

A Comprehensible Guide To Controller Area Network





Synopsis

A Comprehensible Guide to Controller Area Network by Wilfried Voss represents the most thoroughly researched and most complete work on CAN available in the marketplace. Controller Area Network (CAN) is a serial network technology that was originally designed for the automotive industry, especially for European cars, but has also become a popular bus in industrial automation as well as other applications. The CAN bus is primarily used in embedded systems, and as its name implies, is a network technology that provides fast communication among microcontrollers up to real-time requirements, eliminating the need for the much more expensive and complex technology of a Dual-Ported RAM. This book provides complete information on all CAN features and aspects combined with a high level of readability.

Book Information

Paperback: 164 pages Publisher: Copperhill Media Corporation; 2 edition (August 1, 2005) Language: English ISBN-10: 0976511606 ISBN-13: 978-0976511601 Product Dimensions: 7.4 × 0.4 × 9.7 inches Shipping Weight: 11.2 ounces (View shipping rates and policies) Average Customer Review: 4.1 out of 5 stars Â See all reviews (20 customer reviews) Best Sellers Rank: #273,330 in Books (See Top 100 in Books) #91 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Microelectronics #134 in Books > Reference > Writing, Research & Publishing Guides > Writing > Technical #10529 in Books > Computers & Technology

Customer Reviews

The book is so well structured and narrative that even a newbie to CAN may learn essentials in a few days. Tough themes like bit timing and synchronization are introduced clearly with smart illustrations. The author is not trying to blow out pages with unnecessary details but rather selects content very carefully and builds a self-consistent guide based on (his) evident conscious experience. The guide's index is rather lean but covers all the main features I found useful for myself when was coding fw/sw CAN suite. This small book gives intermediate-level description for low-level side of bus communication. For high-level CAN stuff see another rather good book, the "Embedded networking with CAN and CANopen" by O. Pfeiffer et al. With the knowledge you get

from the guide you most likely will not be able to create your own chip from the scratch ;-)... but definitely can develop your custom low-level s/w or f/w driver, as well as interpret waveforms on your scope with a greater confidence.Here is the table of contents of the guide:1. Overview2. Main characteristics 2.1 Frames 2.2 Multi-master bus access 2.3 Message broadcasting 2.4 Message priority 2.5 Short messages 2.6 Data rate and message frequency 2.7 Bus arbitration 2.8 Error detection and fault confinement3. Benefits of using CAN 3.1 CAN controller firmware 3.2 Low cost implementation 3.3 Speed, reliability, error-resistance 3.4 Worldwide acceptance 3.5 Higher layer protocols4. Message frame architecture 4.1 Dominant and recessive bus levels 4.2 Data and remote frames 4.3 Data frame 4.4 Remote frame 4.5 Message frame format 4.6 Extended CAN protocol 4.

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