

White-Light Single-Shot Holographic Recorder (BGN)

[Joseph Rosen](#), Department of Electrical and Computer Engineering, Ben-Gurion University, Beer-Sheva, Israel
Natan Tzvi Shaked

The holographic recorder is an advanced solution that facilitates the capture and processing of images under regular lighting conditions to produce realistic three-dimensional (3-D) objects.

Goals and Benefits

To the human eye, a hologram produces an authentic 3-D reconstruction, exhibiting accurate depth cues and requiring no additional viewing devices.

Holograms enable the efficient and highly dense storage of 3-D information.

The proposed device supports the single shot recording of a hologram using a digital camera, under regular, incoherent white-light conditions, and with no special stability requirements, overcoming the constraints imposed by the conventional hologram recording process.

Potential Commercial Uses and Market

A wide variety of applications including, among others, 3-D medical imaging (including endoscopy), microscopy, astronomy, and 3-D videos for entertainment purposes.

Development Stage and Development Status Summary

A prototype has been designed on an optical table.

Development plan

Optimize structure parameters of the microlens array and of the digital camera


Integrate the microlens array into the digital camera

Optimize the digital process and incorporate it inside the digital camera

Patent Status

Patent pending.

Contact for more information:

[Zafir Levi](#) , VP Business Development Engineering,

BGN Technologies Ltd. - Technology Transfer Company of Ben-Gurion University, POB 653, Beer-Sheva, 84105, Israel. Tel: +972-8-6236949 Fax: +972-8-627-6420