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Analog Devices, Inc.

www.analog.com

SigmaStudio Release Notes

Document Status:	Approved
Approved By:	Automotive Software Head

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 SQA 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	SQA 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

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 add multiple new algorithms for SigmaDSP family of processors and support and fix bugs reported in GUI and the SigmaDSPs.

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 4.4-x64.exe	64-bit Installer for SigmaStudio 4.4 Release	4.4 Release
2.	SigmaStudio_4.4_Release_Notes.pdf	Release notes. (Refers this document)	4.4 Release

Table 2: Release Contents

2.2 Hardware and Software Requirements

Pre-Requirement	Details
Hardware Requirements	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Windows 7/ Windows 10 (x64) • Microsoft .NET Framework 4.7

Table 3: Hardware and Software Requirements

3 Supported Features

Release Number	Release Date	Features /Bug Fixes
4.4 Release	9-Jul-2019	<p>User Interface:</p> <ul style="list-style-type: none"> • A new window to display what is new in the recent SigmaStudio release is added. • Issue with the Gain module in dB for negative gain is resolved. • UI issue with the scrolling which accidentally changed the parameters are resolved. • Lookup Table has now an update option to update the parameter. • Issue with FIR filter enable/disable option is resolved. • Issue with the multiple short-keys in the SigmaStudio is resolved. <p>Scripting:</p> <ul style="list-style-type: none"> • New Scripting APIs ICRegisterRead and ICRegisterWrite are added for reading and writing IC registers without the IC Name as the parameter. • Pause and Resume and Halt options are added in SigmaStudio scripting. • Issues in RMS Compressor modules which caused the ObjectGetProperties() API not to work properly are resolved. <p>ADAU145x/ADAU146x:</p> <ul style="list-style-type: none"> • Biquads with the HW slew is added. • There is a new option to monitor MIPS overrun in the framework now. • Compiler errors caused when using the multi-rate blocks are resolved. • Multiple issues with the Flash programmer module are resolved. • TCP IP communication channel is supported for ADAU146x now. • Export issues with AVC is resolved. • Now the export for ADAU146x will contain the page information. • Compiler error in the SRC module is resolved. • Now pitch shifting factor in the Wav player is accessible through the IPAT. • Issue with Analysis and the Synthesis window share coefficient option is resolved. • Export issues with the multiple compressors are resolved. • Issue with the bypass option in the index selectable filter is resolved. • A new option is added to optimize the DM0 and DM1 packs by removing zeros. • An issue with the checksum module during the selfboot is resolved. • Minor issues with IPAT is resolved.

		ADAU144x/ADAU176x: <ul style="list-style-type: none">• An issue with the Index Controlled RMS Compressor is resolved.• Issue with external controlled fractional delay is resolved.
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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 4.4)

+---Docs

| 2019-05-07-SS Click Thru SLA.pdf - License Agreement

|

+---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™ 4.4 or higher versions

1. Quit any applications you are running.
2. Delete any files in AppData (%APPDATA%/Analog Devices/SigmaStudio 4.4) before installation.
3. Double-click on the SigmaStudio 4.4 installer, “ADI_SigmaStudio-Rel 4.4-x64.exe”, to start the installation.
4. Review the contents of the license agreement, if you agree click “I Agree”.
5. SigmaStudio 4.4 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 4.4 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 4.4) before SigmaStudio installation.

8 Technical Support

8.1 Contact information

Any bug in SigmaStudio, can be reported on the [Analog Devices EngineerZone forum for SigmaDSP](#). 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 [Analog Devices EngineerZone forum for SigmaDSP](#).

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