THE USER INTERFACE

The LVis user interface has four major parts:

1. Tool bar
2. Menu bar
3. Configuration bar
4. Desktop

IMAGE MISSING

Tool Bar

The tool bar provides quick access per mouse click to different actions within the application. The actions are represented using icons. These actions are not always possible in the current program status. In such cases, the icon is highlighted in gray (no colors).

Important
If the actions refer to measurements (e.g., Start, Stop, Analyze, etc.), then the icons are only active if measurements are open on the desktop. If measurements run in the background, meaning that they are not shown on the desktop, then the respective actions can only be activated in the configuration bar by directly selecting the detector. If several measurements are open, the actions (icons) in the tool bar refer to the currently active measurement!

The following actions can be initiated via the tool bar.

IMAGE MISSING

Open File

Clicking the folder icon in the tool bar automatically opens the basic directory of all measurements, which is defined under Settings. Then you can open a .LVM file stored there.

IMAGE MISSING

This action is identical to the “Open file” menu item in the menu bar under “File”. As LVis can in general manage several instances at the same time (several detectors can measure at the same time, several spectra can be opened at the same time), this action is always possible, independent of the actual program status.

Save File

Via the floppy disc icon, you can save an open project (spectrum, spectrum with adjusted analysis parameters or spectrum with analysis parameters, etc.) can be saved as an .LVM file

Important
If a name is assigned for this file in the parameter set, then the file will be saved without confirmation prompt into the basic directory, in a folder with the detector name, and there in a folder with the name of the parameter set.

If no name is entered, you must define via a dialog where and under which name the project should be saved (corresponds to the Windows action “Save as”). The possibility to save a project is of course only available, if a spectrum or a measurement is open.

Analyze Active Spectrum

Using this icon, an active spectrum (hence a spectrum, which is shown on the desktop and is active and was started parameterized, can be evaluated using the parameters defined at the beginning of the measurement.

If for an active spectrum on the desktop the analysis parameters are not available (since it was started manually) you will have to define all parameters manually as well.

Normally this icon can be used to check a running measurement by a preliminary analysis (e.g., if the limit of detection is reached) or to analyze a finished measurement.

Start Spectrum Acquisition

In order to start spectra acquisition without parameters, click on “Start spectra acquisition”. This is possible if the detector (or the memory content of the corresponding electronic measurement equipment) is active and shown on the desktop. In addition, it is possible to continue a stopped spectra acquisition.

If the memory content is not shown on the desktop, then you can only start spectra acquisition from the context menu of a detector in the configuration bar.

Important
For this action it is not important whether the spectrum was started in the memory of

electronic measurement equipment with measurement parameters and has already been evaluated or if the memory is empty. The spectrum currently stored in the memory of electronic measurement equipment is simply continued.

Stop Spectrum Acquisition

Using this action, you can stop a spectrum acquisition started without parameters (not parameterized). Parameterized started measurements can only be stopped via the context menu of a detector in the configuration bar (Choose “Analyze” — after saving the measurement you will be asked if the acquisitions shall be stopped). This action is only available for spectra, which are currently shown on the desktop and are active.

Delete Spectrum (manually acquired spectra only)

This command clears the detector memory (hence, the spectrum) corresponding to the currently active spectrum window on the desktop. This only applies to spectra acquisition started without parameters. It does not matter whether data acquisition is currently underway place or not.

Login (green “padlock” icon)

Click on the green “Open lock icon” to unlock protected functions of the application. This requires the administrator password. If the administrator is logged in, this icon is highlighted in gray.

Logoff (red “padlock” icon)

If the “Closed lock icon” is active (red) this indicates that the application is currently unlocked. Clicking this icon locks the program.

Peak Search

Using this icon, you can start a peak search in the currently active spectrum window. The results of a peak search started via the tool bar are subsequently shown in the spectrum. However, they will not be saved and cannot be used for a report. They are only used for a quick verification of the energy calibration. In order to distinguish between analysis results, the peak description always displays a question mark next to the nuclide name. The illustration of the peak search results can be hidden by repeated clicking on the icon in the tool bar.

IMAGE MISSING

The peak search basically corresponds to a GammaVision WAN32 analysis without library (or a library

without content), hence to a pure Mariscotti peak search.

Important
GammaVision requires a library without entries for this peak search. The used library file Null.lib can be found in the \Config folder under the LVis program directory. Do not delete or change this file, otherwise peak search will not function anymore.

All other peak search parameters required for peak search are different, depending if it is a manually or a parameterized started data acquisition.

If the measurement was started using a parameter set, then the parameters defined in the Spectrum section of the Analysis tab apply:

IMAGE MISSING

The results of the peak search are subsequently compared with the entries in the Analysis library defined in the parameter set. The nuclide, whose peak energy is closest to a found centroid and which is inside the specified match width, will be assigned to the peak.

If data acquisition was started manually, the parameters adjusted in the Default.sdf file apply and the comparison is performed using the suspect library defined in the global settings.

Info
In case of parameterized spectra, this peak search corresponds to the automatic peak search within the scope of spectrum analysis (see Peak search results).

Change Sample

This button is only active, when a sample changer controlled by the ORTEC hardware I/O is defined for the currently selected detector. Clicking this button changes the output level on the “CHANGE SAMPLE” output of your ORTEC MCB.

SampleSetEditor

This button is only active when a sample changer is defined for the currently selected detector. Clicking this button opens the editor for the definition of a set of samples (sample batches), the LVis SampleSetEditor.

LabJournal

Clicking this button opens the LVis LabJournal.

Menu bar

The menu bar consists of the following menu items:

IMAGE MISSING

Similar to all Windows applications, existing program files (.LVM files) can be opened here. Furthermore, a list of recently used files is provided and you can exit the program. In addition the Crystal Reports Designer Report Editor can be started from here. However this is just possible when no other measurement is active on the LVis desktop (see left screenshot). If an acquisition is currently being acquired or an existing .LVM file is displayed on the LVis desktop the menu is somewhat different because it is now possible to save the active document or save it as a different file (see right screenshot).

IMAGE MISSING

Report Editor

LVis has a built in Report Editor based on the Crystal Reports Designer. The Report Editor can be used to modify existing report templates. Typically all your report templates are located in your LVis database subfolder \Reports10xx (xx = 31 German; xx=33 English; xx= 36 French). Select the *.rpt file that you would like to modify and click open.

IMAGE MISSING

Important
The names used for the report templates located in your respective LVis database\Reports10xx folder are critical! Do not delete these files. Before you modify one of these reports, don’t forget to make a backup of the original ones. It is possible to add templates for the analysis reports which can then be selected in the respective menu on the parameter sets. All report templates that have a name starting with “Standard” will be listed as available analysis report templates on your parameter sets.

The selected file will be opened in the LVis Report Editor.

IMAGE MISSING

Here you can modify your reports. Since the Report Editor is part of the Business Objects Crystal Reports 2011 Developer software that we use for designing the reporting we included the designer in LVis. It works the same way as Crystal Reports itself but offers some limited functionality. Because of the complexity of this software package it is not possible to describe all its features in this manual. The Report Editor is more intended to be used to do minor changes like new headings or activation/suppression of individual subreports.

You can preview your modifications and save your new report templates by using the buttons on the bottom bar of the editor.

If you want a completely new, customized report, contact your local ORTEC representative.

View

In the “View” menu you can select, whether you would like to display the tool bar and the “status bar”. By default both are active. The status bars is used to display error messages and can be deactivated.

Windows

Here you can define how windows should be arranged on the desktop. You can select between “overlapping” (Cascade) and “side-by-side” (Tiled).

IMAGE MISSING

If more than one window is opened on the desktop, all windows are displayed in a list. They can be directly selected and displayed in the foreground as the active window. See Spectra windows for more information on arranging the windows on the desktop. In addition you have the possibility to show all detectors that are configured in LVis “side-by-side” on the desktop with a single click

Tip
Note that all windows on the desktop are listed in the configuration bar under the “Currently open“ section, and can be moved into the foreground by double-clicking their respective entry on this list.

Settings

The Settings window allows you to define global parameters for the entire LVis system.

Global Settings

The fields on the Settings dialog are defined as follows:

1. Path to the base directory of all measurement data. Unless differently defined by additional program functions, all measurement data is filed in this directory.
2. Here the path to the GammaVision application is defined. This information is crucial for LVis operation.
3. If your LVis is supposed to import sample data from a LIMS you can specify here the path to the respective directory where the sample information files are located. Importing sample data via automated file exchange requires some customization. If you would like to use this feature contact your local ORTEC sales representative.
4. If your LVis is supposed to export analysis results to a LIMS you can specify here the path to the directory where LVis will save the analysis results files that are to be imported by the LIMS. Exporting sample data via automated file exchange requires some customization. If you would like to use this feature contact your local ORTEC sales representative.
5. Default value of max. half-life correction. If a decay correction is activated in a parameter set, this value defines from which time no correction should be applied. The value defined here is a default value only. You can adjust the value to be used for measurement analysis in the respective parameter set.
6. Besides saving spectra in LVis' .LVM files, it is also possible to save them in the GammaVision .SPC spectrum file format. If this is a general request, this setting can be enabled by activating "Automatic SPC file creation after analysis". SPC files receive the same names as .LVM files and are stored in the same directory (See Item 1).
7. LVis can export the entire measurement data and analysis results into a MS Access database. For this purpose activate "Automatic database file creation after analysis". The database created receives the same name and is stored in the same directory as the .LVM file (See Item 1). This is useful, if you would like to perform further calculations based on the results of an analysis (dose rate calculation, etc.), or if you would like to transfer selected data to a different database (LIMS systems). The structure of this database is explained under "Analysis database structure" in this manual.
8. Analysis algorithm selection Here you can select which GammaVision analysis algorithm you would like to use for the analysis of your spectra. The algorithms differ in general, if it has been specified earlier to receive false positive or false negative results and if the focus is on library-based or mathematical (Mariscotti) peak search. More detailed information regarding the individual analysis algorithms can be found in the GammaVision manual. We recommend either using ENV32 or NPP32 for LVis operation.

IMAGE MISSING

1. Activation of library-based peak stripping. More detailed information can be found in the GammaVision manual. We generally recommend activating this function.

2. Definition of the suspected nuclide library Here the path to a library is defined, which is used to retroactively compare unidentified peaks of an analysis in order to propose in the report a nuclide for these peaks. This library is not used for the actual analysis and thus can contain significantly more nuclides.
3. Simultaneous measurement support activation with several detectors using parameters sets of the same names (multi-detector configuration). Here you can define the storage location of these multi-detector measurement data as well as the automatic file name generation. For further information, please refer to Multi-Detector Configuration.
4. It is also possible to adjust several input field labels in order to better correspond to the actual laboratory setup. The labels proposed here are default values only. You can adjust the names to be used for measurement analysis in the respective parameter set.
5. Automatically open geometry list of a detector in the configuration bar (in case of many geometries or detectors, it is expedient to suppress this functionality!)
6. Parameters for automatic file name indexing. Here you can define number of digits, start value and validity period of indexes. Automatic indexing in file names can be used in the parameter set by adding i in the name field (seeEdit parameter set).
7. Activating PDF Support can be done by ticking this box. If ticked, the analysis reports will automatically be saved as pdf files and displayed in the default pdf viewer.

Tip
Note that when PDF Support is activated, reports will not be sent automatically to your default printer. They will be displayed on screen and saved in the same location as the measurement .LVM file.

1. When the use of the LVis user management “Uli” is desired, it can be activated here by entering a valid IP address. In cases when the user management configuration is supposed to be on the local pc, enter 127.0.0.1.
2. If LVis shall automatically log out a user after a certain idle time, simply enter a time in seconds here.
3. If measurements shall be approved before being published (eg. results exported to a LIMS or QA measurements being transferred to the LVis detector QA database), tick this box. (see Approval of Measurements and Analysis Results for more details)
4. In case you are using the free software EFFTRAN by Tim Vidmar (www.efftran.com) for the calculation of true coincidence summing factors or efficiency transfer, it is possible to automatically have LVis combine all necessary information about the geometrical setup and trigger the calculation. To do this simply enter here the EFFTRAN and MEFFTRAN file locations. More information can be found in chapter Using EFFTRAN with LVis
5. Clicking on the “Units” and “Labels” buttons takes you to the respective menus, where you can define default values for the pull down menus available in the parameter set. (for further information refer to the following chapters)
6. Under “Peak search” you can define peak search parameters that will be applied if no other respective parameters were defined (if e.g., spectrum acquisition was not started parameterized). The adjustment options correspond to the options in parameter sets.

IMAGE MISSING

Important
Your changes will only be applied if you are logged in as the administrator, i.e., if you have unlocked the application

Pre-Defining Sample Size Units for Parameter Sets

Pre-Defining Users, Sample Descriptions, and Sample Locations for Parameter Sets

LVis lets you choose sample size units offers the option the select the different units in a parameter set (activity unit, sample weight, reference quantity) via the pull-down menu.

IMAGE MISSING

For this purpose, several commonly used units are predefined. However, you can add any number of units, which can then be selected in a parameter set.

Important
Newly added units are only available after their setup in the parameter sets has been completed. Measurements and parameter sets that are open, when the new unit is created, will only offer the new unit, once they are closed and opened again.

You reach the respective menu by clicking on the “Units” button in the global Settings window.

IMAGE MISSING

A factor is displayed next to each unit. This factor defines the ratio between this unit and already existing or basis units (which has a factor 1).

Info
Liter corresponds to a factor of 1, m^3 corresponds to a factor of 0.001, and 1000 liters correspond to 1 m3.

In order to add a new unit, simply click on “New”. The following window opens:

IMAGE MISSING

Enter the respective unit description as well as the corresponding factor, then click on “OK”

Tip
You can also add further explanation to your units. For example, you can differentiate between dried (dry mass) and untreated samples (moist mass). This can easily be indicated in the sample reference unit by using kg (DM) and kg (MM).

Editors

Analysis Library Editor

Correction Library Editor

Peak Background Correction Editor

Geometry Correction Editor

Materials Editor

External Database Editor

Admin

Login and Logoff

Change Password

Set Start Password

LabJournal

Help

Configuration bar

Detectors

Detector Context Menus

Adding Detectors

Removing Detectors

Reconnecting Detectors (eg after replacement of hardware)

Detector Configuration

Detector Calibration

Parameter Sets

Create and Delete Parameter Sets

Edit Parameter Set

Copy Parameter Set - Insert Parameter Set

Save Parameter Set — Load Parameter Set

Import Parameter Set from existing .LVM-file

Reference Sources

Creation of a New Reference Source

Save and Load Reference Sources

Edit Reference Source

Buffer

Spectrum Summing – Spectrum Subtraction

Multi-Detector Configurations

Creation of a Multi-Detector Configuration

Starting a Multi-Detector Configuration

Edit or Delete a Multi-Detector Configuration

Save and Restore the LVis Configuration

Restoring a Configuration

Currently Open

Desktop

Spectrum Window – Live Detector Display

Measurement Presentation