

1. Record Nr.	UNINA9910830979503321
Autore	Brennesholtz Matthew S
Titolo	Projection displays [[electronic resource] /] / by Matthew S. Brennesholtz, Edward H. Stupp
Pubbl/distr/stampa	Hoboken, NJ, : J. Wiley and Sons, 2008
ISBN	1-281-84102-1 9786611841027 0-470-77089-9 0-470-77091-0
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (454 p.)
Collana	Wiley series in display technology
Altri autori (Persone)	StuppEdward H
Disciplina	621.39/87 621.3987 621.399
Soggetti	Information display systems Liquid crystal displays Projectors
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Projection Displays; Contents; Foreword; Preface to the Second Edition; About the Authors; 1 Introduction; 1.1 Overview of Projection Displays; 1.2 Book Organization; 1.3 What is not Covered; 2 Markets and Applications; 2.1 Overview; 2.1.1 Microdisplays, Light Valves and Light Amplifiers; 2.1.2 Emissive Systems; 2.1.3 Laser-based Projection Technology; 2.2 Applications and Performance Requirements; 2.2.1 Differentiators among Projectors; 2.2.2 Requisite Luminance Levels; 2.2.2.1 Flux requirement for presentation and auditorium applications; 2.2.3 Resolution; 2.2.4 Electronic Cinema 3 Emissive Image Sources3.1 Projection CRTs; 3.1.1 Luminous Output of Projection CRTs; 3.1.2 Phosphors; 3.1.3 Resolution of Projection CRTs; 3.1.4 Spot Size of Beam; 3.1.5 Light Collection/Curvature; 3.2 Field-emission Devices; 4 Liquid Crystal Light Valves and Microdisplays; 4.1 Active Matrices; 4.1.1 Operation of Active-matrix Circuits; 4.1.1.1 Effects of leakage; 4.1.1.2 Charging currents; 4.1.2 Technologies; 4.1.2.1 -Si TFTs; 4.1.2.2 Poly-Si TFTs; 4.1.2.3 Crystalline silicon

active matrices; 4.1.2.4 Active matrices based on two terminal devices;
4.2 Liquid Crystal Effects
4.2.1 Liquid Crystal Cells 4.2.2 Nematic Cells; 4.2.2.1 Parallel aligned layer cells; 4.2.2.2 Twisted nematic cells; 4.2.3 Polymer-dispersed Liquid Crystal (PDLC); 4.2.4 Other Liquid Crystal Effects; 4.2.5 Liquid Crystal Effects for Reflective Microdisplays; 4.2.6 Liquid Crystal Inversion; 5 Micro-electromechanical Devices; 5.1 DMD; 5.1.1 Device Operation; 5.1.2 Gray Scale; 5.1.3 Contrast and DLP Pixel Design; 5.2 Linear MEMS Arrays; 5.2.1 Grating Light Valve; 5.2.2 GEMS System; 5.3 MEMS Scanning Mirrors; 6 Filters, Integrators and Polarization Components
6.1 Factors affecting Projector Optical Performance 6.2 Component Efficiency; 6.3 Spectral Filters; 6.3.1 Fresnel Reflection at Optical Surfaces; 6.3.2 Dichroic Filters; 6.3.2.1 Dichroic filters at non-normal incidence; 6.3.2.2 Dichroic filters in polarized light; 6.3.2.3 Dichroic filters in the imaging path; 6.3.2.4 Anti-reflection coatings; 6.3.3 Absorptive Filters; 6.3.4 Electrically Tunable Color Filters; 6.3.5 Mirrors; 6.3.6 Total Internal Reflection; 6.3.6.1 TIR prisms for angular separation; 6.3.7 Filters for UV Control; 6.3.8 Filters for IR Control 6.3.9 Indium-Tin Oxide and Other Transparent Electrodes 6.4 Integrators; 6.4.1 Lenslet Integrators; 6.4.2 Rod Integrators; 6.4.3 Integrators for Projectors with Laser or LED Illumination; 6.4.4 Other Integrator Types; 6.4.5 Light Guides; 6.5 Polarization Components; 6.5.1 Absorptive Polarizers; 6.5.2 Reflective Polarizer Technology; 6.5.2.1 Brewster angle reflection; (a) Brewster plate; (b) MacNeille polarizing prisms; 6.5.2.2 Birefringent multilayer reflective polarizer; 6.5.2.3 Bertrand-Feussner prism; 6.5.2.4 Wire grid polarizers; 6.5.2.5 Other reflective polarizers
6.5.3 Polarization Conversion Systems

Sommario/riassunto

Projection is a technology for generating large, high resolution images at a price point end users can afford. This allows it to be used in a wide variety of large-screen markets such as television and cinema. In addition, there are emerging small screen markets where a pocketable miniaturized projector can display images from mobile information devices such as smart phones or portable media players. Fully revised, this second edition of Projection Displays provides up-to-date coverage of the optical and mechanical systems in electronic projection displays. It takes into accou
