Installation & Configuration

In principle, six steps are necessary to install LVis and configure it for measurements. We recommend saving the configuration as a seventh step.

1. Installing and configuring GammaVision
2. Installing LVis
3. Configuring the global LVis settings
4. Setting administrator and start passwords
5. Adding detectors to LVis and configuring them
6. Creating parameter sets for each detector
7. Saving the configuration
8. Transferring an existing Configuration

Installing and Configuring GammaVision

Installing GammaVision and Connections-32

As noted in the introduction, LVis operates only in conjunction with our GammaVision software. In turn, GammaVision can only communicate with ORTEC spectroscopy hardware via our Connections32 communication software. Therefore, the first step is to install GammaVision and the included Connections32 Driver Update Kit (p/n 797230) according to the instructions in the GammaVision Software User's Manual (p/n 783620) and the driver update kit instructions (p/n 932721). Beginning with GammaVision v6.09, you must register your software within 60 days of installation.

Important

When you install GammaVision, several other programs are also installed that are used by LVis. These include the library editor, the spectrum plotting program GammaVisionPlot, and the entire driver interface to ORTEC hardware (Connections-32). They are installed in predefined directories under the folder `C:\Program Files\Shared Files\ORTEC Shared`. The respective functions will only work correctly in LVis if this folder structure remains unchanged. If you uninstall GammaVision, these files will be removed and LVis will not operate correctly.

Assigning Detector ID's and Descriptions in the MCB Configuration Program

The GammaVision installation instructions tell how to use the MCB Configuration program to establish communication between your PC and all the measuring chains (MCB-detector combinations) in your system. Each time you add a new measuring chain(s) to your system, you must rerun the MCB Configuration program to establish communication between your PC and the new MCB(s).

Important
Before running MCB Configuration, decide on the name you will use within LVis for each measuring chain. Then, when the results of the MCB Configuration hardware search are presented (which may be based on PC name, network node, and/or previous naming within MCB Configuration), change the ID Numbers and Descriptions of each instrument as needed. This name will be the one displayed in LVis when you add or remove detectors. Once you begin using a measuring chain in LVis, do not change its ID Number and Description within the MCB Configuration program; otherwise, some aspects of LVis may not function properly.

To prevent the MCB Configuration program from trying to renumber an already-defined measuring chain, add the **-I** and **-P** flags to the MCB Configuration command line so that it reads as follows (including the double quotation marks and a space separating each flag):

```
“C:\Program Files\Common Files\ORTEC Shared\UMCBI\mcbcon32.exe” -I -P
```

The flags function as follows:

- **-I** Ignore duplicate MCB ID numbers on the Master Instrument List and do not change other users’ MCB ID numbers. Allows you to close the updated Master Instrument List without renumbering.
- **-P** Append all newly discovered instruments to the existing list, i.e., don’t clear the existing list before starting instrument discovery. Renumber required unless you use this flag in conjunction with -I.
- **-L** Polls only the local PC for ORTEC MCBs.

Once you start the program, the following screen appears, describing the search procedure and the number of measuring chains found:

IMAGE MISSING

After searching is completed, all (powered-on and correctly connected) measuring chains found will be displayed:

IMAGE MISSING

You must assign a unique number and name to each measuring chain. You can change the name and number of the detector by double-clicking on the respective entry in the list and editing the parameters displayed in the Change Description or ID window.

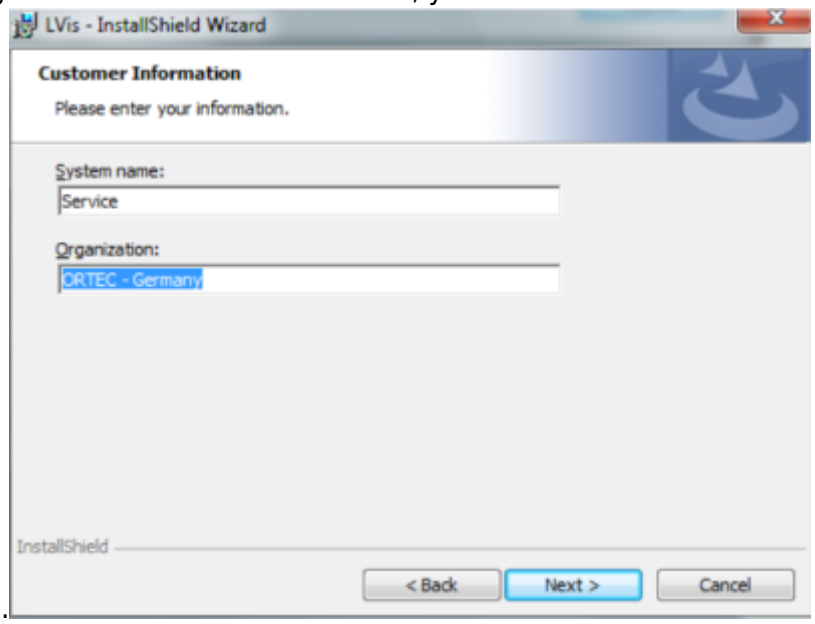
IMAGE MISSING

Important

The MCB Configuration command allows you to “see” all ORTEC instruments available on the entire network. Thus, the Renumber All option should only be applied with the greatest care, as it may change the numbers of measuring chains located in different laboratories! Using the **-I** and **-P** flags discussed above prevents most renumbering problems.

Installing LVis

- Unordered List ItemIf updating from an earlier version of LVis, you must uninstall it before installing the new LVis version.



- Insert the LVis CD, use My Computer to navigate to the CD, run setup.exe, and follow the installation wizard prompts. Installation may take several minutes.
- On the Customer Information screen, we recommend choosing a descriptive system name and organization. For instance, if you choose the system name Chemistry 1 and the organization name NPP XYZ, this information will be transferred to the database so that a detector can be described in reports not simply by its name, but by the site or group as well (e.g.,, Detector 5 from Chemistry 1 @ NPP XYZ).
- On the Destination Folder screen, accept the default installation location, `C:\Program Files\LVis`, or select a different target directory.

IMAGE MISSING

- On the LVis Database Folder Screen, define the default folder for all LVis data.

IMAGE MISSING

- In this LVis Database Folder all relevant files used by LVis will be saved under different subfolders named:
  - **Config** – contains the LVis configuration file config.dat in which all settings are stored and several other files used during analysis and/or for communication with GammaVision.
  - **Help** – contains pdf version of this LVis manual
  - **Libraries** – default location for all nuclide libraries used within LVis. A set of example and master libraries are installed during setup.
  - **Measurements** – this is the default location for all LVis `.LVM` measurement files. For each detector configured in LVis a folder is created in this directory. Every `.LVM` file is automatically saved in this folder. If a measurement was analyzed or started using a predefined parameter sets the –LVM file is saved in a respective subfolder named after this parameter set.
  - **Reports10xx** – here all report templates are located. Depending on the language(s) used for LVis, this folder is named different. Reports1031 is used for German templates, Reports1033 for English and Reports1036 for French language reports. For more information on reports and the default report templates see the REPORTS chapter.
- On the Select Type screen, choose the desired language (**Standard** installs the German-language interface). There is no difference between these two installation modes apart from the language settings.

IMAGE MISSING

- When choosing “Other Languages” you can select in a following window what language you want to install:

IMAGE MISSING

Note

You can install more than one language. The basic language for LVis is always German, selecting another language simply installs a `Lang10xx.dll` file in the LVis program directory. If none of these `lang10xx.dll` files are present in the LVis program directory, LVis will come up with its default German. If only the English `Lang1033.dll` or the French `Lang1036.dll` is present, it will come up with the respective language. If the English as well as the French language dll is present, LVis will be started in English.

- Continue answering the prompts and, when installation is complete, click on Finish (no reboot is required).

When you start LVis for the first time after a new installation, the following screen is displayed. See the USER INTERFACE chapter for a detailed explanation of the screen features and commands.

IMAGE MISSING

Updating LVis

SECTION NEEDS UPDATE

To install a new version of LVis you must uninstall the previous version before. You can do this either by using the Windows Control Panel software-uninstall utility or by simply starting the new installation wizard, which will guide you through the uninstall process.

IMAGE MISSING

When LVis is uninstalled, the folders in the LVis database directory will not be deleted. This protects your customized configuration settings, report templates etc. from being deleted or overwritten when installing a new version of LVis.

If you would like to have a complete new installation after the update you should delete or rename the `\Config` folder or save a backup of the config.dat file elsewhere prior to the update (see Save and Restore the LVis Configuration). This way you can easily restore your old system by replacing the new `config.dat` file with the old one. The same is true for the report folder. It may well be that the update includes some new or modified templates. These will not be installed as long as there is already the respective report folder or standard report template existing. So either delete or rename this folder/template prior to the update/new installation.

Configuring the Global LVis Settings

To ensure proper functionality, several global settings must be adjusted in LVis. To do this, click on **Settings** on the LVis menu bar to open the following window. It lets you specify default values such as analysis engine, number of half-lives for decay correction, peak search presets, spectrum file format, and multi-detector configurations. It also allows you to populate the pull-down menus for measurement tags on the Parameter Sets window. Note that the Parameter Set window also lets you modify some of these settings, for instance, peak search presets.

We recommend using either the **ENV32** or **NPP32** analysis engine.

IMAGE MISSING

See Settings section for more detailed information on the options on this screen. In addition, see Pre-Defining Sample Size Units for Parameter Sets and Pre-Defining Users, Sample Descriptions, and Sample Locations for Parameter Sets for instructions on populating the pull-down lists on the Parameter Set window.

LVis User Management - Password-Protecting LVis Functionality

LVis offers two different types of access control to prevent unauthorized access, a detailed sophisticated user management called Uli where one can define users and assign individual rights to each of them or a simpler approach that offers two levels of password protection. The latter, simpler approach is the default after installation, the LVis User Management Uli can be activated in the LVis global settings dialog. If the basic two level password protection shall be used, it can be accessed via Admin on the menu bar. Once a password has been set, you must be an administrator to change passwords. Once you have logged in as an administrator, adding and removing password protection from LVis functions is as simple as clicking on the *padlock* icon beside a data entry field (the red padlock indicates a field that has been locked; a green padlock means the field is unlocked).

- The **administrator** password, which allows you to change and/or prevent non-administrators from changing the LVis global settings, passwords, detector/MCB settings, QA settings, parameter set contents, and reference source data. In addition, you can delete detectors from the list of available instruments. To set or change the administrator password, see Change password.
- The **start** password, which allows only authorized users (both administrators and non-administrators) to start up the LVis program. To define the start password, see Set start password.

For a detailed list of the functions that are password protected when using the simple two level passport approach, see Admin.

The LVis User Management Uli is described in detailed in the next section.

The LVis User Management Uli

In case a detailed, sophisticated user management within LVis is desired, one can make use of LVis user management *Uli*. *Uli* is a separate program that gets installed together with LVis which guides an administrator through the process of defining individual users and assigning different access levels to them. *Uli* creates a secure, protected database containing all the users and their individual rights. This database can be located anywhere, either locally on the pc itself or on a server or network location so that the same user management can be used on different systems running LVis in a network without having to define all the different users on every machine.

The use of the *Uli* user management can be activated by simply defining an IP address for its database in the *LVis* global settings. When an IP address was defined LVis will try to get the access information from this location, however make sure that *Uli* was started on each machine before trying to get access to LVis, because otherwise you will get the error message No connection to user management any time when trying to log in to LVis.

IMAGE MISSING

If the user management information is supposed to be located on the local machine simply use `127.0.0.1` as the IP address. It simplifies things a lot if the *Uli* executable is placed in the Windows startup folder so that it gets loaded automatically at start (typically this can be found in: `C:\ProgramData\Microsoft\Windows\Start Menu\Programs\StartUp`)

Once *Uli* is started, its icon **IMAGE MISSING**is shown in the Windows system tray besides the date and time information! To change the *Uli* settings double click the icon or select *Uli* from the Windows start menu. A similar window like the one shown below should open.

IMAGE MISSING

Please note: Clicking the *close window* symbol in the top right corner will just close the *Uli* window, it will not close the user management. To really close *Uli* you need to press the left `Shift` key on your keyboard while clicking the *close window* icon.

To add a new user, click the button *New* and enter the user name and password as well as additional information like the email address (currently not used in LVis) and define the access rights in the window.

IMAGE MISSING

It is possible to assign the right for the following eight tasks:

1. Possibility to use *LVis* (this is for future purposes when *Uli* will be linked the user access control from *MS Windows* and not every potential user of the pc should be given allowance to use *LVis*)
2. Make changes to the LVis global settings
3. Add or Remove detectors
4. Create new of modify existing parameter sets

5. Change existing or create new calibrations, libraries and reference sources
6. Use the LabJournal to delete and archive LVM files as well as the creation of reports via the LabJournal
7. Use the peak editor to manually modify peak fits
8. Approve measurements

IMAGE MISSING

Adding and Configuring the Detectors

After installing the software and locating all *ORTEC* instruments with the MCB Configuration program, the next step is to integrate into *LVis* the detectors you will be using, then set up each one. To do this:

1. Add each detector to be used.
2. Configure the hardware according to measuring task and detector used. This will include adjusting the detector high voltage, amplifier gain, conversion gain, pulse shaping factors, etc.
3. Calibrate detectors/measurement chains.

Creation of Parameter Sets

In order to describe, measure, and analyze samples in *LVis*, you will need pre-defined measurement and analysis parameters for your detector. These settings are summarized in parameter sets, which are assigned to a specific detector. Each detector can have multiple parameter sets.

For a complete parameter set that you can use to analyze samples, you must at least calibrate the detector and have a suitable library available.

In order to create a new parameter set, unlock the program using the administrator password; then go to the configuration bar, right-click on the detector, and select *New parameter set* from the context menu.

Alternatively, you can also import LVis parameter set files (`.LVP`) (see Save Parameter Set - Load Parameter Set) or apply parameter sets from saved *LVis* measurements (`.LVM`) (see Import parameter set from existing ''.LVM'' file).

In order to adjust the parameter set to your respective measurement task, you must edit the parameter set.

Once this is completed, the detector (measuring chain) is ready for sample measurements.

Saving the Configuration

LVis allows you to save your complete configuration (all adjusted detectors, parameter sets, reference

sources, and multi-detector configurations) as well as global settings (including all descriptions, names, and units). We strongly recommend that you do this. In the event of a new installation or a hardware problem, your *LVis* configuration can be quickly and easily restored using this safety copy file.

In order to create a safety copy of your configuration, right-click on the configuration bar. Select *Backup config file* in the context menu. This `config.dat` file contains your entire configuration.

Quality assurance databases, calibration files or measurements are not saved within the scope of such a configuration backup. Saving these data must be done separately via backup of the respective data (easiest is to simply backup the complete *LVis* database folder), which we recommend be done at periodic intervals.

IMAGE MISSING

Transferring an existing Configuration

LVis allows you to easily transfer an existing configuration to another pc without having to copy eg every single parameter set individually. The easiest way to achieve this is to simply copy your complete *LVis* database folder from one machine to the other. Ensure that *LVis* is not started when doing this. All adjusted detectors, parameter sets, reference sources, multi-detector configurations as well as global settings (including all descriptions, names, and units) and QA databases should appear on the new pc when *LVis* is started after the files were copied. Though your detectors will be listed on the configuration tab in *LVis* they will very likely be labeled as "Not Connected". This is because the respective ports (eg USB) to control the hardware are not necessary the same as they were on the previous system. However, as long as the detectors are named identically in *MCB Configuration* (see Assigning Detector ID Numbers and Descriptions in the *MCB Configuration* Program) you can *re-connect* the detectors from the detector context menu and thus maintain all the settings from the old system.