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Nota di contenuto	Preface -- About the Author -- 1 Introduction -- 1.1 Overview -- 1.2 Background -- 1.2.1 Adoption of 3DTV in the Marketplace -- 1.2.2 Opportunities and Challenges for 3DTV -- 1.3 Course of Investigation -- References -- Appendix A1: Some Recent Industry Events Related to 3DTV -- 2 3DV and 3DTV Principles -- 2.1 Human Visual System -- 2.1.1 Depth/Binocular Cues -- 2.1.2 Accommodation -- 2.1.3 Parallax -- 2.2 3DV/3DTV Stereoscopic Principles -- 2.3 Autostereographic Approaches -- References -- 3 3DTV/3DV Encoding Approaches -- 3.1 3D Mastering Methods -- 3.1.1 Frame Mastering for Conventional Stereo Video (CSV) -- 3.1.2 Compression for Conventional Stereo Video (CSV) -- 3.2 More Advanced Methods -- 3.2.1 Video Plus Depth (V + D) -- 3.2.2 Multi-View Video Plus Depth (MV + D) -- 3.2.3 Layered Depth Video (LDV) -- 3.3 Short-term Approach for Signal Representation and Compression -- 3.4 Displays -- References -- Appendix A3: Color Encoding -- Appendix B3: Additional Details on Video Encoding Standards -- B3.1 Multiple-View Video Coding (MVC) -- B3.2 Scalable Video Coding (SVC) -- B3.3 Conclusion -- 4 3DTV/3DV Transmission

Approaches and Satellite Delivery -- 4.1 Overview of Basic Transport Approaches -- 4.2 DVB -- 4.3 DVB-H -- References -- Appendix A4: Brief Overview of MPEG Multiplexing and DVB Support -- A4.1 Packetized Elementary Stream (PES) Packets and Transport Stream (TS) Unit(s) -- A4.2 DVB (Digital Video Broadcasting)-Based Transport in Packet Networks -- A4.3 MPEG-4 and/or Other Data Support -- 5 3DTV/3DV IPTV Transmission Approaches -- 5.1 IPTV Concepts -- 5.1.1 Multicast Operation -- 5.1.2 Backbone -- 5.1.3 Access -- 5.2 IPv6 Concepts -- References -- Appendix A5: IPv6 Basics -- A5.1 IPv6 Overview -- A5.2 Advocacy for IPv6 Deployment-Example -- 6 3DTV Standardization and Related Activities -- 6.1 Moving Picture Experts Group (MPEG) -- 6.1.1 Overview -- 6.1.2 Completed Work -- 6.1.3 New Initiatives -- 6.2 MPEG Industry Forum (MPEGIF) -- 6.3 Society of Motion Picture and Television Engineers (SMPTE) 3D Home Entertainment Task Force. 6.4 Rapporteur Group On 3DTV of ITU-R Study Group 6 -- 6.5 TM-3D-SM Group of Digital Video Broadcast (DVB) -- 6.6 Consumer Electronics Association (CEA) -- 6.7 HDMI Licensing, LLC -- 6.8 Blu-ray Disc Association (BDA) -- 6.9 Other Advocacy Entities -- 6.9.1 3D@Home Consortium -- 6.9.2 3D Consortium (3DC) -- 6.9.3 European Information Society Technologies (IST) Project "Advanced Three-Dimensional Television System Technologies" (ATTEST) -- 6.9.4 3D4YOU -- 6.9.5 3DPHONE -- References -- Glossary -- Index.

Sommario/riassunto

The First to Present 3D Technology as Applied to Commercial Programming for the Consumer This is the first book to provide an overview of the technologies, standards, and infrastructure required to support the rollout of commercial real-time 3 Dimension Television/3 Dimension Video (3DTV/3DV) services. It reviews the required standards and technologies that have emerged-or are just emerging-in support of such new services, with a focus on encoding mechanisms formats and the buildout of the transport infrastructure. While there is a lot of academic interest in various intrinsic aspects of 3DTV, service providers and consumers ultimately tend to take a system-level view. 3DTV stakeholders need to consider the overall architectural system-level view of what it will take to deploy an infrastructure that is able to reliably and cost-effectively deliver a commercial-grade quality bundle of multiple 3DTV content channels to paying customers with high expectations. This text, therefore, takes such a system-level view, revealing how to actually deploy the technology. Presented in a self-contained, tutorial fashion, the book begins with a review of 3DTV in the marketplace and the opportunities and challenges therein. Recent industry events related to 3D are also discussed. From there, the fundamental visual concepts supporting stereographic perception of 3DTV/3DV are explained, as are encoding approaches. Readers will understand frame mastering and compression for conventional stereo video (CSV) and more advanced methods such as video plus depth (V+D), multi-view video plus depth (MV+D), and layered depth video (LDV). Next, the elements of an end-to-end 3DTV system are covered from a satellite delivery perspective, with explanations of digital video broadcasting (DVB) and DVB-handheld. Transmission technologies are assessed for terrestrial and IPTV-based architecture; IPv6 is reviewed in detail. Finally, the book presents 3DTV/3DV standardization and related activities, which are critical to any type of broad deployment. System planners, the broadcast TV industry, satellite operators, Internet service providers, terrestrial telecommunication carriers, content developers, design engineers, venture capitalists, and students and professors are among those stakeholders in these services, and who will rely on this volume to discover the latest 3D advances, market

opportunities, and competing technologies.
