04	1.0000	3.79E-04
I-132	2.24E-03	0.0361	8.07E-05
I-133	2.21E-03	0.2700	5.97E-04
I-134	3.30E-03	0.0169	5.57E-05
I-135	2.52E-03	0.0838	2.11E-04
Cs-134	5.42E-04		
Cs-137	5.29E-04		
Total	1.23E-02		1.32E-03
	I-131/133 Ratio = 0.171		
	Cs-134/137	Ratio = 1.023	

Reviewed by

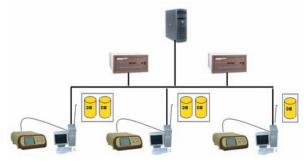
Additional calculations included with standard templates include: I-131/133 ratio, Cs-134/137 ratio, and Total Equivalent Xe-133 for Gas Hold-up Tanks. More complex calculations can be managed using the Excel Add-In or added to the standard templates with site specific customization.

Global Value's custom reports can also include results for a second analysis of the same spectrum. The detailed reports are easily accessible in the Analysis Editor, and the final activity results are combined in a concise one-page summary simplifying the review process. This is particularly beneficial for Particulate/Iodine (Part/Cart) air filters which can be counted together as a single spectrum to reduce analysis time by 50%!

Unique Configuration Management and Data Sharing Topography

Global Value is designed to allow data sharing across a network while limiting your exposure to network or server interruptions. All detectors have their own secure database which can be located on network servers or individual computers. Each database maintains an awareness of every other database location so that analysis data from all detectors is available from any connected computer and changes to configuration parameters are automatically synchronized. Thus, the system can behave like a centralized database server system without the risk of disabling the entire gamma spectroscopy system in the event of network or server problem.

This flexibility is imperative for laboratories performing Technical Specification or mission critical analyses!



Extensive Automation Versatility

Global Value provides tremendous flexibility to automate the data input, analysis, and reporting sequence, with the set-and-forget design philosophy using GammaVision's Job process making routine operations a snap. Jobs can be created to include as much detail as desired. The analyst may be expected to make many decisions during the analysis process or very few. Whatever the case might be in your lab, it is easier than ever to initiate the automation process and guide the analyst using Global

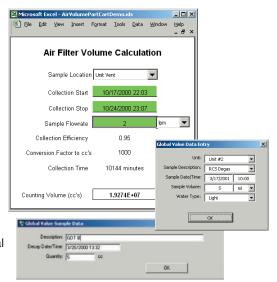


Value. The Quick Start module is a thick toolbar that acts as the centralized launch pad for initiating automation routines and accessing Sample and QA administration modules. Jobs are logically grouped in folders similar to Windows Explorer and launched with a single mouse click. Quick Start also keeps track of active Jobs making it easy to determine when a detector is available for a new sample.

Minimize Data Entry Errors!

Global Value significantly enhances the sample data input process by consolidating data input forms and providing additional features such as:

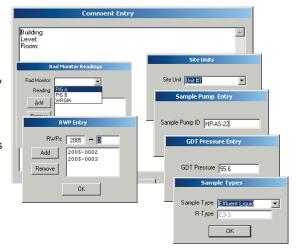
- Default Date/Time input including a specified date, calculated date, or the current date in any valid format.
- Default and modifiable Quantity and Quantity Units which can reduce the number of Sample Default Files to manage.
- Integration with Microsoft Excel providing user-defined calculations such as Sample Quantity or Decay date/time, or the selection of pre-defined parameters such as the Sample Description or Quantity Units. Interfacing can be accomplished using standard Worksheets or custom forms created in Visual Basic for Applications (VBA).
- Automated transfer of sample information from data management systems into GammaVision for use in the analysis process. This can be accomplished by exporting the data to a simple text file which is parsed by a Global Value utility program or using Excel's Import functionality to put the data into a standard Global Value input format.



Simplify Data Collection and Reporting

It is often necessary to keep track of sample information that is unrelated to the standard analysis process. This information may be necessary for custom calculations, querying analysis results, or simply displayed on reports for reference. Global Value provides a variety of inputs for several parameters routinely encountered in Nuclear Power Plant operations and a generic "Comments" entry which allows for user-defined prompts and free-form text entry – all of which can be displayed on custom reports or retrieved using the Excel Add-In functions.

Default parameters for these dialogs can be specified in the configuration process to make data entry as easy simple as possible, and the automation Jobs ensure that this information is collected during the analysis process for optimal efficiency.



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Optimize Automation Processes

Global Value includes several utility programs designed to help automate and enhance routine processes such as:

- Precise timing control to pause the automation process until a specified time is reached. One common use of this utility is to ensure that spectrum acquisition is initiated at a specified delay after sample collection to minimize error when comparing decay sensitive analysis results such as Reactor Coolant Activity in Nuclear Power Plants.
- Efficiency Table Converter for one-click generation of new source certificates used for efficiency calibration perfect for facilities that generate their own source geometries from a liquid batch. Simply create a Master certificate based on the concentration of the liquid source and apply a correction based on the weight or volume used for the particular geometry.
- Automated report output in Text or PDF format to unlimited locations on a connected network for immediate data sharing. This is a handy tool for informing defined groups or individuals of analysis results as soon as they are available.

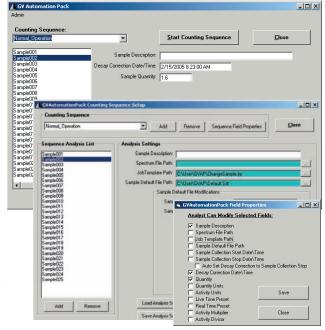
Simplified Sample Changer Automation

In addition to routine sample counting, Global Value ships with a standalone program known as GVAutomationPack for unattended operation of sample changers. Its interface is very simple and intuitive requiring minimal operator training, yet secure and robust enough to satisfy most applications. Simply enter the required information for each sample in a batch then analyze all of them using GammaVision with a click of a button.

GVAutomationPack allows the Administrator to configure an unlimited number of counting sequences which define the analysis instructions for a batch of samples including:

- Acquisition and Analysis Options
- Sample specific automation processes such as reporting options and data handling
- Sample specific data input fields visible to the analyst and any default parameters in hidden fields

When combined with the other Global Value custom reporting and data management features GVAutomationPack is the ultimate Sample Changer software package.

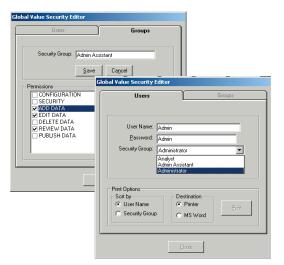


Robust Security

Data security and integrity are key components of any data management system – particularly those frequently used for regulatory compliance or business requirements such as the Gamma Spectroscopy system.

Global Value has an extensive security system which allows Administrators to define Security Groups with specific permissions and assign Users to a group with the appropriate security level.

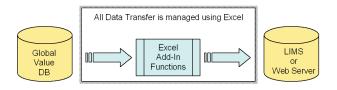
Users must login in with a password to perform system operations, and only those with the appropriate security level are permitted to analyze samples, run QA, edit or delete analysis results, review or publish reports, or change configuration and security settings. Users and security groups can be managed separately for Sample and QA systems if desired and summary reports of Security settings can be generated to easily review the current Group privileges and associated Users.



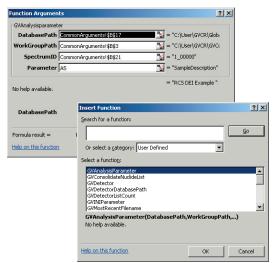
Unlimited Calculations and Data Handling using the Excel Add-In

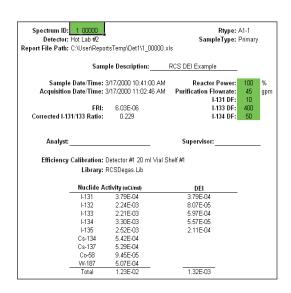
Global Value is tightly integrated with Microsoft Excel and Word for custom sample data input, reporting, and data sharing. This functionality is greatly enhanced by an Excel Add-In which provides a set of Worksheet and Visual Basic for Applications (VBA) functions that automatically retrieve analysis parameters from Global Value while preventing unauthorized access to the database which could compromise the security of the system. All functions behave similar to the standard functions built into Excel which ensures a familiar interface for users with spreadsheet or VBA experience, and fully functional examples are provided to demonstrate several custom calculations and applications. The possibilities for automating post-analysis processes are virtually unlimited using the Excel Add-In, for example:

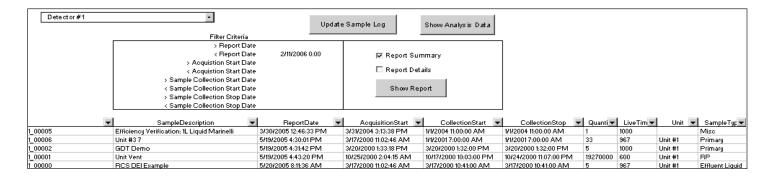
- Any calculations can be automated using nuclide activity results from as many analysis results as desired such as Ion Exchanger Decontamination Factor, Fuel Reliability Index, Nuclide Activity Ratios, Efficiency Verifications, and a host of others.
- Simple composite samples from split or delayed count samples are easily combined with results being summed, averaged, maximum or minimum values determined, or calculations such as a relative difference from a target value.
- Create custom reports outside the capability of the standard text templates using standard analysis data from multiple sources with calculated fields, special formatting, and graphics.
- Share data by posting results to a Web Server in HTML format or transferring analysis results and calculated data to other data management systems such as a LIMS using Worksheet functions and VBA code that is easily generated using Excel's macro recorder.



• Search for analysis results that meet a specified criteria using date searching tools and Excel's data filtering and sorting functionality. The standard Sample Log provided with Global Value uses a very simple and intuitive interface to quickly find a particular sample. Simply click on the sample in the spreadsheet to view the complete analysis report or customize the application to perform special calculations, transfer data, etc. Sharing data across a network couldn't be easier!





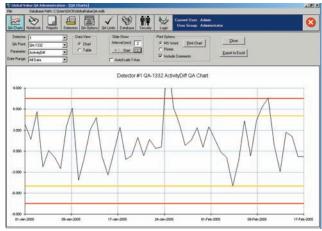


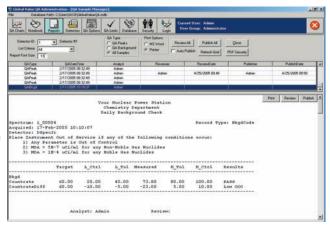
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Rigorous Quality Assurance

Global Value raises the bar for Gamma Spectroscopy Quality Assurance. This module has the trending, review, documentation, and evaluation tools to meet and exceed the most demanding QA programs. Take a look at some of the key features available:

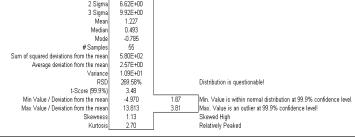
- Similar to automation Jobs for analyzing samples, periodic QA checks are fully automated. The library, calibrations, and all other parameters are predefined making the QA check a simple point-and-click operation.
- Trending and limits are established for individual peak parameters such as the centroid channel and energy, FWHM, Net Area, Intensity, Uncertainty, and calculated Activity (efficiency measure) for as many individual peaks as desired as well as the Background Count rate. The percent difference from a target value for each parameter can also be monitored and limits established for comparing the relative or actual performance.
- Customizable QA reports include measured and target values for each peak parameter, Tolerance and Control Limits, and a flag indicating if the measured value falls outside of the limits. The header information is completely defined by the end-user to identify the laboratory and perhaps define corrective actions for parameters that fail the QA check if desired. These reports are easily accessed using built-in filters and can be reviewed electronically with digital signatures and published to encrypted PDF files for storage in your Document Control system.
- QA data for every parameter measured is readily available in the form of trend charts or data tables. Trend charts include the measured values along with any established limits and can be viewed effortlessly using the "Slide Show" feature or intuitive navigation tools. Data tables provide instant read-only access to the values behind the charts for review or transfer to other programs such as Microsoft Excel, WORD, or any other program.

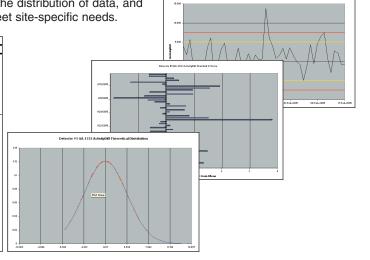




- The Lab Notebook allows for detector-specific comments to identify anomalies in performance or instrument history as applicable. These comments can be included with the trend charts in reports that are sent to Microsoft WORD or a printer making it very easy to demonstrate QA compliance to auditors.
- Complete data evaluation is literally a one-click process. Data is exported to Microsoft Excel to automatically generate a summary of key statistical parameters. This summary includes the calculation of Tolerance and Control limits with a comparison to existing limits, outlier identification, data distribution evaluation (normal, flat, or skewed), and several other key

statistics. It also generates meaningful charts that visually describe the distribution of data, and provides the flexibility for the end-user to modify this summary to meet site-specific needs. Detector #1 QA-1332 ActivityDiff Statistics Evaluation of Current Limits Current Limit
Current Limit Deviation from the mean 2.64 1.88 1.14 1.90 Calculated Limt (2 or 3 Sigma) -5.388 Deviation % Difference from Calculated 36.78% 3.31E+00 StdDev (1 Sigma) **Evaluation Comments** 6.62E+00 3 Sigma 9.92E+00 Mear 1 227 Mediar 0.493





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Prerequisites

Global Value requires Windows 2000 or XP and GammaVision Version 5.2 or higher. GammaVision 6 or higher is recommended.

Interfacing with Microsoft Excel and Word requires Excel/Word97 or higher. Some standard templates for the Excel Add-In incorporate functionality that is only available in Excel 2002 or higher.

PDF reports are generated by Global Value and require no third-party software in the creation process. Adobe Acrobat Reader 5.0 or higher is recommended for reading encrypted PDF files. Other PDF readers that support encryption and character interpretation similar to Acrobat may also be used.

Implementation and Support

The initial Global Value installation includes two days of on-site support for installation and training to introduce new users to its many capabilities. Several automation Jobs and Excel Worksheet calculations are fully operational right out of the box to demonstrate much of the functionality provided in this package. These example Jobs and calculations may be used as templates for creating site specific applications or the automation routines and calculations can be created from scratch.

You can expect the finest in customer support with ORTEC. Our staff has many years of experience in developing and servicing spectroscopy systems in the Commercial and Nuclear Power Plant environments, and we recognize that you invest significant time configuring applications, changing procedures, and training personnel when changes are made in the counting lab. ORTEC can help make the transition as seamless as possible. Our expert technical staff is available to establish Turn-Key installations including calibrating your systems, automating the analysis processes, configuring reports, initializing administrative parameters for managing Sample and QA parameters, and developing post-analysis processing options such as custom calculations or data transfer using the Excel Add-In. We can also assist in developing Standard Operating Procedures (SOPs) based on your specific configuration and train your staff to expedite the implementation process.

Ordering Information

Model Description

Global Value GammaVision Productivity Add-On Software (Site License). Includes 2-day on-site installation and training

for product familiarization. Requires additional days (Global Value Add) for complete turn-key operation.

Global Value Add One additional day of installation and training/customization



