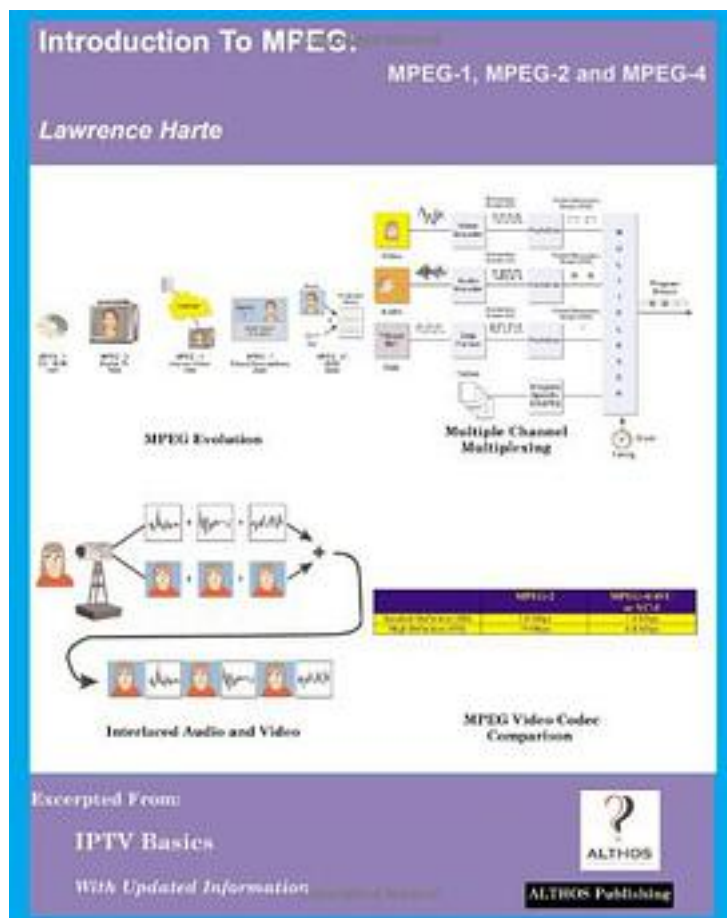# Introduction to MPEG; MPEG-1, MPEG-2 and MPEG-4

[Introduction to MPEG; MPEG-1, MPEG-2 and MPEG-4_下载链接1_](#)

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This book explains the fundamentals of how MPEG works and how MPEG is used in cable television, satellite systems, mobile telecom and Internet television systems. You

will discover the basics of audio and video digitization and compression and the standard formats that are used in MPEG files. Introduction to MPEG explains the processes that control media flow and timing synchronization along with how MPEG transmission can monitor and control audio and video quality. You will discover about video compression, streaming services and media control protocols. MPEG has the capability of providing multiple media channels including data channels that can provide media information such as play list titles, artists and media descriptions. You will learn how these channels are combined and time synchronized along with how to manage quality of service (QoS). You will learn how MPEG audio coders can range from low complexity (layer 1) to high complexity (layer 3) including a new AAC that has improved compression performance than MP3. MPEG video coders range from simple digital video compression technologies used in MPEG-1 to complex multi-object compression used in MPEG-4. Various compression technologies such as motion estimation and compression scalability are described. Discover how the MPEG system groups image elements (pixels) within each image (frame) into small blocks, which are grouped into macroblocks. Macroblocks can be combined into slices and each image may contain several slices. Learn how slices make up frames, which come in several different types and how different types of frames can be combined into a group of pictures (GOP). Explanations of how MPEG transmission can combine, sendand manage the transmission of multiple forms of information (multimedia) is also provided. You will learn that MPEG systems are composed of various types of streams ranging from the basic raw data stream (elementary streams) to stream that contain a single television video (a program stream) or a stream that combines multiple programs (transport streams). The different frame types including independent reference frames (I-frames), predicted frames (P-frames), bi-directionally predicted frames (B-Frames) and DC frames (basic block reference levels) are described. Learn how MPEG transmission systems regularly broadcast tables that describe programs, program components or other information that is related to the delivery and decoding of programs. Discover how MPEG standards use profiles to define required protocols and actions that enable the providing of features and services for particular MPEG applications. These applications range from providing standard television services over a broadcast system to providing video services on a mobile wireless network. Some of the most important topics featured are: .How MPEG Works .Audio Compression .Video Compression .Digital Quantization .Transmission Formats .Media Streams .Frame Types .Program Tables .Channel Multiplexing .Profiles and Levels

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