

# **Link for Analog Devices VisualDSP++<sup>®</sup> Release Notes**

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## Summary by Version

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

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
<b>Latest Version 1.1 (R2007b)</b>	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

### About Release Notes

Use release notes when upgrading to a newer version to learn about new features and changes, and the potential impact on your existing files and practices. Release notes are also beneficial if you use or support multiple versions.

If you are not upgrading from the most recent previous version, review 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 New Features and Changes, Version Compatibility Considerations, and Bug Reports for V1.1 and V1.2.

### New Features and Changes

These include

- New functionality

- Changes to existing functionality
- Changes to system requirements (complete system requirements for the current version are at the MathWorks Web site)
- Any version compatibility considerations associated with each new feature or change

### **Version Compatibility Considerations**

When a new feature or change introduces a reported incompatibility between versions, its description includes a **Compatibility Considerations** subsection that details the impact. For a list of all new features and changes that have reported compatibility impact, see the “Compatibility Summary for Link for ADI VisualDSP++” on page 11.

Compatibility issues that are reported after the product has been released are added to Bug Reports at the MathWorks Web site. Because bug fixes can sometimes result in incompatibilities, also review fixed bugs in Bug Reports for any compatibility impact.

**About Functions Being Removed.** This section lists functions removed or in the process of being removed. Functions typically go through several stages across multiple releases before being completely removed. This provides time for you to make adjustments to your code.

- **Announcement** – the Release Notes announce the planned removal, but there are no functional changes; the function runs as it did before.
- **Warning** – when you run the function, it displays a warning message indicating it will be removed in a future release; otherwise the function runs as it did before.
- **Error** – when you run the function, it produces an error. The error message indicates the function was removed and suggests a replacement function, if one is available.
- **Removal** – when you run the function, it fails. The error message is the standard message when MATLAB does not recognize an entry.

Functions might be in a stage for one or more releases before moving to another stage. Functions are listed in the Functions Being Removed section only when they enter a new stage and their behavior changes. For example,

if a function displayed a warning in the previous release and errors in this release, it appears on the list. If it continues to display a warning, it does not appear on the list because there was no change between the releases.

Not all functions go through all stages. For example, a function's impending removal might not be announced, but instead the first notification might be that the function displays a warning.

The Release Notes include actions you can take to mitigate the effects of a function's removal, such as adapting your code to use a replacement function.

### **Fixed Bugs and Known Problems**

MathWorks Bug Reports is a user-searchable database of known problems, workarounds, and fixes. The MathWorks updates the Bug Reports database as new problems and resolutions become known, so check it as needed for the latest information.

Access Bug Reports at the MathWorks Web site using your MathWorks Account. If you are not logged in to your MathWorks Account when you link to Bug Reports, you are prompted to log in or create an account. You then can view bug fixes and known problems for R14SP2 and more recent releases.

### **Related Documentation at Web Site**

**Printable Release Notes (PDF).** You can print release notes from the PDF version, located at the MathWorks Web site. The PDF version does not support links to other documents or to the Web site, such as to Bug Reports. Use the browser-based version of release notes for access to all information.

**Product Documentation.** At the MathWorks Web site, you can access complete product documentation for the current version and some previous versions, as noted in the summary table.

## Version 1.1 (R2007b) Link for ADI VisualDSP++

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
<b>Latest Version V1.1 (R2007b)</b>	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 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 VisualDSP 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, Link for ADI VisualDSP++ now supports generating code that is optimized for the processor by using compiler intrinsics and assembly code to replace certain mathematical operator functions. Link for ADI VisualDSP++ accomplishes this optimization through the Target Function Library (TFL) replacement mechanism that Real-Time Workshop provides.

TFL replacement requires Real-Time Workshop Embedded Coder 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 Link for ADI VisualDSP++, refer to “Target Function Library and Link for ADI VisualDSP++”.

## 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+) Link for ADI VisualDSP++

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++<sup>®</sup> 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 Link for ADI VisualDSP++ supports all Analog Devices processors supported by Analog Devices VisualDSP++<sup>®</sup>. To use Link for ADI VisualDSP++, you must have Analog Devices VisualDSP++<sup>®</sup>, version 4.5. For more details, refer to “Supported Version of Analog Devices VisualDSP++<sup>®</sup>” on page 10

### Project Generator Component

The project generator component enables you to generate code from Simulink models into the IDDE as Analog Devices VisualDSP++<sup>®</sup> 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

Link for ADI VisualDSP++ 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 Analog Devices VisualDSP++® projects, Link for ADI VisualDSP++ provides a block library, `vdspinklib`, that contains the block libraries shown in the following table to enable you to configure Simulink 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 Link for ADI VisualDSP++, 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 Link for ADI VisualDSP++

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 displays a list of the functions and methods in Link for ADI VisualDSP++, details about how to access help for those methods, and links to the product demos.

Use the following link—Link for ADI VisualDSP++—to access the demos. You will find demos that introduce the components of Link for ADI VisualDSP++:

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

## Using an Analog Devices VisualDSP++<sup>®</sup> Demo License

If you are using a temporary license for VisualDSP++ while you work with Link for ADI VisualDSP++, you may receive a warning message when your Analog Devices VisualDSP++<sup>®</sup> license is about to expire.

Starting about seven days before your VisualDSP++ temporary license expires, Analog Devices VisualDSP++<sup>®</sup> opens a dialog box each time you start

Analog Devices VisualDSP++®. The dialog box warns you that your license is about to expire. This dialog box interferes with the ability of Link for ADI VisualDSP++ to register two required components with Analog Devices VisualDSP++®. As a result, Link for ADI VisualDSP++ cannot connect to the Analog Devices VisualDSP++® IDDE and MATLAB hangs.

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

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

Link for ADI VisualDSP++ works with Analog Devices VisualDSP++® version 4.5 only.

### **Compatibility Consideration**

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

`VisualDSP++4.5_November_2006_update.vdu`

## Compatibility Summary for Link for ADI VisualDSP++

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.

<b>Version (Release)</b>	<b>New Features and Changes with Version Compatibility Impact</b>
<b>Latest Version V1.1 (R2007b)</b>	See the <b>Compatibility Considerations</b> for this change: <ul style="list-style-type: none"> <li>• “Link and Target Products Regrouped in New Start, Help, and Demos Category” on page 4</li> <li>• “set and get Methods with Updated Syntax” on page 5</li> </ul>
<i>Latest Version V1 (R2007a+)</i>	<ul style="list-style-type: none"> <li>• “Supported Version of Analog Devices VisualDSP++<sup>®</sup>” on page 10</li> <li>• “Constructor Name Changed for V1 Release” on page 9</li> </ul>