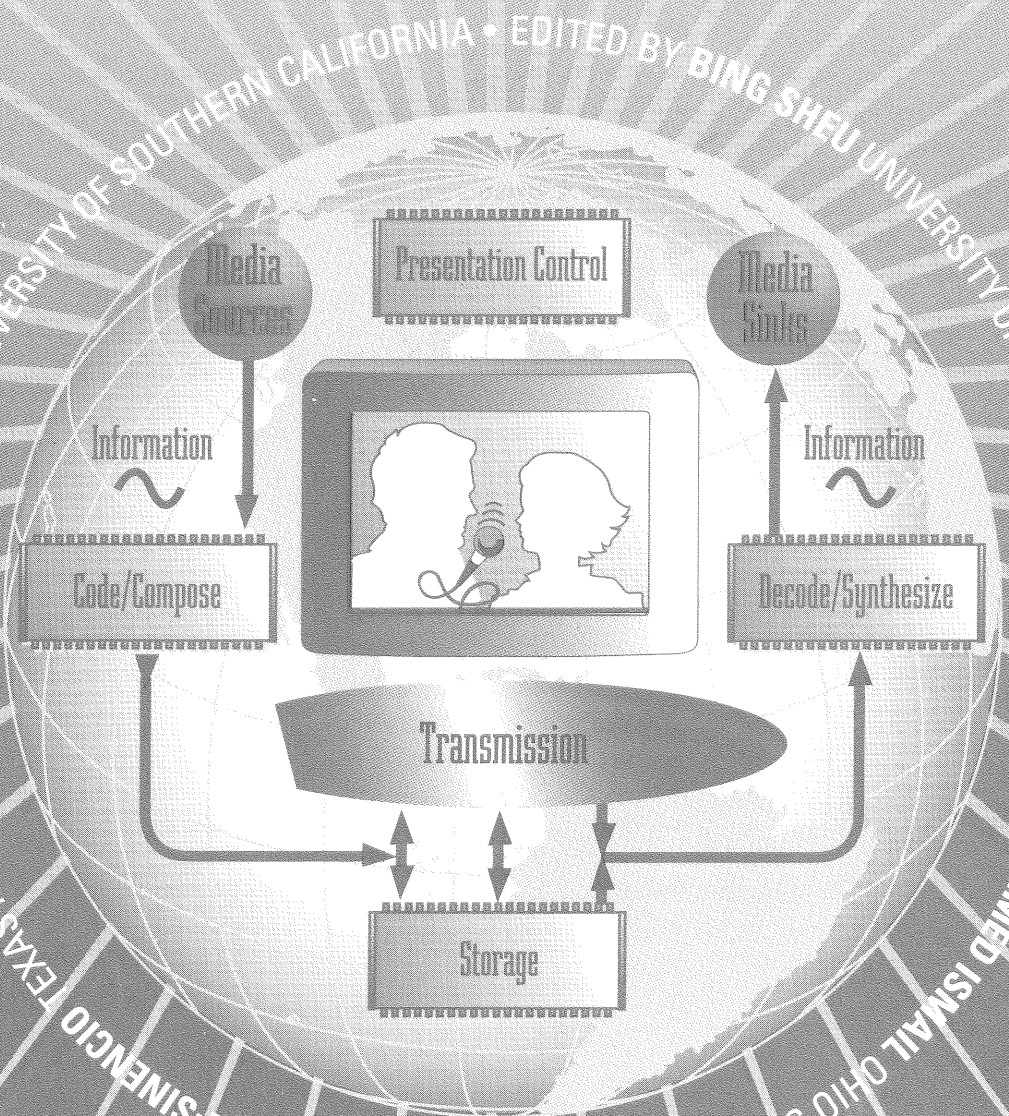


Microsystems Technology

FOR

Multimedia Applications

AN INTRODUCTION



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Microsystems Technology for Multimedia Applications: *An Introduction*

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Preface

To our knowledge, the publication of this book marks the first time the various technological components of multimedia systems have been fused in a single volume. This compilation has its origins at the 1995 *IEEE International Symposium on Circuits and Systems*, held in the summer in Seattle, Washington. The contributions to the Tutorial Program were thought to be very outstanding. Thus a volume of the contributions was felt appropriate and this work was born.

Multimedia is formed through the merge of the computer, communication, and entertainment industries. It has the potential of becoming one of the most powerful forms of searching for information, communicating ideas, and experiencing new concepts of any form of communication or networking. It is connecting the world through what we now call the "Information Superhighway." As the micro-electronic technologies continue to advance, system algorithms and software tools become more sophisticated. Moreover the hardware becomes cheaper to construct, the potential for multimedia systems and machines to be commonly used is tremendous. Therefore, the computer, telecommunication, entertainment, cable, and other consumer electronics industries are racing to this emerging market. Knowledge and results achieved by researchers/engineers in the Circuits and Systems Society of IEEE have been making a significant impact on the development of multimedia machines. This book is a culmination of these efforts.

Acknowledgment

The support of the IEEE Circuits and Systems Society is appreciated. We would like to thank Professors Robert Marks and Mani Soma of University of Washington for their encouragement. The support of the CAS President Ruey-Wen Liu and past President Wai-Kai Chen was crucial for the production of this book. Prof. Jaime Ramirez-Angulo has been very helpful in his position as CAS Society Liaison Representative to IEEE Press. Dr. Robert C. Chang, Harry Wang, Eric Y. Chou, Wayne W. Young, David C. Chen, and Chung-Chih Hung help us in converting numerous manuscripts to the \LaTeX form and proofreading the results. Research and development in the Integrated Media Systems Center, which is located near Hollywood, under Professors Len Silverman and C. L. Max Nikias gave us great inspiration in the circuits and systems study for multimedia applications. We would like to thank Professors Weiping Li, Truong Nguyen, Sayfe Kiaei, Tony Davies, Leon Chua, Tamas Roska, Keshab K. Parhi, and Don Bouldin for organizing the sessions at ISCAS; and the authors for contributing the tutorial chapters. Reviews and comments provided by many of our colleagues were very useful and are greatly appreciated. During the publication process, we have benefited from the kind assistance of the IEEE Press staff and would like to thank especially Ann Burgmeyer, Susan Tatiner, and Dudley Kay for all their effort.

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