

CHAPTER 3

Installing the Wideband TMS320C3x/4x Optimized Math Library Software

3.1 Getting Started

The latest changes and updates information that may be of importance to you is provided in the README.DOC file. Please read this file before installing the software. To do so, place disk one of the Wideband optimized library software diskette into drive **a** (or **b**) of your personal computer and type:

TYPE A:README.DOC | MORE

Alternately, you may print the material if you have a printer attached to your computer. Type the following command to print the document:

PRINT A:README.DOC

3.2 Package Contents

The Optimized Math Library is shipped on one 3.25" floppy diskette which contains four (4) directories of object code plus a directory of functional prototypes and a directory of example files. Each object directory contains an archived library of over 240 individual routines in TMS320C3x or TMS320C4x object library format. You may link any routine found within one of these four directories to your application, but you must be sure to be consistent in your use of memory models and argument passing conventions by linking routines from one type of directory only. In addition, example programs demonstrating the use of the library routines is also provided.

3.3 How to Install The Software

The four (4) standard object libraries available with the product each supports a different memory model and argument passing convention available with the Texas Instruments C Compiler and Linker.

To load the Optimized Math Library software into your system, place the diskette labeled **Optimized Math Library** in either the **A** or **B** drive of your personal computer.

Invoke the installation script by typing **A:INSTALL (or B:INSTALL)**. The installation script will prompt you for a target directory. If none is specified the defaults are used.

The default directories for the four programming models are:

- Small memory model, stack passing convention, **\WCI\LIB\SSP**
- Big memory model, stack passing convention, **\WCI\LIB\BSP**
- Small memory model, register passing convention, **\WCI\LIB\SRP**
- Big memory model, register passing convention, **\WCI\LIB\BRP**

Unix systems users should mount the product diskette as a DOS disk and use the Unix **cp** command to copy the appropriate files to newly created directories on their hard disks.

Note that the paths listed are for suggested use only. Implementation of the suggested paths will result in less confusion if other library products are later added to you hard disk. If you are only using a few routines you may wish to create your own directory and link the routines to your code from there.

3.4 Software Problem Reports

The Wideband Optimized Math Library routines underwent extensive testing before being released for general purchase by the engineering and scientific community. Great effort has been expended in making sure that the routines you are about to use perform efficiently and correctly.

However, unusual conditions or stressed usage scenarios may result in some bugs or malfunctions being discovered. If you find a bug or suspect that you have come across one please help us correct the problem. Use the bug report at the back of this manual. Supply us with the specifics, including the name of the routine used, the error conditions or output returned along with other important symptoms. Also, helpful is a snippet of your code to help us understand under what conditions the code was called. You may fax the code to us at 415-962-8790. Please include a technical contact along with an address, phone number and fax number.

We'll respond to your request by attempting to replicate the problems at our facilities. If we are unable to find an error we will call you and discuss alternatives in an attempt to track down the nature of the bug.

If we do find a bug, the problem will be immediately assigned to our staff for corrective action. Generally, most problems can be fixed within a single day. Once we've fixed the problem and tested the new code we'll send you a new, updated routine by Federal Express, E-mail, or alternative methods if you prefer.

3.5 Sample Source Code Optimized Math Library Routine

Appendix A contains the source code for an Optimized Math Library routine which computes the addition of two vectors called **vadd.asm**. We disclose the source code for several reasons:

- Many customers are curious about the level of workmanship contained within the Optimized Math Library. Interested parties may now see the level of detail contained within an actual routine.
- For customers who may be interested in purchasing a site source code license, you may be assured that every routine is documented to this level. The code is maintainable should you decide to expand upon it.
- We write custom routines for customers that have special needs. This is a sample of the level of quality you can expect from us. Contact us if you need a special routine written for your project.

