Appendixes on DVD

For your convenience, seven additional chapters on important reference topics are included on the in-text DVD. In PDF format, the Appendixes are fully searchable and can be bookmarked.

Appendix A: VLSI Fabrication Technology This article is a concise explanation of the technology that goes into fabricating integrated circuits. The different processes used are described and compared, and the characteristics of the resulting devices. Design considerations that restrict IC designers are explored.

Appendix B: SPICE Device Models and Design Simulation Examples Using PSpice® and Multisim™ This three-part appendix could stand as a book on its own. Part 1 describes the models SPICE programs use to represent op amps, diodes, MOSFETs, and BJTs in integrated circuits. A thorough understanding of these models is critical for designers trying to extract meaningful information from an analysis. Part 2 describes and discusses all the PSpice® simulations included in the Lab-on-a-Disc, while Part 3 does the same for the Multisim™ simulations. The entire Lab-on-a-Disc is a rich resource to help analyze, experiment with, and design examples that relate to the topics studied in *Microelectronic Circuits*.

Appendix C: Two-Port Network Parameters Throughout the text, we use different possible ways to characterize linear two-port networks. This appendix summarizes the *y, z, h,* and *g* parameters and explains equivalent-circuit representation, a useful tool.

Appendix D: Some Useful Network Theorems This article reviews Thévenin's theorem, Norton's theorem, and the source-absorption theorem, all of which are useful in simplifying the analysis of electronic circuits.

Appendix E: Single-Time-Constant Circuits STC circuits are composed of, or can be reduced to, one reactive component (inductance or capacitance) and one resistance. This is important to the design and analysis of linear and digital circuits. Analyzing an amplifier circuit can usually be reduced to the analysis of one or more STC circuits.

Appendix F: *s*-Domain Analysis: Poles, Zeroes, and Bode Plots Most of the work in analyzing the frequency response of an amplifier involves finding the amplifier voltage gain as a function of the complex frequency *s*. The tools to do this are summarized in this appendix.

Appendix G: Bibliography An excellent resource for students beginning research projects, this bibliography outlines key reference works on electronic circuits, circuit and system analysis, devices and IC fabrication, op amps, analog and digital circuits, filters and tuned amplifiers, and SPICE.

Appendix