

User Manual for SKT03 and eFoto2.2 ®

Changing international situations necessitate more control in international movement. One of the elements that boost general safety is the improved security in international transit. One of the elements to ensure general safety is the improved safeguarding against falsification of travel documents. The linking of the person and the document is achieved by means of saving biometrical data, like a photo, on the document. In the biometric passport this photo is not only printed, but also saved in a microchip. This enables a quick check of the document and the person.

In order to process biometrical documents made in different countries, they need to satisfy to general standards. These have been developed by ICAO and accepted as the international standard ISO / IEC 19794-5 first edition on June 15th 2005.

Based on these directions, instructions for photographing have been formulated, that satisfies the ICAO criteria for the taking of biometrical photos of the face, for passports and travel documents supplied by official authorities.

In order to satisfy the needs of photographers, ELFO has developed an all purpose system to take photos for official documents, in particular for biometrical passports.

The eFoto ® application enables:

- Preview of a photo on screen in real time.
- Steering the built-in Canon camera.
- Taking a photograph.
- Saving photos on a hard drive in JPG-format.
- Automatic rotation (eye-line levelling).
- Cropping to standard formats.
- Colour balance correction.
- Editing photos with templates for driving licences, passports, ID-cards.
- The result is always saved on the hard disk in BMP-format.
- Uploading of photos taken by another camera in JPG / JPEG / TIF / TIFF/ BMP format in order to crop and rotate.
- Printing photos: format indication 2 or 4 photos.

Taking photos:

It is advisable to always take photos of a person without glasses.

The eyes should be clearly visible and reflections in glasses have to be avoided.

If, exceptionally, the photo must be taken with glasses, the subject needs to bend down the head slightly (max. 10°, for example looking at the control led under the camera lens).



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1. Mounting

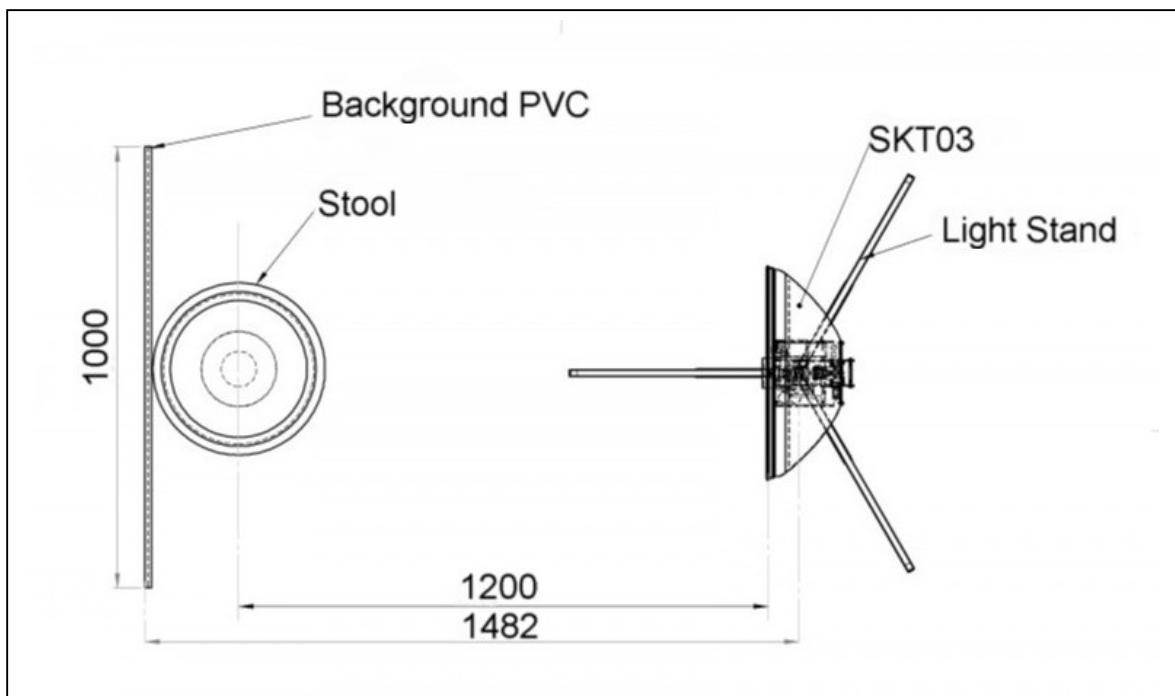
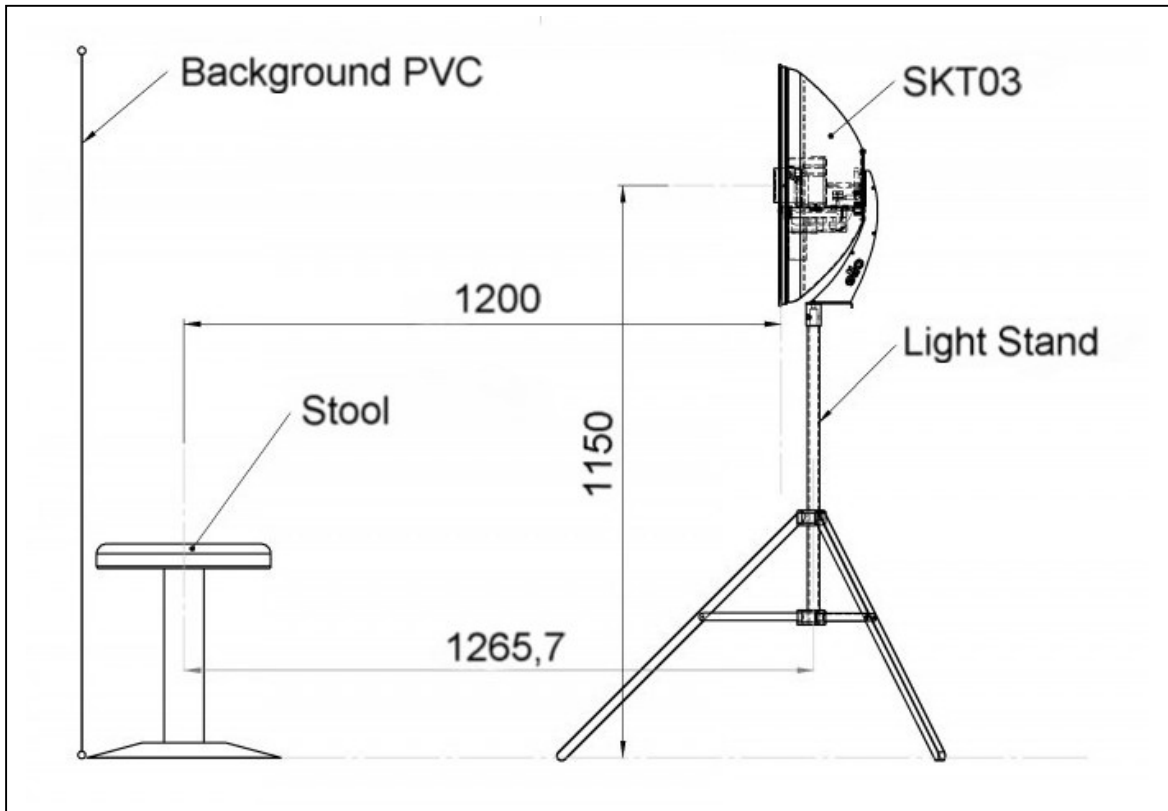
The SKT03 needs to be set up according to the directions on the picture below.

To set the correct illumination, it is important to measure the distance between the face and the white front panel of the SKT03.

A distance of 1,20 m or 1,30 m is advisable (max. 1,70 m).

After starting the program, the distance is shown in the left column on the screen (Fig 4 and 5 - under item 3).

While setting up or changing the distance, you can zoom in or out by turning the lens in front, so the person's face is shown correctly.



2. Starting the program

Check connections of the SKT03 to the electrical power and the PC with the USB cord (Fig 1). Switch of the apparatus on 'I'. A small red control LED beneath the camera lens is highlighted (Fig 2).



Fig 1

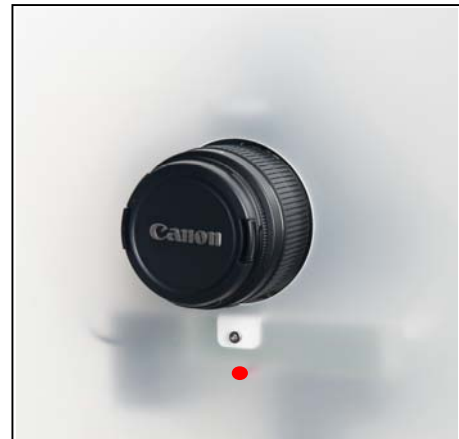


Fig 2

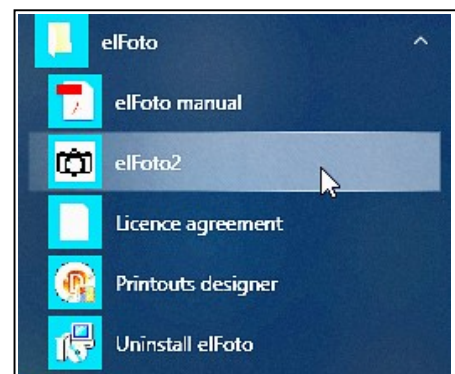


Fig 3

Start the program with:

- "eFoto2" in the Windows Start menu (Fig 3) (Windows button)
- The button on the desktop
- The file "eFoto.exe" (directory C:\elfo\elfoto2.2).

3. Start screen

After starting the eFoto program the screen "Video preview" (Live preview) (Fig 4) is the active on.

- The picture in the middle shows the subject in real time. Its quality depends mostly on the environmental light and the camera and can sometimes not be satisfactorily. The photo itself will be taken with flash light and will not show this flaw.
- The left hand side column on screen shows the distance of the camera to the person (Fig 5).
- The upper right column shows the print options (Fig 6)
- The bottom right column offers a choice between two modes: "Camera control" (Fig 7) and "Photo processing" (Fig 8).

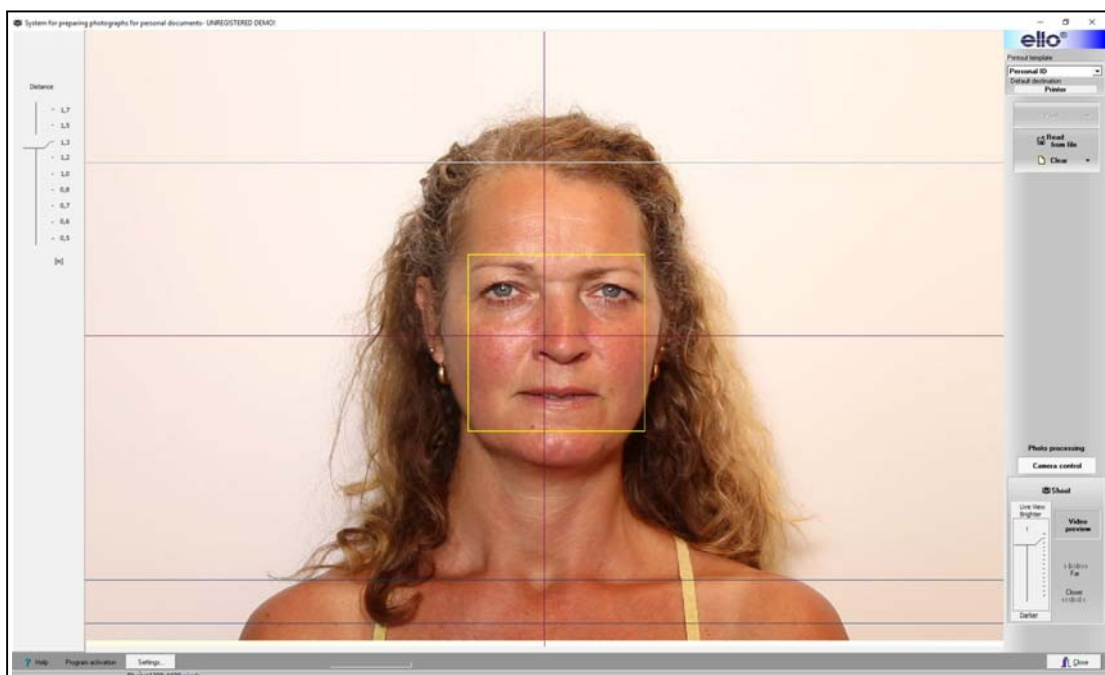


Fig 4

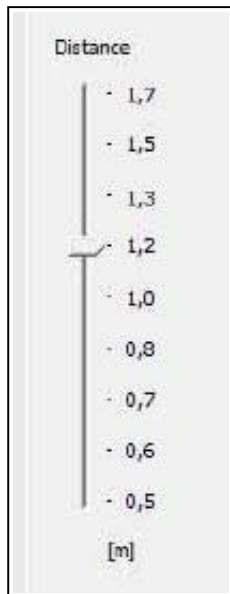


Fig 5



Fig 6



Fig 7

4. Camera control - Taking a picture

Taking pictures with the built-in Canon camera.

The image of the subject on the screen is shown in real time.

While setting up or changing the distance, you can zoom in or out by turning the lens in front, so the person's face is shown correctly.

Available buttons in Camera control (Fig 7):

- "Video preview": Live preview – real time screen view on / off.
- "Far / Closer": Manual focus of the Live preview.
- "Live View Brighter / Darker": Adapt brightness of the Live preview.
- "Shoot": By clicking "Shoot" the program will focus the camera first and then take the picture. The saved picture in the camera memory is automatically sent on to the control computer. The photo is shown on screen. The photo file is saved on the disk in the folder chosen during the installing of the software.

After this the "Photo processing" mode is active (item 5 – Fig 8).

Important: When switching from "Photo processing" to "Camera control" the function Video preview (Live preview) will not be active automatically. Click "Video preview" to activate it.

5. Photo processing

Newly made or saved pictures can be edited by the program (Fig 8).

- On top of the picture appears a template with a frame box to adjust the photo position according to the directives for the format of digital passport pictures.
- The eyes have to be on a horizontally aligned.
- Colour correction is possible for professionals.

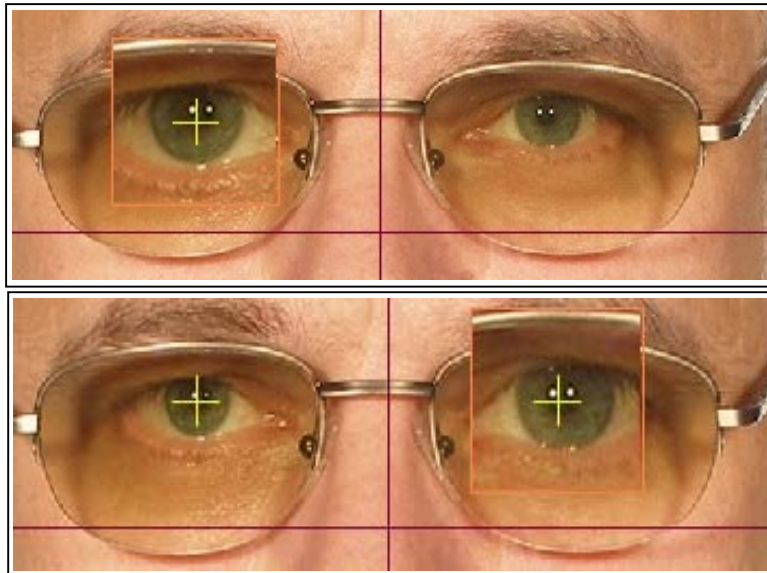


Fig 9

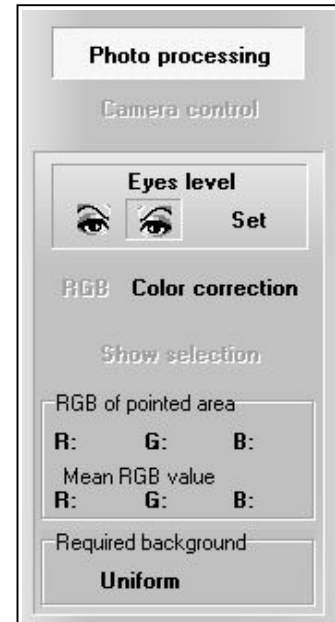


Fig 8

5.1. Aligning the eyes horizontally.

Click left hand side mouse button on the pictogram "Eyes level" (Fig 8) to activate horizontal setting of the eyes.

Click in the pictogram on the icon of the left hand side eye and then on the centre of the left eye pupil on the picture; a magnifying glass enables to adjust the centre of the pupil (Fig 9).

Do the same with the right hand side eye.

After marking both eyes, click the button "Set".

The program automatically adjusts the picture and aligns the eyes horizontally.

5.2. Cropping the picture and adjusting the template

On top of the photo a template with cutting frame is shown to place the photo according to the known guidelines for the format of digital passport pictures.

Choosing template

Under “Printout template” top right of the screen (Fig 4 and 6) a choice can be made between several ready-made templates (vb. Fig 10), with the characteristics and the number of photos to be printed.

The template (Fig 11) appearing on top of the photo enables a fast and perfect way of inserting the photo

The two green frames determine the correct height of the face, from the bottom of the chin to the top of the forehead. Sometimes a hypothetical top of the forehead needs to be applied, because it is partly covered by the hair. The width of the face does not need to fit into the green oval perimeter.



Fig 10

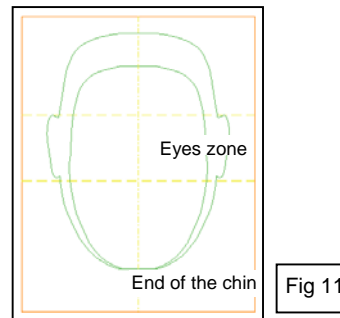


Fig 11

Adjusting the template to the photo (Fig 12 - 13 - 14).

The screen “Video preview” shows a not yet adjusted photo (Fig 12) and an adjusted one (Fig 13).

Place the mouse indicator in the template; by continually pressing the left mouse button the template can be moved in any direction on the face in the picture.

To change the size of the template: put the mouse pointer on one of the corners or the middle of a side line (small squares in the corners and the sides) of the cutting frame of the template. Move them while keeping the left mouse button depressed. This action will change the ratio of the template and of the cutting frame proportionally.

Repeat these displacements until the bottom side of the chin and the top of the forehead are within the boundaries of the template.

Finally: centre the template on the middle of the face by moving it horizontally; the central vertical line of the cutting frame shows the middle (Fig 14).

Click button “Show selection” to show the print representation of the edited photo on the screen (Fig 15). Click again to return to the screen with templates.

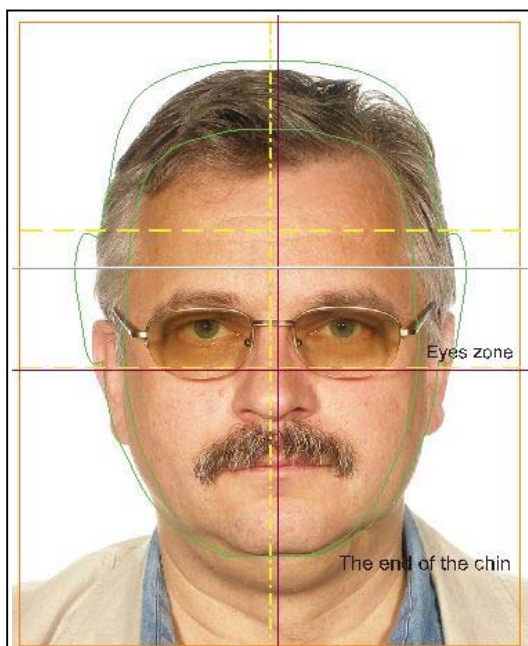


Fig 14

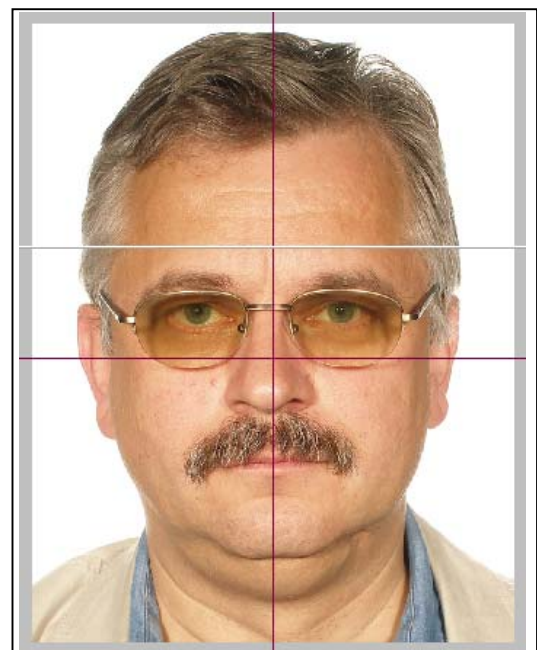


Fig 15

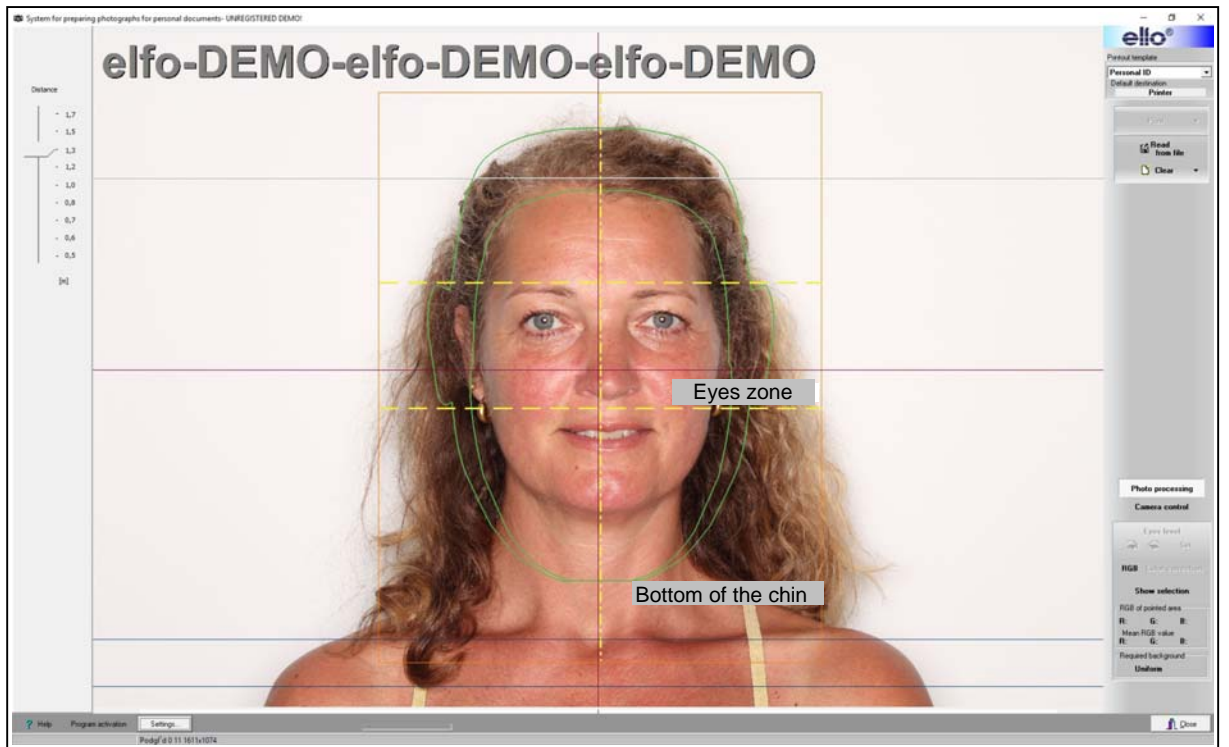


Fig 12

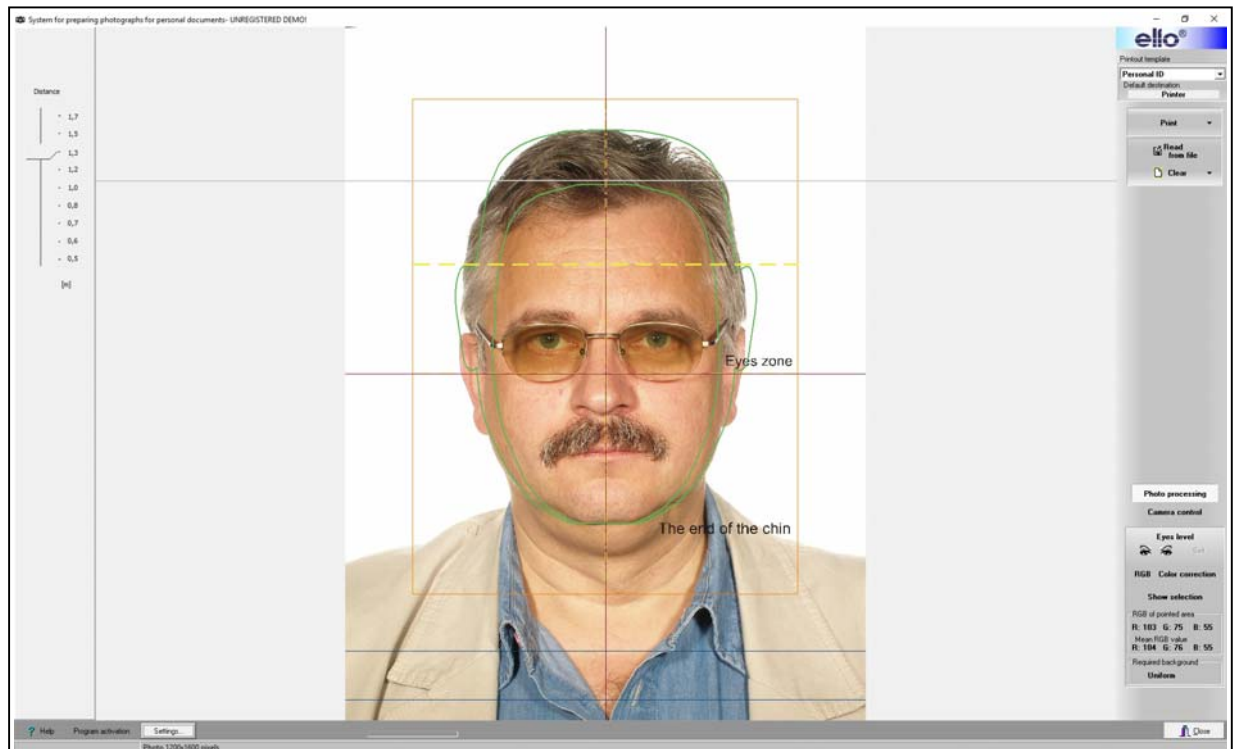


Fig 13

5.3. Colour correction

This option is only meant for experimenting by professionals.

Click on "Color correction" (Fig 8).

A screen appears to adjust the colour balance, luminosity, contrast, saturation and gamma correction. The picture on the left is the original; on the right is the altered image.

This immediately gives a clear view of the influence of the change.

When the selection "RGB" is ticked, the movement of the arrow on the scale will change the 3 colours simultaneously. Example of photo (Fig 16) with changed saturation.

If the selection "RGB" is not ticked, the colours can be adapted separately.

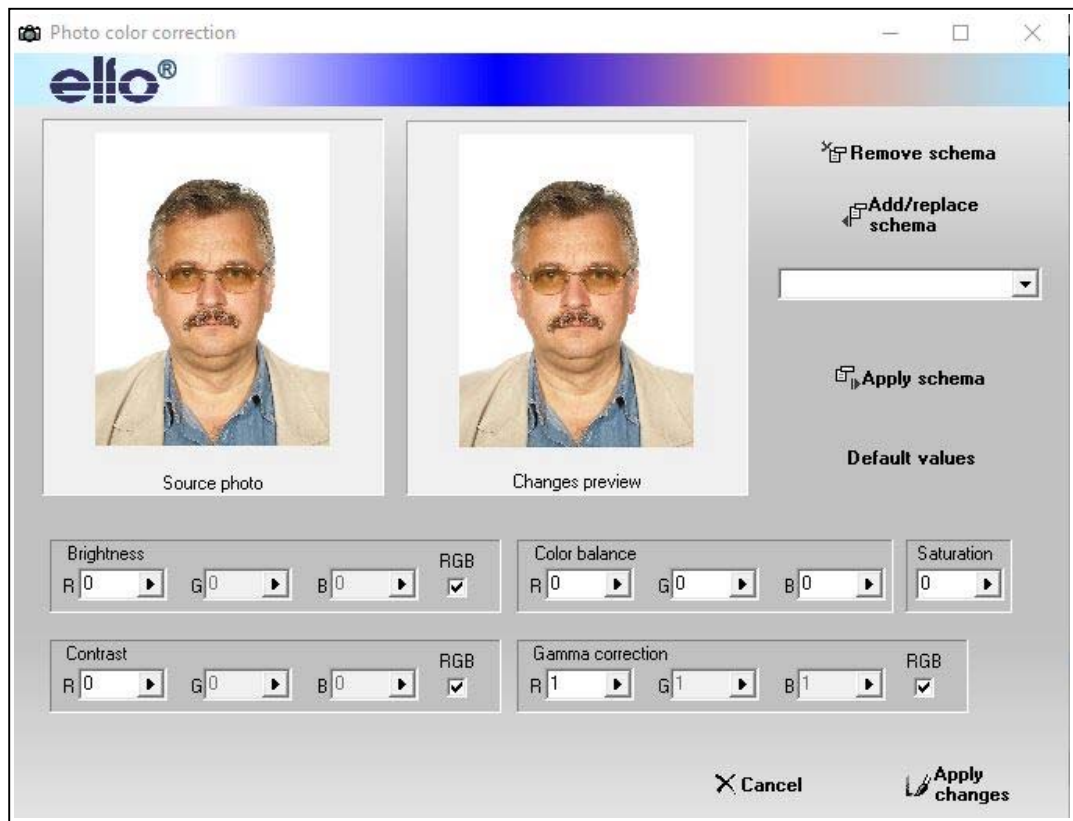


Fig 16

6. Printing and saving of the picture

After a successful setting and cropping of the photo one can proceed to the "Printing".

Choose in "Printout template" (Fig 17) the template with the desired number of photos and press "Print". An example of the print is shown on the screen; clicking the printer symbol switches to the printer screen. If necessary: change the number of prints to your needs and click OK to print.

To save the photo file on the computer: select – right hand side under "Print" – the saving format (f.e. JPEG + 600dpi) (Fig 18). The file is saved in the folder stated when installing the software.



Fig 17

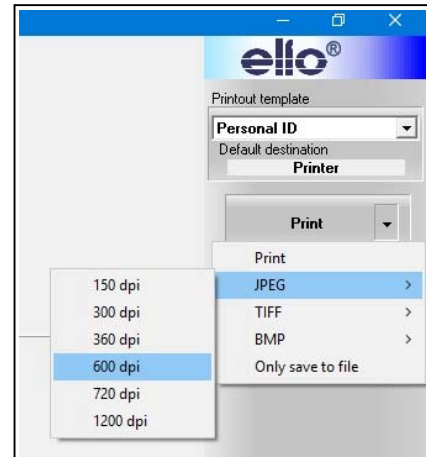


Fig 18

Whatever the format choice of saving the photo file, the cropped image will always be saved in BMP format. This way for each person's picture there will always two photo files available: one in BMP, the other in another file type.

For the printing, the data of the saved photo file are used. An unlimited number of prints can be made. The photos of (Fig 19) show examples of possible printouts.

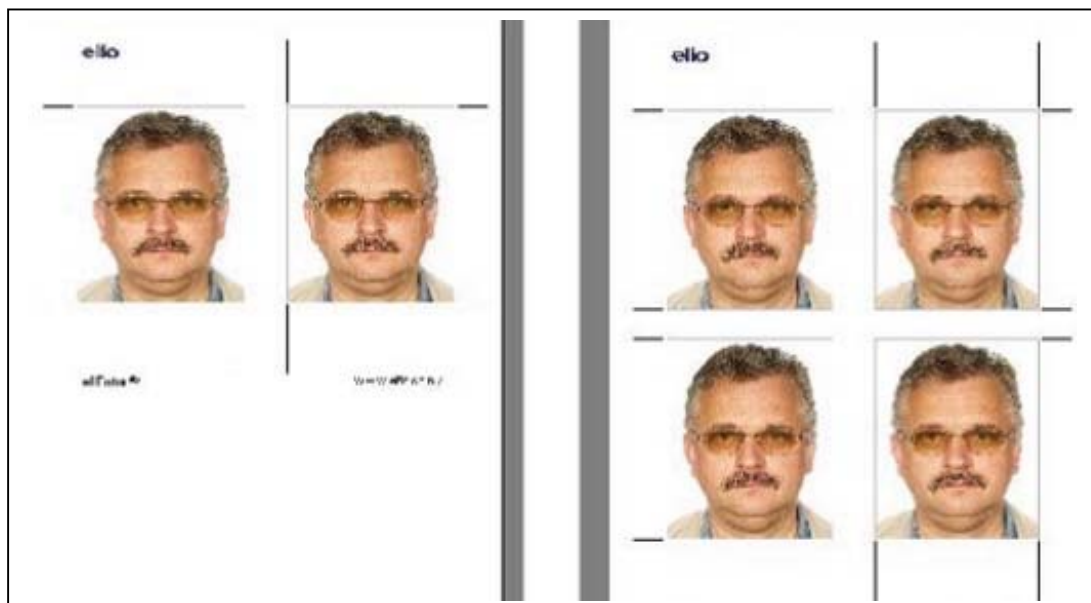


Fig 19

7. Editing existing photos

Cropping, rotating and colour correction is also possible for photos not taken by the SKT03 application. It allows changing and preparing for printing each photo taken by any camera.

Press button “Read from file” (Fig 6) and a screen like the one under this text appears (Fig 20)

- The left hand side shows the disk catalogue.
- The central area shows the files.
- The upper right corner displays a preview of the selected photo.
- Control buttons under the photo allow rotating it.
- Press “Load” when the photo is vertically set.

The “Photo processing” screen is shown and the uploaded picture can be edited further for the horizontal setting of the eyes, cropping, colour correction and printing like described before (items 5 and 6).



Fig 20