ALTAIR

RELEASE NOTES

Altair Embed® 2024

Embed Pro, Embed SE, Embed Personal, Embed/Digital Power Designer, Embed/eDrives, and Embed Viewer

Release Notes Altair Embed 2024

These Release Notes cover Embed Pro, Embed SE, Embed Personal, and Embed Viewer, and the additional cost add-ons Embed/Digital Power Designer and Embed/eDrives. They include new features and enhancements, known limitations, and resolved simulation and code generation issues.

Please note the following:

- You cannot run Embed Personal through a Remote Desktop connection.
- Embed Basic has been retired.
- All 32-bit versions of Embed software will be retired in 2024.

Enhancements

Simulation

General Enhancements	Description	Version
Easy documentation access	Adds the Common Tasks Tutorial and Release Notes to the Help menu.	2024
NI-simulated devices	Adds procedure to create an NI-simulated device to Embed.	2024
Trial license	Activates a 30-day trial license from the Setup License dialog.	2024

Block Enhancements	Description	Version
Break block	Terminates a loop when iteration count is reached.	2024
JSON Create String block	Renames JSON block to JSON Create String block.	2024
JSON Get Value block	Gets the value of the given key.	2024
PolarPlot block	Displays time or sample segment in a floating dialog based on whether the polarPlot is encapsulated in an enabled compound block.	2024
PSIM- and Twin Activate-generated DLLS	Automatically adds PSIM- and Twin Activate-generated blocks to Embed's Imported Blocks menu.	2024
State block	Displays a warning message when a state chart state has no output arc.	2024

Code Generation/HIL

These features and enhancements apply only to Altair Embed and Altair Embed Personal.

Code Generation/HIL Enhancements	Description	Version
Arduino IDE v2.3.2	Supports Arduino IDE v2.3.2.	2024
MISRA C compliance	MISRA C 2023 compliant on the Embed RTOS.	2024
STMicroelectronics toolchains	Supports the ARM GCC 10.3 and KEIL 5 toolchains. You can install both toolchains. Embed lets you choose the toolchain to be used when you configure your target.	2024
Texas Instruments target support	Expands target support to include F28P650	2024
Unconnected blocks warning	Displays a warning for enabled compound blocks with no internal computational blocks, which allows code generator to not allocate unnecessary memory space and save on RAM requirements.	2024

Limitations

Installation

- When you install Embed, you do not have the option to automatically back up installed files; you can manually back up prior to the installation or install to a different directory.
- In rare instances, the Embed installer creates a vissim.ini folder rather than a file. If this happens, Embed will not run properly. Delete the vissim.ini folder and re-install Embed.
- If you are installing (not upgrading) Arduino IDE 2.3.2, you must compile one diagram after the install to ensure the proper Arduino folders are created.
- If you install two instances of Embed, then uninstall one of them, the OML engine may also be uninstalled; in this case, Embed switches to the built-in math script engine.
- If Adobe Acrobat is installed on your computer, Acrobat does not launch when you click the **Install Guide** button during the installation process.

General

- If you choose Chrome as your Browser for Help, and Help opens in an empty window, close Chrome and then re-open Help.
- In Office 2021, DDE server launch is disabled and Group Policy support for both DDE settings is present. The January 2022 update disables DDE server launch in all supported versions of Excel and provides Group Policy support for this setting in Office 2016 and Office 2019.

- If you are using STMicroelectronics STM32 devices for HIL on a Dell computer, you must disable the STM32 USB storage device driver in order run HIL simulations.
  1. Connect your **STM32 board** to your **Dell PC** via **USB.**
  2. Type **Control Panel** into the system search box in the lower left corner of the screen.
  3. Select **Hardware and sound > Devices and Printers**.
  4. Double-click the **STM32 STLink** icon.
  5. Click the **Hardware** tab.
  6. Double-click **MBED microcontroller USB device** in the list.
  7. Click the **Driver** tab, then the **Disable Device** button.
  8. Click **OK**. You can now run HIL with no errors.

Simulation

- ActiveX blocks are 32-bit and do not work with 64-bit applications.
- When simulating a diagram that uses MQTT connected to a blocked or incorrect port, you will have to wait 20 – 25 seconds before you can abort the simulation. You may need to contact your IT group if the port is blocked.
- Co-simulation with PSIM does not detect the modelsim co-sim element.

Code Generation/HIL

- **Arduino**
  - HIL for string outputs does not work.
  - Invert block under Matrix Operation does not work.
  - The binary data type for Serial Write block outputs two or four bytes rather than the expected single byte.
- **Host PC**
  - Code generation for PC Host does not work for break block.
- **Linux®**
  - Diagrams set up to run on Linux targets using the Target Interface block may show spikes in CPU utilization due to the multiprocessing nature of how Linux processes are scheduled.
- **Raspberry Pi**
  - HIL for string outputs does not work.
  - Embed supports only 32-bit OS.
  - Under Examples > Embedded > Linux > Raspberry Pi > SPI, the following two diagrams produce incorrect temperature values: SPI0_TC77_RPi3BPlus and SPI1_TC77_RpiBPlus.

Resolved Issues

General

Issue	Resolved In
File > Exit: Does not always work	2024
File > Save: BMPS associated with light blocks are not save to VSMX files	2024
Remotely uninstalling Embed does not work	2024
Starting Embed with insufficient Altair Units does not display warning message	2024

Simulation

Issue	Resolved In
Compound block: When Local Time Step is activated, encapsulated plots have incorrect time-axis scaling	2024
Demux block: Incorrect results when a string is passed to the val pin	2024
JSON examples not compatible with IoT Studio	2024
Matrix block: Examples in Help file are incorrect	2024
UDP blocks: Previous values are applied when you click Pack Offsets button in the dialogs	2024

Code Generation/HIL

These resolved issues apply to Altair Embed and Altair Embed PE; they do not apply to Altair Embed SE.

Issue	Resolved
Compound block with too many input and output pins causes target buffer overflow	2024
Median Smooth block: Incorrect code gen output	2024
Warning and compilation messages on eDrive examples	2024
F280x: derivative block produces incorrect results	2024
F280x: integrator block produces incorrect results	2024
F280x: limitedIntegrator block produces incorrect results	2024
F280x: resetIntegrator block produces incorrect results	2024

Issue	Resolved
STM32: derivative block produces incorrect results	2024
STM32: integrator block produces incorrect results	2024
STM32: limitedIntegrator block produces incorrect results	2024
STM32: resetIntegrator block produces incorrect results	2024