

True Audio Next

Version 1.2.2.4

Build Instructions – May 2018

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Overview

This document contains the release notes for True Audio Next: what the package should contain and how to use it.

New for this release:

Requirements

Operating System: 64-bit Windows 8 or later

Hardware: Open CL 2.0 compatible graphics card (ex. Tonga or later) (Khronos Group has a [Conformant Products](#) page where you can determine if your card supports Open CL 2.0)

IDE: Visual Studio 2015 or 2013 is used. Please make sure Microsoft Foundation Classes (MFC) is installed along with the Visual Studio as some projects depend on it.

Installation

Expected Files

There are several items within this package, please be sure it is complete by ensuring that it includes the following:

- license: TAN SDK license.txt
- documentation: TrueAudioNextAPI.pdf
- folders: tanlibrary, samples, tests, OCL_SDK_Light

OCL SDK Light

- Find the OCL SDK Light installation instruction from the OCL_SDK_Light folder. The installer file can be downloaded from the GPU Open Git repository: <https://github.com/GPUOpen-LibrariesAndSDKs/OCL-SDK/releases> and installs the necessary OpenCL resources to use TrueAudioNext (such as opencl.h).
- Execute the file and install by following the on-screen GUI instructions.

Latest AMD drivers

(Skip if already installed and up to date)

- Retrieve the latest drivers for your graphics card from the official AMD website.
- Execute the file and install by following the on-screen GUI instructions.

Oculus SDK

- Find instructions in the \thirdparty\OculusSDK1.17 folder. Install Oculus SDK 1.17 in the ThirdParty folder according to the instruction text file. This is required to build the Oculus Room TAN sample.

QT

- Install the QT library according to the instruction text file located in \thirdparty\QT5.6.

Building the SDK

- Visual Studio 2013/2015 solutions for 64 bit Windows are provided in the tan/build folder. A separate solution is provided for building the Oculus Room Tan sample project.

Issues

Known Current Issues, Limitations

- Only 64-bit functionality is fully supported (32-bit is not fully supported)

How to Use

Several sample applications and functional tests are included to illustrate how to use TAN.

TALibTestConvolution

A very simple application to test correct functionality of TAN convolution in CPU and GPU modes.

Open a command window in the TALibTestConvolution directory (Shift+Right click while in the directory and select “Open command window here”). The program is called as such:

TALibTestConvolution <cpu | gpu | both> inFile outFile responseFile1 [responseFile2] [strict]

- Attempt to start the executable without any arguments to review available parameters
- ‘cpu’, ‘gpu’, or ‘both’ will distinguish what hardware will be completing the test
- inFile should be your set of pulses (ex. pulsetrainS.wav)
- outFile is what your file should be called upon completion of the simulation
- responseFile1 responseFile2 ... should be a series of response files which determines the output sound pattern, enter at least one and as many as you require for your tests
- strict compares each variant output against a simple (and slow) implementation of convolution

There are sample wav files provided so that you can conduct several types of tests with the provided package. A few examples include:

TALibTestConvolution cpu pulsetrainS.wav output.wav testresponse.wav

TALibTestConvolution gpu pulsetrainS.wav output.wav testresponse.wav testresponse2.wav

TALibTestConvolution both pulsetrainS.wav output.wav testresponse.wav testresponse2.wav

Applications

- RoomAcoustics64.exe – A 2D audio simulator with parametric room reverb. Up to 64 audio sources with up to 10 second reverbs, HRTF stereo, dynamic reverb update with listener motion, orientation.
- RoomAcousticsQT64.exe – similar to RoomAcoustics64 but with a QT based UI.
- ReverbMixer64.exe – sample application using TAN to apply reverb and 10 band EQ to files.
- OculusRoomTAN.exe – sample application to demonstrate 3D audio and dynamic reverb in VR. Requires Oculus SDK and Oculus HMD.