TMS320 DSP Algorithm Standard

Quick Start Reference Guide

What is the TMS320 DSP Algorithm Standard?

The TMS320 DSP Algorithm Standard is a key ingredient of eXpressDSP. Its coding conventions for algorithm writers ultimately eliminate much of the time-consuming reengineering work required to integrate algorithms into a variety of applications. It achieves this by defining common programming rules, guidelines, and interfaces.

The Algorithm Standard enforces known behaviors, requires documentation of features relevant to integration, and defines interfaces for algorithms to use to request resources. As a result, the standard facilitates the integration and deployment of algorithms in a variety of systems.

Rules and guidelines are provided for the following DSP generations:

- TMS320C62x/64x/67x
- TMS320C54x/55x
- TMS320C24x

Texas Instruments tests algorithms for compliance with the TMS320 DSP Algorithm Standard. Algorithms that pass the tests may use the eXpressDSP-compliant logo. By using such algorithms, system integrators can avoid bugs that result from unfounded assumptions by the algorithm about resource availability and calling context.

The TMS320 DSP Algorithm Standard Developer's Kit included in your Code Composer Studio™ installation contains tools to assist both algorithm writers and users.

The Developer's Kit includes documents, examples, and supplementary APIs. Example versions are provided to run out of the box on the following platforms: EVM6201, DSK6711, C62x simulator, C64x simulator, DSK540s, C54x simulator, and C55x simulator.

To Use eXpressDSP-Compliant Algorithms

See the reverse side of this card for documents and examples for algorithm users.

The TI web site provides a list of companies that have produced eXpressDSP-compliant algorithms. Go to the DSP Developers' Village and follow the links in the eXpressDSP Compliance Program box.

To Create eXpressDSP-Compliant Algorithms

See the reverse side of this card for documents and examples for algorithm writers.

Choose the Tools → Algorithm Standard → Template Code Generator menu item in Code Composer Studio to open the Template Code Generator. This tool generates the files that are needed to create eXpressDSP-compliant algorithm interfaces. For help using this tool, press F1.

For information about submitting a product for compliance testing, go to the DSP Developers' Village on the TI web site and follow the links in the eXpressDSP Compliance Program box.

Learning about the TMS320 DSP Algorithm Standard

See the following documents and online locations for information about the TMS320 DSP Algorithm Standard.

Adobe Acrobat Files	In Code Composer Studio, choose Help → Contents. Open the CCS Documentation book in the Contents tab, and select the Manuals topic for your DSP platform. Follow the link to view the manual list. In the web page that opens, follow links to open the documents listed below.	
Manuals	TMS320 DSP Algorithm Standard Rules and Guidelines (SPRU352)	**Algorithm writer and user:** Overall description. Details about rules and guidelines.
	TMS320 DSP Algorithm Standard API Reference (SPRU360)	**Algorithm writer and user:** API specification for interface standards.
	TMS320 DSP Algorithm Standard Developer's Guide (SPRU424)	**Algorithm writer:** Understand the process of developing an eXpressDSP-compliant algorithm.
	TMS320 DSP Algorithm Standard Demonstration Application (SPRU361)	**Algorithm writer and user:** Documents the demo example application.
Application Notes	The TMS320 DSP Algorithm Standard (SPRA581)	**Algorithm writer and user:** Overview of the rationale behind the Algorithm Standard.
	Using the TMS320 DSP Algorithm Standard in a Static DSP System (SPRA577)	**Algorithm user:** Integrate eXpressDSP-compliant algorithms in applications that do not allocate and free memory dynamically.
	Using the TMS320 DSP Algorithm Standard in a Dynamic DSP System (SPRA580)	**Algorithm user:** Integrate eXpressDSP-compliant algorithms in applications that allocate and free memory dynamically.
	Making DSP Algorithms compliant to the TMS320 DSP Algorithm Standard (SPRA579)	**Algorithm writer:** Focus on developing eXpressDSP-compliant algorithms for DSP applications.
Online Help	Within Code Composer Studio, choose Help → Contents and open the TMS320 DSP Algorithm Standard book in the Contents tab.	**Algorithm writer and user:** Quick reference summary of rules and guidelines. **Algorithm writer:** Help using the Template Code Generator.
Examples	c:*productdir*\examples*target*\xdais c:*productdir**cxxx*\xdais\src	**Algorithm writer and user:** Examine examples of eXpressDSP-compliant algorithm programming and integration.
Website	On the Web go to: http://www.ti.com Follow the links to the TI DSP Developer's Village and then to the TMS320 DSP Algorithm Standard.	**Algorithm writer and user:** Includes links to feature lists and benefits, FAQs, application notes, technical support, training, and a list of vendors whose products have passed compliance testing.

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