Fabric-Microsoft Spatializer Plugin User Guide

Overview

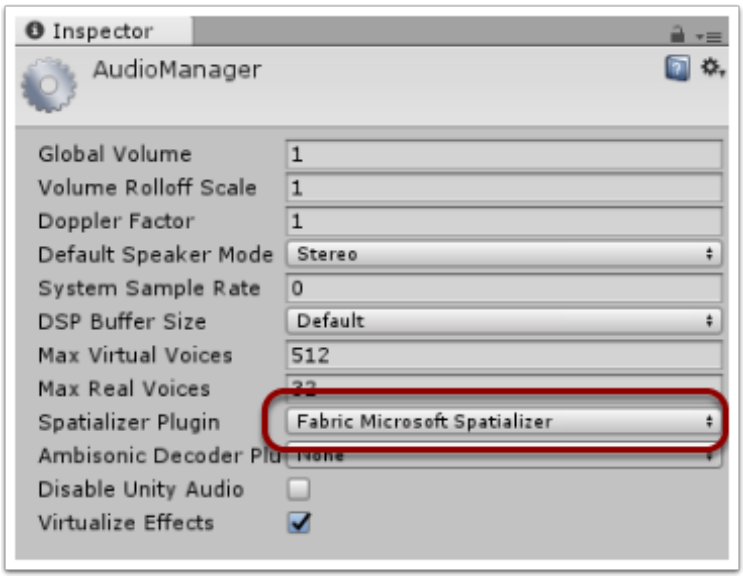
The Fabric-Microsoft Spatializer (FMS) Audio plugin for Unity allows developers to deliver spatial sound and Dolby Atmos mixes using Microsoft's platform-level solution.

Developed with Windows API compatibility as well as a Dolby Reference panner it is possible to create dynamic and 7.1.4 mixes that Windows clients can use to deliver stunning realism with smooth panning and audio on the height plane.

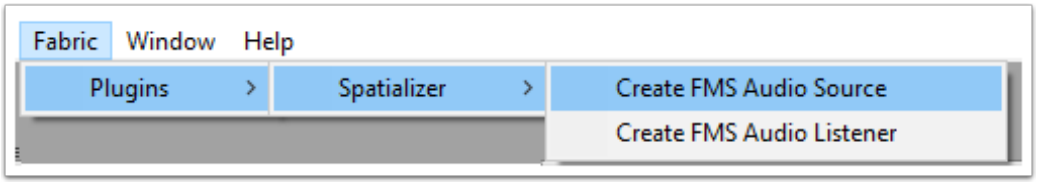
Quick Setup

To setup the FMS Audio Spatializer plugin in your project you need to perform follow the following steps,

1) Select the "Fabric Microsoft Spatializer" plugin in in the project audio settings **(Edit->Project Settings->Audio)**



2) Add an FMS Audio Listener either through the Fabric main menu option or the AddComponent context menu

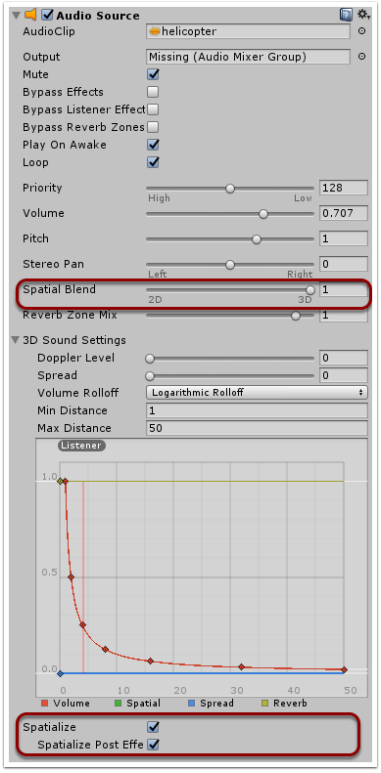


The listener is usually this will be in the camera game object (it will automatically add an Audio Listener if one is not already present)

3) Create a new FMS Audio Source from the menu option (Fabric->Plugins->Spatializer->Create FMS Audio Source)

4) Enable the “Spatialize” property on the Audio Source

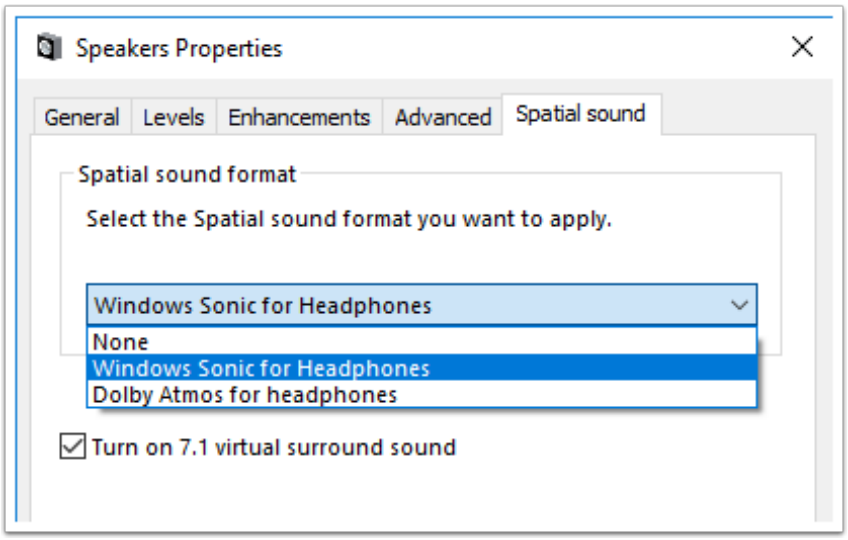
5) Set the Audio Source “Spatial Blend” property to 1, “3D”



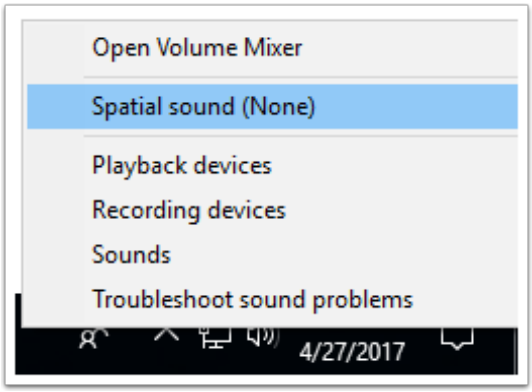
Enabling Windows Sonic on Windows and Xbox One

Whether as a developer or a consumer, a user must enable Windows Sonic on their device in order to hear spatialized sound.

On Windows PCs, this is done via the properties page for a given sound output device. From the Sound control panel, select a playback device and click Properties. In the page that opens, starting with Windows 10, version 1703, there is a Spatial sound tab. If the device supports spatial sound, you can select one of the available formats from the dropdown.



You can also enable Windows Sonic by right-clicking the Volume icon in the taskbar.



FMS Audio Listener

The FMS Audio Listener is responsible for initializing and managing the Microsoft Spatial Sound API.

FMS Audio Source

The FMS Audio Source is an optional component with the option for the source to be processed as a dynamic or static object,

Dynamic Object

By default a spatialized Unity audio source is treated as a dynamic audio object which routes the audio data from the source (pre or post effect) to the windows spatial audio object that is associated with.

A dynamic audio source will never return its audio back into Unity so it cannot be used with Unity's audio mixer functionality or be visible on the master output.

The FMS Spatializer plugin provides support so when the system does not have any dynamic objects available any subsequent objects behave as static objects with their position mixed using the channel panner.

Runtime Resource Implications

The number of available voices varies based on the format in use. Dolby Atmos formats support 32 total active objects (so if a 7.1.4 channel bed is in use, 20 additional dynamic sound objects can be active). Windows Sonic for Headphones supports 128 total active objects, with the Low Frequency Effects (LFE) channel not actually being counted as an object -- so when an 7.1.4 channel layout is in use, 114 dynamic sound objects can be active.

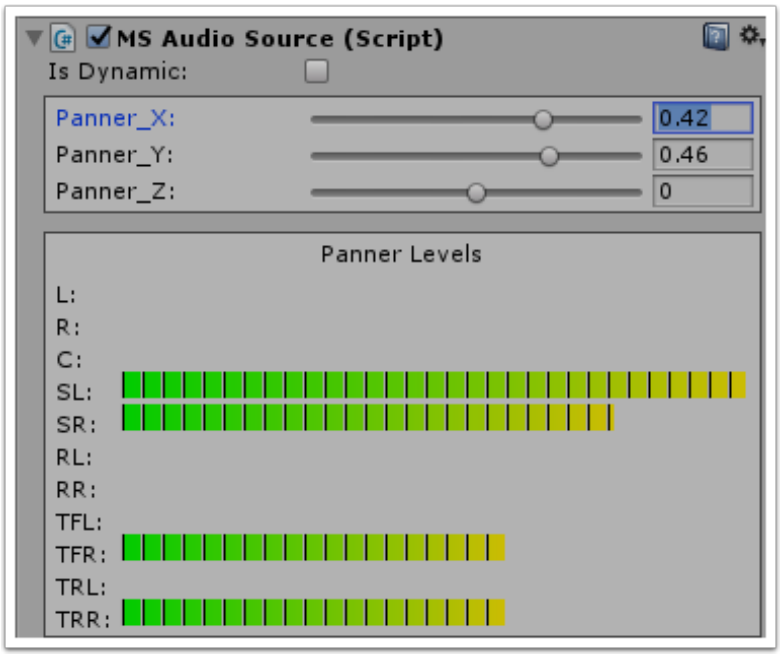
Format	Max Static Objects (Channel Layout)	Max Dynamic Objects (Windows - software)
Dolby Atmos (HDMI)12 (7.1.4)	12 (7.1.4)	20
Dolby Atmos (headphones)	12 (7.1.4)	20

Format	Max Static Objects (Channel Layout)	Max Dynamic Objects (Windows - software)
Windows Sonic for Headphones	12 (7.1.4)	116

In future version of the plugin the static channel layout will be increased to 16 channels (8.1.4.4)

Static Object

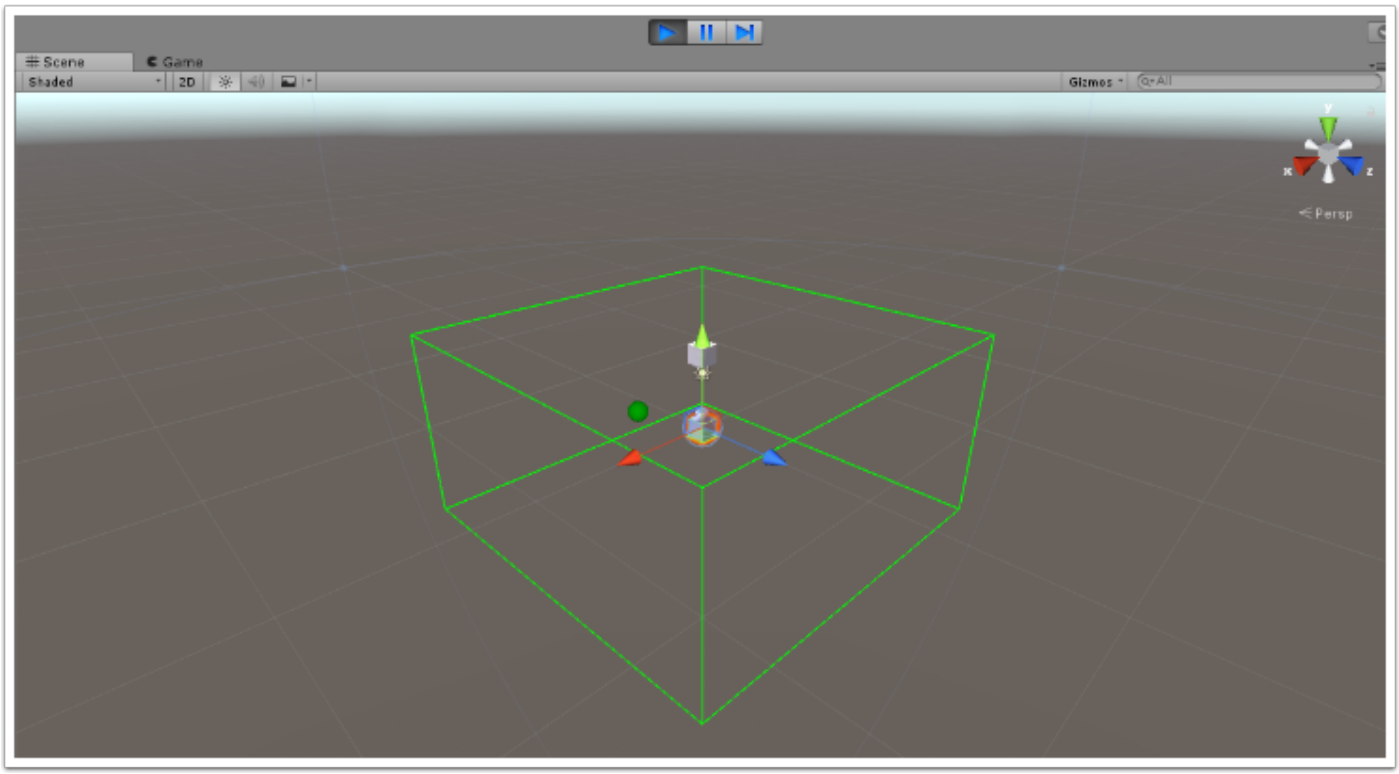
When an FMS audio source is set to be static it allows the sound to emit from a pre-defined 12 channel layout **(7.1.4)**.



It is possible to control the position of the audio source within the static channels layout using the panner controls (Panner_x, Panner_Y, Panner_Z) that are available on the inspector view as well as in code through the FMSAudioSource component interface.

Gizmo

The FMS Audio Source also provides a Gizmo showing the position of the audio object in the static channel layout.


Scene
Game
Shaded
2D
Gizmos
Persp