

# Sound Reactor<sup>®</sup>

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## Upgrade Notes for Pro

# IMPORTANT

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Always test updates on a **backup** of your project first before committing to your main project. Backwards compatibility is a priority, except when it is an update to fix a bug or add a feature that grows the tool, which could in turn break a project.

## Upgrade Instructions

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### Version 1.1.9

- Any references to AudioMidiSync public properties will need to be renamed so they have a capital first letter.
- Rename references to Level.midiValue to Level.midiNote

### Version 1.1.8

- Rebuild segmented levels

### Version 1.1.7

- Delete TempoTimeMap.cs from the project before updating.
- AudioMidiSync public properties are now Pascal case (upper case first letter). Rename accordingly.

### Version 1.1.6

- Rename MonoBehaviourParticle.Return to MonoBehaviourParticle.ReturnParticle

### Version 1.1.5

- SpectrumFilter->Scale will have to be adjusted if the value was changed to anything other than 1.
- MidiNote->Velocity was renamed to MidiNote->NormalizedVelocity. Rename where necessary. MidiNote->Velocity is now the raw value straight from the MIDI file now.

### Version 1.1.4

- The following only applies if your project uses the Demo scripts directly
  - Before upgrading:
    - Delete EmitNoteObjectHandler.cs
    - Delete EmitNoteParticlesHandler.cs
  - After upgrading:
    - EmitNoteObjectHandler.cs was renamed to NoteParticleEmitter.cs and was modified to utilize an object pool. See the MidiBasics scene for an example of its use and update your scenes accordingly.
    - Particle.StartTime was renamed to Particle.Emit; rename as necessary in your project. Also, Particle is now MonoBehaviourParticle (see below).
- Before Upgrading
  - Delete: "LDG/Core"
    - Particle and ParticlePool have been renamed to MonoBehaviourParticle and MonoBehaviourParticlePool, respectively. They were also moved out of the Collection folder and live directly in the Core folder now.

### Version 1.1.0

- After upgrading:
  - Move the value stored under *Audio Latency* to *Audio Start Delay* for all AudioMidiSync scripts, then set Audio Latency to 0.2, or a value that works with your system.

### Version 1.0.4

- MIDI files affected by bad time remapping will need to be rebuilt. You'll know if the audio doesn't play in time with the MIDI.

### Version 1.0.2

- Before upgrading:
  - Delete the Demos folder

- After upgrading:
  - Swap *Spectrum Source*->*Normalize* from *Peak* to *Peak Band*, and *Peak Band* to *Peak*

#### Version 1.0.1

- Before upgrading:
  - Delete LDG\SoundReactor\Shaders

#### Upgrade from Sound Reactor Version 1.3.0

- Delete the following before upgrading to Pro
  - LDG\SoundReactor\Demos\Common\Audio\SoundReactor
  - LDG\SoundReactor\Scripts\Utils\DrawGL.cs
  - LDG\SoundReactor\SoundReactorManual
  - LDG\SoundReactor\UpgradeNotes

## Version History

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#### Version 1.1.9

- Added Ticks and HoldTime properties to Note.
- Fixed bug where writing MidiEvents VLQ bytes were getting reversed.
- MidiEvent ChannelVoiceMessage values can be set with their named properties now.
- Added TrackIndex and Tempo properties to MidiEvent.
- MidiEvent.MetaMessage is properly set when calling MidiClip.EnumerateMidiEvents and MidiClip.EnumerateMetaMessages now.
- Added better error reporting when reading MetaMessages
- MIDI no longer gets out of sync when changing AudioMidiSync's AudioDeleay property now.
- Delayed MIDI starts playing at the proper time now.
- Changing the AudioMidiSync playback speed doesn't cause syncing to be later or earlier anymore.
- AudioMidiSync public properties use capital first letters now.
- AudioMidiSync has two new public properties: AudioEnded and MidiEnded
- Renamed midiValue to midiNote in Level.cs
- Fixed a material leak happening with the ColorDriver.
- Timer.Time property is now public.
- Added some more event handlers to MonoBehaviourEx that can be called to disable/delete GameObjects depending on the build type and play mode.
- MonoBehaviourParticle has a new public property called TimeAlive.
- MonoBehaviourParticlePool GetParticle method contains a parameter called enableGameObject now. This lets you choose if you want the particle enabled or not when getting it.

#### Version 1.1.8

- Segmented levels scale up properly now.
- Fixed bug that would cause a burst of midi events to fire off when calling Play a second time without calling Pause or Stop first.
- Fixed bug in AudioMidiSync that would cause the AudioTime property to resume from the last stopped position instead of the specified StartTime when calling Play in succession.
- Fixed bug where MidiMessage was null for MidiEvents enumerated by EnumerateMetaMessages.
- Added TimeToTicks method to TempoRegion class.
- Added HoldTicksToSeconds and SecondsToTicks to TempoUtil.

#### Version 1.1.7

- Fixed a bug that wasn't loading all the midi tracks of a type 1 midi file.
- Upgraded shaders so they work with Quest using Oculus Link software running on the PC.

- Upgraded shaders so they handle fog.
- Added *TrackIndex* and *Tempo* to *MidiEvent* (they populate before sending up to the *MidiSource* midi event handler).
- Added *Ticks* and *Time* to *Note* struct.
- Separated Tempo Mapping from Track.
- Fixed bug that was introduced in the previous release to *MonoBehaviourParticle* that wouldn't return a particle back to the pool if the object was disabled when being returned.

#### Version 1.1.6

- Renamed "Return" in the class "*MonoBehaviourParticle*" to "*ReturnParticle*"
- Fixed bug in *AudioMidiSync* that would cause the midi to play before the audio when a start delay was used.
- You can now enumerate *ChannelVoiceMessage*, *MetaMessage*, *MidiEvent*, and *TrackNames*
- Added exception handling to *SetExternalNotes*.

#### Version 1.1.5

- Particles can now send themselves back to the pool they came from
- Fixed some "off by 1 issues" with Timer and made it more robust
- Fixed material leak caused by *MonoBehaviourEx*
- *MonoBehaviourEx.GetMaterialColor* gets Color now instead of Vector (for Unity 2017.3 and above)
- Added "Between Edges" option to *SpectrumBuilder*. This causes the space to be between the levels instead of their centers.
- *SpectrumFilter* only searches for an EQ once now.
- Level graph only cares about its own falling level now.
- Vectors no longer cause the *SpectrumBuilder* to throw an error when checking the camera type for Preview.
- Added methods to *MetaMessage* that sets strings, tempo, and end of track
- Added method to *MetaMessage* that saves the meta data
- Added method to *MidiEvent* that saves event data
- *AudioMidiSync.Update* returns properly now if sources not set
- Fixed bug where the midi time would jump to 0 and then to the specified Start Time
- Added *Note.NormalizedVelocity*. *Note.Velocity* is now the raw midi value that ranges from 0 to 127.
- Added better error handling to midi track reader
- Looking for *EndOfTrack* when reading a midi track now instead of relying on the chunk size.

#### Version 1.1.4

- All demo scripts live under the *LDG.Demo* namespace now
- Vector no longer draws in the preview window.
- Improved Note shader.
- Improved RhythmGame demo.
- Keyboard Keys can be assigned to *RhythmNote* (only works with legacy input system).
- All scenes that were instancing notes now utilize object pools.
- Deleted outdated and unused scripts
- Added *OnEmit()* and *OnExpire()* event handlers to *MonoBehaviourParticle*
- Optimized *MonoBehaviourEx*

#### Version 1.1.3

- Added *PianoRoll* script and it is demoed in the *MidiEventEmitter2* and *MidiEventEmitter3* demo scenes.
- *NoteStrips* are the same width as piano keys now.
- Start Note property removed from *SpectrumBuilder*. It is calculated internally now.
- Fixed some playback issues with *AudioMidiSync*.

#### Version 1.1.2

- When in MIDI mode, you can now enter MIDI note values instead of frequencies. No more conversions: commence happy dance!

- Added new shader that makes note strips have rounded corners. Featured in MidiEventEmitter2 and MidiEventEmitter3.

#### Version 1.1.1

- Fixed timing issue with the new delayed midi
- Fixed random error issue occurring with EmitNoteStrips happening in the demos: MidiEventEmitter2 and MidiEventEmitter3

#### Version 1.1.0

- Added new MidiSourceDelayed property to AudioMidiSync, which is demonstrated in the new MidiEventEmitter3 scene. This MidiSource plays in sync with the AudioSource regardless if the audio is delayed or not.
- The "Audio Delay" property in AudioMidiSync has been separated into "Audio Start Delay" and "Audio Latency". "Audio Start Delay" specifies how long to wait before playing, and "Audio Latency" is used to specify the natural latency that occurs with audio.
- Gave the AudioMidiSync interface a facelift
- AudioMidiSync and MidiSource scripts now have their own icons
- Line vectors can now be anchored just like circles can
- PeaksProfile assets now show a preview of the peaks curve in the inspector
- All audio files have a maximum integration and true peaks value of -14 LUFS and -1dB now
- Added 20 new pre-recorded peaks profiles

#### Version 1.0.8

- Added SpectrumLineRenderer that will draw a line vector that works with the SRP. It's been tested with URP and HDRP.
- Added Global Fallback option to SpectrumSource. This gives the user the option to disable automatic fallback to the AudioListener.
- Upgraded project to Unity 5.6
- Added endReached property to AudioMidiSync.

#### Version 1.0.7

- Fixed prefab issues that occurred in Unity 2018.2 and up

#### Version 1.0.6

- Fixed prefab issues. Fix for pre-Unity 2018.2 works immediately. ~~The fix for Unity 2018.2 and up will be pending on Unity fixing a bug on their end.~~

#### Version 1.0.5

- Added MidiBasics scene to go along with the Sound Reactor MIDI Basics video howto.
- Fixed latency issues with RhythmGame for Unity 2017+. The RhythmGame will be completely re-written at some point in time.
- Builder is disabled if it has been turned into a prefab
- Build button is disabled if essential properties are not set
- Remastered SoundReactorShort.mp3 so its volume is the same as the other samples
- Scenes updated to reflect the remastered SoundReactorShort.mp3 file.
- Removed lens flare from cameras to make the scenes more compatible with Unity 2019

#### Version 1.0.4

- Layer masks work with vector shapes now.
- Some MIDI files were using the default tempo instead of the one stored in the MIDI file.

#### Version 1.0.3

- PlayState.End will only be posted once when a MIDI file has played to the end now.
- MIDI time will no longer increment after it's done playing.
- When looping, AudioMidiSync will only call Play once per loop now.
- AudioMidiSync is guaranteed to loop now.

- Start Time for MIDI in AudioMidiSync no longer plays notes that were skipped.
- Stop is no longer called just before Play again when AudioMidiSync is set to loop.

#### Version 1.0.2

- Updated matcap materials for some of the visualizers.
- Fixed “Reverse” option in the SpectrumBuilder.
- Updated hint for SpectrumBuilder Mode.
- Copied ImageEffects over from Sound Reactor – Standard
- Added \_DefaultMaps
- Added Rhythm Game sample scene
- Builder notifies you that it can’t build if a Level hasn’t been specified.
- Swapped Peak with Peak Band in Spectrum Source->Normalize
- Level.isBeat defaults to false now.
- MidiClip inspector shows input properly now.
- Optimized MIDI to asset importer

#### Version 1.0.1

- Replaced Standard and Refraction shader with MatCap shaders to increase compatibility with custom render pipelines.
- In the SpectrumBuilder: repeat is disabled when clamp is checked now.

#### Version 1.0.0

- Initial release

## Contact

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Direct all questions, suggestions, feature requests, and bugs to: [support@littledreamergames.com](mailto:support@littledreamergames.com)