Information Technology: Transmission, Processing, and Storage

# Communication System Design Using DSP Algorithms

with Laboratory Experiments for the TMS320C6713 $^{\text{\tiny TM}}$  DSK

Steven A. Tretter



# **Communication System Design Using DSP Algorithms**

with Laboratory Experiments for the TMS320C6713<sup>™</sup> DSK



Information Technology: Transmission, Processing, and Storage

Series Editors: Robert Gallager

Electrical Engineering & Computer Science Massachusetts Institute of Technology

Cambridge, Massachusetts

Jack Keil Wolf

Electrical & Computer Engineering University of California at San Diego

La Jolla, California



# Communication System Design Using DSP Algorithms

with Laboratory Experiments for the TMS320C6713<sup>™</sup> DSK

Steven A. Tretter University of Maryland College Park, MD





Steven A. Tretter Department of Electrical Engineering University of Maryland College Park, MD, 20742, USA

Series Editors
Robert Gallager
Electrical Engineering & Computer Science
Massachusetts Institute of Technology
Cambridge, Massachusetts

Jack Keil Wolf Electrical and Computer Engineering University of California at San Diego La Jolla, California

ISBN: 978-0-387-74885-6 e-ISBN: 978-0-387-74886-3

Library of Congress Control Number: 2007940172

© 2008 Springer Science+Business Media, LLC

All rights reserved. This work may not be translated or copied in whole or in part without the written permission of the publisher (Springer Science+Business Media, LLC, 233 Spring Street, New York, NY 10013, USA), except for brief excerpts in connection with reviews or scholarly analysis. Use in connection with any form of information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed is forbidden. The use in this publication of trade names, trademarks, service marks, and similar terms, even if they are not identified as such, is not to be taken as an expression of opinion as to whether or not they are subject to proprietary rights.

The following are trademarks of Texas Instruments: Code Composer Studio, TMS320C30, C6000, C6x, TMS320C5000, TMS320C3x, TMS320C40, C67x, C2x, C24x, C5x, C8x, C54x, C55x, and TMS320C67x.

MATLAB is a registered trademark of MathWorks.

Printed on acid-free paper

 $9\ 8\ 7\ 6\ 5\ 4\ 3\ 2\ 1$ 

springer.com



## DOCKET

### Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

#### **Real-Time Litigation Alerts**



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

#### **Advanced Docket Research**



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

#### **Analytics At Your Fingertips**



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

#### API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

#### **LAW FIRMS**

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

#### **FINANCIAL INSTITUTIONS**

Litigation and bankruptcy checks for companies and debtors.

#### **E-DISCOVERY AND LEGAL VENDORS**

Sync your system to PACER to automate legal marketing.

