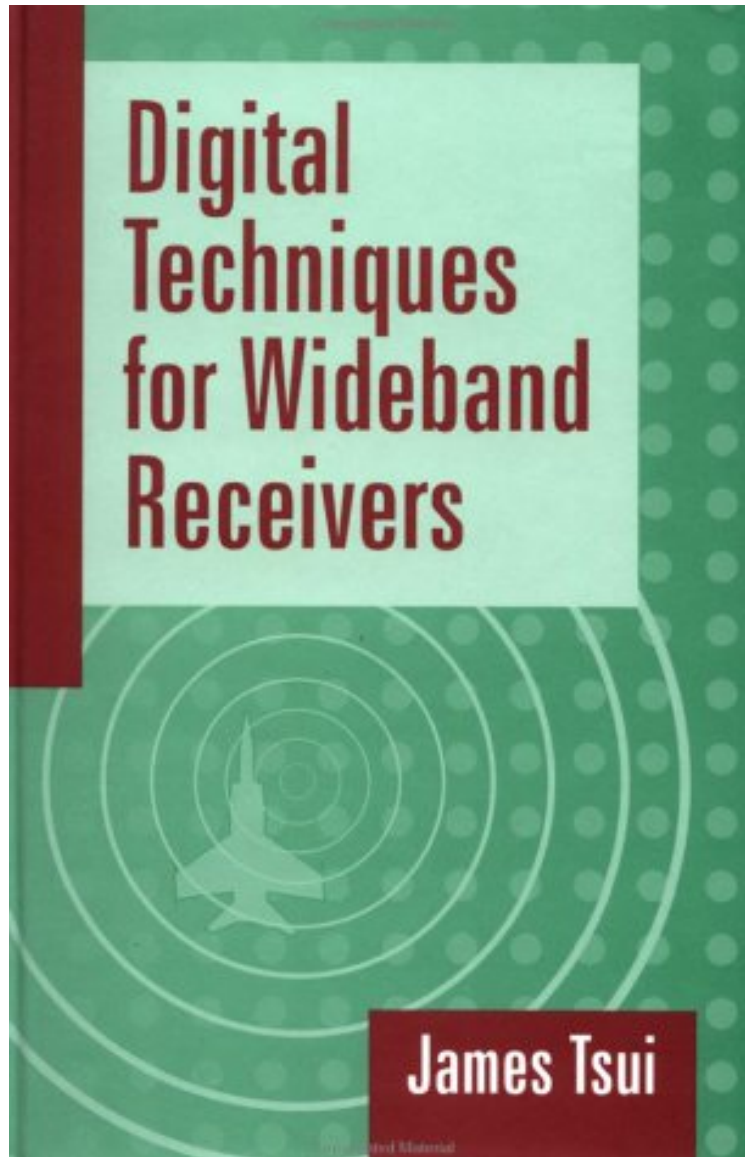


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## Digital Techniques for Wideband Receivers (Artech House Radar Library)

*James Tsui*

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**James Tsui : Digital Techniques for Wideband Receivers (Artech House Radar Library)** before purchasing it in order to gage whether or not it would be worth my time, and all praised Digital Techniques for Wideband Receivers (Artech House Radar Library):

0 of 0 people found the following review helpful. For digital radio design and simulations By Sam J Although an old

textbook, it contains some vital information, including comprehensive receiver noise figure calculations. It was not surprising to see many of the graphs in this text were replicated in more recent books.<sup>3</sup> of 3 people found the following review helpful. Good introduction to receiver signal processing  
By A. Stewart  
This book is a great intro to digital receiver design and techniques. The focus of this book however, is for those receivers which are used for Radar Warning Receivers (RWRs). The second chapter starts off with typical and desirable characteristics applicable to these type of receivers (wide bandwidth and large instantaneous dynamic range, etc). He then uses this intro to gradually introduce all parts of a receiver and signal processing techniques. This book covers ADC and their pertinent selection criteria, analog RF chain analysis, probability of detection, FFTs, monobit receiver design, antenna arrays, angle of arrival, spectral estimation techniques (I actually like the presentation here more than compared to Proakis and Manolakis's Digital Signal Processing book), and then how do you test it all as a system. There are many more topics that I am missing, but I think that I have hit on the main points. All in all, I would recommend this book if you are interested in learning the techniques used in RWRs, but the chapter on ADCs is also good for any designer looking for ways to choose ADCs and how to test them.<sup>0</sup> of 0 people found the following review helpful. New edition on the way in 2015  
By Customer  
While this book has become a classic in the field of EW, readers and prospective buyers might want to know that a new edition is in preparation and should be available sometime in 2015. Author James Tsui has added a coauthor who is active in current teaching (Miami U) and research (AFRL): Prof. Chi-Hao Cheng. It will be published by the Institute of Engineering and Technology under the SciTech Publishing imprint.

As communication bandwidth increases, many of the communications hardware considerations and digital signal processing approaches primarily designed for EW receivers are becoming equally applicable to communication receivers. This is an up-to-date survey of practical design techniques for receiver systems engineers that includes problems, solutions, design procedures, real-life examples, and Matlab programs. This book contains a comprehensive description of digital processing applicable to wideband receivers. It explains the requirements of wideband digital RF receivers, provides numerous solutions to receiver problems, and gives an overview of future trends in receiver development. The text is intended for electronic warfare engineers, receiver designers, communications engineers, and those working in digital hardware processing. It features 753 equations, and 192 figures.

The purpose of this book is to introduce digital signal processing approaches that are applicable to wideband receiver designs. Its emphasis is on the techniques rather than theoretical discussions. It is written primarily for researchers in EW and communications areas and is presented at a senior or graduate school engineering level. Many examples are presented and a comprehensive bibliography is offered at the end of each chapter. Many computer programs, written in MATLAB, are included to help the reader understand the problems and design of a wideband receiver. This book will make a useful addition to the library of anyone interested in wideband receivers. ---Microwave Journal, July 2001  
About the Author  
James Tsui is an electronics engineer with the Air Force Research Laboratory at Wright-Patterson Air Force Base, Ohio. He earned his Ph.D. in electrical engineering from the University of Illinois. He is a fellow of the Air Force Research Laboratory and the IEEE.