Gauges Blockset™ Release Notes

Contents

Summary by Version

This table provides quick access to what's new in each version. For clarification, see "Using Release Notes" on page 2.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Latest Version V2.0.5 (R2008a)	No	No	Bug Reports	Printable Release Notes: PDF Current product documentation
Latest Version V2.0.5 (R2007b)	No	No	Bug Reports	No
Latest Version V2.0.5 (R2007a)	No	No	Bug Reports	No
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

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 2.0.5 (R2008a) Gauges Blockset™ Software

Gauges Blockset™ software has no changes between R2007a and R2008a, so its version number has not changed.

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 2.0.5 (R2007b) Gauges Blockset™ Software

Gauges Blockset™ software has no changes between R2007a and R2007b, so its version number has not changed.

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 2.0.5 (R2007a) Gauges Blockset™ Software

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™ Software

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™ Software

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™ Software

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™ Software

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™ Software

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 software.

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

Compatibility Considerations

This section describes the issues involved in moving to Gauges Blockset software Version 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, you see 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 software, 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 software 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 Gauges Blockset blocks 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 Software

Note Dials & Gauges Blockset 1.2 has been superseded by Gauges Blockset™ software Version 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 the application 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 Software

Note Dials & Gauges Blockset 1.1.2 has been superseded by Gauges Blockset™ software Version 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

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 software, 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 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 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 Software

Note Dials & Gauges Blockset 1.1.1 has been superseded by Gauges Blockset™ software Version 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® Software Support

You can now use Real-Time Workshop® software 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 external mode.

External Mode Support

Support for external mode in Dials & Gauges Blockset software Version 1.1.1 allows you to incorporate dials and gauges into any target that you can connect to through external mode (e.g., see the xPC Target™ and Real-Time Windows Target™ 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 software Version 1.0, at each time step the application queried the dial for its value. Now, in Dials & Gauges Blockset software Version 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 software Version 1.0 has been renamed in Dials & Gauges Blockset software Version 1.1.1; it is now called **Other events and handlers**.

Compatibility Considerations

When you open a Version 1.0 model with Version 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 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 Properties dialog box. 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™ 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 V2.0.5 (R2008a)	None
Latest Version V2.0.5 (R2007b)	None
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 11.
V1.2 (R14)	See the **Compatibility Considerations** subheading for this new feature or change: • "Block Customizations Saved in Model File" on page 14

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 15 • "Off-Block Control Parameter Removed" on page 16
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 18 • "Double-Clicking Response Changed" on page 19