

STEREO/3D SCANNER FOR USE IN ART AND MUSEUMS

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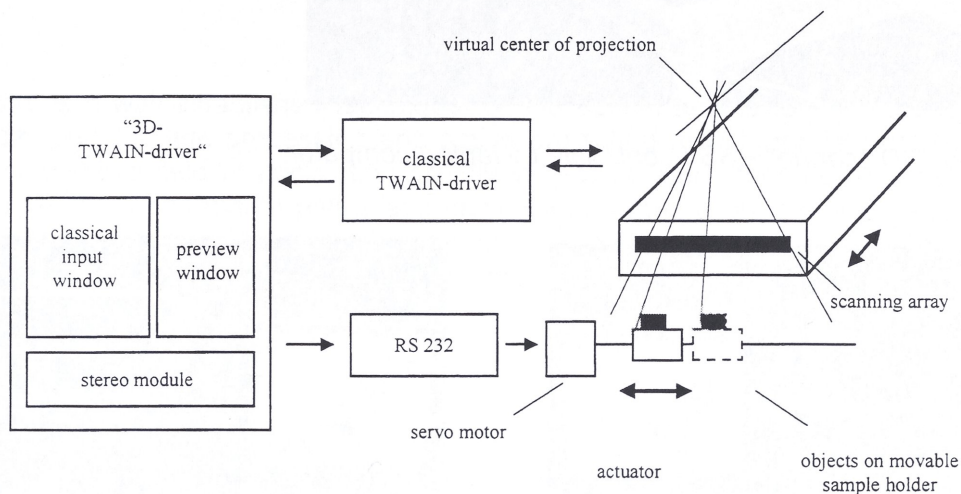


Fig. 1 Principle of stereo/3D scanner

The prototype of a stereo/3D scanner based on the flatbed principle [1] is presented (fig. 1, fig. 2). Due to the non parallel optics of modern flatbed scanners, objects can be scanned with slightly different viewing angles, when placed at different lateral positions (fig. 3). In the prototype RSS I, shown at the exhibition, the scanning unit of a conventional flatbed scanner is placed in top down orientation above an actuator allowing for an automatic scanning at different lateral positions. This patented 3D scanner gives very good stereo / multiview pictures of small, especially flat objects. There is a large variety of possible applications in industry [2] and multimedia [3]. Directors of Museums and Galleries, goldsmiths, jewelers and all other curious visitors are invited to bring small, precious objects to the exhibition to be scanned stereoscopically. Using 3D glasses the visitors can convince themselves of the high quality of the pictures. Those missing the exhibition are invited to come for a presentation to the office at the science and industry park WISTA in the south-east of Berlin. The Company STEREOSCOPIC SCANNING offers a professional stereo/3D scanning service – please call for more details!

- [1] R. Schubert, Höhen und Tiefen, Stereoskopische Aufnahmen mit Flachbettscannern, c't 18/98, August/31/1998
- [2] R. Schubert, Stereoscopic Scanner in Quality Control, QCAV'99, Trois-Rivières, Québec, Canada, May 1999
- [3] R. Schubert, Neues stereoskopisches Aufnahmeverfahren für Bilder und Relief mittels Flachbettscanner, EVA98, Berlin

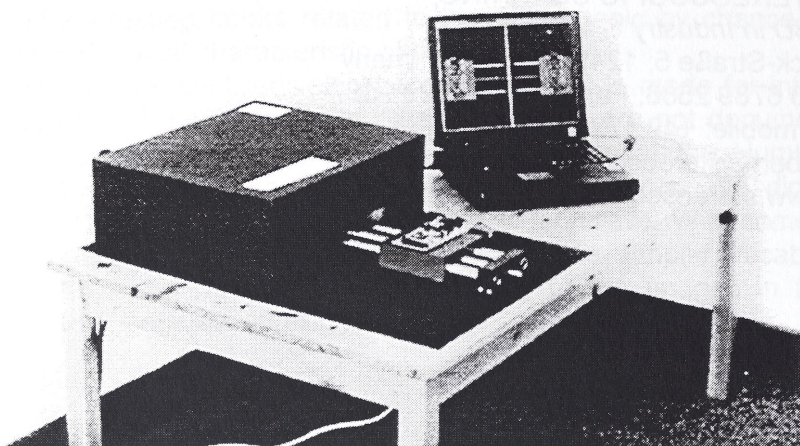


Fig. 2 Stereo / 3D scanner RSS I controlled by laptop computer.

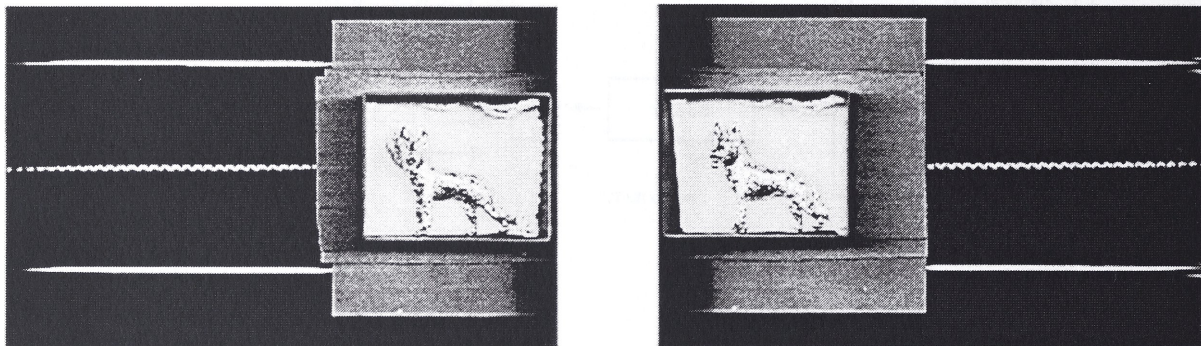


Fig. 3 For stereoscopic scanning the objects are placed automatically at different lateral positions.

RSS I – Prototype Stereo/3D scanner

principle: flatbed scanning with automatic lateral displacement
 depth of field: 5 cm
 object size: 18.5 cm x 29.7 cm (= DIN A4 minus minimum displacement distance of ca. 2.5 cm)
 resolution: 600 dpi x 1200 dpi in focus plane;
 for practical operation 300 dpi x 300 dpi recommended
 control unit: PC / laptop computer; Win 98/NT 40
 interface: SCSI (scanning unit); RS 232 (actuator)
 actuator: servo motor 70 W, step = 5 accuracy = 30 ; span = 45 cm
 output: all commonly used picture formats (tif, jpg, gif, png,)

keywords:

3D scanner, lenticular prints, 3D glasses, quality control, 3D picture reconstruction, stereoscopy, multimedia