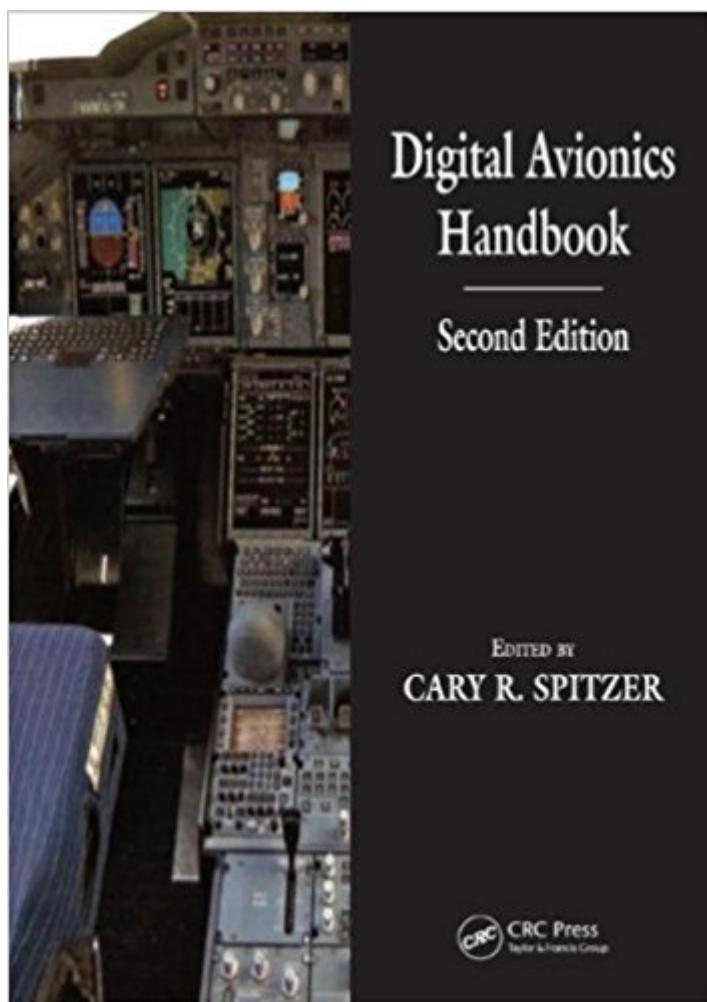


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# Digital Avionics Handbook, Second Edition - 2 Volume Set (Electrical Engineering Handbook)



## Synopsis

In the short time since Cary Spitzer's The Avionics Handbook was published, new technologies and standards have fueled advances in digital avionics technologies. Reflecting the increasingly digital nature of modern avionics, the second edition of this bestselling handbook features a new title: the Digital Avionics Handbook. But the title is not the only change to this edition. In addition to updated material and several completely new chapters, this essential reference is now presented as a set of two books focused on a specific area of avionics. What's Included in the New Edition? The first installment in the set, *Avionics: Elements, Software, and Functions* covers the building blocks and enabling technologies behind modern avionics systems. It discusses data buses, displays, human factors, standards, and flight systems in detail and includes new chapters on the Time-Triggered Protocol (TTP), ARINC specification 653, communications, and vehicle health management systems. Rounding out the set, *Avionics: Development and Implementation* explores the practical side of avionics. The book examines such topics as modeling and simulation, electronic hardware reliability, certification, fault tolerance, and several examples of real-world applications. New chapters discuss RTCA DO-297/EUROCAE ED-124 integrated modular avionics development and the Genesis platform. Individually, each book in this set offers focused information for specialists. Taken together, the Digital Avionics Handbook, Second Edition is the most complete and modern guide to designing, developing, and implementing high-performance avionics systems in both military and civilian aircraft.

## Book Information

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## Customer Reviews

The official editorial review of this book is correct. It has chapters on the major elements of modern avionics. If you don't know that an aviation communication radio has 760 channels and uses AM modulation, then this may be the book for you. If you want specifics on anything, look elsewhere. In the 15 minutes before I decided these volumes were going to be returned, I came to the conclusion that it contains absolutely no information about research, design, or implementation of any of the systems it covers. The feeling I get is that the articles are written by marketing managers that are being very careful to use perfect grammar while not discussing any technical details. An avionics sales brochure has more info than these books. Not worth a tenth of the price. There may be poorer CRC Handbooks, but not any I've ever seen. The publisher should be embarrassed to sell this drivel.

**What's Included in the New Edition?** The first installment in the set, *Avionics: Elements, Software and Functions* covers the building block and enabling technologies behind modern avionics systems. It discusses data buses, displays, human factors, standards, and flight systems in detail and includes new chapters on the Time-Triggered Protocol (TIP), ARINC specification 653, communications, and vehicle health management systems. Rounding out the set, *Avionics: Development and Implementation* explores the practical side of avionics. The book examines such topics as modeling and simulation, electronic hardware reliability, certification, fault tolerance, and several examples of real-world applications. New chapters discuss RTCA DO-297/ EUROCAE ED-124 integrated modular avionics development and the Genesis platform. **Features\*** Provides in a single source all of the information needed to design, implement, and approve an avionics system\* Features a stellar panel of international experts who provide the most timely, accurate, and authoritative information\* Offers a convenient source of information that is not widely available from any other individual reference\* Discusses several of the newest topics and the latest software and technologies, not available elsewhere. **Avionics** is the cornerstone of modern aircraft. More and more, vital functions on both military and civil aircraft involve electronic devices. After the cost of the airframe and the engines, avionics is the most expensive item on the aircraft, but well worth every cent of the price. Many technologies emerged in the last decade that will be utilized in the new millennium. After proof of soundness in design through ground application, advanced microprocessors are finding their way onto aircraft to provide new capabilities that were unheard of.

a decade ago. The Global Positioning System has enabled satellite-based precise navigation and landing, and communication satellites are now capable of supporting aviation services. Thus, the aviation world is changing to satellite-based communications, navigation, and surveillance for air traffic management. Both the aircraft operator and the air traffic services provider are realizing significant benefits. Familiar technologies in this book include data buses, one type of which has been in use for over 20 years, head mounted displays, and fly-by-wire flight controls. New bus and display concepts are emerging that may displace these veteran devices. An example is a retinal scanning display. Other emerging technologies include speech interaction with the aircraft and synthetic vision. Speech interaction may soon enter commercial service on business aircraft as another way to perform some noncritical functions. Synthetic vision offers enormous potential for both military and civil aircraft for operations under reduced visibility conditions or in cases where it is difficult to install sufficient windows in an aircraft. This book offers a comprehensive view of avionics, from the technology and elements of a system to examples of modern systems flying on the latest military and civil aircraft. The chapters have been written with the reader in mind by working practitioners in the field. This book was prepared for the working engineer and his or her boss and others who need the latest information on some aspect of avionics. It will not make one an expert in avionics, but it will provide the knowledge needed to approach a problem.

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