
Jenkins builds

About Jenkins and the source repository

Jenkins is used as a continual build environment that will automatically build the SoundSystem codebase.

The source repository is available from `svn://gitserver.tribbeck.com:13960/SoundSystem` for read only access. Write access can be granted – please contact Jason Tribbeck for details.

Code output

Three modules are currently created, each with two variants, and an application which displays information on the installed devices:

SoundSystem

This is the main module that is the interface for the new Sound System.

DummySoundInterface

This is a dummy sound interface that simply generates sound data to emulate recorded audio, and requests playback data.

RaspberryPiI2S

This is an interface for the Raspberry PI to use its I2S interface for both audio capture and playback

DeviceList

This is a command line application that will output the information on the devices.

Module variants

Each of the modules are generated with their given name, and also a version with "_D" appended to it. This version has debug information that is output to !Reporter, which is a logging interface written by Martin Avison.

At the time of writing (early in development), the !Reporter output looks like this:

```

Reporter
20:35:08.97 [Dummy Sound Interface] Allocated 256 byte(s) at &44e53000 (next will be &44e53100)
20:35:08.97 [SoundSystem] Request to register device 'DummyDevice#1' (Dummy audio device #1)
20:35:08.97 [SoundSystem] Using slot 0
20:35:08.97 [SoundSystem] Issuing SoundSystem_ServiceHardwareAdded for 'DummyDevice#1'
20:35:23.57 [Dummy Sound Interface] Freeing dynamic area memory
20:35:23.57 [SoundSystem] Request to deregister device 'DummyDevice#1'
20:35:23.57 [SoundSystem] Deregistering device 'DummyDevice#1'
20:35:23.57 [SoundSystem] Issuing SoundSystem_ServiceHardwareRemoved for 'DummyDevice#1'
20:35:23.57 [Dummy Sound Interface] Dummy sound interface opened
20:35:23.57 [Dummy Sound Interface] Allocated 131072 byte(s) as a dynamic area, located at &44e53000
20:35:23.57 [Dummy Sound Interface] Allocated 256 byte(s) at &44e53000 (next will be &44e53100)
20:35:23.57 [SoundSystem] Request to register device 'DummyDevice#1' (Dummy audio device #1)
20:35:23.57 [SoundSystem] Using slot 0
20:35:23.57 [SoundSystem] Issuing SoundSystem_ServiceHardwareAdded for 'DummyDevice#1'
20:35:47.53 [Dummy Sound Interface] Received service SoundSystem_Initialised 1
20:35:47.53 [SoundSystem] Deregistering device 'DummyDevice#1'
20:35:47.53 [SoundSystem] Issuing SoundSystem_ServiceHardwareRemoved for 'DummyDevice#1'
20:35:47.53 [SoundSystem] Freeing dynamic area memory
20:35:47.53 [SoundSystem] SoundSystem closing down
20:35:47.53 [SoundSystem] SoundSystem opened, allocating 3520 byte(s)
20:35:47.53 [SoundSystem] Allocated 131072 byte(s) as a dynamic area, located at &44e73000
20:35:47.53 [SoundSystem] Allocated 256 byte(s) at &44e73000 (next will be &44e73100)
20:35:47.53 [SoundSystem] Allocated 3520 byte(s) at &44e73100 (next will be &44e73ec0)
20:35:47.53 [SoundSystem] Issuing SoundSystem_ServiceInitialised call
20:35:47.79 [Dummy Sound Interface] Received service SoundSystem_Initialised 0
20:35:47.79 [SoundSystem] Request to register device 'DummyDevice#1' (Dummy audio device #1)
20:35:47.79 [SoundSystem] Using slot 0
20:35:47.79 [SoundSystem] Issuing SoundSystem_ServiceHardwareAdded for 'DummyDevice#1'

```

This shows the interaction between the various modules during initialisation and finalisation of the modules.

DeviceList output

An example output from DeviceList is shown below:

SoundSystem device list

Device identifier: DummyDevice#1

Device name: Dummy audio device #1

Max channels: 2

Control code: &20304db8

Control code r12: &20da1934

Device capabilities:

Device supports playback

Device supports recording

Device supports LPCM playback/recording

Device does not support non-LPCM playback/recording

Device supports microphone input

Device supports line input

Device does not support digital input

Device left front mixer not present

Device right front mixer not present

Device centre front mixer not present

Device low frequency enhancement mixer not present

Device left surround mixer not present

Device right surround mixer not present

Device left of centre mixer not present

Device right of centre mixer not present

Device surround mixer not present

Device side left mixer not present

Device side right mixer not present

Device top mixer not present

Device microphone mixer not present

Device line input mixer not present

Device digital input mixer not present

Device formats:

Basic format 0: &00000001 (2-channel 32-bit LPCM) *PLAYBACK* *RECORDING*

@ 48000.00Hz (Buffer = 3840 -> 3840 bytes, default 3840 bytes) *CURRENT*

@ 96000.00Hz (Buffer = 7680 -> 7680 bytes, default 7680 bytes)

@ 192000.00Hz (Buffer = 15360 -> 15360 bytes, default 15360 bytes)

DeviceList will show each device's identifier, user-readable device name, maximum number of channels, Control Code pointers and capabilities (using `SoundSystem_EnumerateDevices` and `SoundSystem_GetDeviceInformation`).

It then uses `SoundSystem_GetDeviceFormats` to display a list of all of the sample formats supported, and for each of these, calls `SoundSystem_GetDeviceSampleFormatRates` to find out what sample rates are supported for each sample format. For each of these, it queries the buffer sizes needed for each of the sample rates (default, minimum and maximum).

The current sample format for playback and recording for each device is displayed, along with the current sample rate.

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