

## faceSCAN-II THE 3<sup>rd</sup> DIMENSION IN PORTRAIT PHOTOGRAPHY

### -glass

Optical measurement techniques for precise 3-dimensional digitization of objects have been successfully used in almost all technical areas for 15 years. Based on our know-how in these HighEnd applications we have developed a system, which is designed for the special requirements in capturing the 3D information of a human face.

#### The optimal system for sub-surface laser engraving in glass

With the **faceSCAN-II-glass** we introduced the 3rd dimension to the portrait photography. The face is scanned within less than a second, using a white-light projection technique. The generated 3D data can be used to laser the portrait into a glass cube.

#### functional design

- ❑ integrated controller for easy wiring between PC and scanner
- ❑ robust construction, such as protected lenses
- ❑ many useful details like an integrated mirror to control the facial expression or integrated carrying handles and feet

#### high system performance

intuitive and easy-to-use software, especially optimized for sub-surface engraving in glass:

- ❑ high quality dithering technique, automated hole filling algorithms, formatting of the data to glass cubes of different sizes
- ❑ fast synchronous data acquisition, in 0.9 seconds
- ❑ addition of 3D-letters, logos, 2D-images

#### compatible with all leading laser engraving systems



faceSCAN-II, new design



Sub-surface laser engraving in glass



3D color scan



Scanner, stand, flight case

## faceSCAN-II-HE

#### The HighEnd system for advanced applications

high resolution camera system with 2 cameras,  
1280 x 1024 pixel each

#### alignment of different views

- ❑ the merging of different scans allows the creation of "all around" models

#### comparison of different views

- ❑ the comparison of different views allows studies of facial expressions
- ❑ documentation in plastic surgery

#### easy calibration and re-calibration

Technical details on request

## faceSCAN-II IN-VIVO 3D-DIGITIZATION SYSTEM

### -glass

#### Technical Data

##### Sensor

Projection unit	Miniaturized projection technique
Light source	100 W halogen
Imaging	2 Digital cameras, IEEE 1394-Interface
Digitizing	640 x 480
Operating distance	approx. 1 m
Acquisition time	0.9 sec
Measurement field size	600 x 460 mm, 170°
Depth of measuring vol.	340 mm
Point spacing	0.9 mm
X, Y-resolution	300 µm
Feature accuracy	+/- 200 µm

##### Image processing

Recommended Host PC	Intel Pentium IV, at least 2 GHz, at least 512 MB RAM, at least 40 GB, IEEE-1394-Interface (FireWire®)
Operating system	Windows 2000, XP
Measurement software	OPTOCAT for Windows
Data interface	several formats for point clouds and triangular meshes
Number of scan points	Up to 300.000

##### Options

Software option	Creating of 3D screensaver
Accessories	Motorized stand Flight case Scan cabin
Special equipment	Color configuration

All sensors of the faceSCAN-II system use our proven miniaturized projection technique. This allows a very rapid recording of the measured data in only one second. faceSCAN-II systems are therefore not very sensitive to movements of the person to be measured and allow recording of facial expressions in a more natural state.

Due to the fast scanning sequence and the sophisticated software, which preprocesses the data very quickly, up to **100 glass cubes per day** can be produced.

The digital cameras employed are available with the standard resolution, 640 x 480 pixel, as well as in the high resolution version, 1280 x 1024 pixel, which can record even the smallest of facial details.

For a 360 degree scan of the face, the faceSCAN-II system can be equipped with 2, or optionally 3 sensors, such that a complete image of the head can be measured, without moving the sensors.



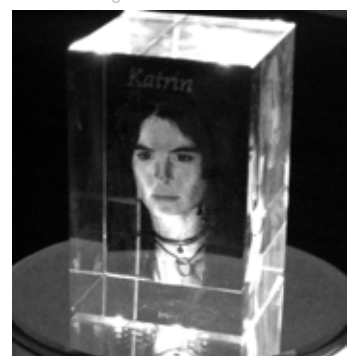
Imaging



Calculation of 3D data



3D Modeling



sub-surface laser engraving in glass

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