

**Department of Electrical and Computer Engineering**  
**University of Rochester, Rochester, NY**  
**Ph.D. Public Defense**

**Friday, October 3, 2014**  
**11:00 AM**  
**Computer Studies Building 426**

**Theory, Modeling and Design of the Indirect-Feedback Sigma-delta  
Image Sensor System**

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Supervised by  
Professor Mark Bocko

**Abstract**

This thesis mainly focuses on the theory, modeling and design of the indirect-feedback sigma-delta image sensor and its related system design. An indirect-feedback readout architecture where the digital output of the modulator is accumulated by a digital sigma-delta modulator is proposed. The proposed architecture is designed to be compatible with the current technology. The proposed architecture is designed to be compatible with the current technology. The proposed architecture is designed to be compatible with the current technology.