**DESCRIPTION**

The digital age has driven the need to combine radio-frequency engineering experience with overall high-speed digital design, as well as the need for an overall understanding of system performance. In some advanced designs, both analog and digital disciplines have to exist and operate in the same space, and with the correct design, high performance is possible.

This book is intended to provide a step-by-step guide to all aspects and tradeoffs from theory to application for fiber-optics transceiver electronics. Presenting a thorough compendium of information in a structured way, this book enables the engineer to develop a methodical design approach, a deep understanding of specifications parameters and the reasons behind them, as well as their effects and consequences on system performance, which are essential for proper component design. Further, a fundamental understanding of RF, digital circuit design, and linear and nonlinear phenomena is important in order to achieve the desired performance levels. Becoming familiar with solid-state devices and passives used to build optical receivers and transmitters is also important so one can effectively overcome design limitations.

The book is organized into six main sections covering the following subjects:

- System Overview

- Semiconductors and Passives
• RF and Control Concepts

• Introduction to CATV MODEM and Transmitters

• Digital Transceiver Performance

• Integration and Testing

ABOUT THE AUTHOR

Avigdor Brillant is the author of Digital and Analog Fiber Optic Communication for CATV and FTTx Applications, published by Wiley.

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