Embedded Target for the TI TMS320C2000™ DSP Platform Release Notes

The "Embedded Target for the TI TMS320C2000 DSP Platform 1.3 Release Notes" on page 1-1 describe the following topics:

The Embedded Target for the TI TMS320C000 DSP Platform Release Notes also provide information about the previous releases of the product.

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 the TI TMS320C2000 DSP Platform 1.3 Release Notes

New Features

This section instroduces the new features added in the Embedded Target for the TI TMS320C2000 DSP Platform 1.3 since the Version 1.2.1 release.

Free-Running Scheduler

A new scheduler that does not use any interrupts has been added as an option to the L2407 and F2812 Target Preferences blocks under **CodeGeneration - Scheduler - Algorithm**. Tasks using this scheduler run in priority-based order and execution depends on how fast the task can run.

Support for C2407 Internal Memory Map

The Internal Memory Map option on the C2407 Target Preferences is now supported. Note that only very small programs will fit into the internal memory of the C2407.

New SCI Blocks

The C24x and C28x libraries now include blocks for receiving and transmitting data via the serial communications interface.

New SPI Blocks

The C24x and C28x libraries now include blocks for receiving and transmitting data via the serial peripheral interface.

New Ramp Control Block

A new Ramp Generator block for creating a ramp up or ramp down function has been added to the Digital Motor Control library.

New Ramp Generator Block

A new Ramp Generator block for generating ramp output has been added to the Digital Motor Control library.

ADC Enhancements

Support for the following has been added to the ADC blocks:

- Simultaneous sampling mode for c281x
- Oversampling mode for c281x and c240x

CAN Enhancements

Support for non-blocking transmit mode has been added to the CAN blocks.

PWM Enhancements

Support for the following has been added to the PWM blocks:

- Ability to change PWM waveform control logic in real time
- Ability to change deadband period value in real time
- Ability to select units (CPU clock cylces, seconds, or percentages) for PWM period and duty cycle

Simulation Stop Time

In generated code, the Simulink simulation stop time is no longer supported. A simulation stop via a Stop block, however, is honored in the generated code.

Major Bug Fixes

To view major bug fixes made since R14SP2 for the Embedded Target for the TI TMS320C2000 DSP Platform, use the Bug Reports interface on the MathWorks Web site.

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.

After you are logged in, use this Bug Fixes link. You will see the bug report for the Embedded Target for the TI TMS320C2000 DSP Platform. The report is sorted with fixed bugs listed first, and then open bugs.

If you are viewing these release notes in PDF form on the MathWorks Web site, you can refer to the HTML form of the release notes on the MathWorks Web site and use the link provided.

Known Documentation and Software Problems

To view important open bugs in R14SP3 for the Embedded Target for the TI TMS320C2000 DSP Platform, use the Bug Reports interface on the MathWorks Web site.

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.

After you are logged in, use this Open Bugs link. You will see the bug report for the Embedded Target for the TI TMS320C2000 DSP Platform. The report is sorted with fixed bugs listed first, and then open bugs. You can select the Status column to list the open bugs first.

If you are viewing these release notes in PDF form on the MathWorks Web site, you can refer to the HTML form of the release notes on the MathWorks Web site and use the link provided.

Embedded Target for the TI TMS320C2000 DSP Platform 1.2.1 Release Notes

New Features

This section instroduces the new features added in the Embedded Target for the TI TMS320C2000 DSP Platform 1.2.1 since the Version 1.2 release.

CAP Blocks

Two blocks for capturing transitions on the capture unit pins have been added — C24x CAP and C28x CAP.

Known Documentation and Software Problems

The MathWorks Web site includes a list of known software and documentation problems in Version 1.2.1.

If you are viewing these release notes in PDF form on the MathWorks Web site, please refer to the HTML form of the release notes on the MathWorks Web site and use the link provided.

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Embedded Target for the TI TMS320C2000 DSP Platform 1.2 Release Notes

New Features and Enhancements

This section instroduces the new features and enhancements added in the Embedded Target for the TI TMS320C2000 DSP Platform 1.2 since the Version 1.1.1 release.

RTDX

Two blocks for real-time data exchange (RTDX) support in generated code have been added — From RTDX and To RTDX. RTDX enables data exchange between the host, which hosts TI Code Composer Studio™ and the target, which hosts your DSP program.

VectorCAN

Blocks for VectorCAN and CAN message packing and unpacking have been added. VectorCAN blocks configure, read, and transmit CAN channels for use with Vector-Informatik drivers. CAN message packing blocks pack signals into CAN messages.

DC Motor Speed Control Demo

The new 2812 eZdsp DC Motor Speed Control demo requires Signal Processing Blockset.

Major Bug Fixes

The Embedded Target for the TI TMS320C2000 DSP Platform includes several bug fixes made since Version 1.1.1. This section describes a particularly important Version 1.2 bug fix.

To Memory Block and Contiguous Data

The To Memory block now verifies that data at its input port is contiguous.

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Embedded Target for the TI TMS320C2000 DSP Platform 1.1.1 Release Notes

Major Bug Fixes

The Embedded Target for the TI TMS320C2000 DSP Platform includes several bug fixes made since Version 1.1. This section describes the particularly important Version 1.1.1 bug fixes.

If you are viewing these Release Notes in PDF form, please refer to the HTML form of the Release Notes, using either the Help browser or the MathWorks Web site and use the link provided.

Upgrading from an Earlier Release

This section describes an upgrade issue involved in moving from the Embedded Target for the TI TMS320C2000 DSP Platform 1.1 to Version 1.1.1.

Space Vector Generator Inputs Renamed

The input parameters to the Space Vector Generator block have been renamed from Va and Vb to Ua and Ub, respectively. This change matches the terminology used in Texas Instruments documentation.

Embedded Target for the TI TMS320C2000 DSP Platform 1.1 Release Notes

New Features

This section summarizes the new features and enhancements introduced in the Embedded Target for the TI TMS320C2000 DSP Platform 1.1.

New DMC Library

A new digital motor control (DMC) library has been added to support C28x boards. This library contains these blocks:

- Clarke Transformation — transforms three-phase into two-phase quadrature quantities
- Inverse Park Transformation — transforms rotating reference frame vectors to two-phase stationary reference frame
- Park Transformation — transforms two-phase stationary system vectors to rotating system vectors
- PID Controller — creates a digital PID controller
- Space Vector Generator — calculates duty ratios to generate stator reference voltage
- Speed Measurement — calculates motor speed

New C28x Blocks

The following new blocks have been added to support C28x boards:

- C28x GPIO Digital Input — configures the General Purpose I/O pin registers for digital input
- C28x GPIO Digital Output — configures the General Purpose I/O pin registers for digital output
- C28x QEP — configures the quadrature pulse encoder circuit

New C24x Blocks

The following new blocks have been added to support C24x boards:

- C24x GPIO Digital Input — configures the General Purpose I/O pin registers for digital input
- C24x GPIO Digital Output — configures the General Purpose I/O pin registers for digital output

- C24x QEP — configures the quadrature pulse encoder circuit

Enhancements to Other Blocks

The C24x and C28x ADC blcoks have been enhanced by adding a triggering mode option which synchronizes the ADC with a PWM waveform generated by the same event manager module.

Major Bug Fixes

The Embedded Target for the TI TMS320C2000 DSP Platform includes several bug fixes made since Version 1.0. This section describes the particularly important Version 1.1 bug fixes.

If you are viewing these Release Notes in PDF form, please refer to the HTML form of the Release Notes, using either the Help browser or the MathWorks Web site and use the link provided.