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(of six chapters)

DIGITAL TELEVISION BROADCASTING:
Perspectives on the Future

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CHAPTER ONE

INTRODUCTION

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1.1 Introduction

Today the international broadcasting community is on the verge of a revolution in television content creation and transmission, brought about by a range of stunning digital technologies. Digital television, High Definition Television, 24p High Definition production, as well as Interactive TV are all technologies that will have far reaching consequences for the television industry, affecting program producers, broadcasting entities, advertisers, electronics manufacturers, as well as television viewers. It is a technological environment complicated by legacy issues, competing acquisition and transmission formats, revolutionary new methods of content creation and delivery, as well as a whole host of emerging content consumption structures that threaten the established order of television communication.

The situation is further complicated by differing approaches to digital television implementation in different parts of the world, with Europe and the United States charting their own digital directions, developing their own niches of expertise, while also exposing themselves to a range of unique creative and commercial risks. Surrounded by rapid technological change, untried business models, and uncertain viewer expectations, countries such as Australia attempt to navigate their own course in what is fundamentally uncharted territory. It is also an environment that is politically charged, with a range of media interests, both established and aspiring broadcasters, staking out their territory in the early days of the digital television landscape. It is within these difficult technological, commercial, and political parameters that content program creators must now operate - creating content for today as well as for tomorrow.

1.2 Scope

While there are a range of existing and emerging digital video applications on other platforms, such as Internet video and DVD package media, the scope of the paper is primarily limited to broadcast quality television, including terrestrial, cable and satellite. DVD, although of broadcast quality, is not a broadcast medium, while television content on the Internet is neither broadcast quality, nor has it been perfected as a mass television delivery format. It is not the intention of the author to delve into the technical intricacies of the cable and satellite systems, as they are only included within this paper on the basis that have become surrogate terrestrial broadcasting platforms, especially in the United States and Europe. Moreover, the focus of the paper is on how the disparate digital television technologies impact on content creation and delivery; discussion of technology is limited to providing the reader with sufficient information to follow the overall content of the paper.

1.3 Overview

Chapter Two of the paper will provide readers with a basic understanding of both analogue and digital television technology, including a discussion of aspect ratios, bandwidth, scanning modes and the various competing international transmission formats. This chapter will also provide the reader with a brief overview of the potential features that digital television affords, though limited to standard definition transmission.

Chapter Three will build on the knowledge gathered in chapter 2, introducing the reader to High Definition Television broadcasting, detailing its underlying technology, how it differs from standard definition television, as well as the differing HDTV transmission formats. This chapter will also investigate the latest developments in HDTV display technology, the movement to a mass HDTV consumer market, while addressing viewer choice and expectation. Further discussion will focus on the opposition to HDTV and its implementation in various broadcasting markets. The chapter will conclude with an overview the new high definition acquisition formats.

Chapter Four will first seek to define Interactive Television, before providing a detailed exploration of the various Interactive Television applications currently in the marketplace. This exploration will also seek to evaluate the relative success of these applications, providing an insight into viewer expectations, as well as viable business models. The chapter will also include a discussion of Australia's controversial Datacasting legislation.

Chapter Five provides content producers with an overview of the various film and video acquisitions formats that they are likely to confront during the transition to digital television, highlighting the need to protect content assets from technological obsolescence.