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Analog Devices, Inc.

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SigmaStudio Release Notes

Document Status:	Approved
Approved By:	ASH

Revision List

Table 1: Revision List

Revision	Date	Description
0.1	22.04.2016	Draft Version. Taken from previous Release notes
0.2	25.04.2016	Updated for 3.13.1Beta
0.3	28.04.2016	Updated the Limitations.
0.4	29.04.2016	SQAE, SQAL review comments are addressed
1.0	29.04.2016	Approved and baselined.
1.1	16.06.2016	Added bug fix details for the 3.13.2 Beta
1.2	31.08.2016	Added details for 3.13 Release
1.3	07.09.2016	Updated Test results to the release notes.
2.0	07.09.2016	Baselined after Review and Approval
2.1	19.11.2016	Added details for 3.14.1Beta
2.2	25.11.2016	Updated for SQAE review comments.
3.0	26.11.2016	Baselined and approved
3.1	17.12.2016	Updated for 3.14 Release.
3.2	22.12.2016	Added Known Issues.
4.0	23.12.2016	Baselined after the review and approval.
4.1	13.02.2017	Updated release notes for 3.15.1 Beta
4.2	13.02.2017	Copyright information is updated.
5.0	13.02.2017	Approved and baselined.
5.1	26.06.2017	Updated for 3.15.2 Beta Release.
5.2	28.06.2017	SQAE comments closed.
6.0	29.06.2017	Baselined after approval.
6.1	30.06.2017	Created Empty Feature list for next release.
6.2	15.09.2017	Release notes is updated for 3.15 Release
7.0	29.09.2017	Baselined
7.1	02.11.2017	3.16.1 Beta
8.0	03.11.2017	Baselined
8.1	17.11.2017	3.16.2 Alpha
8.2	20.11.2017	Resolved review comments
9.0	21.11.2017	Baselined after approval.
9.1	29.11.2017	3.16.3 Beta

10.0	01.12.2017	Baselined after approval.
10.1	08.12.2017	Updated for 3.16 Release.
10.2	21.12.2017	Closed review comments
11.0	21.12.2017	Baselined after approval for 3.16 Release
11.1	08.02.2018	Updated for 3.17 Release
11.2	09.02.2018	Closed SQAE comments
12.0	12.02.2018	Baselined after ASH approval.
12.1	16.03.2018	Updated release notes for 4.0 Release.
13.0	21.03.2018	Release Notes Baselined
13.1	24.05.2018	Updated release notes for 4.1 Release.
13.2	30.05.2018	Minor mistakes corrected,
14.0	05.06.2018	Baselined after approval.
14.1	05.06.2018	Updated features section.
15.0	05.06.2018	Baselined after approval.
15.1	05.08.2018	Updated release notes for 4.2 Release.
15.2	30.08.2018	SQAE review comments addressed.
16.0	31.08.2018	Baselined after ASH approval
16.1	17.05.2019	Updated for the 4.3.3 Beta Release.
17.0	21.05.2019	Baselined after ASH approval.
17.1	18.06.2019	Updating the release notes for 4.4 Release.
17.2	27.06.2019	Closed the review comments
18.0	02.07.2019	Baselined after ASH approval
18.1	06.11.2019	Updating the release notes for 4.5 Release
18.2	08.11.2019	Addressed review comments
19.0	08.11.2019	Baselined after ASH approval
19.1	14.12.2020	Updating the release notes for 4.6 Release
19.2	18.12.2020	Review corrections done.
20.0	18.12.2020	Baselined after approval.
20.1	24.12.2020	Release date updated.
21.0	24.12.2020	Baselined after approval.
21.1	04.04.2022	Updating the release notes for 4.7 Release
21.2	12.04.2022	Addressed review comments.
22.0	14.04.2022	Approved and baselined for 4.7 Release

Copyright, Disclaimer Statements

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1 Introduction

The SigmaStudio graphical development tool is the programming, development, and tuning software for the SigmaDSP audio processors. Familiar audio processing blocks can be wired together as in a schematic, and the compiler generates DSP-ready code and a control surface for setting and tuning parameters.

1.1 Purpose

The SigmaStudio graphical development tool is the programming, development, and tuning software for the SigmaDSP audio processors. Familiar audio processing blocks can be wired together as in a schematic, and the compiler generates DSP-ready code and a control surface for setting and tuning parameters.

1.2 Scope

The scope of this release is to do minor feature enhancements and fix issues found in the SigmaDSP modules and various features of the SigmaStudio.

1.3 Organization of the document

Section 1 to 5 details about the content of the releases, the changes or the features which got added

Section 6 captures the installation procedure for the SigmaStudio software tool.

Section 7 captures the known issues/ problems and work arounds for the issues in the release.

2 Release Information

2.1 Release Contents

Sl. No.	Release Item	Description	Version Details
1.	ADI_SigmaStudio-Rel 4.7-x64.exe	64-bit Installer for SigmaStudio 4.7 Release	4.7 Release
2.	SigmaStudio_4.7_Release_Notes.pdf	Release notes. (Refers this document)	4.7 Release

Table 2: Release Contents

2.2 Hardware and Software Requirements

Pre-Requisite	Details
Hardware Requirements	256 MB of RAM (1GB recommended) 80 MB of available hard disk space 1024 x 768 screen resolution - USB 2.0/3.0 data port (Required for use with Evaluation hardware only)
Software Requirements	- Windows 10 (x64) - Microsoft .NET Framework 4.7

Table 3: Hardware and Software Requirements

3 Supported Features

Release Number	Release Date	Features /Bug Fixes
4.7 Release	18-Apr-2022	**ADAU145x/ADAU146x:** • Checksum error when Version control enabled in ADAU-145x/146x is resolved. • Issue with operation of up sampling and down sampling algorithm is resolved. • Issue with schematic compilation when HW Slew NxM Mixers and Multiple Control Mixer Modules are present in the schematic, is resolved. • Complex Division module functionality issue with growth resolved. • The exception issue with the schematics created in SigmaStudio 4.5 is resolved. • Issue in copy and paste of General EQ (2nd order) Slew Ex filter is resolved. • Issue in Hilbert Transform module functionality is resolved. • Block Signal Mixer compilation issue when there is growth more than 4, is resolved. • The Safe load functionality issue in Register Read Write window is resolved. • Compilation errors on using the DM delay modules is resolved. • Exception issue with Delay block is resolved. • No audio output with oscillator modules is resolved. • Parametric EQ GUI issue for Boost parameter is resolved. • State Variable Filter instability issue with change in frequency resolved. • Kill core register support added for ADAU146x IC. • Level Detector no MIPS module added for ADAU145x and ADAU146x. • 12kHz and 24kHz sample rate options added for ADAU145x and ADAU146x IC. **ADAU178x:** • Issues with header file export is resolved. **Scripting:** • New scripting API interfaces added for A2B 19.4.3 release.

Table 4: Supported Features

Please refer ['Release Information'](#) section of [SigmaStudio wiki](#) page for details on the previous releases.

4 Package Details

Installation Path (C:\Program Files\Analog Devices\SigmaStudio 4.7)

```
+---Docs
|     2022-04-14-SS Click Thru SLA.pdf - License Agreement
|     ADAU1787 UpdatesLog.pdf – Updates on ADAU1787 IC.
+---Help
|     SigmaStudioHelp.chm - SigmaStudio help document
|
|---USB drivers – USB drivers required for USBi connectivity to SigmaStudio
|---Setup – Driver setup files.
|   SStudio.exe – SigmaStudio Executable Application
|   uninstall.exe – Uninstaller for SigmaStudio Software
|   Other DLLs and support files used by the SigmaStudio tool.
```

Documents Folder (Users Documents Folder)

```
+--- Sample Schematics – Sample schematics for SigmaStudio
+--- Speaker Measurement Samples – Speaker measurement sample files
```

5 Package Installation

To install SigmaStudio™ 4.7 or higher versions

1. Quit any applications you are running.
2. Delete any files in AppData (%APPDATA%/Analog Devices/SigmaStudio 4.7) before installation.
3. Double-click on the SigmaStudio 4.7 installer, "ADI_SigmaStudio-Rel 4.7-x64.exe", to start the installation.
4. Review the contents of the license agreement, if you agree click "I Agree".
5. SigmaStudio 4.7 may be installed alongside or over an existing copy of SigmaStudio, select an existing installation directory if you wish to overwrite a previous SigmaStudio version.
6. If you are installing SigmaStudio for the first time, restart your computer when the installation is complete.

Notes:

1. The user must be an administrator when installing SigmaStudio.
2. When installing SigmaStudio 4.7 first time on Windows 7 PC, installation of .NET 4.7 Framework might show up the following error. Follow the steps provided in the Microsoft Support page, if you face this error.

6 Performance Figures

MIPS and memory usage for each of the algorithms in the schematic can be found in the Output window of SigmaStudio.

7 Known Issues & Workarounds

7.1 Limitations

1. When the schematic is zoomed in or zoomed out, the controls in the schematic cannot be updated.

7.2 Known Problems

This section lists know problems which shall be fixed in the upcoming releases.

1. Undo operation does not work with 'User Comment' and 'User Image' modules.

2. ADAU145x Flash Programmer will not work as expected if the 'Verify Target Memory' is not done after a write.

3. Block Schematic tab is not visible sometimes when multiple ICs are added in the Hardware Configuration tab.

7.3 Work Arounds

1. 'Reset Zoom' before updating any controls/parameters.

2. Close and reopen the schematic if the 'Flash Programmer' for ADAU145x is not working as expected.

7.4 Notes

1. Delete any files in AppData (%APPDATA%/Analog Devices/SigmaStudio 4.7) before SigmaStudio installation.
2. The A2B software 19.10.0 or lesser release versions is not compatible with SigmaStudio 4.7.
3. The A2B software 19.4.2 or lesser release versions is not compatible with SigmaStudio 4.7.
4. The A2B Analyzer software is not compatible with SigmaStudio 4.7, so customers can continue to use SigmaStudio 4.6 release until the support is provided in the A2B analyzer SW in future release.

8 Technical Support

8.1 Contact information

Any bug in SigmaStudio, can be reported on the <u>Analog Devices EngineerZone forum for SigmaDSP</u>. Description shall include the steps to reproduce the bug, implication, the version of SigmaStudio, and include any error messages from SigmaStudio.

Additional features or enhancements required for SigmaStudio can be submitted on the <u>Analog Devices EngineerZone forum for SigmaDSP</u>.

8.2 Type of support

All technical queries, bug reporting, issues and feedbacks posted in the engineering zone shall be processed and responded accordingly based on the nature of the support required.

9 APPENDIX A: Quick Setup Guide

SigmaStudio wiki page in www.analog.com provides instruction on SigmaStudio Tool usage.

Terminology

Table 5: Terminology

Term	Description
API	Application Programming Interface
GUI	Graphical User Interface
EQ	Equalizer
MB	Mega Bytes
GB	Giga Bytes
USB	Universal Serial Bus
USBi	USB Interface
DLL	Dynamic Link Library
DSP	Digital Signal Processor
SPI	Serial Peripheral Interface
GPIO	General Purpose Input Output
FIR	Finite Impulse Response
FFT	Fast Fourier Transform
RMS	Root Mean Square
RAM	Random Access Memory
DM	Data Memory
PM	Program Memory
DC	Direct Current
dB	decibel

References

Table 6: References

Reference No.	Description