Gauges Blockset Release Notes

Contents

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
Latest Version V2.0.5 (R2007a)	No	No	Bug Reports	Printable Release Notes: PDF Current product documentation
V2.0.4 (R2006b)	No	No	Bug Reports	No
V2.0.3 (R2006a)	No	No	Bug Reports Includes fixes	No
V2.0.2 (R14SP3)	No	No	Bug Reports Includes fixes	No
V2.0.1 (R14SP2)	No	No	Bug Reports Includes fixes	No
V2.0 (R14SP1)	Yes Details	Yes Summary	No bug fixes	No
V1.2 (R14)	Yes Details	Yes Summary	Fixed bugs	No
V1.1.2 (R13)	Yes Details	Yes Summary	No bug fixes	No
V1.1.1 (R12.1)	Yes Details	Yes Summary	No bug fixes	No

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 V1.1.2, V1.1.2, 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 known 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 compatibility impact, see the "Compatibility Summary for Gauges Blockset" on page 18.

Compatibility issues that become known 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.

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.

The Bug Reports database was introduced for R14SP2 and does not include information for prior releases. You can access a list of bug fixes made in prior versions via the links in the summary table.

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 2.0.5 (R2007a) Gauges Blockset

This table summarizes what's new in Version 2.0.5 (R2007a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports	Printable Release Notes: PDF Current product documentation

Version 2.0.4 (R2006b) Gauges Blockset

This table summarizes what's new in Version 2.0.4 (R2006b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports	No

Version 2.0.3 (R2006a) Gauges Blockset

This table summarizes what's new in Version 2.0.3 (R2006a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports Includes fixes	No

Version 2.0.2 (R14SP3) Gauges Blockset

This table summarizes what's new in Version 2.0.2 (R14SP3):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports Includes fixes	No

Version 2.0.1 (R14SP2) Gauges Blockset

This table summarizes what's new in Version 2.0.1 (R14SP2):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports Includes fixes	No

Version 2.0 (R14SP1) Gauges Blockset

This table summarizes what's new in Version 2.0 (R14SP1):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes—Details labeled as **Compatibility Considerations**, below. See also Summary.	No bug fixes	No

New features and changes introduced in this version are described here.

Changes Since V1.2 (R14)

[*]*Changes described in this section reflect reprogramming implemented to comply with a court decision concerning patent litigation.*

All source blocks (dials) have been removed from Dials & Gauges Blockset and it has been renamed Gauges Blockset 2.0.

Demos in other MathWorks products have been updated to reflect the changes in Gauges Blockset.

If you are updating from a release earlier than Release 14, then you should see "Version 1.2 (R14) Dials & Gauges Blockset" on page 12.

Compatibility Considerations

This section describes the issues involved in moving to Gauges Blockset 2.0 from Version 1.2 of Dials & Gauges Blockset. In the discussion below, a *legacy model* means a model that contains one or more blocks from Dials & Gauges Blockset and that you saved using Release 14 or earlier.

Resave Models to Suppress Warnings. When you initially open a legacy model, Simulink® issues one or more warnings about unknown parameters, such as the message below:

```
Warning: ActiveX Block block (mask) does not have a parameter
named 'output'.
```

If you resave the model using V2.0 (R14SP1) of Gauges Blockset, the unknown parameters will not be saved and the warnings will not appear the next time you open the model.

Dial Blocks and Related Parameters Removed. Gauges Blockset no longer enables you to configure blocks as sources, that is, the blockset no longer supports user input. The blockset omits the following libraries:

- Buttons & Switches

- Knobs & Selectors

- Sliders

- Demo Joystick Control

Also, the Block Parameters dialog box for blocks in Gauges Blockset omits the **Output property** and **Event on which to output** parameters. This dialog box no longer offers output as a possible value for the **Connections** parameter.

If you open a legacy model that previously contained dials (blocks from the former Dials & Gauges Blockset that operated as sources), you will find that they now show up as generic ActiveX control blocks configured to simply pass their newly sprouted inport to their outport. Since these blocks perform no useful function other than to denote where you previously had used a "dial," we recommend that you remove them from your model.

Button Blocks Modified and Renamed. Some blocks in the former Buttons & Switches library are now in the On Off Gauges library. The blocks are configured as output displays or sinks, that is, they no longer support user input.

As the table below indicates, some blocks in the former Buttons & Switches library have been renamed to reflect the new reduced capability.

Former Name of Block	New Name of Block
Dip Switch	Dip Switch Readout
Generic Toggle	On Off Readout

In addition, the following blocks have been removed from the library.

- OnOff Switch
- Round Green
- Round Red
- Round Yellow
- Square Green
- Square Red
- Square Yellow

Slider Blocks Modified and Renamed. The Sliders library, along with the Horizontal Slider and Vertical Slider have been removed. All other blocks in this library have been converted to sinks — that is, they are now output devices and do not support input — and have been moved to the Linear Gauges library.

In addition, two of the blocks that have been moved to the Linear Gauges library have been renamed.

Former Name of Block	New Name of Block
Generic Slider	Generic Bar Gauge
Scaled Slider	Scaled Bar Gauge

Version 1.2 (R14) Dials & Gauges Blockset

> **Note** Dials & Gauges Blockset 1.2 has been superseded by Gauges Blockset 2.0 and statements on these historical release notes may not apply to the current release.

This table summarizes what's new in Version 1.2 (R14):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes—Details labeled as **Compatibility Considerations**, below. See also Summary.	Fixed bugs	No

New features and changes introduced in this version are described here.

Block Customizations Saved in Model File

When you customize a preconfigured Dials & Gauges Blockset block using its ActiveX Control Properties dialog box, the customizations are saved in the model file rather than in external .ax files.

Compatibility Considerations

If you open a legacy model that was saved from a previous version, then Simulink reads the legacy .ax files and incorporates the information into the model file the next time you save the model.

Version 1.1.2 (R13) Dials & Gauges Blockset

Note Dials & Gauges Blockset 1.1.2 has been superseded by Gauges Blockset 2.0 and statements on these historical release notes may not apply to the current release.

This table summarizes what's new in Version 1.1.2 (R13):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes—Details labeled as **Compatibility Considerations**, below. See also Summary.	No bug fixes	No

New features and changes introduced in this version are

- "Examples of Displaying Multiple Input Values" on page 13
- "Numerical Value of Buttons and Switches Changed" on page 13
- "Off-Block Control Parameter Removed" on page 14

Examples of Displaying Multiple Input Values

The documentation uses two new example models to illustrate two different techniques for displaying multiple input values simultaneously on a multiple-component gauge. One model simulates a stopwatch that has multiple needles, while the other model varies multiple portions of a pie chart. See "Controlling Multiple Graphical Elements" for details.

Numerical Value of Buttons and Switches Changed

In V1.1.1 (R12.1) of Dials & Gauges Blockset, ActiveX control blocks in the Buttons & Switches library return a numerical value of -1 when in the "on" state. As of V1.1.2 (R13), the same blocks return a numerical value of 1 when

in the "on" state. The "off" state is unaffected by this change, and continues to return a numerical value of 0.

Note More generally, this change in behavior applies to your own ActiveX controls if they return a property whose data type is Boolean.

Compatibility Considerations

Here are two possible ways to upgrade your existing models that use button or switch blocks:

- If the model contains a "Button convert to Simulink" block at the output port of the button or switch block, then remove the "Button convert to Simulink" block.

- Otherwise, insert a Gain block at the output port of the button or switch, using a value of -1 for the **Gain** parameter. The Gain block is in the Simulink Math library.

If you previously used a Data Type Conversion block to convert to a Simulink Boolean value, then you do not need to change your model.

Off-Block Control Parameter Removed

The **Event on which to output** field has been removed from the Block Parameters dialog box for off-block controls. Off-block dials are not supported.

Compatibility Considerations

Legacy models that used off-block dials might not work properly because this feature is not supported.

Version 1.1.1 (R12.1) Dials & Gauges Blockset

> **Note** Dials & Gauges Blockset 1.1.1 has been superseded by Gauges Blockset 2.0 and statements on these historical release notes may not apply to the current release.

This table summarizes what's new in Version 1.1.1 (R12.1):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes—Details labeled as **Compatibility Considerations**, below. See also Summary.	No bug fixes	No

New features and changes introduced in this version are

- "Real-Time Workshop Support" on page 15
- "External Mode Support" on page 16
- "Block Parameters Dialog Boxes Enhanced" on page 16
- "Aircraft and Joystick Demo Controls Added" on page 17
- "Double-Clicking Response Changed" on page 17

Real-Time Workshop Support

You can now use Real-Time Workshop® to generate code from models that include Dials & Gauges Blockset blocks.

For dials, the code you generate contains static values (i.e., the value specified at the time of code generation). Gauges are ignored during code generation, except through the use of external mode (see below). If you want to manipulate dials and view the gauges, you can do so through the Real-Time Workshop's external mode.

External Mode Support

Dials & Gauges Blockset 1.1.1 support for external mode allows you to incorporate dials and gauges into any target that you can connect to through external mode (e.g., the xPC Target and Real-Time Windows Target environments; see the documentation for those products for details).

For more information about external mode, see the "External Mode" section of the Real-Time Workshop documentation.

Block Parameters Dialog Boxes Enhanced

A new field, **Event on which to output**, has been added to the Block Parameters dialog box for dials.

This field has been added to allow dial controls to be more efficient. In Dials & Gauges Blockset 1.0, at each time step Simulink queried the dial for its value. Now, in Dials & Gauges Blockset 1.1.1, when you move a dial, an event occurs that changes the output value of the block. This new event-driven approach is more efficient than the former approach of repeatedly requesting the same information at successive time steps.

The **Event on which to output** field allows you to specify what events will cause the value of the output to be updated.

Note The field that was called **Event** in Dials & Gauges Blockset 1.0 has been renamed in Dials & Gauges Blockset 1.1.1; it is now called **Other events and handlers**.

Compatibility Considerations

When you open a Dials & Gauges Blockset 1.0 model with Dials & Gauges Blockset 1.1.1, default values may be automatically inserted in the **Event on which to output** field. This occurs for built-in Dials & Gauges Blockset blocks when this field is empty.

Aircraft and Joystick Demo Controls Added

The Global Majic ActiveX Library, dng_gmslib, contains two new demo sublibraries:

- Demo Aircraft Instruments
- Demos Joystick Control

These sublibraries contain ActiveX controls that use time-limited evaluation licenses from Global Majic, Inc. Contact The MathWorks for details about purchasing full licenses for those controls.

Double-Clicking Response Changed

In V1.0, double-clicking on the border of a block displays the Block Parameters dialog box. In V1.1.1 (R12.1), double-clicking on a block that is supplied with the blockset (i.e., a built-in block) displays the ActiveX Control property sheet. If you double-click on a user-created block, the Block Parameters dialog box is displayed (i.e., the behavior is the same as in V1.0).

Compatibility Considerations

Be aware of this change in mouse response when you double-click on blocks in this blockset.

Compatibility Summary for Gauges Blockset

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 V2.0.5 (R2007a)	None
V2.0.4 (R2006b)	None
V2.0.3 (R2006a)	None
V2.0.2 (R14SP3)	None
V2.0.1 (R14SP2)	None
V2.0.0 (R14SP1)	See the **Compatibility Considerations** subheading for "Changes Since V1.2 (R14)" on page 9.
V1.2 (R14)	See the **Compatibility Considerations** subheading for this new feature or change: • "Block Customizations Saved in Model File" on page 12

Version (Release)	New Features and Changes with Version Compatibility Impact
V1.1.2 (R13)	See the **Compatibility Considerations** subheading for each of these new features or changes: • "Numerical Value of Buttons and Switches Changed" on page 13 • "Off-Block Control Parameter Removed" on page 14
V1.1.1 (R12.1)	See the **Compatibility Considerations** subheading for each of these new features or changes: • "Block Parameters Dialog Boxes Enhanced" on page 16 • "Double-Clicking Response Changed" on page 17