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Nota di contenuto	H.264 and MPEG-4 Video Compression; Contents; About the Author; Foreword; Preface; Glossary; 1 Introduction; 1.1 The Scene; 1.2 Video Compression; 1.3 MPEG-4 and H.264; 1.4 This Book; 1.5 References; 2 Video Formats and Quality; 2.1 Introduction; 2.2 Natural Video Scenes; 2.3 Capture; 2.3.1 Spatial Sampling; 2.3.2 Temporal Sampling; 2.3.3 Frames and Fields; 2.4 Colour Spaces; 2.4.1 RGB; 2.4.2 YCbCr; 2.4.3 YCbCr Sampling Formats; 2.5 Video Formats; 2.6 Quality; 2.6.1 Subjective Quality Measurement; 2.6.2 Objective Quality Measurement; 2.7 Conclusions; 2.8 References; 3 Video Coding Concepts 3.1 Introduction 3.2 Video CODEC; 3.3 Temporal Model; 3.3.1 Prediction from the Previous Video Frame; 3.3.2 Changes due to Motion; 3.3.3 Block-based Motion Estimation and Compensation; 3.3.4 Motion Compensated Prediction of a Macroblock; 3.3.5 Motion Compensation Block Size; 3.3.6 Sub-pixel Motion Compensation; 3.3.7

Region-based Motion Compensation; 3.4 Image model; 3.4.1 Predictive Image Coding; 3.4.2 Transform Coding; 3.4.3 Quantisation; 3.4.4 Reordering and Zero Encoding; 3.5 Entropy Coder; 3.5.1 Predictive Coding; 3.5.2 Variable-length Coding; 3.5.3 Arithmetic Coding  
3.6 The Hybrid DPCM/DCT Video CODEC Model  
3.7 Conclusions; 3.8 References; 4 The MPEG-4 and H.264 Standards; 4.1 Introduction; 4.2 Developing the Standards; 4.2.1 ISO MPEG; 4.2.2 ITU-T VCEG; 4.2.3 JVT; 4.2.4 Development History; 4.2.5 Deciding the Content of the Standards; 4.3 Using the Standards; 4.3.1 What the Standards Cover; 4.3.2 Decoding the Standards; 4.3.3 Conforming to the Standards; 4.4 Overview of MPEG-4 Visual/Part 2; 4.5 Overview of H.264 / MPEG-4 Part 10; 4.6 Comparison of MPEG-4 Visual and H.264; 4.7 Related Standards; 4.7.1 JPEG and JPEG2000; 4.7.2 MPEG-1 and MPEG-2  
4.7.3 H.261 and H.263  
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6.1 Introduction

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## Sommario/riassunto

Following on from the successful MPEG-2 standard, MPEG-4 Visual is enabling a new wave of multimedia applications from Internet video streaming to mobile video conferencing. The new H.264 'Advanced Video Coding' standard promises impressive compression performance and is gaining support from developers and manufacturers. The first book to cover H.264 in technical detail, this unique resource takes an application-based approach to the two standards and the coding concepts that underpin them. Presents a practical, step-by-step, guide to the MPEG-4 Visual and H.264 standards for video com

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