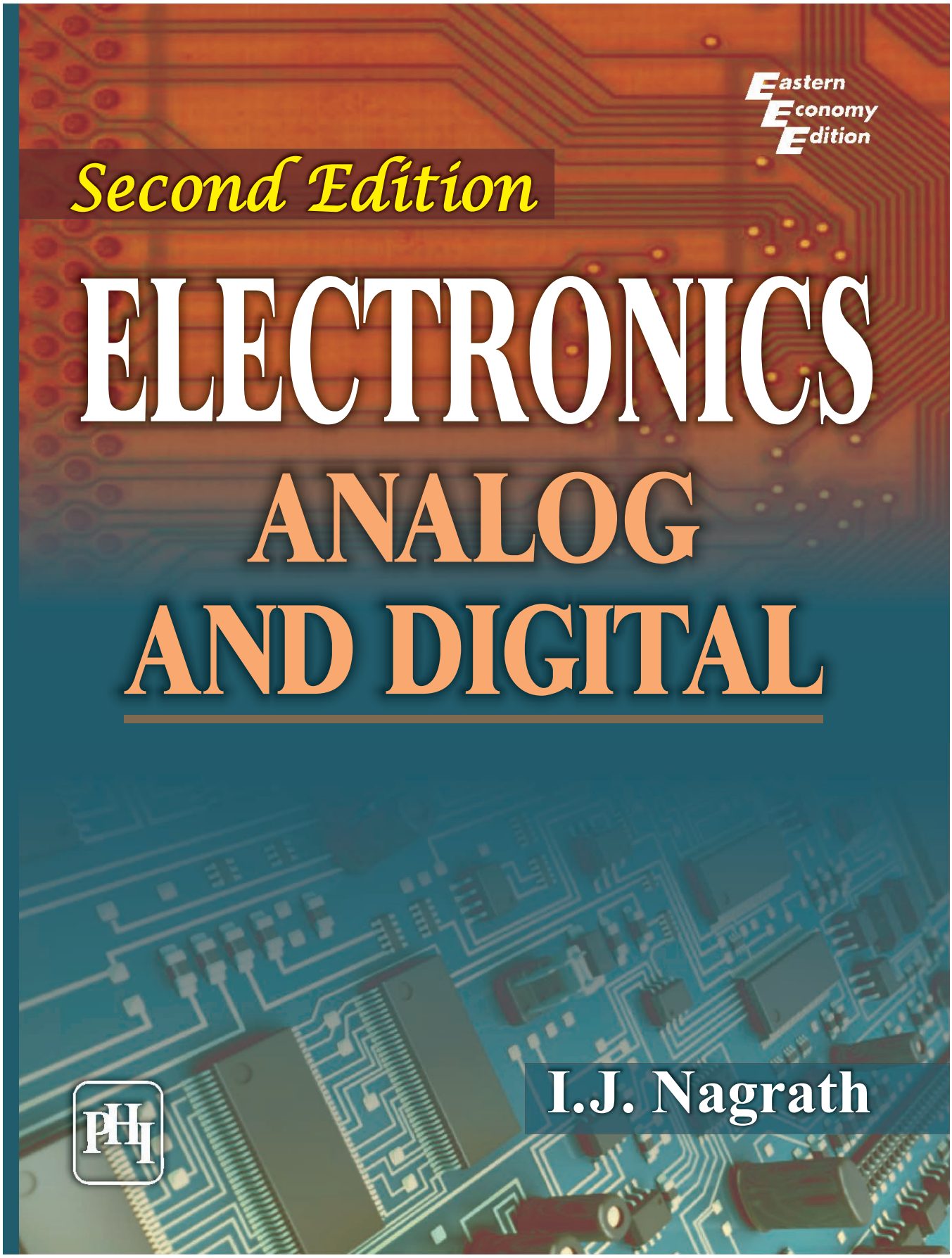
Eastern Economy Edition
Second Edition
ELECTRONICS
ANALOG AND DIGITAL
I.J. Nagrath
PHI

Electronics
Analog and Digital

SECOND EDITION

I.J. NAGRATH

Adjunct Professor of Electrical and Electronics Engineering, and
Former, Deputy Director
Birla Institute of Technology and Science
Pilani

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I.J. Nagrath

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Contents

Preface

Over the years, based on the readers response and feedback, both the author and the publisher felt the need to update the text and to bring out the second edition of the book including the recent developments in the subject.

In this edition, the chapters on digital electronics have been updated and enlarged, in particular. However, necessary improvements have been made in the analog part as well.

Chapter 1 on semiconductors, now in its second edition, includes Hall's effect and some improvement in diode, rectifiers and the transfer characteristics of MOS devices now include a problem on graphical analysis.

In small-signal model of BJT, clarity has been brought in β_{dc} and β_{ac}. Hybrid-π model has been elaborated. Stress has been laid on *h*-parameter model for completeness and also it has been compared with the β-r_π model. Biasing stability has been examined for both types of transistors and self-bias potential divider bias is recommended. Further, explanation for CB configuration has been advanced leading to r_e model. Another additional feature is the emitter coupled pair (differential pair), which builds the background for OPAMP.

Unique treatment of frequency response of small-signal amplifiers holds the competition.

Power amplifiers have been introduced with the added feature of Class D. Completeness and completion of oscillators can still not be matched by many others.

In operational Amplifiers (OPAMP), the gain of difference mode and common mode leading to CMRR is made simple and straightforward. All applications—linear and nonlinear are treated in detail.

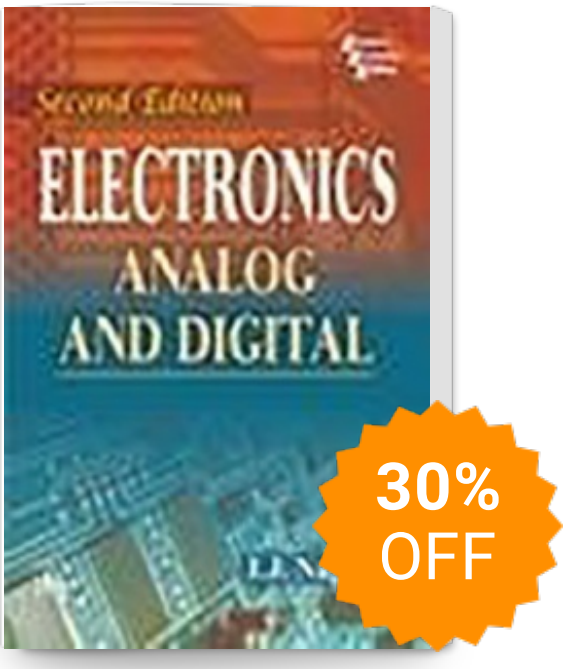
Improvements in digital part

Chapter 8 has been introduced with buffer, glitches and strobes.

- Digital pulse response of various gates gives a clear picture of gate outputs.
- Digital logic families is now complete.
- Hardware design of gates continues to be a strong feature.

Chapter 9 begins with number systems—decimal, binary, octal and hexadecimal, their inter-conversions and arithmetic, Codes—binary and ASCII, use of '1-compliment, '2-compliment and subtraction by '2-compliment.

Electronics: Analog And Digital



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