

# Embedded Target for TI TMS320C6000™ DSP Platform Release Notes

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Embedded Target for TI C6000 DSP Version 2.4 contains new features and major bug fixes. In addition, there are some considerations for upgrading from previous releases. These Release Notes discuss the following topics:

- “New Features” on page 1-2
- “Major Bug Fixes” on page 1-4
- “Upgrading from an Earlier Release” on page 1-5
- “Known Software and Documentation Problems” on page 1-6

## **Information About Previous Releases**

The “Embedded Target for TI TMS320C6000™ DSP 2.3 Release Notes” on page 2-1 describe Version 2.3 of the Embedded Target for TI TMS320C6000™ DSP Platform. These Release Notes discuss the following topics:

- “New Features” on page 2-2
- “Major Bug Fixes” on page 2-4
- “Upgrading from an Earlier Release” on page 2-5
- “Known Software and Documentation Problems” on page 2-6

## **Printing the Release Notes**

If you would like to print the Release Notes, you can link to a PDF version.



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# Embedded Target for TI

## TMS320C6000™ DSP 2.4 Release

### Notes

New Features (p. 1-2)

Describes the new features in this release

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Directs you to bug fix information

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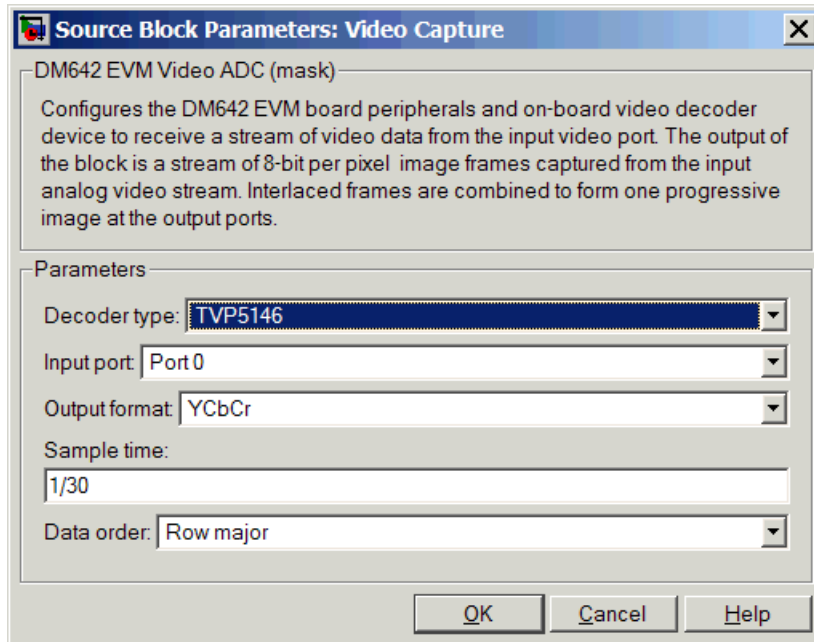
## New Features

This section summarizes the new features and enhancements introduced in the Embedded Target for TI C6000 DSP 2.4.

### New Video ADC and DAC Block Options for DM642 EVM

Recently, Spectrum Digital released a new version of the DM642 EVM that uses different decoders. To support the new revision, we changed the existing Video ADC and DAC blocks. We added new options for configuring the blocks.

- 1 To the Video ADC block, we added the **Decoder type** option to let you specify whether your EVM uses the Phillips SAA7115 decoder or the newer TI TVP5146/5150 decoder. The new DM642 EVM uses the TVP5146 decoder setting, shown here. This is also the default setting for the block configuration.



- 2 To both the Video ADC and Video DAC block options, we added the **Data order** option. With this, you tell the decoder or encoder whether to output video in row major or column major order.

Most video capture and display systems use row major ordering. MATLAB and Simulink use column major order. As a result, some Simulink blocks and MATLAB operations may not produce the output you expect unless you change the ordering for video from the default row major setting to column major.

You can find more information about these new options on the reference pages for the DM642 EVM Video ADC and DM642 Video DAC blocks in the *Embedded Target for TI C6000 DSP User's Guide* documentation in the online Help system.

## Model Reference Support

Embedded Target for TI C6000 DSP now supports the model referencing capability provided by Simulink. Model Reference makes working with very large models that have many blocks more convenient for code generation, maintenance, and operation. For more information about model reference, refer to the Real-Time Workshop documentation in the online Help system.

For information about using model reference with Embedded Target for TI C6000 DSP, refer to the Embedded Target for TMS320C6000 DSP Platform documentation in the online Help system.

## Allows Multiple DM642 EVM Video ADC Blocks in a Model

Now you can add up to two Video ADC blocks to Simulink models. Adding two blocks lets you use two inputs to your DM642 EVM and use both video streams. Having two video inputs available lets you do such things as use Picture-in-Picture on your display.

## Major Bug Fixes

To view major bug fixes made in Embedded Target for TI C6000 DSP in R14SP3, use the Bug Reports interface on the MathWorks Web site.

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**Note** If you are not already logged in to Access Login, when you link to the Bug Reports interface (see below), you will be prompted to log in or create an Access Login account.

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After you are logged in, use this Bug Reports link. You will see the bug report for Embedded Target for TI C6000 DSP. The report is sorted with fixed bugs listed first, and then open bugs.



## Upgrading from an Earlier Release

The following issues affect your targeting work when you upgrade to this release.

### **Generated Code Does Not Honor Simulation Stop Time on GRT-based Targets**

You can set a simulation stop time in the Configuration Parameters for any model. Models that you target to TI hardware using the GRT-based target do not respond to the simulation stop time in the generated code on the target.

ERT-based targets never respected the stop time setting.

We still support stop requests from the Stop block in code. This is true for both ERT- and GRT-based targets.

## Known Software and Documentation Problems

To view important known bugs in Embedded Target for TI C6000 DSP in R14SP3, use the Bug Reports interface on the MathWorks Web site.

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For information about other issues you might encounter while you work with the Embedded Target for TI C6000 DSP, refer to the Appendix of the Embedded Target for TI C6000 DSP documentation in the online Help system.

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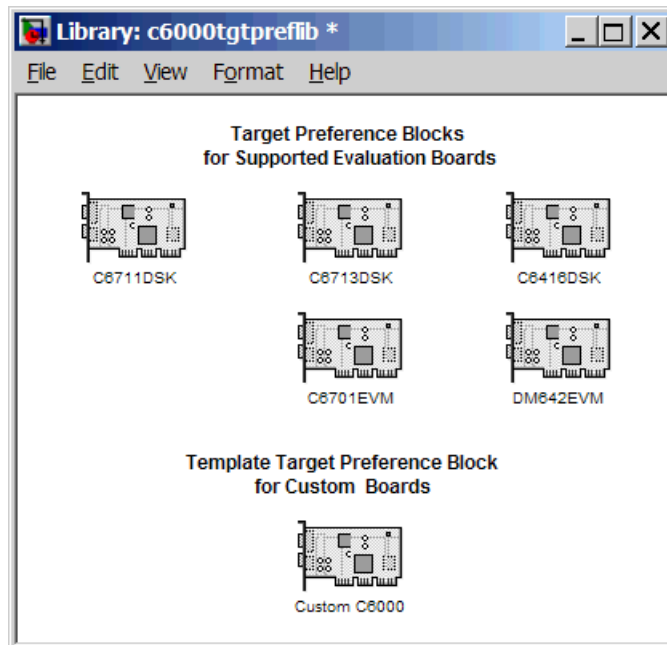
Directs you to known bug information

## New Features

This section summarizes the new features and enhancements introduced in the Embedded Target for TI C6000 DSP 2.3.

### New Target Preferences Blocks For Targeting Custom Hardware

Version 2.3 introduces new blocks for targeting both existing supported boards and custom hardware. Located in the C6000 Target Preferences library (enter `c6000tgtpreflib` at the MATLAB prompt) and shown in this figure, the blocks provide configuration details for both supported boards like the C6711 DSK, and your custom hardware based on processors from the C6000 family.



Note the two block categories:

- Blocks for supported boards:

- C6416DSK—Set the target preferences and memory map for the C6416 DSP Starter Kit
- C6701EVM—Set the target preferences and memory map for the C6701 Evaluation Module
- C6711DSK—Set the target preferences and memory map for the C6711 DSP Starter Kit
- C6713DSK—Set the target preferences and memory map for the C6713 DSP Starter Kit
- DM642EVM—Set the target preferences and memory map for the DM642 Evaluation Module
- Block for targeting custom hardware—Custom C6000—Set the target preferences and memory map for your custom hardware based on a TI C6000 family processor

These blocks replace the C6000 Target Preferences block released in an earlier version. For details about the blocks, refer to the online Help for the Embedded Target for TI C6000 DSP. Each block has a reference page and you can find tutorial information about using the new blocks in “Targeting C6000 DSP Hardware” in the online Help system as well.

## Added Interrupt Threshold Option in Configuration Parameters

To allow you to control how the compiler, linker, and assembler handle loops in your code, Embedded Target for TI C6000 DSP provides options that control interrupts in your code:

- **Interrupt threshold(-mi)**—enables the interrupt threshold option the project and enables Interrupt threshold value (cycles) so you can set the threshold.
- **Interrupt threshold value (cycles)**—sets the interrupt threshold for your code.

When you enable and set the threshold options, you are specifying the number of cycles that the compiler can disable interrupts. For more information, refer to the online Help system, and search for the keywords ‘interrupt’ ‘threshold’.

## Major Bug Fixes

To view major bug fixes made in Embedded Target for TI C6000 DSP in R14SP2, use the Bug Reports interface on the MathWorks Web site.

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After you are logged in, use this Bug Reports link. You will see the bug report for Embedded Target for TI C6000 DSP. The report is sorted with fixed bugs listed first, and then open bugs.

## Upgrading from an Earlier Release

The only upgrade issues in this release are:

- Requires Code Composer Studio version 3.0
- Requires you to make changes to existing models that use the existing C6000 Target Preferences block to perform target selection

The following sections provide more details about the upgrade process.

### **Embedded Target for TI C6000 Requires CCS 3.0**

To use this 2.3 release of Embedded Target for TI C6000 DSP, you must install Code Composer Studio 3.0 from Texas Instruments.

### **New Target Preferences Blocks Replace Existing C6000 Target Preferences Block**

If you have models that use the earlier version of the target preferences block—C6000 Target Preferences, those models now have a broken link to the block. The C6000 Target Preferences block is obsolete and is not provided in this release.

To update your models, replace the existing C6000 Target Preferences block with the appropriate new block from the C6000 Target Preferences library. Select either the block that is specifically identified for your target, or use the Custom C6000 block if your hardware is not one of the explicitly supported boards.

## Known Software and Documentation Problems

To view important known bugs in Embedded Target for TI C6000 DSP in R14SP2, use the Bug Reports interface on the MathWorks Web site.

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