[CLAIMS]

[Claim 1]

An acoustic processing device comprising:

a circuit; and

a memory, wherein

using the memory, the circuit:

obtains sound space information on a sound space;

obtains, based on the sound space information, a characteristic regarding a first sound, the first sound being a sound generated from a sound source in the sound space; and

controls, based on the characteristic regarding the first sound, whether to select a second sound generated in the sound space in response to the first sound.

[Claim 2]

The acoustic processing device according to claim 1, wherein

the first sound is a direct sound, and

the second sound is a reflected sound.

[Claim 3]

The acoustic processing device according to claim 2, wherein

the characteristic regarding the first sound is a sound volume ratio between a sound volume of the direct sound and a sound volume of the reflected sound, and

the circuit:

calculates the sound volume ratio based on the sound space information; and

controls whether to select the reflected sound based on the sound volume ratio.

[Claim 4]

The acoustic processing device according to claim 3, wherein

when the reflected sound is selected, the circuit generates sounds that respectively arrive at both ears of a listener by applying

binaural processing to the reflected sound and the direct sound.

[Claim 5]

The acoustic processing device according to claim 3 or 4, wherein

the circuit:

calculates a time difference between an end time of the direct sound and an arrival time of the reflected sound, based on the sound space information; and

controls whether to select the reflected sound, based on the time difference and the sound volume ratio.

[Claim 6]

The acoustic processing device according to claim 5, wherein

when the sound volume ratio is greater than or equal to a threshold value, the circuit selects the reflected sound, and

a first threshold value is greater than a second threshold value, the first threshold value being used as the threshold value when the time difference is a first value, the second threshold value being used as the threshold value when the time difference is a second value that is greater than the first value.

[Claim 7]

The acoustic processing device according to claim 3 or 4, wherein

the circuit:

calculates a time difference between an arrival time of the direct sound and an arrival time of the reflected sound, based on the sound space information; and

controls whether to select the reflected sound, based on the time difference and the sound volume ratio.

[Claim 8]

The acoustic processing device according to claim 7, wherein

when the sound volume ratio is greater than or equal to a

threshold value, the circuit selects the reflected sound, and

a first threshold value is greater than a second threshold value, the first threshold value being used as the threshold value when the time difference is a first value, the second threshold value being used as the threshold value when the time difference is a second value that is greater than the first value.

[Claim 9]

The acoustic processing device according to claim 8, wherein

the circuit adjusts the threshold value based on a direction of arrival of the direct sound and a direction of arrival of the reflected sound.

[Claim 10]

The acoustic processing device according to any one of claims 2 to 4, wherein

when the reflected sound is not selected, the circuit corrects a sound volume of the direct sound based on a sound volume of the reflected sound.

[Claim 11]

The acoustic processing device according to any one of claims 2 to 4, wherein

when the reflected sound is not selected, the circuit synthesizes the reflected sound in the direct sound.

[Claim 12]

The acoustic processing device according to claim 3 or 4, wherein

the sound volume ratio is a sound volume ratio between the sound volume of the direct sound at a first time and the sound volume of the reflected sound at a second time, the second time being different from the first time.

[Claim 13]

The acoustic processing device according to claim 1, wherein

the circuit sets a threshold value based on the characteristic regarding the first sound, and controls whether to select the second sound based on the threshold value.

[Claim 14]

The acoustic processing device according to claim 1, wherein

the characteristic regarding the first sound is a sound volume of the first sound, and

the circuit:

calculates an evaluation value of the second sound based on the sound volume of the first sound; and

controls whether to select the second sound based on the evaluation value.

[Claim 15]

The acoustic processing device according to claim 1, wherein

the sound space information is scene information that includes: information on the sound source in the sound space; and information on a position of a listener in the sound space,

a plurality of second sounds are generated in the sound space in response to the first sound, the plurality of second sounds each being the second sound, and

the circuit:

obtains a signal of the first sound;

calculates the plurality of second sounds based on the scene information and the signal of the first sound;

obtains the characteristic regarding the first sound from the information on the sound source; and

selects, from the plurality of second sounds, one or more second sounds to which binaural processing is not to be applied, by controlling, based on the characteristic regarding the first sound, whether to select each of the plurality of second sounds as a sound to which the binaural processing is not to be applied.

[Claim 16]

The acoustic processing device according to claim 15, wherein

the scene information is updated based on input information, and

the characteristic regarding the first sound is obtained in accordance with an update of the scene information.

[Claim 17]

The acoustic processing device according to claim 15 or 16, wherein

the scene information and the characteristic regarding the first sound are obtained from metadata included in a bitstream.

[Claim 18]

An acoustic processing method comprising:

obtaining sound space information on a sound space;

obtaining, based on the sound space information, a characteristic regarding a first sound, the first sound being a sound generated from a sound source in the sound space; and

controlling, based on the characteristic regarding the first sound, whether to select a second sound generated in the sound space in response to the first sound.

[Claim 19]

A program for causing a computer to execute the acoustic processing method according to claim 18.

[Claim 20]

The acoustic processing device according to claim 2, wherein

the characteristic regarding the first sound is a time difference between an arrival time period of the direct sound and an arrival time period of the reflected sound, and

the circuit:

calculates the time difference based on the sound space

information; and

controls whether to select the reflected sound based on the time difference.