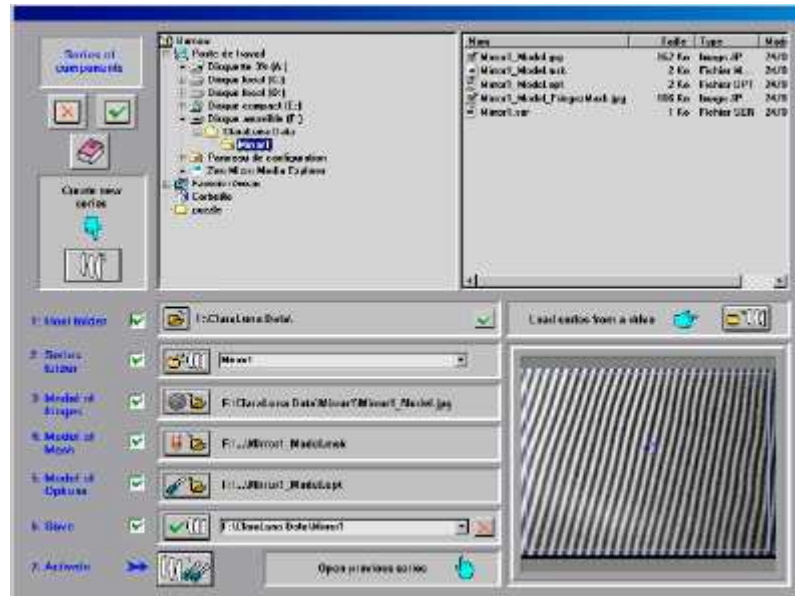


10 WORKING WITH SERIES OF COMPONENTS



In this chapter :

- Easily create a host folder, a Model of Mask and a Model of Options for a Series of parts
- Load this data into the General Setup for a ready-to-go Series measurement
- Save/Retrieve your Series data for future use.

10.1 Series of components (Production mode) - Purpose

For measuring a Series of parts, one needs to :

- 1 • define a Host Folder that will contain all the Series data
- 2 • define a Model of Mask (together with a model of interferogram to check that the Mask is nicely fitted to the fringes image) common to the whole Series.
- 3 • define a Model of Options common to the whole Series.
- 4 • tell the General Setup to use the previous as default.

OPEN FILE EXPLORER:

in last folder opened
 in a specified folder :
 with a previous project

F:\ClaraLuna Data\Mirror1

MASK

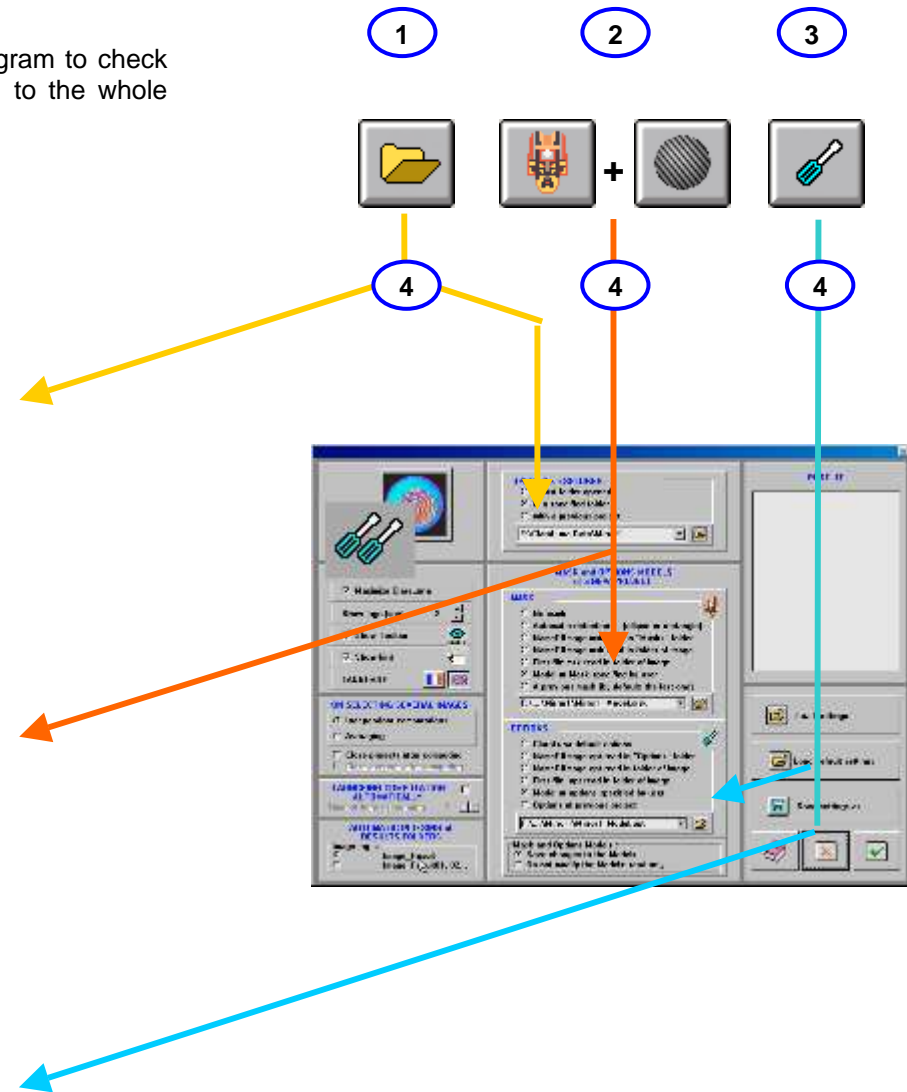
No mask
 Automatic detection (ellipse or rectangle)
 NameOfImage.msk read in "Masks" folder
 NameOfImage.msk read in folder of image
 First file.msk read in folder of image
 Model of Mask specified by user
 A previous mask (by default: the last one)

F:\... \Mirror1\Mirror1_Model.msk

OPTIONS

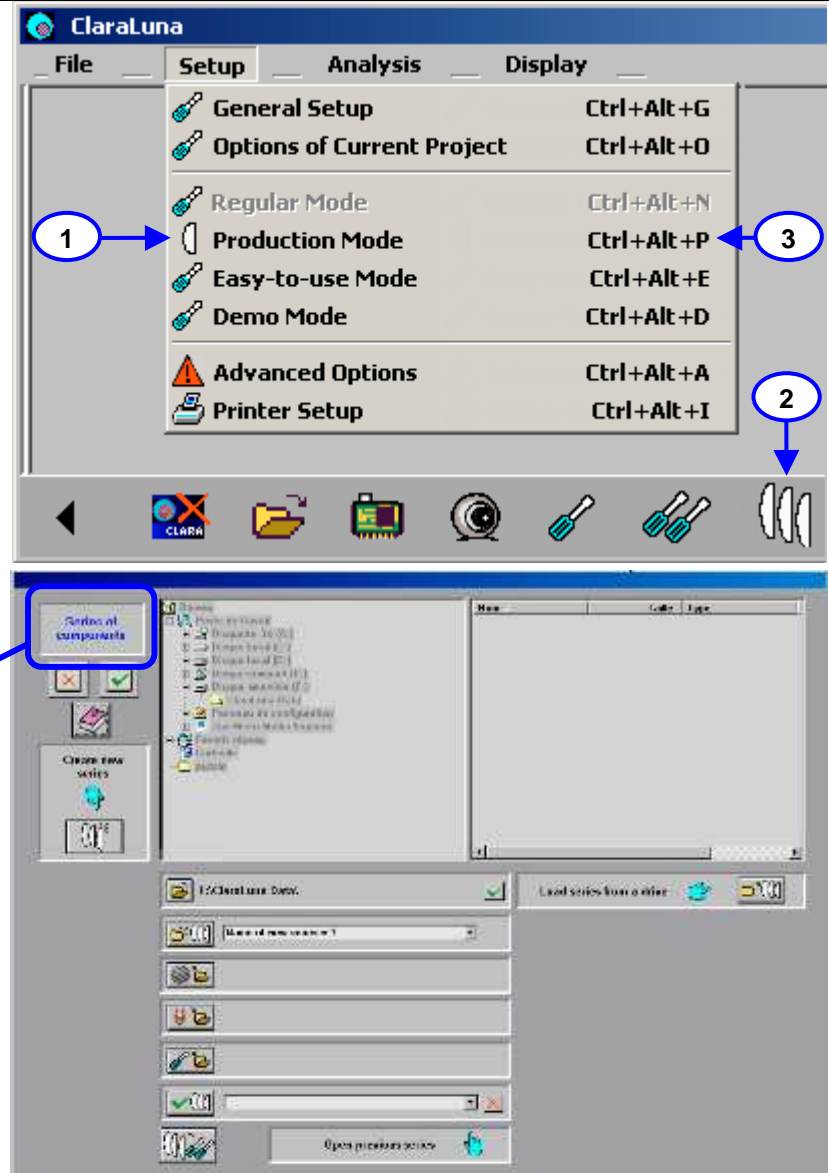
ClaraLuna default options
 NameOfImage.opt read in "Options" folder
 NameOfImage.opt read in folder of image
 First file .opt read in folder of image
 Model of options specified by user
 Options of previous project

F:\... \Mirror1\Mirror1_Model.opt



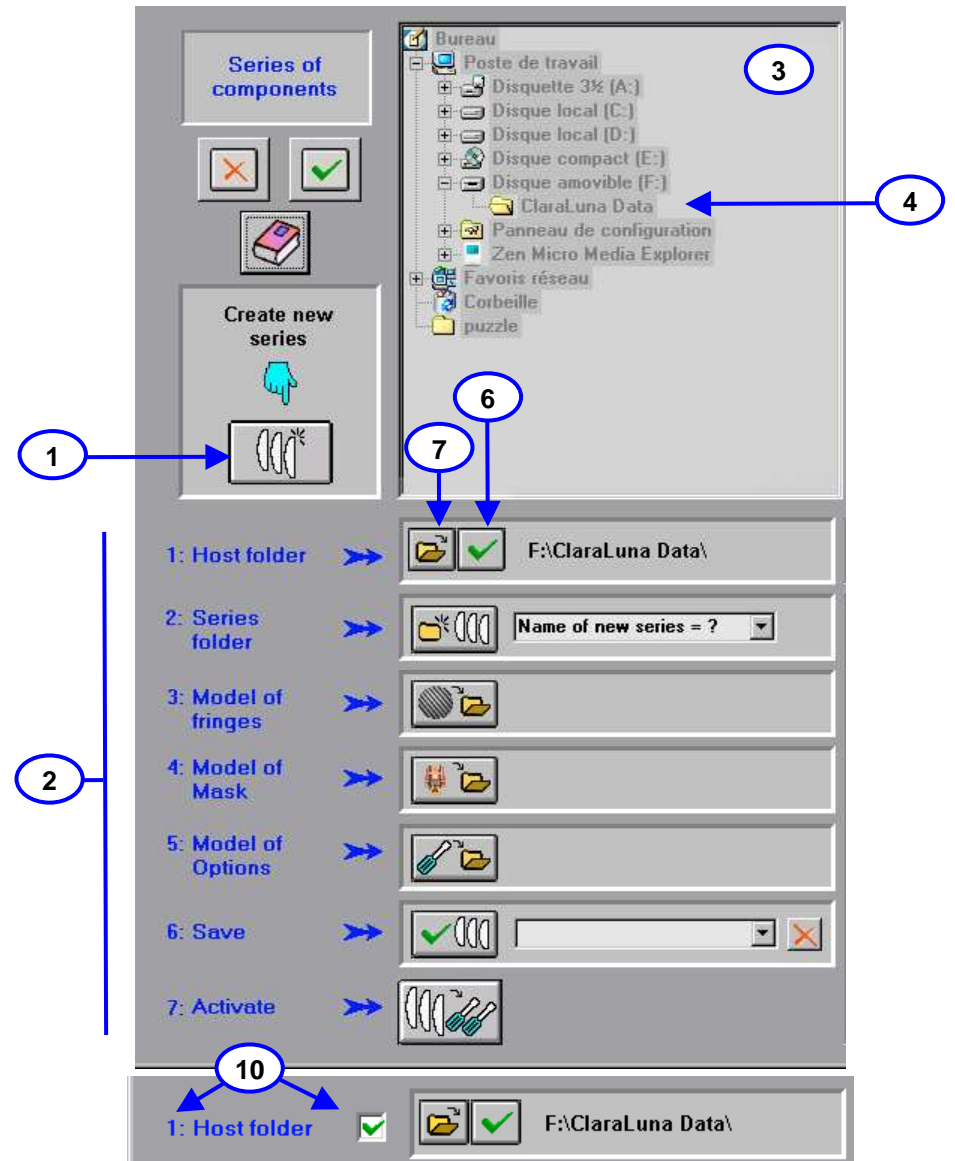
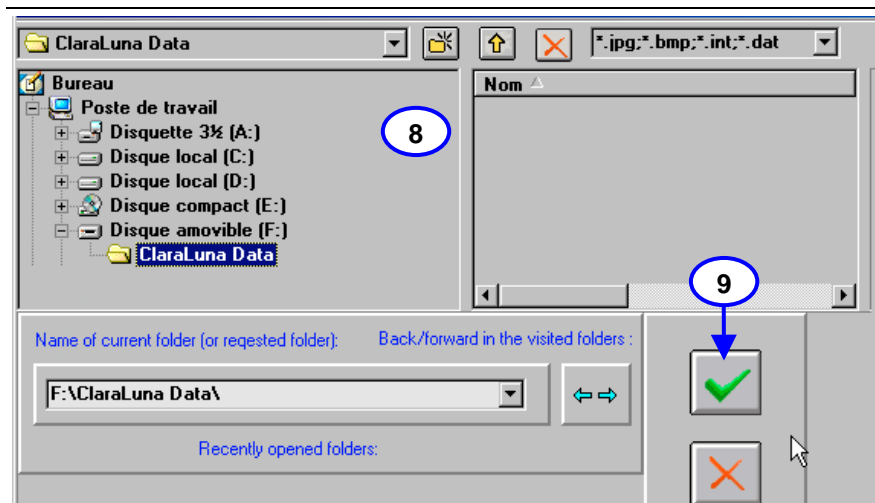
10.2 Series of components - Entering the Series window

- 1 Enter the **Production Mode** in ClaraLuna main window, menu Setup -
or :
- 2 Click button (2) on toolbar, in ClaraLuna main window -
or :
- 3 Type keyboard shortcut **Ctrl+Alt+P**
- 4 These commands open the **Serie** window



10.3 Series of components - Creating a new Series - Step 1 : Host Folder

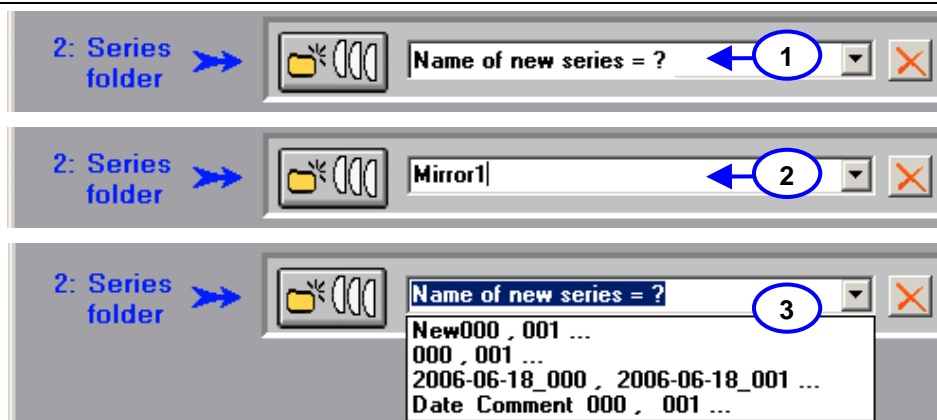
- 1 To create a new Series, click button (1)
- 2 The steps for creating the Series show up :
- Step 1 :
- 3-4 • The "shell tree" window (3) shows the current folder (4). This folder is preset in the General Setup. It is the same as the current folder for opening ClaraLuna File Explorer. The shell tree window (3) is not active at this step : clicking has no effect. It just helps seeing where the current folder is.
- 5 • This current folder is prompted as a Host Folder (5) for the Series under creation.
- 6 • If it suits you, validate with (6).
- 7-8 • If not, call ClaraLuna File Explorer by clicking (7). A simplified Explorer (8) is shown. Browse folders, create a folder if needed, and select the one you chose as a Host Folder for the Series. Finally validate with button (9). This closes ClaraLuna File Explorer and brings you back to the Series window.
- 9 • A green tick tells you that Step 1 is over.
- 10 • A green tick tells you that Step 1 is over.



10.4 Series of components - Creating a new Series - Step 2 : Series Folder

Now create a Series subfolder in the Host Folder :

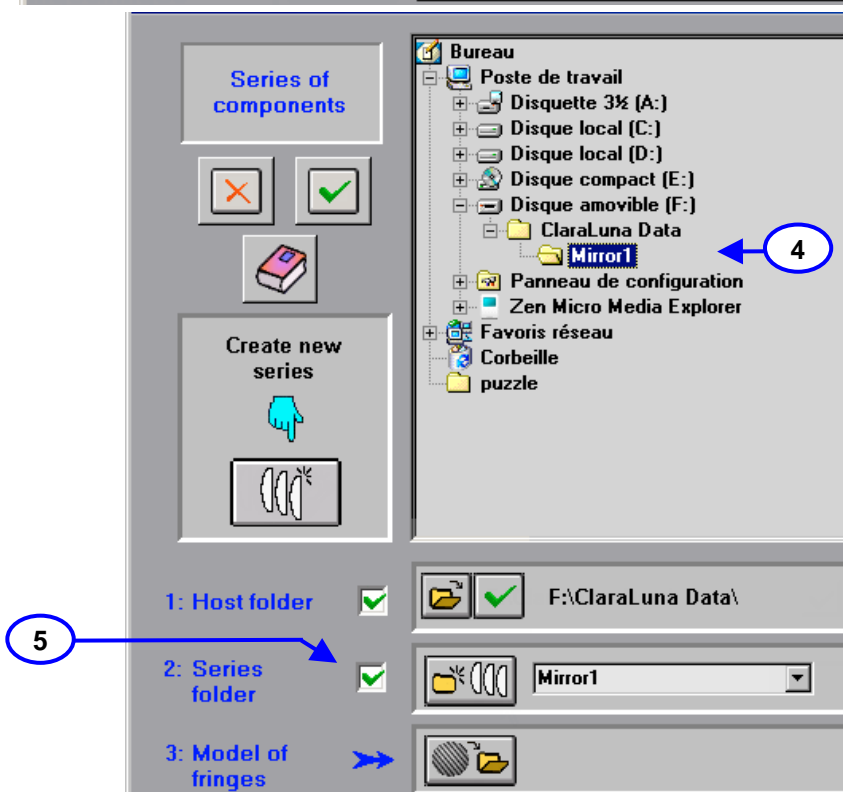
- 1-2 • Click edit box (1) and enter a Series name (2), for example Mirror1. The Series and the subfolder will have the same name.
- 3 • Or select an automatic numbering format, just as in ClaraLuna File Explorer by entering listbox (3) : see Section 4.4.
- 4 • The new Series subfolder appears in the shell tree (4)
- 5 • A green tick (5) tells you that Step 2 is over.



Now copy or create Models of Fringes, Mask and Options in the Series subfolder :

The most constant and easiest procedure is to :

- copy an interferogram into the Series subfolder (or create it through Video framegrabbing)
- open it for computing
- adjust the Mask and the Options
- if necessary run the computation up to the end for Mask and Options checking
- come back to the Series window for saving the Models names into the Series



10.5 Series of components - Creating a new Series - Step 3,4,5 : Models

1

In the Series window :

- click button (1) to call ClaraLuna File Explorer (2)

2-3

In the File Explorer (2) :

- click button (3) to call the Video window

4

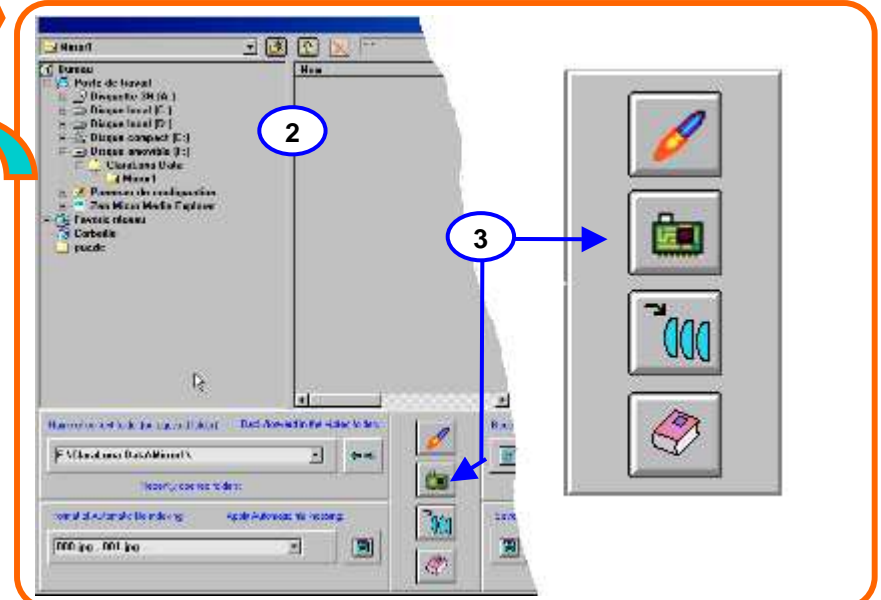
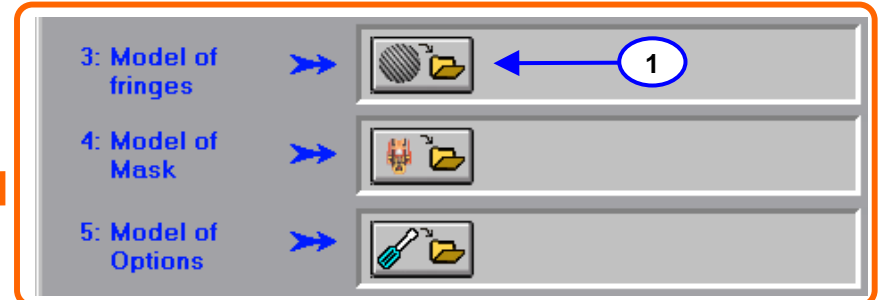
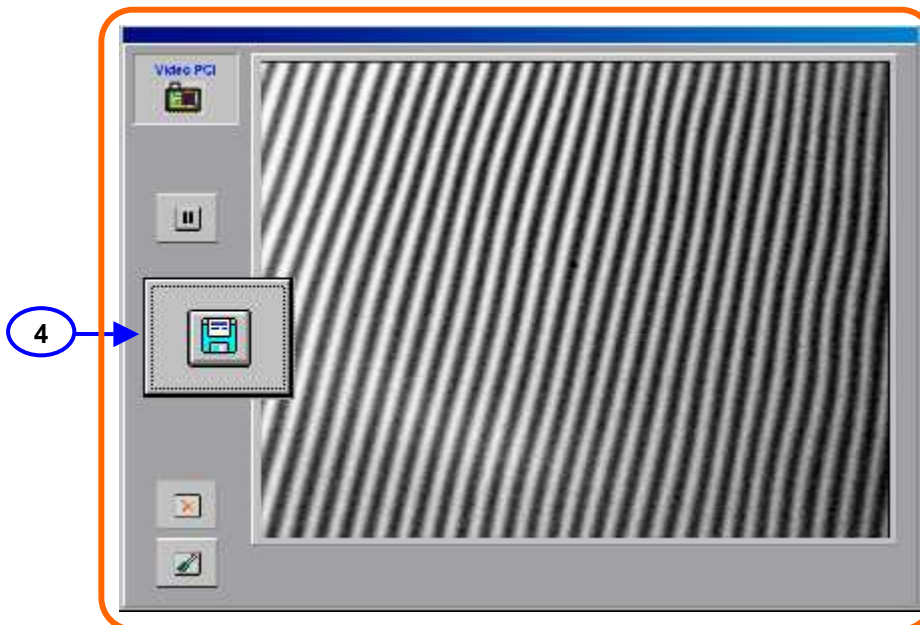
In the Video window :

- grab fringes image
- then click button "Save" (4) to come back to the File Explorer window.

5

Back to the File Explorer :

- rename the TempVideo file to a custom name, for example Mirror1_Model.jpg



10.6 Series of components - Creating a new Series - Step 3,4,5 : Models (continued)

In the File Explorer :

1

- Launch computation by clicking button (1)

In the Project window :

2

- adjust Mask by button (2)

3

- adjust Options by button (3)

4

- click button (4) to accept Mask and Options and get back to Series window

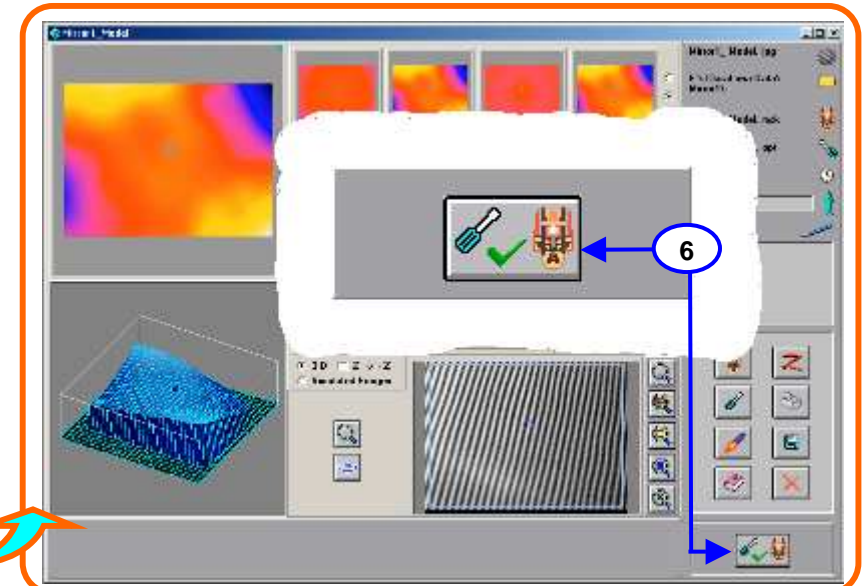
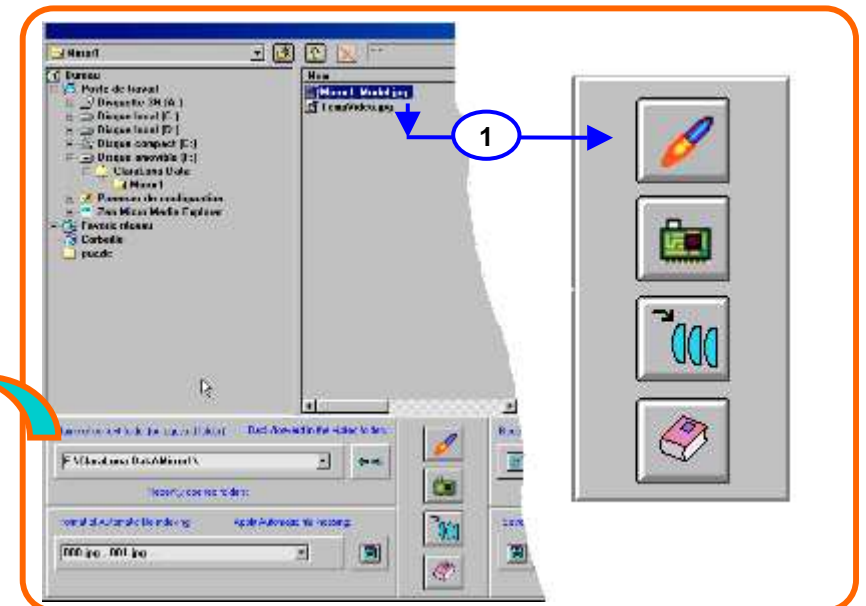
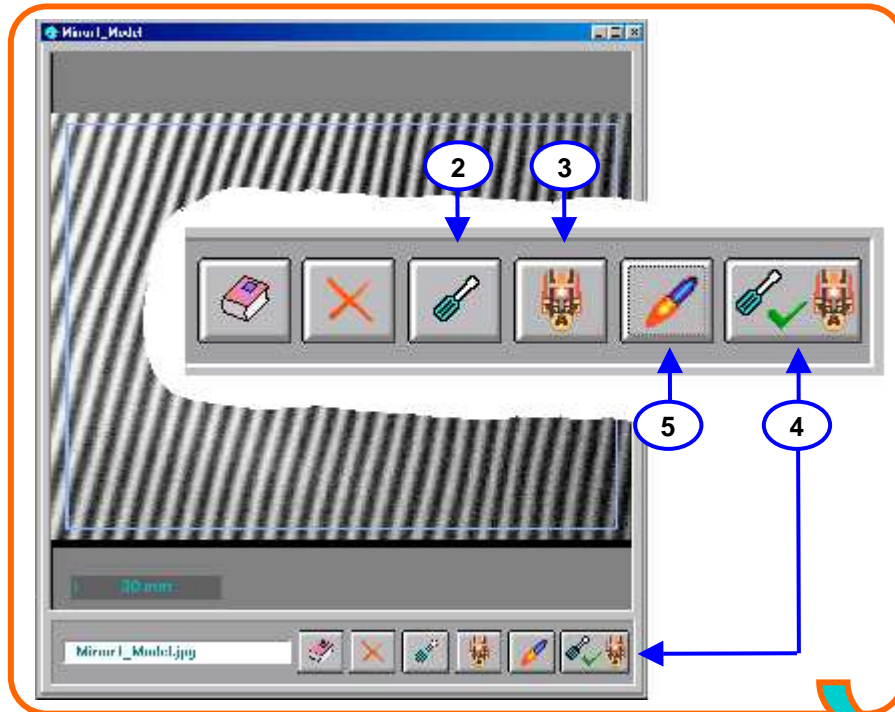
Or :

5

- click button (5) to launch computing for testing Mask and Options

6

- in the ISO/DIN Results window, click button (6) to accept Mask and Options and get back to Series window



10.7 Series of components - Creating a new Series - Step 6: Saving the Series

Accepting Mask and Options in the Project windows has the following simultaneous effects :

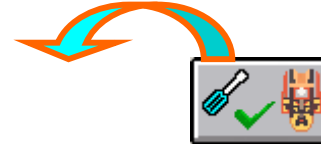
- 1 • validates Step 3 and writes the Model of Fringes name
- 2 • validates Step 4, and writes the Model of Mask name
- 3 • draws the Model of Fringes + Model of Mask on image
- 4 • validates Step 5 and writes the Model of Options name
- 5 • saves the newly created Series to the Series list

Now the new Series can be activated, ie loaded into the General Options, by clicking button (6) : see Section 10.8.

Note that Steps 3,4,5 can also be taken independently, each one by calling ClaraLuna File Explorer with buttons (7) (8) (9).

For example, click button (7), copy a .jpg file to the series folder, select it, click the Explorer "back to Series" button. Do the same for a .msk with button (8), and .opt with (9).

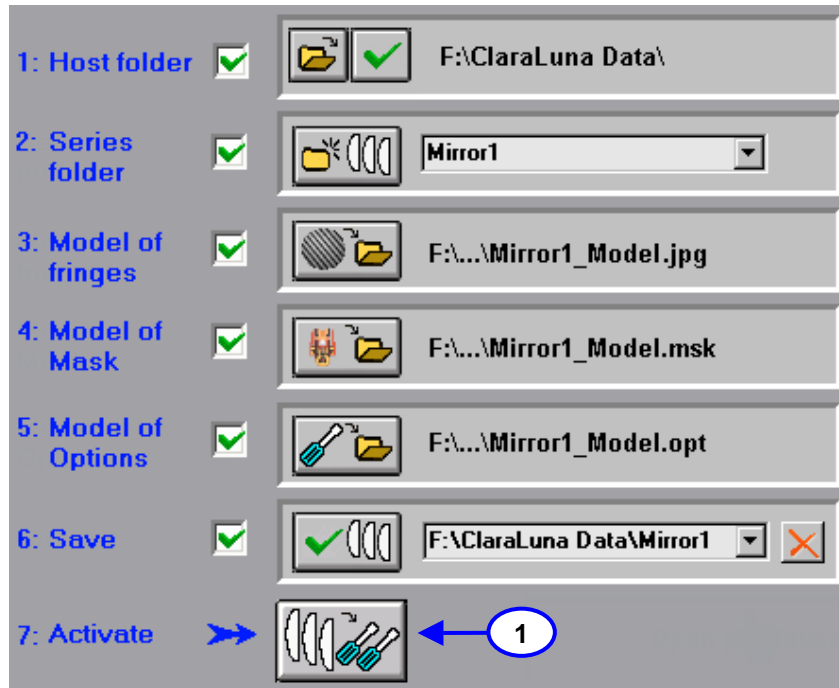
Finally save the Series with button (10).



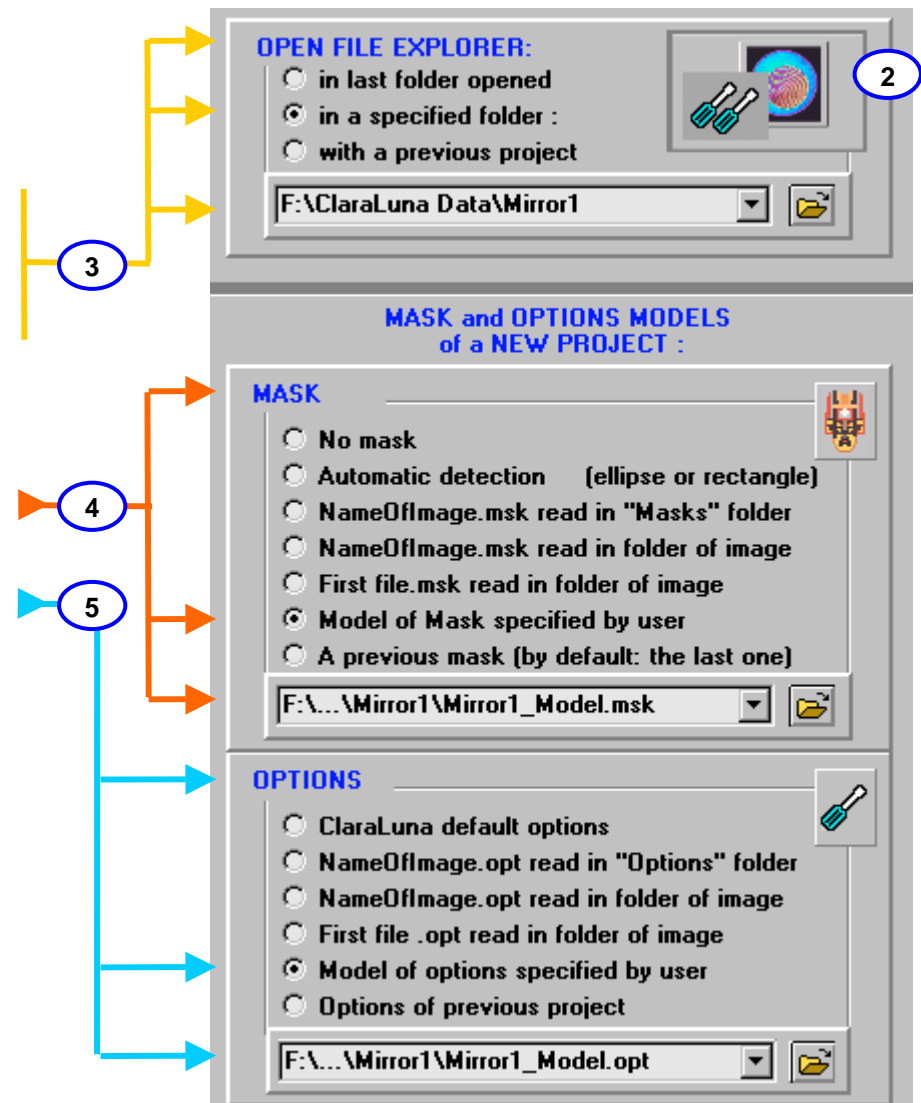
Nom	Taille	Type	Modi
Mirror1_Model.jpg	162 Ko	Image JP...	24/0
Mirror1_Model.msk	2 Ko	Fichier M...	24/0
Mirror1_Model.opt	2 Ko	Fichier OPT	24/0
Mirror1_Model_FringesMask.jpg	166 Ko	Image JP...	24/0
Mirror1.ser	1 Ko	Fichier SER	24/0

10.8 Series of components - Creating a new Series - Step : Activating the Series

- 1 Now the new Series can be activated, by clicking button (1),
 2 ie loaded into the General Options (2).

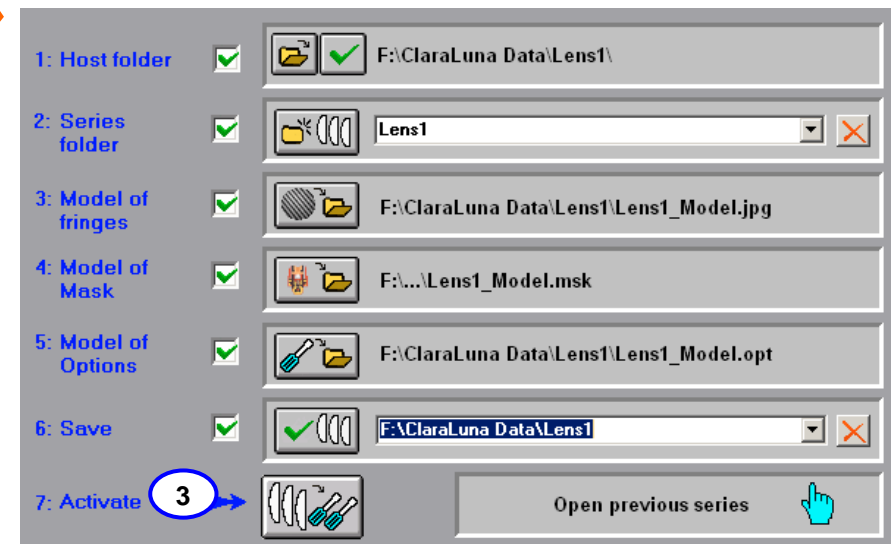
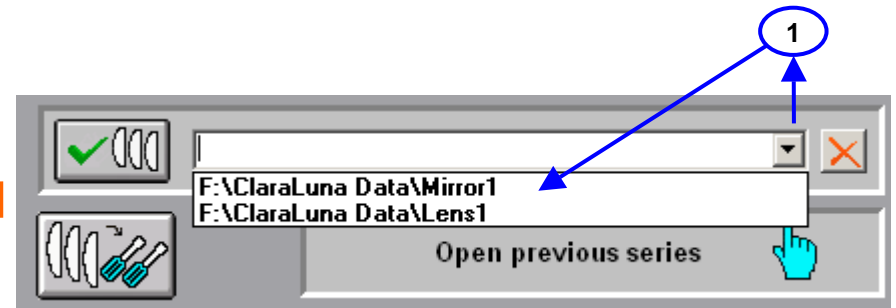
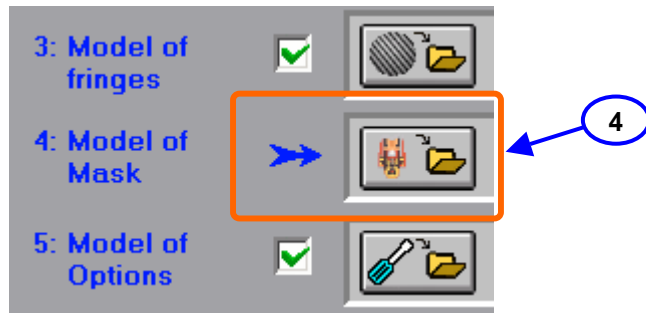


- 3
- ClaraLuna File Explorer will, when called, be opened in the Series subfolder.
- 4
- The Mask prompted on opening a new Project will be the Series Mask.
- 5
- The Options prompted on opening a new Project will be the Series Options.



10.9 Series of components - Saving / Retrieving a Series

- 1 All the previously saved Series are stored in a dropdown list (1)
- 2 Selecting one of the stored Series loads it in the Series window
- 3 The retrieved Series is now ready for activating in the General Options.
- 4 If the Series exists in the list but is not complete (for example the Mask file is missing), the related step will not be validated.



- 5 If the Series exists in the list but is not available (the Series folder has been deleted or moved, or is located on an absent removable media), then you get an error message (5) : "The requested series is not available or does not exist any more : do you want to delete from this list the non available series ?"
- Answer No if you think that the Series in the list can be reached later.



10.10 Series of components - Retrieving a Series from a drive

Loading in the Series list a Series available on a drive

- 1 • Suppose that a given Series does not exist in the list (1)
- 2 • but is available on a drive (2) : for example "Lens1"
- 3 • then you can load it into the Series list by clicking button (3)
- 4 • This calls the File Explorer with filter ".ser" (extension for Series files). Select the file "Lens1.ser"
- 5 • Accept (5) to close File Explorer and get back to Series window.
- 6 • The Series "Lens1" is now in the list, ready for loading and activating.

Saving Series data to General Setup .ini files :

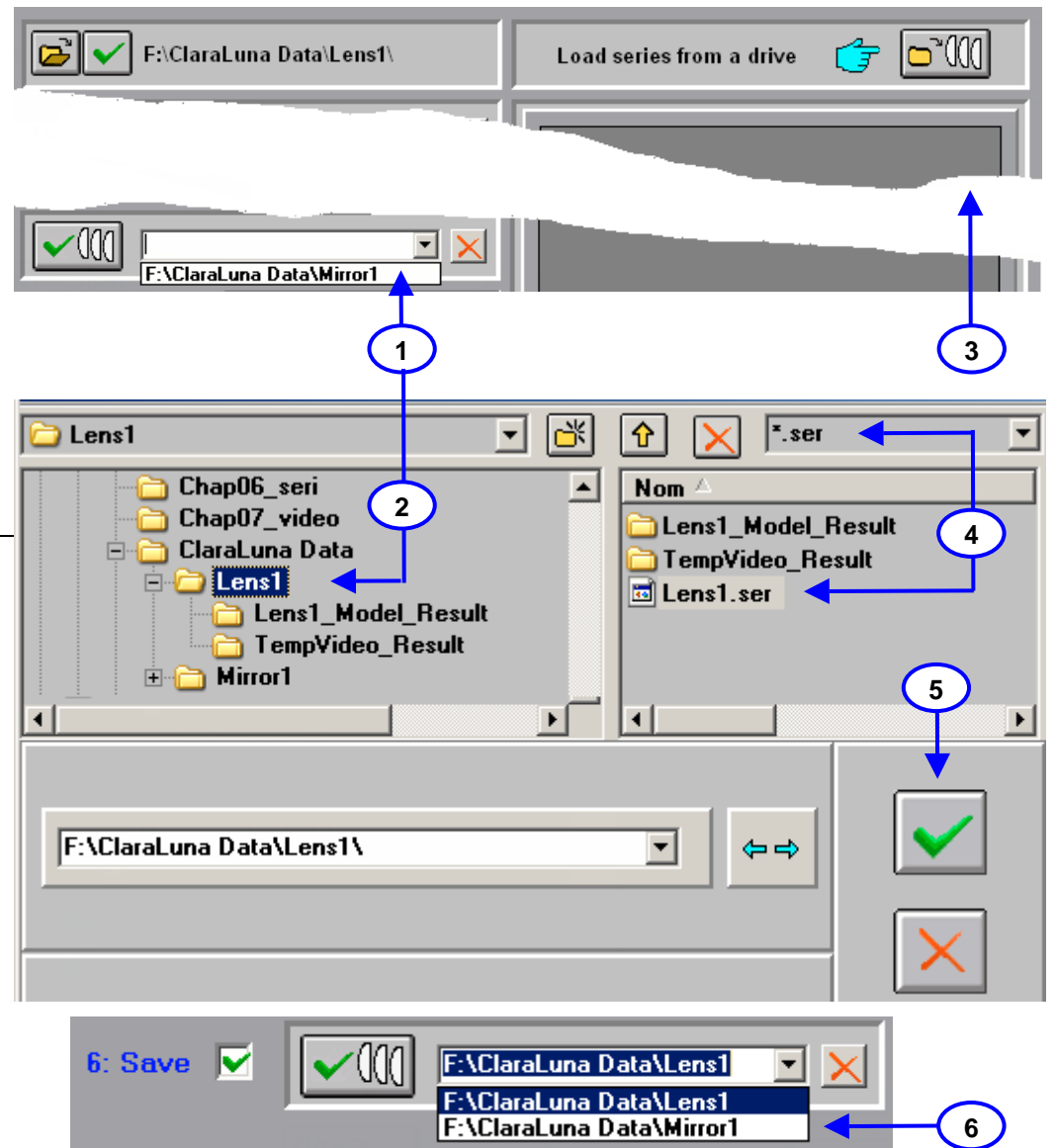
The Series list is saved in the General Setup.

The General Setup files are .ini files located in the ClaraLuna\Options folder)

Each General Setup ini file contains the Series data and can be specific to each user.

For transferring Series from a General Setup ini file to another, proceed as described above.

For details on General Setup ini files, see Section 5.8.



10.11 Series of components - Using a Series in Production Mode (1)

1

After activating a Series (see Section 10.8, step 7), the Production Mode is on, visible in the Status panel (2) top right of Main window, together with Current User's name and Current Series

2

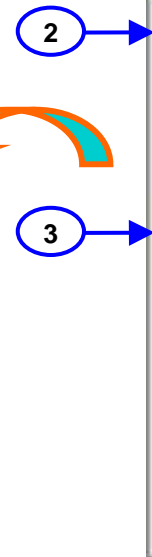
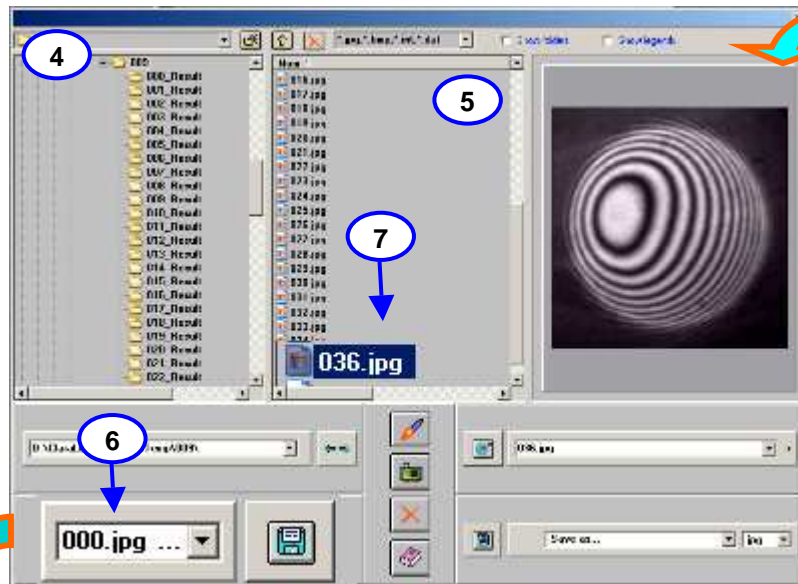
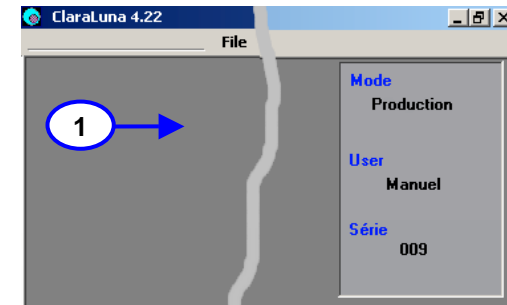
Open the Video Window (2) (see Section 9.1),

3

A new button shows up (3)

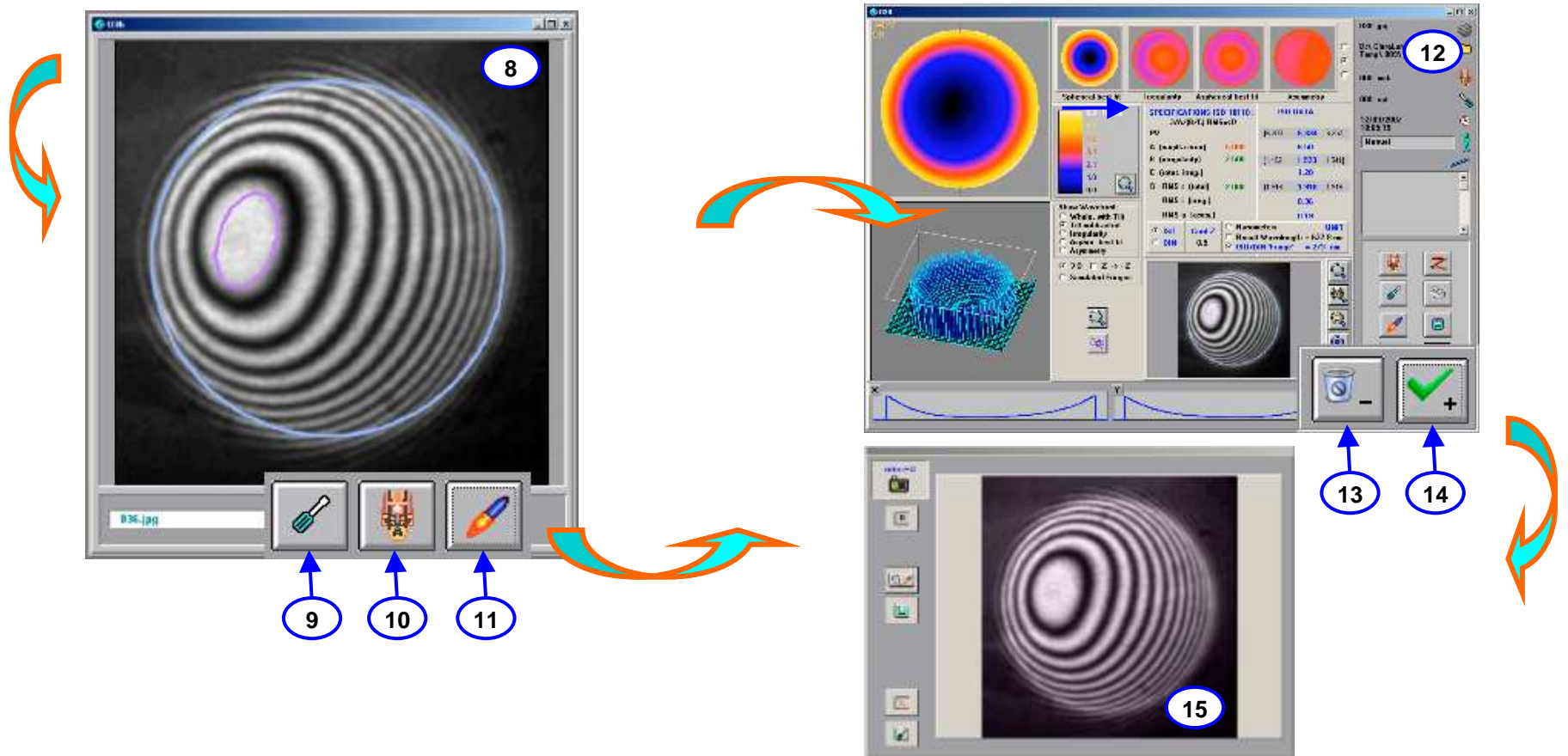
Clicking button (3) or pressing keyboard Space bar will automatically :

- **Open the File Explorer (4)** in the Series folder (5) with the current automatic numbering format (6) and save the new file (7), then close the File Explorer.



10.12 Series of components - Using a Series in Production Mode (2)

- 8 • Then the Project computation window automatically gets open (8)
- 9-10 • The new interferogram is prompted with the Series Mask and Options, which can be modified by clicking buttons (9) or (10).
- 11-12 • Clicking button (11) launches the computation. Eventually the ISO/DIN results window show up (12)
- 13 • Two buttons specific to the Production Mode are shown bottom right of the ISO/DIN results window : "Trash/Minus" button (13) discards the Project from the Series, and deletes the interferogram image, closes the window, then reopens the Video window (15).
- 14-15 • "Tick/Plus" button (14) validates the part, includes its results into the Series data, closes the window, then reopens the Video window (15).

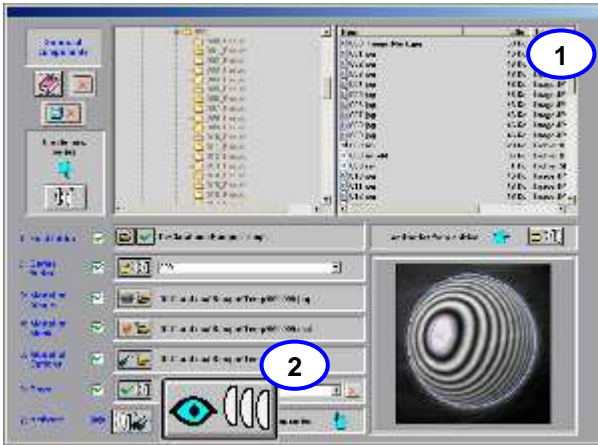


10.13 Series of components - Series Results : seeing statistics, printing, editing.

Showing Series results :

After validating a part, its results is included in the Series result dataset. Open this dataset window by reopening the Series window (1).

If the dataset is not empty, the "See series" button (2) shows up: click it to open the Series dataset window (3)



Part	ISO results (Unit: Nanometers)							DIN results (Unit: Fringe)		
	PV	A [power]	B [avg]	C [azymn]	RMS int	RMS ut	RMS as	DIN in	DIN Dat	DIN F
000	1960	1073	456	305	576	112	75	6.4	1.3	0.92
009	1904	1006	453	313	576	113	75	6.4	1.4	0.95
010	1986	1892	458	317	577	114	75	6.5	1.4	0.97
011	2001	1995	486	369	578	121	74	6.4	1.4	0.77
012	2000	1926	459	335	577	116	75	6.4	1.4	0.91
013	1991	1923	460	335	577	116	75	6.5	1.5	0.94
014	1996	1946	468	342	578	117	74	6.4	1.4	0.85
015	1968	1873	456	305	576	112	75	6.4	1.3	0.91
016	1982	1886	453	313	576	113	75	6.4	1.4	0.94
017	1905	1892	450	317	577	114	75	6.5	1.4	0.97
018	1968	1873	456	305	576	112	75	6.4	1.3	0.91
019	1968	1873	456	305	576	112	75	6.4	1.3	0.91
021	1968	1873	456	305	576	112	75	6.4	1.3	0.91
022	1968	1873	456	305	576	112	75	6.4	1.3	0.91
023	1982	1886	453	313	576	113	75	6.4	1.4	0.94
024	1906	1892	458	317	577	114	75	6.5	1.4	0.97
Average	1974	1911	461	326	577	114	75	6.4	1.4	0.90
Sigma	17.8	34.5	8.3	17.8	0.6	2.6	0.3	0.02	0.05	0.055

- 4 Part name and/or number
- 5 ISO parameters (PV, A, B, C, Rms)
- 6 DIN parameters or Date/User data
- 7 ISO/DIN Specifications
- 8 Average and Standard deviation per column
- 9 Parameter selected by clicking its column
- 10 Histogram and time series per column
- 11 Help
- 12 Quit and discard changes
- 13 Quit and save changes
- 14 Choose unit (nm, λ or fringe)
- 15 16 Show parts control reports (15), or click (16)
- 17 Show graphs (10)
- 18 Print current page
- 19 Print all pages
- 20 Show edit window for results : deleting, writing to/from a file, sorting.

10.14 Series of components - Editing results data

The controls in this panel make it possible to edit the Series Results dataset :

- 1 Select parts one by one by clicking box. Select a sequence (for instance 008...013) by first clicking 008, then press Shift and click 013.
- 2 Help
- 3 Select all pages (i.e. all parts in the dataset, even hidden ones)
- 4 Select current page
- 5 Deselect all pages
- 6 Deselect current page
- 7 Write selection to a file. The prompted folder is the Series folder, but you can browse.
- 8 Read previously saved results from a file. The read data is imported in the list after the last checked box, and at the top of list if none is selected.
- 9 Delete selected (i.e. send it to Series trash bin, which is a ".old" file in the Series folder. Note that it is different from Windows trash)
- 10 Retrieve all data from Series trash bin, with same rule for insertion position than (8).
- 11 Empty Series trash bin. This action cannot be cancelled
- 12 Sort selected data by : Part name or number/Date/User/
PV/A/B/C/Rms t/Rms i/Rms a/Din m/Din Dm/Din F
- 13 Close Edit panel

Series of components

Series = 009 ISO r

	Part	PV	A (power)
<input checked="" type="checkbox"/>	008	1969	1873
<input checked="" type="checkbox"/>	009	1984	1886
<input checked="" type="checkbox"/>	010	1986	1892
<input checked="" type="checkbox"/>	011	2001	1995
<input checked="" type="checkbox"/>	012	2000	1926
<input checked="" type="checkbox"/>	013	1991	1923
<input type="checkbox"/>	014	1996	1946
<input type="checkbox"/>	015	1968	1873
<input type="checkbox"/>	016	1982	1886
<input type="checkbox"/>	017	1985	1892
<input type="checkbox"/>	018	1968	1873
<input type="checkbox"/>	019	1968	1873
<input type="checkbox"/>	021	1968	1873

- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Sort selection by:

- Part
- Date
- User
- PV

- Ascending
- Descending