

Claims

1. Apparatus ~~(10; 30; 50; 60)~~ for mapping a first input channel ~~(12)~~ and a second input channel ~~(14)~~ of an input channel configuration to output channels ~~(16, 42, 44)~~ of an output channel configuration, wherein each input channel and each output channel has a direction in which an associated loudspeaker is located relative to a central listener position ~~(P)~~, wherein the first and second input channels ~~(12, 14)~~ have different elevation angles relative to a horizontal listener plane ~~(300)~~, wherein the apparatus is configured to:

map the first input channel ~~(12)~~ to a first output channel ~~(16)~~ of the output channel configuration; and

despite of the fact that an azimuth angle deviation between a direction of the second input channel ~~(14)~~ and a direction of the first output channel ~~(16)~~ is less than an azimuth angle deviation between a direction of the second input channel ~~(14)~~ and a second output channel ~~(42)~~ and/or is less than an azimuth angle deviation between the direction of the second input channel ~~(14)~~ and the direction of a third output channel ~~(44)~~, map the second input channel ~~(14)~~ to the second and third output channels ~~(42, 44)~~ by panning ~~(52, 62)~~ between the second and third output channels ~~(42, 44)~~ to generate a phantom source at the position of the loudspeaker associated with the first output channel.

2. Apparatus of claim 1, configured to process the second input channel ~~(14)~~ by applying at least one of an equalization filter and a decorrelation filter to the second input channel ~~(14)~~.

3. Method for mapping a first input channel ~~(12)~~ and a second input channel ~~(14)~~ of an input channel configuration to output channels of an output channel configuration, wherein each input channel and each output channel has a direction in which an associated loudspeaker is located relative to a central listener position ~~(P)~~, wherein the first and second input channels ~~(12, 14)~~ have different elevation angles relative to a horizontal listener plane ~~(300)~~, comprising:

mapping the first input channel ~~(12)~~ to a first output channel ~~(16)~~ of the output channel configuration; and

despite of the fact that an azimuth angle deviation between a direction of the second input channel ~~(14)~~ and a direction of the first output channel ~~(16)~~ is less than an azimuth angle deviation between a direction of the second input channel ~~(14)~~ and a second output channel ~~(42)~~ and/or is less than an azimuth angle deviation between the direction of the second input channel ~~(14)~~ and the direction of a third output channel ~~(44)~~, mapping the second input channel ~~(14)~~ to the second and third output channels ~~(42, 44)~~ by panning ~~(52, 62)~~ between the second and third output channels ~~(42, 44)~~ to generate a phantom source at the position of the loudspeaker associated with the first output channel.

4. Computer program for performing, when running on a computer or a processor, the method of claim 3.