



# Appendixes

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# Appendix A

## PSpice, Electronics Workbench, Mathcad, and C++

### A.1 PSpice

The PSpice software package employed throughout this text is derived from programs developed at the University of California at Berkeley during the early 1970s. SPICE is an acronym for Simulation Program with Integrated Circuit Emphasis. Although a number of companies have customized SPICE for their particular use, Cadence Design Systems offers both a commercial and a demo version of OrCAD. The commercial or professional versions employed by engineering companies can be quite expensive, so Cadence offers free distribution of the demo version to provide an introduction to the power of the simulation package. For this tenth edition of the text, the OrCAD family release 9.2 Lite Edition (the latest) was employed. A free copy can be obtained by calling 1-888-671-9500 or by writing to Cadence Design Systems at 13221 SW 68th Parkway, Suite 200, Portland, OR 97223. It can also be ordered on the Internet at <http://www.pcb.cadence.com/Product/Schematic/evalrequest.asp>

**Minimum system requirements are the following:**

- Pentium 90MHz PC
- 32MB RAM
- Hard disk space:
  - Capture CIS 89MB
  - Layout Plus 66MB
  - PSpice A/D 46MB
- 800 × 600, 256 color VGA display
- Microsoft Windows 95/98, or Windows NT 4.0 Service Pack 3
- 4×CD-ROM drive
- 16-bit audio (recommended)

### A.2 Electronics Workbench

Multisim is a product of Electronics Workbench. For this edition of the text, the Multisim 2001 Education Version was employed (the 6.2 designation has been dropped and replaced by 2001). Individuals wishing to purchase one copy of the Student Edition of this version from Electronics Workbench can do so by calling 1-800-263-5552 or writing to the company at 111 Peter Street, Suite 801, Toronto, Ontario, Canada M5V 2H1. Instructors who need to purchase multiple Student Edition copies should contact their local Prentice Hall sales representative or visit the Prentice Hall Website at <http://www.prenhall.com>.

**Minimum system requirements for the Student Version are as follows:**

- Pentium 166 or greater PC
- Windows 95/98/NT
- 32MB RAM (64MB RAM recommended)
- 100MB hard disk space (minimum)
- CD-ROM drive
- 800 × 600 minimum screen resolution

### A.3 Mathcad

Mathcad is a product of MathSoft Engineering & Education, Inc., located at 101 Main Street, Cambridge, MA 02142-1521. The Internet address is <http://www.mathsoft.com>. For this edition of the text, Mathcad 2000 was employed. Although the program lists at \$99.95, special discount pricing is available for colleges and universities. A professor or a buyer for the institution can inquire about the discount pricing by calling 1-800-628-4223 or by writing to [sales-info@mathsoft.com](mailto:sales-info@mathsoft.com). Students can also order by using the same e-mail address, or they can order online at <http://www.mathcad.com/buy/> or <http://www.edu.com>.

**Minimum system requirements for Mathcad 2000 Professional are as follows:**

- Pentium 90 or higher processor
- Windows 95/98/NT 4.0 or higher
- 32MB RAM minimum (48MB or higher recommended)
- CD-ROM drive
- SVGA or higher graphics
- 160MB disk space (minimum) with 290MB for full installation

### A.4 C++

The C++ version employed in this text is Borland C++ 4.0, produced by Borland Software Corporation of Scotts Valley, CA. The Internet address for this company is <http://www.borland.com>.

**Minimum system requirements for C++ are as follows:**

- Windows 3.1 or higher
- 4MB RAM minimum (8MB or higher recommended)
- 2MB disk space (minimum) with 90MB for complete installation
- CD-ROM drive
- SVGA or higher graphics