***Digital Electronic
Circuits and Systems***

Macmillan Basis Books in Electronics

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Foreword

Technological progress has nowhere been more rapid than in the fields of electronic, electrical, and control engineering. The *Macmillan Basis Books in Electronics* have been written by authors who are specialists in these fields, and whose work enables them to bring technological developments sharply into focus.

Each book in the series deals with a single subject so that undergraduates, technicians, and mechanics alike will find information within the scope of their courses. The books have been carefully written and edited to allow each to be used for self-study; this feature makes them particularly attractive not only to readers approaching the subject for the first time, but also to mature readers wishing to update and revise their knowledge.

Noel M. Morris

Preface

Developments in digital electronics, particularly since the introduction of large-scale integrated circuits, have led to the widespread use of digital systems in almost every walk of life. This book provides coverage of aspects of digital electronics ranging from basic gates and logical algebra to sophisticated systems.

Readers can confidently begin their studies in digital systems with this book, since the studies deal both with the operating principles of logic gates and with their logical functions. Boolean algebra and Karnaugh mapping techniques are used as design tools, enabling readers to understand the design philosophy of advanced systems.

Included in the book are all the important facets of logic systems including logic families, integrated circuits, field-effect logic gates, arithmetic processes, and electronic counters. The book culminates in a chapter on applications of logic which includes many popular circuits used both in commercial and professional equipment.

The electronics industry has kindly supplied me with valuable information relating to the circuits and systems described in the book, and I would like to record my thanks for the help received. Finally, the book could never have been written without the help, patience, and understanding of my wife and family.

Noel M. Morris
Meir Heath