

# Electronic Holography: The Newest

[Mark Lucente](#), Stephen A. Benton, Pierre St.-Hilaire  
Spatial Imaging Group, Media Laboratory  
Massachusetts Institute of Technology  
20 Ames Street, Room E15-416  
Cambridge, MA 02139, USA

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NB: This is an HTML version of this paper. Figures, equations and algebraic variables are not quite finished, so some imagination is required by the reader. A [PostScript version of this paper](#) is also available.

## Abstract

Electro-holography, invented at the MIT Media Laboratory Spatial Imaging Group only five years ago, is a truly three-dimensional real-time digital imaging medium. Recent work in electro-holography or "holovideo" demonstrates that the two crucial technologies - computation and optical modulation - can be scaled up to produce larger, interactive, color holographic images. Synthetic images and images based on real-world scenes are quickly converted into holographic fringe patterns using newly developed "diffraction-specific" computational algorithms. To diffract light to form an image in real time, the display employs a scanned, time-multiplexed acousto-optic modulator, and utilizes parallelism at all stages. Holovideo has numerous potential applications in the fields of visualization, entertainment, and information.

## Introduction

<http://xenia.media.mit.edu/~lucente/pubs/3d94.html>