

1 INTRODUCTION

In This Chapter

This chapter contains the following topics:

- [“About VisualDSP++” on page 1-2](#)
- [“About This Manual” on page 1-2](#)
- [“How to Use VisualDSP++ Help” on page 1-5](#)
- [“Related Documents” on page 1-6](#)
- [“Information Services” on page 1-7](#)

About VisualDSP++

VisualDSP++ is a Windows-based software development environment for Analog Devices' Digital Signal Processors (DSPs).

About This Manual

Purpose

The *VisualDSP++ 2.0 User's Guide for ADSP-21xxx DSPs* describes the features, components, and functions of VisualDSP++. Use this guide as a reference for developing programs for SHARC Family processors. This guide does not include procedures for creating sessions and for building and debugging projects.

For step-by-step instructions for developing a typical programming project, refer to:

- VisualDSP++ Online Help
- *VisualDSP++ 2.0 Getting Started Guide for ADSP-21xxx DSPs*

Intended Audience

This manual is primarily intended for DSP programmers who are familiar with Analog Devices' DSPs. Before you begin actual programming, you should have a working knowledge of your processor's architecture and instruction set.

If you are unfamiliar with Analog Devices' DSPs, you should supplement this guide with other manuals (such as a DSP Hardware Reference) that describe Analog Devices' DSP architecture and DSP instruction set. Before using this manual, review [“Conventions” on page 1-4](#).

Contents Description

Chapter contents are summarized as follows:

- Chapter 2 — About VisualDSP++
Describes VisualDSP++ features, new Release 2.0 features, the program development process, projects, and Tcl scripting
- Chapter 3 — Environment
Describes the VisualDSP++ user interface, windows, environment customization, window operations, and the debugging windows
- Chapter 4 — Debugging
Describes debug sessions, code analysis tools, program execution operations, simulation tools, and plots
- Appendix A — Reference Information
Provides glossaries, information about C++ Run-Time Libraries and file types, keyboard shortcuts, command-line parameters, toolbar buttons, and text operations
- Appendix B — Tcl Scripting
Provides an overview of the Tool Command Language (Tcl), a reference for Tcl commands, and examples of Tcl scripting used to test DSP systems

Conventions

The following conventions apply to all chapters. Additional conventions, which apply only to specific chapters, appear throughout this document.


Table 1-1. Notation Conventions

Convention	Example
<p>The following appear in bold:</p> <ul style="list-style-type: none">Names of menus and menu commandsToolbar buttonsKeyboard keys and key combinationsTabs and tab pagesDialog boxesDialog box control buttons and text boxesValues typed or specified by the userWords highlighted for emphasis	<p>From the Debug menu, choose Restart and then press F5 to run the program.</p> <p>In the End address box, type 0x4e4, but do not click Add.</p>
<p>The following appear in <i>italics</i>:</p> <ul style="list-style-type: none">Variable information to be specified by the userFirst occurrences of key terms or phrases defined in the textTitles of books or other reference texts	<p><i>filename</i></p> <p>You run the DSP projects that you develop as <i>sessions</i>.</p>
<p>Examples of program code and system-generated messages appear in a mono-spaced, sans-serif font.</p>	<p>Set a breakpoint at <code>main()</code>.</p> <p>The message “Halted” appears in the status bar.</p>
<p>When you are instructed to enter a value in a text box, type or select the value but do not press the Enter key unless instructed to do so.</p>	<p>In the Start address box, enter <code>a_dot_c</code>.</p>


How to Use VisualDSP++ Help

While using VisualDSP++, you can access online Help to obtain information about the environment or build tools. The following table explains how to use the VisualDSP++ online Help system:

Table 1-2. VisualDSP++ Help Navigation

For information about...	Do the following...
VisualDSP++ windows, menus, icons or dialog box controls	Use one of these methods to access context sensitive help: <ul style="list-style-type: none"> • Press the F1 key when the item (context) is selected • Press the context sensitive help button  and then select the item (context)
VisualDSP++ operations, command syntax, or tools	From the Online Manuals Help topic, open Portable Document Format (PDF) file versions of the user manuals in Adobe Acrobat Reader, which must be installed on your system. These manuals provide quick access to information about VisualDSP++.

To access technical manuals from the VisualDSP++ environment:

1. From the **Help** menu, choose **Contents**.
2. On the **Contents** tab page, click the **Reference** icon .
3. Under **Reference**, click **Online Manuals**. The **Online Manuals** help topic appears in the right window pane.
4. Click [Click here to view online manuals](#) to view the list of manuals.
5. Click the button to the left of the manual title to open the manual.

You can copy Help text and paste it into your application. Be aware that the copied text may carry unwanted control codes. See the online Help for details.

Related Documents

For information about development software and Analog Devices DSPs, see the following publications:

- *VisualDSP++ 2.0 Getting Started Guide for ADSP-21xxx DSPs*
- *VisualDSP++ 2.0 C/C++ Compiler and Library Manual for ADSP-21xxx DSPs*
- *VisualDSP++ 2.0 Assembler and Preprocessor Manual for ADSP-21xxx DSPs*
- *VisualDSP++ 2.0 Linker & Utilities Manual for ADSP-21xxx DSPs*
- *VisualDSP++ Kernel (VDK) User's Guide*

Your VisualDSP++ software distribution CD-ROM includes this and all the listed publications. To access these publications within VisualDSP++, use the **Help Topics** command on the VisualDSP++'s **Help** menu, click the **Reference** book icon, and select the **Online Manuals** topic. From the **Help** topic, you can open any of the manuals, which are in Adobe Acrobat PDF format. If you are not using VisualDSP++, you can manually access the PDF files from the CD-ROM by using Adobe® Acrobat®.

Other documents related to your design DSP publications, such as Hardware and Instruction Set Reference Manuals, are available for download from:

http://www.analog.com/industry/dsp/tech_doc/gen_purpose.html

Information Services

For Product Information

Analog Devices is online at www.analog.com. Our web pages provide information about our broad range of products: analog integrated circuits, amplifiers, converters, and digital signal processors. For information on our digital signal processors, visit our website at www.analog.com/dsp. Our web pages also provide access to technical information, documentation, product overviews, and product announcements.

You can obtain additional information about Analog Devices and its products as follows:

- FAX questions or requests for information to:
 - In North America: (781) 461-3010
 - In Europe: 089/76 903-557
- Access one of these DSP Division File Transfer Protocol (FTP) sites:
 - [ftp.analog.com](ftp://ftp.analog.com)
 - [ftp 137.71.23.21](ftp://137.71.23.21)
 - <ftp://ftp.analog.com>

For Technical or Customer Support

You can reach our DSP Tools Customer Support in the following ways:

- E-mail development tools questions to:
`dsptools.support@analog.com`
- E-mail processor questions to:
`dsp.support@analog.com`
- Phone questions to: 1-800-ANALOGD
- Visit our world wide web site at: www.analog.com/dsp
- Telex questions to: 924491, TWX:710/394-6577
- Cable questions to: ANALOG NORWOODMASS
- Contact your local ADI sales office or an authorized ADI distributor
- Send questions by mail to:
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