CLAIMS

1. A device comprising: a memory device configured to store a plurality of representations of a soundfield, each respective representation of the soundfield comprising a different set of ambisonic coefficients representative of the soundfield; and a processor, coupled to the memory device, the processor configured to: track a steering angle provided by one or more angles associated with a positioning of the device; and select, based on the steering angle, a particular representation of the soundfield from the plurality of representations stored to the memory device.

2. The device of claim 1, further comprising one or more loudspeakers coupled to the processor, the one or more loudspeakers configured to reproduce the soundfield based on the particular representation of the soundfield selected from the plurality of representations stored to the memory device.

3. The device of claim 1, further comprising a camera configured to capture images that include a gaze angle associated with a user wearing the device.

4. The device of claim 3, wherein the processor, coupled to the camera, is configured to determine the gaze angle associated with the user, and track the steering angle based on the gaze angle.

5. The device of claim 1, further comprising a display configured to represent an image sequence at a viewing angle that is based on the steering angle.

6. The device of claim 1, further comprising a network interface, coupled to the memory, configured to communicate exchange messages to an external device associated with the plurality of representations of the soundfield to store to the memory.

7. The device of claim 6, further comprising an antenna, coupled to the network interface, configured to receive wireless signals including data packets, audio packets, video packets, or transport protocol data associated with the plurality of representations of the soundfield.

8. The device of claim 1, further comprising one or more microphone arrays configured to capture the soundfield.

9. The device of claim 1, wherein the plurality of representations of the soundfield stored to the memory device comprises one or more of higher order ambisonic representations of the soundfield, mixed order ambisonic representations of the soundfield, or a combination of mixed order representations of the soundfield with higher order ambisonic representations of the soundfield.

10. The device of claim 1, wherein one or more of the plurality of the representations of the soundfield stored to the memory device include, respectively, at least one high-resolution region and at least one lower-resolution region, and wherein the particular representation selected based on the steering angle provides a greater spatial precision with respect to the at least one high-resolution region and a lesser spatial precision with respect to the lower-resolution region.

11. The device of claim 1, wherein the device comprises one of a virtual reality headset, a mixed reality headset or an augmented reality headset.

12. A method comprising: storing, to a memory, a plurality of representations of a soundfield, wherein each respective representation of the soundfield comprises a different set of ambisonic coefficients representative of the soundfield; tracking, by a processor in communication with the memory, a steering angle provided by one or more angles associated with a positioning of a device that includes the memory and the processor; and selecting, by the processor and based on the steering angle, a particular representation of the soundfield from the plurality of representations of the soundfield that are stored to the memory.

13. The method of claim 12, further comprising reproducing, by one or more loudspeakers coupled to the processor, the soundfield based on the particular representation of the soundfield selected from the plurality of representations that are stored to the memory.

14. The method of claim 12, further comprising capturing, by a camera, images that

include a gaze angle associated with a user wearing the device.

15. The method of claim 14, further comprising: determining, by the processor, the gaze angle associated with the user; and tracking, by the processor, the steering angle based on the gaze angle.

16. The method of claim 12, further comprising representing, by a display, an image sequence at a viewing angle that is based on the steering angle.

17. The method of claim 12, further comprising communicating, by a network interface coupled to the memory, exchange messages to an external device associated with the plurality of representations of the soundfield to store to the memory.

18. The method of claim 17, further comprising receiving, by an antenna coupled to the network interface, wireless signals including data packets, audio packets, video packets, or transport protocol data associated with the plurality of representations of the soundfield.

19. The method of claim 12, further comprising capturing, by one or more microphone arrays, the soundfield.

20. The method of claim 12, wherein the plurality of representations of the soundfield stored to the memory device comprises one or more of higher order ambisonic representations of the soundfield, mixed order ambisonic representations of the soundfield, or a combination of mixed order representations of the soundfield with higher order ambisonic representations of the soundfield.

21. The method of claim 12, wherein one or more of the plurality of the representations of the soundfield stored to the memory include, respectively, at least one high-resolution region and at least one lower-resolution region, and wherein the particular representation selected by the processor based on the steering angle provides a greater spatial precision with respect to the at least one high-resolution region and a lesser spatial precision with respect to the lower-resolution region.

22. An apparatus comprising: means for storing a plurality of representations of a soundfield, each respective representation of the soundfield comprising a different set of ambisonic coefficients representative of the soundfield; means for tracking a steering angle provided by one or more angles associated with a positioning of the apparatus; and means for selecting, based on the steering angle, a particular representation of the soundfield from the stored plurality of representations.

23. A non-transitory computer-readable storage medium encoded with instructions that, when executed, cause a processor of a device to: store, to the non-transitory computer-readable storage medium, a plurality of representations of a soundfield, each respective representation of the soundfield comprising a different set of ambisonic coefficients representative of the soundfield; track a steering angle provided by one or more angles associated with a positioning of the device; and select, based on the steering angle, a particular representation of the soundfield from the plurality of representations of the soundfield that are stored to the non-transitory computer-readable storage medium.