

An early investigation into acoustic feedback in Networked Music Performance

One of the key issues when projecting sound in an open-microphone environment is the 'Larsen Effect', referring to the "loop established in an electrophonic chain" that "constantly reinjects the signal over itself". (Augoyard & Torgue, 2014). Along the resonant spectrum lies a delicate balance between reproduction fidelity and the dangers of acoustic feedback. This creates tension in the platform of networked music performance: acoustic feedback is a major obstacle to performing together remotely without having access to dedicated, often-expensive equipment and sound engineering processes. In this investigation I consider what technical developments, of the present and future, might fully acknowledge this tension and seek to both mitigate and embrace resonant frequencies created by microphones, amplifiers, room acoustics, codec design and latency. I imagine a rich future—given the development of audio tools that monitor, analyse, filter and process—where we no longer fear the open microphone in networked music. Acoustic feedback can then cease to be a barrier to the widespread adoption of the networked music performance platform, while affording, in addition, new sources of aesthetic exploration in timbral fusions and acoustic ecologies.