

Introduction and Overview

1.1 Introduction to the Wideband Optimized DSP Library

The Wideband ADSP-21K Optimized DSP Library for Scientific and Engineering Applications features over 390 frequently used functions for the Analog Devices ADSP-21K digital signal processors. All functions are hand-optimized in ADSP-21K assembly language, utilizing the 21K instruction set to provide maximum efficiency and speed. Innovative implementations provide unparalleled performance for many compute-intensive functions.

This library currently supports the ADSP-21020 as well as the ADSP-21062, ADSP-21061, and ADSP-21060 (SHARC) 32-bit floating-point DSP processors as follows:

TABLE 1

Table of Compiler Tool Versions Currently Supported

Compiler Version	Release Version	Processors Supported
2.06	3.0	ADSP-21020
2.10	3.1	ADSP-21020, 2106x
2.11	3.2	ADSP-21020, 2106x
2.11	3.2d	ADSP-21020, 2106x
2.3	3.3	ADSP-21020, 2106x

The ADSP-21K Optimized DSP Library is available for use on both the PC platform and the SPARC Workstation Platform. Wideband Computers will be announcing future enhancements to this library that support additional functions and memory accesses. As future versions of the Analog Devices tools become available Wideband Computers will also update the function set as necessary.

The current version of the library will work with the new Analog Devices Visual DSP environment.

The important sections of this document are organized as follows:

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Alphanumeric List of Routines Listed By Routine Functional Description

Alphanumeric List of Routines Listed By Function Calling Name

Chapter 1: Introduction and Overview

Chapter 2: Describes important background information on the library

Chapter 3: Describes how to install the ADSP-21K Optimized DSP Library software

Chapter 4: Describes how to use the ADSP-21K Optimized DSP Library software

Chapter 5: Describes in detail all Library routines

Chapter 6: Benchmark Timings

Appendix A: Contains an actual sample of source code in ADSP-21K assembler

Appendix B: Contains a suggested Software Problem Report form

Appendix C: Contains an alphabetical listing of the routines which have equivalent C source code routines within the test routines supplies for each function within the library.

1.2 Revision History

This is the release version **2.6.e** of this product, released June 1999.

1.3 Software Reports

Any discrepancies found in the use of this product should be reported to Wideband Computers, Inc. A sample Software Problem Report, found at the back of this manual, is a good starting point for reporting problems. Due to the volume of calls we receive, the best way to reach us is either by fax or E-mail. Send us a detailed description of your problems to:

Phone: 650-962-8722

Fax: 650-962-8790

General Library E-Mail: adsplib@wideband.com

Technical Support E-Mail: mark@wideband.com

