

# **Embedded IDE Link™ VS Release Notes**

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<b>Summary by Version</b> .....	<b>1</b>
<b>Version 2.0 (R2008a) Embedded IDE Link™ VS Software</b> .....	<b>3</b>
<b>Version 1.1 (R2007b) Embedded IDE Link™ VS</b> .....	<b>5</b>
<b>Version 1 (R2007a+) Embedded IDE Link VS</b> .....	<b>8</b>
<b>Compatibility Summary for Embedded IDE Link™ VS Software</b> .....	<b>12</b>



## Summary by Version

This table provides quick access to what's new in each version. For clarification, see “Using Release Notes” on page 1.

<b>Version (Release)</b>	<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>	<b>Related Documentation at Web Site</b>
<b>Latest Version 2.0 (R2008a)</b>	Yes Details	No	Bug Reports	Printable Release Notes: PDF  Current product documentation
Version 1.1 (R2007b)	Yes Details	Yes Summary	Bug Reports	Printable Release Notes: PDF  Current product documentation
Version 1.0 (R2007a+)	Yes Details	No	Bug Reports	Printable Release Notes: PDF  Current product documentation

### Using Release Notes

Use release notes when upgrading to a newer version to learn about:

- New features
- Changes
- Potential impact on your existing files and practices

Review the release notes for other MathWorks™ products required for this product (for example, MATLAB® or Simulink®) for enhancements, bugs, and compatibility considerations that also might impact you.

If you are upgrading from a software version other than the most recent one, review the release notes for all interim versions, not just for the version you are installing. For example, when upgrading from V1.0 to V1.2, review the release notes for V1.1 and V1.2.

## What's in the Release Notes

### New Features and Changes

- New functionality
- Changes to existing functionality

### Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, the **Compatibility Considerations** subsection explains the impact.

Compatibility issues reported after the product is released appear under Bug Reports at the MathWorks Web site. Bug fixes can sometimes result in incompatibilities, so you should also review the fixed bugs in Bug Reports for any compatibility impact.

### Fixed Bugs and Known Problems

The MathWorks offers a user-searchable Bug Reports database so you can view Bug Reports. The development team updates this database at release time and as more information becomes available. This includes provisions for any known workarounds or file replacements. Information is available for bugs existing in or fixed in Release 14SP2 or later. Information is not available for all bugs in earlier releases.

Access Bug Reports using your MathWorks Account.

## Version 2.0 (R2008a) Embedded IDE Link™ VS Software

This table summarizes what's new in V2 (R2008a):

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
<b>Latest Version V2.0 (R2008a)</b>	Yes Details below	No	Bug Reports	Printable Release Notes: PDF  V2.0 product documentation

Features introduced in this version are described here:

### Supporting Additional Processors

The software supports the following added processors:

Processor Family	Supported Processors
Blackfin®	BF538 BF539
SHARC®	ADSP-21367, ADSP-21368, ADSP-21369
TigerSHARC®	TS-202, 203

### “What’s This?” Context-Sensitive Help Available for Simulink® Configuration Parameters Dialog

R2008a introduces “What’s This?” context-sensitive help for parameters that appear in the Simulink® Configuration Parameters dialog. This feature provides quick access to a detailed description of the parameters, saving you the time it would take to find the information in the Help browser.

To use the “What’s This?” help, do the following:

- 1 Place your cursor over the label of a parameter.

- 2 Right-click. A **What's This?** context menu appears.

For example, the following figure shows the **What's This?** context menu appearing after a right-click on the **Start time** parameter in the **Solver** pane.



- 3 Click **What's This?** A context-sensitive help window appears showing a description of the parameter.

## Profiling Stack Usage

The `profile` method now provides CPU stack profiling as well as real-time task execution profiling. Additional syntax options help you configure the stack for profiling and access the results. For more information, refer to `profile` and System Stack Profiling.

## Support for Analog Devices™ VisualDSP++® Version 5.0

Embedded IDE Link™ VS software works with Analog Devices™ VisualDSP++® software version 5.0 only. The new release does not support development with VisualDSP++® software version 4.5 or earlier versions.



## Version 1.1 (R2007b) Embedded IDE Link™ VS

This table summarizes what's new in V1.1 (R2007b):

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Version V1.1 (R2007b)	Yes Details below	Yes—Details labeled as <b>Compatibility Considerations</b> , below. See also Summary.	Bug Reports	Printable Release Notes: PDF  V1.1 product documentation

Features introduced in this version are described here:

### Link and Target Products Regrouped in New Start, Help, and Demos Category

A new product category, Links and Targets, now contains all MathWorks™ software products that link, target, or cosimulate code.

### Compatibility Considerations

This change impacts you in the following ways:

- Finding and viewing these products through the MATLAB® Desktop **Start** button and in the Help browser **Contents** and **Demos** panes.
- Using the demo command to access the product demos.

For more about this new product category, see “Demos and Help Browser Contents Now Include New Category for Links and Targets”, in the *MATLAB Release Notes*.

## Blocks for Accessing Memory in Generated Projects

Two blocks let you access memory from models. The blocks apply to all ADI processors. Find the blocks in the Core Support (vdsplinklib\_coresupport) in Embedded IDE Link™ VS block library (vdsplinklib).

Memory Allocate and Memory Copy let you configure memory, initialize memory, and move data to and from memory on a processor or board.

## Support for Real-Time Workshop® Target Function Library Replacement

If you are using `vdsplink_ert.tlc` as your system target file, Embedded IDE Link VS software now supports generating code that is optimized for the processor by using compiler intrinsics and assembly code to replace certain mathematical operator functions. Embedded IDE Link VS accomplishes this optimization through the Target Function Library (TFL) replacement mechanism that Real-Time Workshop® software provides.

TFL replacement requires Real-Time Workshop® Embedded Coder™ software and the embedded real-time target—`vdsplink_ert.tlc`.

For more general information about TFL, look for TFL in the Interface options in “Configuring Real-Time Workshop Code Generation Parameters”. For information about using TFL in Embedded IDE Link VS, refer to “Target Function Library and Embedded IDE Link VS Software”.

## set and get Methods with Updated Syntax

`set` and `get` now require both an object variable and property name input arguments to work. In earlier releases, you could use `set` and `get` with only the object variable name input to see a list of all of the properties for an object.

The following command syntaxes are no longer supported by `set` and `get`. In the examples, `vd` is an `adivdsp` object created by `adivdsp`:

- `get(vd)`
- `value = get(vd)`
- `set(vd)`

- `set(vd, 'propertyname1', propertyvalue1, 'propertyname2', propertyvalue2, ...)`
- `value = set(vd)`

The following syntax options work as before:

- `get(vd, 'propertyname')`
- `value = get(vd, 'propertyname')`
- `set(vd, 'propertyname', propertyvalue)`

### **Compatibility Consideration**

The syntax changes to `set` and `get` affect any scripts you might have that use `set` and `get` to return lists of object properties.

## **Refactored PIL Project Options in Model Configuration Parameters**

The existing PIL block option—**Configure model to build PIL algorithm object code**—has been replaced by a new option `Create_Processor_in_the_Loop_project` on the **Build action** list and a new parameter called **PIL block action**.

To build the PIL block with the new options, select `Create_Processor_in_the_Loop_project` for the **Build action**, and then select an option from the **PIL block action** list. For more information about the new configuration parameters and using PIL blocks, refer to [Processor-in-the-Loop Overview](#).

## Version 1 (R2007a+) Embedded IDE Link VS

This table summarizes what's new in V1 (R2007a+):

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Version V1.0 (R2007a+)	Yes Details below	Yes—Details labeled as <b>Compatibility Considerations</b> , below. See also Summary.	Bug Reports	Printable Release Notes: PDF  V1.0 product documentation

Features introduced in this version are described here:

### Automation Interface Component

You use the objects, functions, and methods provided by the automation interface component to interact with the Analog Devices™ VisualDSP++® development environment from the MATLAB® command prompt. You can load, add to, and build projects, read and write to processor memory, and manipulate directories and project configurations.

The Automation Interface component of Embedded IDE Link™ VS software supports all Analog Devices™ processors supported by Analog Devices VisualDSP++ software. To use Embedded IDE Link VS software, you must have Analog Devices VisualDSP++ software, version 4.5. For more details, refer to “Supported Version of Analog Devices™ VisualDSP++® Software” on page 11

### Project Generator Component

The project generator component enables you to generate code from Simulink® software models into the IDDE as VisualDSP++® software projects. When you add a target preferences block to your model and set your model Configuration

Parameters for the code generation process, your model becomes the source for code for an IDDE project and for supported Analog Devices processors

Embedded IDE Link VS supports the following processors:

<b>Processor Family</b>	<b>Supported Processors</b>
Blackfin®	BF531, BF532, BF533, BF534, BF536, BF537
SHARC®	ADSP-21362, ADSP-21363, ADSP-21364, ADSP-21365, ADSP-21366
TigerSHARC®	TS-201

Blackfin, SHARC, or TigerSHARC processors that are being discontinued may not be supported.

To support the Project Generator component for creating VisualDSP++ IDDE projects, Embedded IDE Link VS software provides a block library, `vdspinklib`, that contains the block libraries shown in the following table to enable you to configure Simulink software models to generate projects and code for Analog Devices processors.

<b>Block Libraries in <code>vdspinklib</code></b>	<b>Contents</b>
Blackfin DSP Support ( <code>vdspinklib_blackfin</code> )	Blackfin Hardware Interrupt block
Core Support ( <code>vdspinklib_coresupport</code> )	Idle Task block
SHARC DSP Support ( <code>vdspinklib_sharc</code> )	SHARC Hardware Interrupt block
Target Preferences ( <code>vdspinklib_tgtpref</code> )	Target Preferences block
TigerSHARC DSP Support ( <code>vdspinklib_tigersharc</code> )	TigerSHARC Hardware Interrupt block

## Constructor Name Changed for V1 Release

In the beta version of Embedded IDE Link VS software, the constructor for the `visualdsp` object was `visualdsp`. For this V1 release, the object constructor is changed to

```
adivdsp
```

The object that the constructor `adivdsp` creates is called an `adivdsp` object in the documentation. The `visualdsp` constructor no longer works to construct objects.

## Getting Additional Information About Embedded IDE Link™ VS Software

For information about the objects and methods available for you to use, refer to the online Help system, or enter the following command at the MATLAB prompt:

```
help vdsplink
```

MATLAB command window displays a list of the functions and methods in Embedded IDE Link VS command window, details about how to access help for those methods, and links to the product demos.

Use the following link—Embedded IDE Link VS—to access the demos. You will find demos that introduce the components of Embedded IDE Link VS:

- Automation Interface Tutorial (`vdspautointttutorial`)
- Project Generator Tutorial (`vdspprjgentutorial`)
- A Code Generation Workflow (`vdspworkflow12007ap`)

## Using an Analog Devices™ VisualDSP++® Demo License

If you are using a temporary license for VisualDSP++ software while you work with Embedded IDE Link VS software, you may receive a warning message when your VisualDSP++ software license is about to expire.

Starting about seven days before your VisualDSP++ software temporary license expires, VisualDSP++ software opens a dialog box each time you start the IDDE. The dialog box warns you that your license is about to expire. This dialog box interferes with the ability of Embedded IDE Link VS software to register two required components with the IDDE. As a result, Embedded IDE Link VS software cannot connect to the IDDE and MATLAB software hangs.

To prevent this problem from occurring, either upgrade and validate your Analog Devices VisualDSP++ software to a permanent license, or get a new temporary license.

## **Supported Version of Analog Devices™ VisualDSP++® Software**

Embedded IDE Link VS Software works with Analog Devices VisualDSP++ software version 4.5 only.

### **Compatibility Consideration**

To use this product with VisualDSP++ software V4.5, you must apply the following VisualDSP++ software update patch. The patch file is available from the Analog Devices Web site.

`VisualDSP++4.5_November_2006_update.vdu`

## Compatibility Summary for Embedded IDE Link™ VS Software

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided in the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
Latest Version V2.0 (R2008a)	None
Version V1.1 (R2007b)	<p>See the <b>Compatibility Considerations</b> for these changes:</p> <ul style="list-style-type: none"> <li>• “Link and Target Products Regrouped in New Start, Help, and Demos Category” on page 5</li> <li>• “set and get Methods with Updated Syntax” on page 6</li> </ul>
Latest Version V1 (R2007a+)	<p>See the <b>Compatibility Considerations</b> for these changes:</p> <ul style="list-style-type: none"> <li>• “Supported Version of Analog Devices™ VisualDSP++® Software” on page 11</li> <li>• “Constructor Name Changed for V1 Release” on page 10</li> </ul>