
Version Overview

3D-EASY SPACE 5

**NEW ART
ILLUSION**



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The 3D-Easy Complete Kit 5 - Overview

For the first time, the graphic amateur (those who are not experienced in graphics) has the possibility with the *3D-Easy Complete Kit* to produce his or her own 3D images and 3D-flips with the help of the lenticular technology.

Due to the development of the PC-hardware and printing technology, it permits the home user to calculate and to print their own lenticular images.

The *3D-Easy Complete Kit 5* is offered in 2 versions:

- *3D-Easy Complete Kit 5 - Home*
- *3D-Easy Complete Kit 5 - Standard*.



3D-Easy Complete Kit 5 - Home



3D-Easy Complete Kit 5 - Standard

The following table shows a survey of the different versions of the Complete Kits:

| Content | <i>3D-Easy Complete Kit 5 - Home</i> | <i>3D-Easy Complete Kit 5 - Standard</i> |
|--|---|---|
| CD-ROM with <ul style="list-style-type: none"> • Software <i>3D-Easy SPACE 5</i> • Example of images and projects • Manual (PDF file) | yes, <i>3D-Easy SPACE 5 - Home</i> | Yes <i>3D-Easy SPACE 5 - Standard</i> |
| ColorCodeViewert TM (ColorCode 3-D glasses) | - | yes |
| 3D-red/cyan glasses (Anaglyph glasses) | yes | yes |
| Viewer for Stereo Images (Lorgnette) | yes | yes |
| Lenticular cards (each 15x10 cm, non adhesive) <ul style="list-style-type: none"> • 30 lpi (3D portrait) • 40 lpi (3D landscape) • 60 lpi (3D landscape) • 75 lpi (3D portrait) | yes yes - - | yes yes yes yes |
| <i>3D-Easy - Lenticular Rough Determination</i> | - | yes |
| Short Instruction Manual | yes | yes |

Survey of the versions of the program *3D-Easy SPACE*

The following table shows a survey of the different versions of the program:

| Functions / Features | <i>3D-Easy SPACE 5 - Home</i> | <i>3D-Easy SPACE 5 - Standard</i> | <i>3D-Easy SPACE 5 - Professional</i> |
|---|---|---|---|
| | contained in <i>3D-Easy Complete Kit 5 - Home</i> | contained in <i>3D-Easy Complete Kit 5 - Standard</i> | |
| Languages available | German or English | German or English | German or English |
| General information | | | |
| number of images | max. 10 | max. 20 | max. 99 |
| image size in pixel of each image | unrestricted ¹ | unrestricted ¹ | unrestricted ¹ |
| supported file formats: • Import: JPG, BMP, TGA, TIFF • Export: BMP, TGA, TIFF (BMP, TGA and TIFF: 24 Bit, all uncompressed) | yes yes | yes yes | yes yes |
| projects load / save | yes | yes | yes |
| clipboard (copy) | yes | yes | yes |
| animation preview of all loaded images | yes | yes | yes |
| Alignment / colors | | | |
| alignment of images: shifting / rotation / scaling | yes | yes | yes |
| NEW: bicubic interpolation with all adjustments | yes | yes | yes |
| alignment lines to adjust images | yes | yes | yes |
| NEW: 3D-Easy - 1-Click-Auto-Alignment | - | yes | yes |
| define reference points, half automatic adjustment | - | yes | yes |
| NEW: only horizontal shifts (optional) | - | yes | yes |
| NEW: 3D-Easy - Serial Alignment | yes | yes | yes |
| fixing and export of an image area | - | yes | yes |
| NEW: 3D-Easy - Optimized Image Area | - | yes | yes |
| corrections: brightness, contrast, saturation, gamma | yes | yes | yes |
| free background colors | yes | yes | yes |
| Print | | | |
| max. print size | 16 x 16 cm | 30 x 30 cm | unrestricted ¹ |
| print: normal / reversed (film) | yes | yes | yes |
| additional print info / units: cm / inch | yes / yes | yes / yes | yes / yes |
| Anaglyph | | | |
| Color combination • ColorCode 3-D™ / yellow-blue • red-cyan, red-blue, red-green, magenta-green, green-blue color saturation: • grey / color / manual (define red, green & blue separated) | - / yes yes yes | yes / - yes yes | yes / - yes yes |
| Stereo images | | | |
| number of fixed formats | 10 | 10 | 10 |
| free stereo format / max. print size | - | yes / 30 x 30 cm | yes / unrestricted ¹ |
| Lenticular | | | |
| lenticular types (lpi) | free value between 10 - 50 lpi | free value between 10 - 76 lpi | free value between 10 - 999 lpi |
| Supported Lenticular Images: • 3D, flip / animation / morph / zoom | all | all | all |
| reference stripes • left/top, right/down, crosswise • optional visible / invisible | yes yes | yes yes | yes yes |
| calibration function (pitch test) • direct printing (black/white): free lpi value • calculation and saving universal calibration pattern • supported lpi-values • number of test stripes per lens • max. size of calibration pattern | yes, 10 - 50 lpi - - - - | yes, 10 - 76 lpi yes 10 - 76 lpi 2 (black / white) 30 x 30 cm | yes, 10 - 999 lpi yes 10 - 999 lpi 99 unrestricted ¹ |
| define compression levels | - | - | yes |
| automated / manual image optimization (consideration physical printer characteristics) | - | yes / yes | yes / yes |
| stripes of 2 images (special menu) | yes | yes | yes |
| parallax barrier method | - | - | yes |
| Documentation / example images | | | |
| • manual (PDF-file), incl. • step by step - info, practicable hints • example images / example projects | yes yes yes | yes yes yes | yes yes yes |

¹ *3D-Easy SPACE 5* read and save uncompressed 24 Bit RGB files (BMP, TGA and TIFF) up to 4 GB file size. This means a maximal image size of about 36000 x 36000 pixel.

News in version 5

Compared to version 4, the programm *3D-Easy SPACE 5* contains the following essential new features:

Anaglyphs

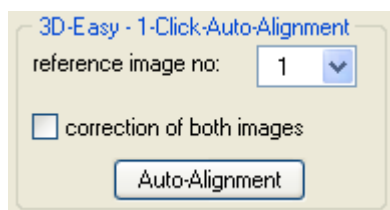
- Implementation of an improved version of the patented ColorCode-3D™ -type
 - improved colors
 - faster calculation
- The improved ColorCode-3D-technique is contained in editions Standard and Professional.

Adjustment: Bicubic Interpolation

- The new function „bicubic interpolation“ is used as a substitute of the method „next neighbour“ (pixel position is rounded) which was used until now. It is applied with all adjustments (shift, rotation, scalation). With this method, 16 vicinal pixel are evaluated for the calculation of one single pixel. Bicubic interpolated images or pixels lead to much better results especially with rotations and scalations as well as „non-integer“ pixel values (e.g. after *3D-Easy - 1-Click-Auto-Alignment*). Horizontal or vertical edges appear to be straight with any rotations (without „jumps“).
- Sharpness and contrast of the basic image are mostly preserved. This is the main feature of the bicubic interpolation. (There are different versions with different parameters.)
- The new function bicubic interpolation is contained in all editions (Home, Standard and Professional).

Full automatic adjustment: *3D-Easy - 1-Click-Auto-Alignment*

- Version 5 contains a professional *3D-Easy - 1-Click-Auto-Alignment* (complete automatic alignment) in addition to the existing possibilities of the manual or half automatic adjustment (direct adjustment or use of reference points).



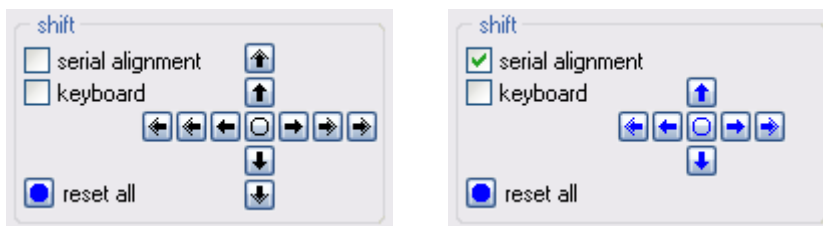
- It is the aim of *3D-Easy - 1-Click-Auto-Alignment* to get only a minimum of vertical deviations by complete shifting, rotation, and scalation.
- The Software *3D-Easy SPACE 5* is the first and only lenticular software worldwide with such an 1 Click-Auto-Alignment which contains a complete automatic adjustment of all unadjusted source images.
- It is as simple as the name *3D-Easy - 1-Click-Auto-Alignment* says: e.g. no reference points have to be placed manually, no information regarding camera parameters

necessary, no evaluation of maximum deviations necessary. The images which have to be adjusted are loaded and with only one click, a complete automatic calculation is carried out.

- The new function *3D-Easy - 1-Click-Auto-Alignment* is contained in the editions Standard and Professional.
- You can find more advice regarding *3D-Easy - 1-Click-Auto-Alignment* in section „New example projects“ as well as in chapters 1.2. and 6.4. (FAQ).

3D-Easy - Serial Alignment

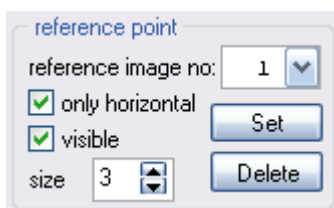
- Shiftings can be applied to all images at the same time with the new function *3D-Easy - Serial Alignment*.



- This function is useful with 3D lenticular images with 3 or more basic images which have to be shifted horizontally after the auto correction to fix the room depths. The reference image is not shifted, the next image is shifted by 1 pixel, the next image but one is shifted by 2 pixel etc. to the left or right. The 3D effect is applied to all loaded images automatically.
- The new function *3D-Easy - Serial Alignment* is contained in all editions (Home, Standard and Professional).

Reference points: only horizontal shiftment

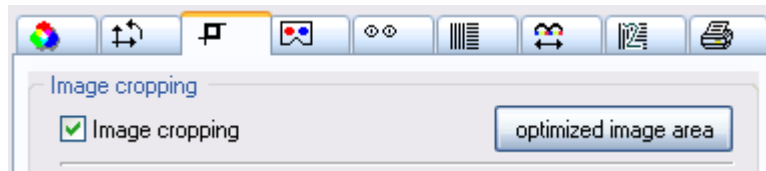
- When placing reference points (one reference point per image), the images are shifted automatically horizontally and vertically the way that all reference points have the same pixel position.



- It is new that only horizontal shiftings are carried out. This makes sense if the images are perfectly adjusted by the *3D-Easy - 1-Click-Auto-Alignment* and only the 3D-impression has to be adjusted to personal taste by horizontal shifting.
- The new function „Only horizontal shiftment“ is contained in editions Standard and Professional.

Improved image cropping function: 3D-Easy - Optimized Image Area

- The new function *3D-Easy - Optimized Image Area* calculates automatically the maximal rectangular optimized image area of all images which does not contain missing image contents in edge areas, e.g. caused by rotation.



- The function *3D-Easy - Optimized Image Area* is applied after a manual adjustment or after a *3D-Easy - 1-Click-Auto-Alignment* in order to carry out a *3D-Easy - Serial Export*.
- The new function *3D-Easy - Optimized Image Area* is contained in editions Standard and Professional.

Export / Image cropping

- If an image area is exported, not only the corresponding image parts of all single images are saved but also the corresponding anaglyph image, if „anaglyph (L / R)“ was selected in the preview.
- This new function (additional saving of an anaglyph image part with serial export) is contained in editions Standard and Professional.

Complement of the manual

- The manual (PDF file) has been updated. The above mentioned functions are explained in detail.

New adjusted stereo images and image serials

Many 3D example images (3D stereo image pairs and 3D lenticular projects) which had to be taken by a camera (digital camera, stereo camera, NIMSLO) and which had to be adjusted manually, were completely new calculated and saved with the above mentioned new functions

- *3D-Easy - 1-Click-Auto-Alignment*
 - *3D-Easy - Optimized Image Area*
- in a very short time.

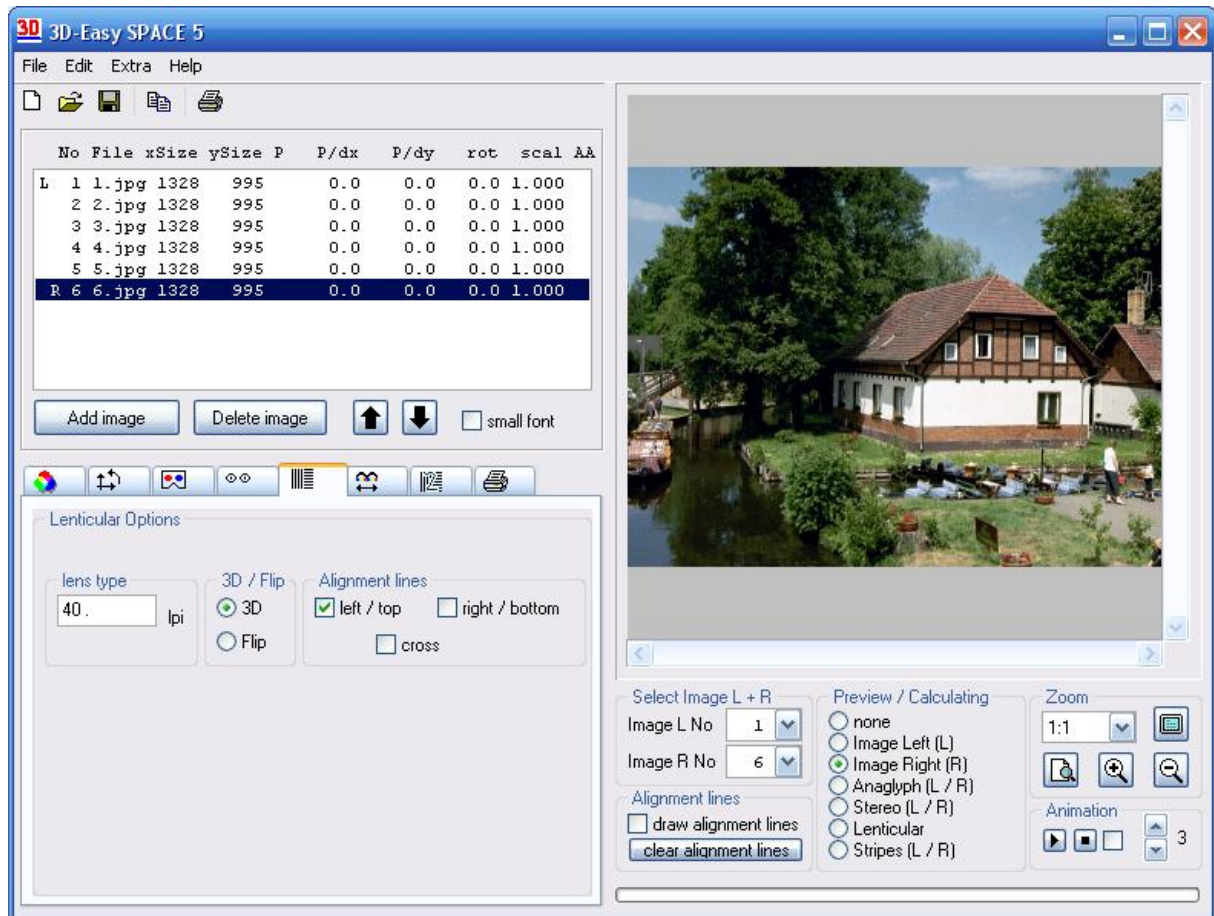
The new adjusted images which developed are contained in the folder of the stereo images and image serials and have the file name „Newxx.bmp.“ The *3D-Easy - 1-Click-Auto-Alignment* increased the quality of the adjustment in all cases.

Only the 3D-impression has to be adjusted referring to personal taste by horizontal shifting with the new function *3D-Easy - Serial Alignment*.

The software *3D-Easy SPACE 5 - Home*

The software *3D-Easy SPACE 5 - Home* belongs to *3D-Easy Complete Kit 5 - Home*.
The surface of the software *3D-Easy SPACE 5 - Home* is clearly structured.

The large preview image gives a good impression of the current program situation. The single program functions are summarized in tab controls and groups.



Surface of the Software *3D-Easy SPACE 5 - Home*
(reserve product changes)

The software *3D-Easy SPACE 5 - Home* has the following capabilities:

- production of 3D-and flip images with the help of the enclosed lenticulars
- continuous calculation of lenticular images from 10 lpi up to 50 lpi
- production of gray and colorful anaglyph images (3D Images with yellow/blue, red/cyan, red/green, red/blue, magenta/green and green/blue parts as grey or color images) on the monitor and as a print; this function will be used for the 3D impression of the lenticular image (depth of the room); it can also be used to produce anaglyphs only
- smooth and independent saturation of the color channels red, green and blue make the production of colored anaglyphs possible even with difficult colors
- production of stereo-images (selection out of 10 given formats)
- *3D-Easy SPACE 5 - Home* does not require another graphic program; all necessary functions are contained in the program, including image print
- the software is optimized for home printers with a resolution of 300 dpi and higher; the software is matched perfectly with the lenticulars

- parallel processing up to 10 single images with single images of any size (process and create images (24 Bit BMP, TGA, TIFF, all uncompressed) up to 4 GB file size; this means a maximal image size of about 36000 x 36000 pixel)
- efficient alignment functions (freely definable alignment lines and alignment boxes in the preview) in order to correct horizontal and vertical movements of the images for each single image as well as canting/distorting and enlarging/decreasing; moreover, the alignment function can be used to receive certain 3D-effects (room depth)
- bicubic interpolation with all adjustments (shifts, rotations, scalations)
- *3D-Easy - Serial Alignment* (manual shifts of several images with one click)
- universal calibration function (direct print) to correct small deviations of length of prints and/or lenticular material (10 - 50 lpi)
- an animated preview of all loaded single images supports a perfect adjustment of all single images and gives a 3D and flip image effect in advance
- adjustment of any colors of different backgrounds
- image file types for import and export in BMP, TGA, TIFF (24 Bit RGB, uncompressed) and JPG format (import only)
- every produced image can be copied in a different graphic program via the clipboard
- special options for encasement of 2 images (e.g. images for 3D shutter glasses, 3D monitors)
- adjustable print function (print borders and sizes of the images can be adjusted freely up to 16x16 cm)
- large preview of the image with zoom to pixel level
- regulations of brightness, contrast, saturation and gamma (preview image and print)
- normal and inverted depiction (for print on paper or transparent material)
- optional print of different red-cyan reference stripes of an image in order to put the lenticulars in the right position
- savings of all adjustments in project files
- compatibility of project files with older versions (older project files can be loaded)
- automatic saving and restoration of important program adjustments
- surface easy to use and extensive manual on CD (PDF-file) for beginners, including a detailed instruction to produce 3D-, flip and anaglyph images

The Software *3D-Easy SPACE 5 - Home* requires following parameters:

- PC Pentium 166 MHz, 64 MB RAM
- 30 MB drive space for program and manual, the processing of large single images can require several 100 MB temporary drive space
- CD- or DVD-ROM drive
- VGA graphic card from 800x600 pixel and from 256 colors as well as corresponding color
- monitor
- Operating System of Microsoft® Windows 98, ME, NT 4, 2000, XP, Vista
- Printer from 300 dpi (a color printer is recommended from 1200 dpi)
- mouse or other pointing device.

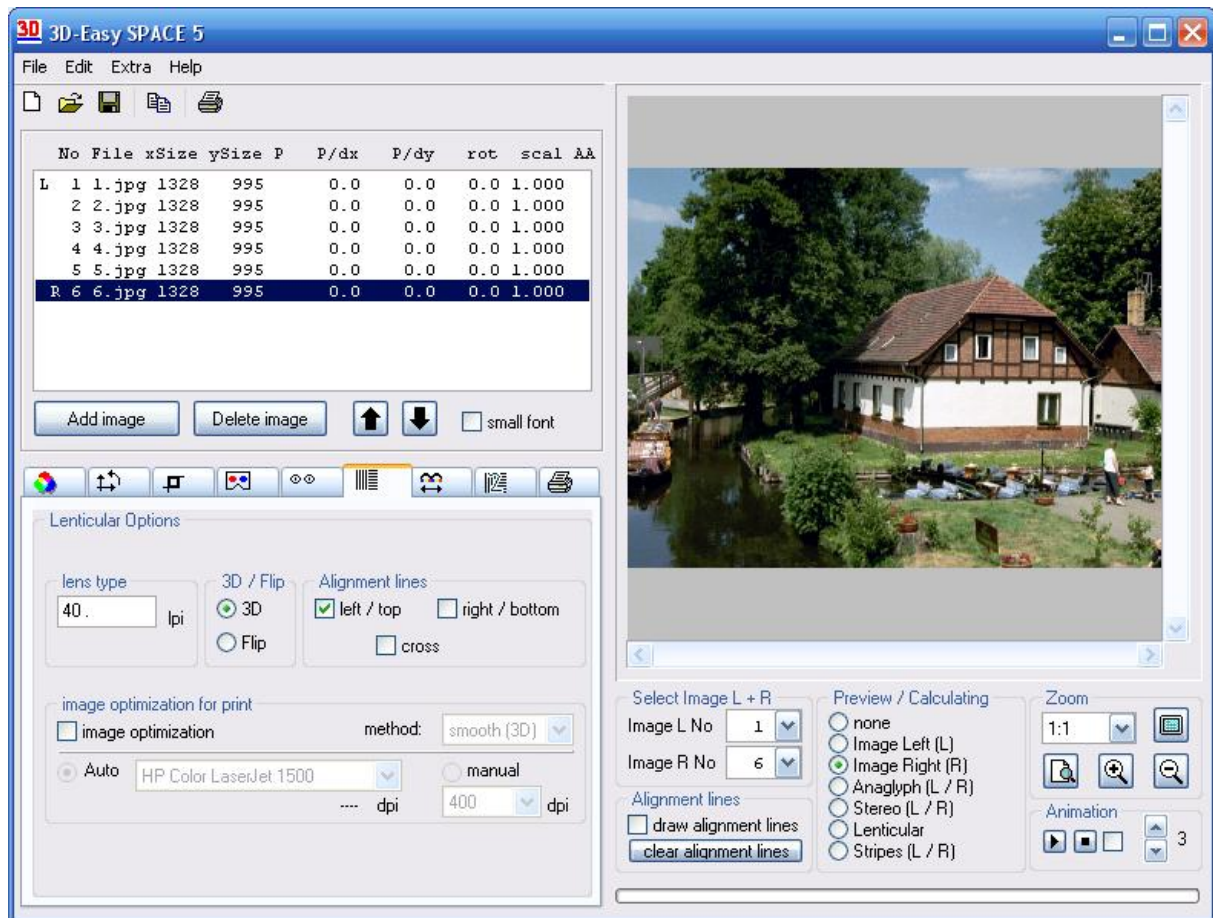
For fast working on a computer, the following or even better equipment is recommended:
Pentium II / 400 MHz, 128 MB RAM, graphic card with a color depth of 16 Million colors
(True Color).

Prints of high quality require a color printer from 1200 dpi and printing paper of high quality.
The production of own real 3D-images or flips requires a camera.

The abbreviation dpi (= dot per inch) signifies the printing resolution and indicates how many
single spots within one inch (= 2.54cm) can be printed. Dpi-values, which are often used, are
600, 720 or 1200.

The software *3D-Easy SPACE 5 - Standard*

The software *3D-Easy SPACE 5 - Standard* belongs to *3D-Easy Complete Kit 5 - Standard*.



Surface of the Software *3D-Easy SPACE 5 - Standard*
(reserve product changes)

The software for *3D-Easy SPACE 5 - Standard* has the following capabilities:

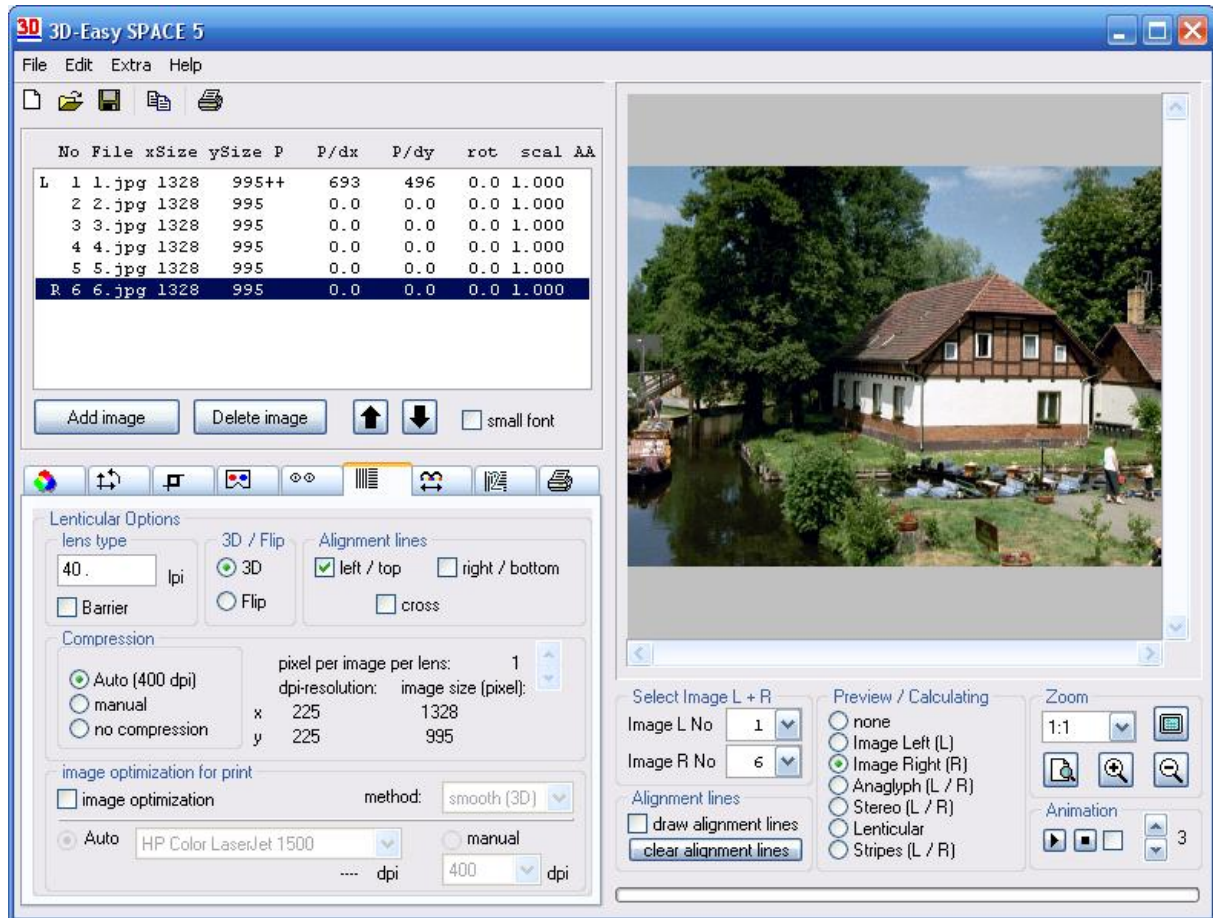
- the Software *3D-Easy SPACE 5 - Standard* has the same capabilities as the Software *3D-Easy SPACE 5 - Home* and additional
- support of the patented **ColorCode 3-D™** technology (instead of the anaglyph color combination yellow / blue in the *Home Edition*)
- *3D-Easy - 1-Click-Auto-Alignment* (completely automatic adjustment of all loaded images referred to an reference image or the possibility of symmetrical correction if 2 images are loaded)
- parallel processing up to 20 single images with single images of any size
- individual reference points (1 reference point per 1 single image) to a half automatical fast horizontal/vertical adjustment of all single images, a possible further rotation and scalation use reference point as image centre. There is the possibility to allow only horizontal shifts
- *3D-Easy - Optimized Image Area* calculates the rectangular image part of all loaded images which does not contain empty image contents (e.g. caused by rotation)
- define and **cut a rectangle window** from all adjust single images **in one step** (per mouse or entering pixel-values) with following export of all adjusted single images)
- continuous calculation of lenticular images from 10 lpi **up to 76 lpi**

- **automatic / manual image optimization** (consideration of physical print characteristics) in the calculation of lenticular images leads to better qualitative results, especially with formats A4 and larger
- calculation and print of **30 x 30 cm** images
- **calibration function / pitch test** (direct print) to correct small deviations of length of prints and/or lenticular material from 10 lpi **up to 76 lpi**
- universal generation and saving of **calibration image files (pitch test) for the range of 10- 76 lpi (to use external print services); black/white stripes**
- **free definable stereo-images.**

The Software *3D-Easy SPACE 5 - Standard* requires a PC with 128 MB RAM.

The software *3D-Easy SPACE 5 - Professional*

The software *3D-Easy SPACE 5 - Professional* is not sold within a Complete Kit but as an independent software version.



Surface of the Software *3D-Easy SPACE 5 - Professional*
(reserve product changes)

The software for *3D-Easy SPACE 5 - Professional* has the following capabilities:

- **The Software *3D-Easy SPACE 5 - Professional* has the same capabilities as the Software *3D-Easy SPACE 5 - Standard* and additional**
- parallel **processing up to 99 single images** with single images of any size
- defines the **compression level** by calculation of lenticular images
- continuous calculation of lenticular images from 10 lpi **up to 999 lpi**
- calculation and print **without any limitations of size** (e.g. 50 x 70 cm)
- **calibration function / pitch test** (direct print) to correct small deviations of length of prints and/or lenticular material from 10 lpi **up to 999 lpi**
- universal generation and saving of calibration-image files (pitch test) for highest demands in the field 10- 999 lpi (to use external print services) with **up to 99 images / colors per lens**
- support of the **Parallax Barrier-Method**

The Software *3D-Easy SPACE 5 - Professional* requires a PC at least 128 MB RAM.

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(reserve product changes)