SCANLAB
innovators for industry

# Quick Guide

## laserDESK V1.6




laserDESK
laser processing software

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# 1 Introduction

The laserDESK software package lets you create laser-marking and material-processing programs (jobs) for execution with a laser scan system. The user-friendly interface (GUI) provides access to all functions and helps you set up and control your system's hardware components.

## 1.1 Job Creation

Creating a laserDESK job requires the following steps:

- Define the marking objects and patterns for your application (e.g. labeling, cutting, weld contours etc.). These might be geometric forms, text, graphics etc.
- Define any needed parameter sets. Marking parameters that affect laser and scanner behavior are always required. Filled marking objects require additional fill parameters and (rastered) pixel images require additional pixel image parameters.
- Define marking workflow. For this, you can insert control elements to regulate both process flow and installed hardware at defined points in time.

Each laserDESK job is stored in its own separate file and contains the above-mentioned information, including all defined parameter sets. Some marking objects and parameter sets might be needed by more than one job. To avoid having to define them from scratch each time, you can also export them to a library. From there, you can then import them to other jobs. Default parameter sets are supplied by the laserDESK software package.

## 1.2 Job Execution

Two modes are available for executing jobs: manual and automatic.

- In manual mode, you start a job via laserDESK's user interface. This might be useful, for example, during your application's development phase when you want to iteratively determine optimal marking parameters. External start signals are ignored.
- Automatic mode is used for jobs in a production environment. In this mode, the job is started and controlled exclusively by external input signals and job alterations are not permitted.

Before first-time execution of a job or after hardware changes, hardware parameters need to be set for configuration of your hardware components (see below). The laserDESK software contains functions that assist you in determining or defining some of these parameters.

# 2 Installation

## 2.1 Scope of Supply

The complete laserDESK software package includes

- 1 laserDESK installation file (no CD anymore)
- 1 USB-dongle (software protection plug) for running laserDESK in full mode.

The software can also be downloaded from the SCANLAB homepage.
If you wish to purchase a dongle for this purpose, please contact SCANLAB.

## 2.2 PC and System Requirements

- 64-bit operating system:
  Microsoft Windows ≥ 10 (with Framework 4.7.2).
- Required hard disk space:
  Approx. 350 MB (incl. Help file)
- USB dongle:
  If you want to run the laserDESK program with full functionality (i.e. not just demo mode) you need a valid USB dongle (software-protection device). Without valid dongle, only the demo mode is usable. In demo mode, nothing is savable and hardware control isn't possible. Laser jobs can't be executed.
  Furthermore, the dongle's configuration defines the functional range of laserDESK (see chapter 9 on page 23).
- SCANLAB RTC5 board or RTC6 board:
  laserDESK jobs can only be executed, if the PC that controls the laser scan system (production PC) can address an RTC5 or RTC6 board.
  Certain functions (e.g. Processing-on-the-fly) are only usable if the corresponding option has been activated on the RTC board.
  In contrast, **no** RTC board is required for creating jobs. Thus, jobs can be created on any PC (even without an RTC board) for later execution on the production PC (with RTC board and installed laserDESK software).

## 2.3 Installing laserDESK

### Notes

- Before you install the laserDESK software, check for updates at the SCANLAB website.
- The laserDESK software can be installed even without a dongle and without an RTC PC interface board.

- If you install laserDESK from an installation CD, insert the CD into your PC drive. Then the Installation Wizard will start automatically.
- Otherwise run 'laserDESKx64_installer.exe' from the software package.
- Installation then proceeds automatically via the Windows Installer. Follow the Wizard's instructions to install laserDESK.
- Next to installation, your system administrator must assign required read and write permissions for each user (access authorization, see above).
- Finally, insert the supplied dongle into any USB port of the PC that will be running laserDESK in full mode (PC with or without RTC PC interface board).

## 2.4 Assignment of Write and Read Permissions

After laserDESK is installed, each laserDESK user must be assigned write and/or read permissions. Because the program's setup routine can't assign write or read permissions, the customer's system administrator must ensure that laserDESK program users get the required write and/or read permissions (depending on their level of laserDESK access authorization):

- Users with laserDESK "Administrator", "Supervisor" or "Designer" access authorization must get read and write permissions for the laserDESK data directory 'C:\ProgramData\ Scanlab\SLLaserDesk\' with subdirectories.
- All other users ("Production" and "Viewer" access authorization) only need read permission for the 'C:\ProgramData\ Scanlab\SLLaserDesk\' directory (including subdirectories).

# 3 Starting the Software

laserDESK can be started as follows:

- Open the program file “SLLaserDesk.exe” – directly or via a link or icon.
  When the program window opens, a new job is automatically created. The user interface doesn’t yet contain marking objects.
- Open a job file ([JobName].sld) via the right mouse button or by double clicking. The program window then shows any already-created marking objects.

## 3.1 User Interface (GUI)

laserDESK’s windows and menu/status/symbol bars conform to accepted MS Windows conventions. The user interface’s main components are the work area for creating and editing marking objects as well as the dockable “Job Explorer”, “Library Explorer” and “Properties” windows, which serve for editing settings. These and all other dockable windows can be displayed, hidden or arranged as desired.

Most functions are accessible using the menus, symbol bar buttons, or right mouse button (context menu). Additionally, a toolbox can be displayed that contains marking objects and control elements for inserting into the job.

Depending on the user’s task (creation, test, execution), different GUI profiles can be selected: design profile, test profile, pilot laser profile or production profile. In these profiles the needed windows will be displayed, but can also be changed arbitrarily.

The <F1> key can be used to call up context-sensitive online help. This is displayed in the standard browser.

Some laserDESK user interface settings can be customized via the “GUI Settings” dialog box. This includes display colors, grids and lines, the GUI language, user groups and passwords. Likewise for the directories used by laserDESK’s library management.

# 4 Creating Jobs

Jobs can be created via laserDESK on any PC (even if it contains no RTC board). When laserDESK starts, it automatically creates a new job. To further edit an already existing job ([JobName].sld), open it via the menu or the “Open File” button.

Only **one** job can be open at a time. If your production requires diverse marking operations, they can be integrated into a single job consisting of variants (partial jobs), as described below.

laserDESK jobs are created by defining elements for marking and the patterns to be used. The application may involve labeling, cutting, weld contours etc.

## 4.1 Job Structure

The Job Explorer displays a tree structure of elements for the opened job (including all its marking objects and control elements). The tree automatically lists any newly created marking objects and newly inserted control elements. At any time, you can set or change the executable order of marking objects, control elements and variants via their positions in the tree.

## 4.2 Creating and Editing Marking Objects

In laserDESK’s program window, use the work area to create and edit marking objects. Marking objects are depicted visually and functions for their creation and editing mirror those of typical graphics applications. Users can create geometric shapes and text. The following marking objects can be freely created:

- Open geometric shapes: points, lines, circular arcs, spirals, polygons, graphic paths
- Closed shapes, which can be filled: rectangles, circles, ellipses, polygons, graphic paths
- Complex entities: alphanumeric (text, date/time, serial numbers), barcodes

Other marking objects include pixel images and vector graphics. These are imported rather than freely defined. laserDESK provides import filters for commonly used graphic formats.

All marking objects are initially manually created in the work area of the laserDESK program window. Use your mouse to place geometric forms, text and barcodes within the work area. When importing pixel images and vector graphics, you can also specify individual settings via a dialog box.

Once created, marking objects can be further edited:

- All marking objects can be enlarged, shrunk, moved and rotated.
- Closed marking objects can be filled.
- Two or more marking objects can be arranged with respect to each other, evenly distributed or grouped. Groups can be edited just like individual marking objects.
- An editing function is available for decomposing any marking object stepwise into sub-elements as small as an individual line. You can alter the geometric shapes of marking objects by inserting or deleting individual points and/or decomposing or closing polygons and graphic paths. You can also alter imported vector graphics in this manner.

You can edit by manually manipulating marking objects via the mouse or by changing the graphic parameters themselves. Editing via the mouse is particularly quick. Editing the respective graphic parameters is an especially accurate way of defining marking objects. The parameters are displayed in the 'Properties' window. Because each marking object type has its own special geometric properties, it also has its own corresponding set of graphic parameters. laserDESK's mathematical precision ensures exceptional accuracy when determining position, size, geometry and fills as well as formats for text and images.

The work area, Job Explorer and graphic parameters in the 'Properties' window mutually update themselves during editing of marking objects. A marking object selected in the work area will also be selected in the Explorer tree. Likewise, a marking object selected in the Explorer tree will be selected in the work area. If you alter a marking object in the work area, its graphic parameters will also change and vice versa.

## 4.3 Assigning Marking Parameters

By assigning marking parameters, you tell the laser scan system how to handle individual marking objects for optimal marking and material processing. Because best results for such marking objects as dotted or striped patterns sometimes requires special handling (e.g. custom scan head delay settings), you can assign each marking object its own individual marking parameters.

Each marking object's defined marking parameters are always stored in the job - as individual parameters or as marking parameter sets in the (local) job library. Hence, you can simply assign marking parameters to additional marking objects instead of defining the parameters from scratch each time. You can also export parameter sets to the (global) marking library.

As delivered, the global marking library contains at least one default parameter set for importing into new jobs when they are opened. If you create further parameter sets, you can define one of them as the new default parameter set in the job or the marking library.

When a marking object gets created, it's automatically assigned the set that was designated as the job's default marking parameter set. Each individual marking object therefore receives assigned marking parameters right from the beginning. Settings can then be individually tuned for each marking object, either by assigning a different parameter set or by altering the various parameters.

If changes are made to a parameter set used by a job, these changes will automatically apply to any of the job's marking objects that were already assigned this parameter set, provided their individual parameters weren't altered in the meantime. This way, parameter assignment can be changed for multiple elements simultaneously.

You can change marking parameter values or properties via the 'Properties' window:

- **Marking parameters** define settings for the laser and scan head. You can define such laser attributes as power, frequency, pulse width or laser delay; and such scan head attributes as mark or jump speeds and scanner delays.
- For pixel images, you can define additional **pixel image parameters** specific to characteristics of the pixel image (e.g. pixel distances or grey levels).

### Note

- You might need to define different types of marking parameters for various lasers.
- The optimal marking parameters for a job or particular marking object strongly depend on the laser and the materials being processed. Marking- and material-processing tests might be necessary to determine optimal parameters.
- For information on using parameter sets, see Using Libraries.

## 4.4 Assigning Fill Parameters

Fill parameters define such attributes as the fill type, line distance and outline reduction. As with the above-mentioned marking parameters, fill parameters defined for marking objects are always stored in the job (as an individual parameter or parameter set). This way, you can make assignments to additional marking objects without needing to create definitions from scratch each time.

The properties and handling of fill parameters (definition, assignment, export, import) are identical to those of marking parameters (see above).

### Note

For information on using parameter sets, see Using Libraries.

## 4.5 Inserting Control Elements

To control and automate laser marking or material processing, you can insert various control elements as control nodes at any position in the Job's Explorer tree. Such control elements can serve to change hardware activity (e.g. switch motors on or off) or respond to hardware states (e.g. a motor's motion or inactivity). Control elements can be implemented via bit patterns (digital I/O), voltage (analog output), pulse length (pulse output), or delay/wait periods (timer). The variant node is a special type of control element (see below).

Control elements can be directly inserted via mouse click into the Job Explorer's tree. You can change their positions as desired at any time. The 'Properties' window shows the value defined for each control mode (e.g. bitmap).

## 4.6 Creating Variants

Variants are partial jobs (subroutines) within a (main) job. They can be any job sequence (and hence contain marking objects and control elements, but no further variants). A variant control node can only be defined directly under the job node. It serves to define a starting condition (states of input signals) for this partial job. Therefore, each variant needs to be assigned a bit pattern. If a start signal occurs in automatic mode, then the applied signal will be compared to a defined bit pattern of the variant. If identical, then it will be executed.

If you define multiple variants within a job, then different sequences (e.g. for diverse marking operations) can be executed depending on external control signals. Thus, you don't need to change the job manually via the user interface.

Variants can be inserted via a mouse click. Subsequently (as with normal jobs), you will then create or insert marking objects or control elements within the variants. Use the 'Properties' window to define a variant's bit pattern.

## 4.7 Creating Symbols

Frequently used marking objects and groups thereof (e.g. company logos) can be defined as templates (called "Symbols") that include all assigned parameters (see above). Each symbol can be given a name. Like parameter sets, symbols can be managed via the Library Explorer. Accordingly, they get stored in the job and can be exported to the marking library for general usage.

When a symbol is used, a "Symbol To Reference" (referenced object, not a copy) will get inserted into the job in the same manner as for other mark elements (see above). If the symbol (i.e. template) gets changed, then the corresponding symbols to reference will accordingly be immediately updated.

### Note

For information on using symbols, see Using Libraries.

## 4.8 Managing Jobs

After creating a job, you can save it under any name (file extension ".sld"). Only one job can be stored in each file.

If the job was created on a production PC containing an RTC board, then you can also immediately run it. If the job was created on a non-production PC, then it can simply be transferred to a production PC. Because jobs are laudable from any point within your network, transferring a job to the production PC is easy and users can devise directory structures well-suited for their work.

# 5 Executing Jobs

After a job is created and saved, it can (only) be started under the following conditions:

- The supplied dongle must be inserted into any USB connector of the PC.
- The job must be opened in laserDESK (only **one** job can be open at a time).
- The PC must contain a SCANLAB RTC board. During execution of a job, communication between the laserDESK software and the entire laser scan system's components takes place primarily via the RTC board. laserDESK's GUI makes the RTC's broad functionality available for simultaneous laser and scan head control and incorporation of external control signals. Note that some functions (e.g. Processing-on-the-fly operations) require activation of the RTC board. The scope of functionality for scan head control (e.g. monitoring functions) also depends on the particular scan head that is attached. The RTC board supports all scan heads using the SL2-100 interface or via adapter the XY2-100 interface.
- Any hardware addressed by the job must be installed and operational.

Full and correct job execution requires the following:

- All required laser scan system components must be attached to the PC or RTC board.
- The laser scan system's components must be correctly configured, initialized, calibrated and aligned (see below).
- For automatic mode, the external control must be properly connected to the RTC board to ensure that the input signals (see Control Elements and Variants) will be correctly transmitted.

Via the 'Laser Control' window, you can manually launch a job or switch it to automatic mode:

- In manual mode, the entire job or its variants can be launched via the laserDESK user interface. This might be useful, for example, during the development phase when you're iteratively determining optimal marking parameters. In this mode, only external starts and variant selection are deactivated. All other signals will be taken into account. Starts and any variant selection take place manually, whereas signal exchange is always via global control.
- Automatic mode is for applying the job in actual production. In this mode, jobs are started and controlled exclusively via external input signals (e.g. via signals from a control PC). The laserDESK user interface then switches to 'View' user mode, from which things are displayed, but no functions can be executed.

# 6 Configuring Hardware Parameters

After installing laserDESK (but prior to first-time execution of a job via a specific laser scan system) or after hardware changes:

- You must set laserDESK's hardware parameters in the 'Hardware Configuration' for appropriate configuration of your laser scan system's components (including the PC and RTC board).
- laserDESK provides additional functions for calibrating and/or aligning your laser scan system's components. These functions are accessible via the 'Hardware' menu.

## 6.1 Setting Hardware Parameters

Hardware parameters define the used hardware (laser scan system and PC) – this is independent of the job. The jobs themselves, therefore, don't need to be altered for execution on different equipment having different hardware parameters (marking results may vary though). You can set hardware parameters via the 'Hardware Settings' dialog box inside of 'Hardware Configuration'. They are divided into the following categories:

- Hardware Devices
  Parameters for remote control (serial connection or TCP/IP connection) and for controlling different types of motors.

**Note**

The remote control is an optional function not included in the laserDESK Standard Edition.

- Processing laser
  For RTC initialization, each processing laser to be used requires a laser definition file with special parameter settings (sll file in XML format). The laserDESK software package contains laser definition files for specified lasers that cover a number of common laser types. To ensure that laserDESK uses the correct parameter settings, you must choose your laser type via a selection field.
  For unspecified lasers (so-called "GeneralType" lasers), you must create an sll file via the 'Laser Wizard' (via 'Hardware' menu) and save it.
  For different laser types, you might need to define various parameters (e.g. laser mode, output power, delay and frequency range).
  In addition to selecting the used processing laser, it's useful to set parameters such as power, shutter and delays.

- Optics
  The basic optics settings include especially the image field size. Further more, the home position and the application of the variable polygon delay can be activated and defined.
- Scan Heads [1] and [2]
  The basic system settings include the correction file and the calibration factor. The calibration factor's values will be read from the correction file and used. But these values are theoretical values for the focus plane. Inside the real system the lense generates minor deviations and normally the surface is not exact at the focus distance. The minor deviations of the real correction factors can be determined and compensated with the help of the 'Calibration Wizard' (menu 'Hardware').
  Correction file and calibration factor can be selected or defined for both processing laser and pilot laser.
  Furthermore, parameters for offset and coordinate system rotation angle can be set.
- PC interfaces
  Here, settings are made for the interfaces between the PC and the system components.
- Processing-on-the-fly
  If Processing-on-the-fly (POF) is applied for marking/material-processing of rotating or linearly moving objects, then parameters need to be set relating to the used encoders (e.g. specifying linear or rotating as the POF type and defining calibration factors for the encoder signal).
  Via the 'POF Calibration Wizard' (via 'Hardware' menu), you can calibrate the used encoder. At the end of the procedure, the required values will be automatically taken over.

**Note**

Processing-on-the-fly functionality can only be used if it has been activated on the RTC board.

- Vision Engine
  If a vision system (consisting of hardware and software) is controlled by laserDESK, parameters for setting up the system can be set here.
- Miscellaneous
  Parameters for IO-port, vario*SCAN* dynamic focusing units, cameras, servo motors etc.

The program always has only one active hardware parameter set, which can be managed via the 'Hardware Settings' dialog box in the 'Hardware Configuration'. After a restart, laserDESK always uses this 'Hardware Settings' parameter set. As delivered, the laserDESK software package contains one hardware parameter set.

To facilitate quick changes to your hardware configuration, laserDESK lets you archive different system parameter sets (hardware templates). These will be listed below the active hardware parameter set in the 'Hardware Settings dialog box '. If necessary (after changing the hardware) a corresponding template can be defined as the active 'Hardware Settings' hardware parameter set.

## 6.2 Testing the Parameter Settings

As in a job, marking objects can be created below ‘Hardware Configuration‘ and executed with a laser scan system. Whit it, you can immediately check parameter settings defined in the ‘Hardware Settings‘ dialog box by conducting a marking test and modifying the settings if necessary.

## 6.3 Supplemental Functions

In addition to the above-mentioned assistance for calibrating the laser scan system, the 'Hardware' menu also provides the following functions (primarily for test purposes):

- The 'Manual Laser Control' lets you perform a marking-independent laser functionality test in which settings can be made for some laser parameters, the scan head's beam positions and, if applicable, the z position of a vario*SCAN* dynamic focusing unit.
- The 'Laser Wizard' lets you create a laser definition file for an unspecified laser type.
- The 'Supported Laser Wizard' lets you adjust the parameters for specified laser types.
- The 'Calibration Wizard' lets you calibrate the scan system.
- Use 'Restart' to reset an occurring error and reinitialize the laser.
- The 'RTC IO Desk' lets you query and set the 16 inputs and 16 outputs of the RTC's EXTENSION 1 connector. For example, you can check if I/O signals are being correctly issued and received by the RTC.
- The 'Motor Control' serves for moving axes manually.
- The 'POF Calibration Wizard' lets you define the parameters and the encoder's calibration for Processing-on-the-fly operation.
- The 'Variable Polygon Delay Calibration' dialog box provides a procedure for creating an individual calibration curve of the variable polygon delay for i*DRIVE* scan systems.
- The 'Tracking Error Wizard' lets you evaluate the scan head's tracking error for i*DRIVE* scan systems.
- The 'Parameter Wizard' helps you to find the most appropriate parameter set for your application.
- The '3D Calibration Wizard' helps you to calculate a correction file individually adapted to your 3D scanning system.
- 'System Information' lets you query and view the current software and hardware properties and marking data as well as the current configuration data and return values of i*DRIVE* scan systems.

# 7 Using Libraries

To facilitate easier reuse at different positions within a job, you can define marking, pixel image and fill parameter sets as well as symbols, as described above. These are typically created for a job, but can also be created in the marking library, independently of a job.

Parameter sets and symbols created in a job are automatically saved to the corresponding (local) job library. Provided they weren't subsequently deleted there, they will then be saved in the job file ([JobName].sld). A job's parameter sets and symbols in the job library can't be (directly) used by another job. Instead, they can be exported to the (job-superordinate) marking library ([MarkingLibraryName].sld) and imported from there into the job library of another job.

The program's marking library already includes a default marking parameter set, a default pixel image parameter set and a default fill parameter set. Designated as "<default>", these sets are (as long as no others were defined as default) automatically used as default parameter sets in the job library when a new job is opened. The default marking parameter set from the job library will then be assigned initially to all newly created mark elements, and the default pixel image parameter set to all pixel images. And for fill assignments, the default fill parameter set from the job library will be initially used.

The Library Explorer is available for managing parameter sets and symbols – both in the job and in the marking library. Like the Job Explorer, it has a tree structure with which you can create, copy, rename, delete, import or export data sets.

Use the 'GUI Settings' dialog box dialog box (see 'User Interface (GUI)') to specify the directory in which the used marking library ([MarkingLibraryName].sld) should be managed. You can freely select the path and filename. Firstly, this enables use of network paths and thus automatic backups, etc. Secondly, a directory can be chosen and configured to specifically provide laserDESK users with appropriate access authorizations.

**Note**

As with the marking library, the hardware configuration's directory path is freely selectable.

# 8 Special Functions

**Note**

Most of the special functions are only available in the laserDESK Premium Edition. The dongle's configuration (see page 5) must be defined accordingly.

## 8.1 3D Functions

**Note**

The usage of 3D functions in laserDESK requires that

- a vario*SCAN* focusing unit, which focuses the laser beam in z direction, is integrated in the scan system and
- the "3D Option" has been activated on the RTC interface board.

Following 3D functions are available:

### 'Z-Focus Control' Control Element

The z-focus control element defines the focus level. If the control node is inserted into the job (see Inserting Control Elements, Seite 11), all further 2D and 3D objects will be positioned with respect to this z-offset value and all z-values are relative to the control node's z-offset.

### Simple 3D Objects (3D Helix ...)

Besides the point object only one simple 3D object is supported right now, the 3D helix. Its lead defines the z-value.

### 2D Marking Objects on 3D Surfaces

The processing on an inclined plane is supported. The inclined plane is defined by the plane's normal vector and an x-, y-,and z-shift of the origin.
First, the objects are defined and assigned to a specific layer. Then the parameters for the position of this layer in space are defined. laserDESK automatically calculates the z-values for the objects.

### 3D Vector File Import

3D dxf files can be imported. laserDESK creates 3D polygons defined by point lists with x-, y-, and z-coordinates.

## 8.2 Motor Control Axes

laserDESK can command motor (axes) controllers for different purposes, especially for moving or rotating parts. This movement can be included into the job execution to be executed between different marking processes (without interaction of another control device like a PLC).

With laserDESK, two types of motors can be controlled:

- Fully supported motors, which can be selected directly. The necessary system-specific settings are already implemented in laserDESK. All supported motor controllers (the motor type can be selected from a list) use a serial interface for the communication. For this purpose laserDESK uses a serial interface of the PC.
- Generic motor types, executed via a general interface class that uses the command set defined by SCANLAB. Generic motor types require an additional DLL, that executes the motor-specific commands and settings. This must be programmed by the system builder/user.

laserDESK offers two possibilities for using axes:

- Every axis can be moved manually by using the 'Motor Control' (see "Supplemental Functions", page 18).
- Motor control elements can be inserted into the job explorer's tree (see "Inserting Control Elements", page 11), to use axis movements during job execution. The node defines the point in time when the axis movement is executed. In that case, the marking process will be interrupted, the axis movement executed, and then the laser process continued.

## 8.3 Tiling

If the size of the marking exceeds the dimensions of your laser scan system's marking area or the whole marking can't be executed at one time for some other reason (e.g. marking on a roll), the tile function lets you mark the work piece in several steps. Therefore, the marking objects will be divided in several tiles. Using positioning devices like motors, the work piece can then be moved to several positions to mark it stepwise.

In addition, a stripe and a cylinder mode are available, mainly intended for processing-on-the-fly.

## 8.4 Remote Control

The remote control is intended to enable a master control to command laserDESK via the remote control interface. The purpose of this control is to execute and adjust the processing of laserDESK jobs, especially the selection of the job to be processed, the definition of text contents and the execution start is possible. It is not intended to create or modify graphic objects inside a job.

When using the remote control, laserDESK 'serves' the client's queries and executes the desired actions. Thus the PC running laserDESK is the server and the customer program is the client.

The remote control of laserDESK has 2 possible connections with the same telegram and data format: serial connection or ethernet connection with TCP/IP protocol.

The remote control, and especially its parameters, telegram syntax and commands, are described in the manual "Definition of the Remote Control Functionality".

For easy integration into customer programs, a DLL can be provided. This enables remote control via function calls (only available for *Windows*).

# 9 Editions – Updates and Upgrades

## 9.1 Editions / Functional Range

Currently, four laserDESK editions are available:

- **Standard Edition**
  The functional range of the Standard Edition offers multitude functions, i.e. this edition comprises all essential functions to create and execute laser-marking and material-processing jobs. This includes the application of the parameter library and of hardware control and calibration tools. Furthermore, the Standard Edition lets you define many individual GUI settings, provides a context sensitive dynamic help, and enables intelli*SCAN* diagnosis. Furthermore, the Standard Edition also includes alignment, combine and repeat functions, language selection and special hatch line sorting functions.
- **Standard Edition plus Remote Control**
  This special package includes all functions and program features of the Standard Edition and in addition the Remote Control function.
- **Premium Edition**
  The Premium Edition includes all functions and program features of the Standard Edition. In addition, the Premium Edition enables you to execute very special functions such as remote control, vision control or 3D support (see page 20).

Beside this four editions there is a separate license available, which allows customers to create laser jobs off-line, i.e. independent from the laser-processing plant:

- The **Office Function** exclusively serves to create laser jobs. This function doesn't enable any hardware control and thus any laser job execution. For job creation, the Office Function includes all necessary features of the four editions mentioned above. Such created laser jobs can only be executed with an additional Standard or Premium Edition.

The laserDESK software always supports all editions. Which laserDESK edition or functional range is usable, depends on the configuration of the USB dongle (see page 5). A dongle upgrade (see below) can extend the functional range (e.g. from Standard Edition to Premium Edition).

## 9.2 Updates and Upgrades

Updating or upgrading laserDESK can be necessary in the following cases:

- You want to use laserDESK program features which are not yet activated on your dongle. The dongle must be upgraded to a higher edition (usually with costs).
- SCANLAB releases an updated laserDESK program version (update – indicated by an increase of the third digit of the version number: "Version Nr. n.n.***n***"). The new (free) program version only has to be installed.
- SCANLAB offers a new laserDESK program version with new options (upgrade – indicated by an increase of the first or second digit of the version number: "Version Nr. ***n.n***.n"). Both a (free) software upgrade and a dongle upgrade (usually with costs) is required.

### Upgrading the Dongle

Upgrading the legal dongle is very easy:

Inside the laserDESK GUI, create an upgrade request file (in XML format), which comprises all important data of the used software edition (application data, dongle data, options).

Send this file together with an upgrade query to SCANLAB. SCANLAB will then send a license upgrade file in return.

Execute the upgrade by using the returned file. The dongle will be actualized to enable the laserDESK software to use the new features.

### Installing the new laserDESK Software

Simply download the new laserDESK software (update or upgrade) from the SCANLAB website (https://www.scanlab.de/en/products/software-calibration/laserdesk/download) and install it subsequently.
If you install a software upgrade, you must upgrade the legal dongle too.