Ambisonics

https://en.wikipedia.org/wiki/Soundfield_microphone

PICTURES
https://www.google.com/search?q=diy+ambisonic+microphones&client=firefox-b&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjJqMa1i4LaAhXBPFAKHeqvCdMQsAQIkQE&biw=1280&bih=677

GENERAL + COMMERCIAL http://www.ambisonic.net
https://www.creativefieldrecording.com/2017/06/07/the-unconventional-microphone-buyers-guide/
https://www.creativefieldrecording.com/2017/03/01/explorers-of-ambisonics-introduction/
http://www.core-sound.com/TetraMic/1.php (1st order) http://www.core-sound.com/OctoMic/1.php (2nd order)

DIY http://www.violini.de/
http://www.interestingelectronics.com/old/henrys_interesting_electronics/cheap_soundfield/cheap_soundfield.htm Here are the detailed construction files, with 3D print models —>
http://danh.coffeecup.com/

SOFTWARE (reaper, max, pd...) http://www.ambisonictoolkit.net/
https://dxarts.washington.edu/wiki/ambisonic-mixing-reaper
http://www.ambisonictoolkit.net/documentation/reaper/tutorials/
https://www.zhdk.ch/en/downloads-5379 http://forumnet.ircam.fr/product/spat-en/
https://github.com/CICM/HoaLibrary-Max https://github.com/CICM/HoaLibrary-PD
http://rickygraham.net/?p=176401730 https://bitbucket.org/ambidecodertoolbox/adt
https://iem.kug.ac.at/projects/workspace/projekte-bis-2008/acoustics/awt/bin-ambi.html