

Chapter 61 - Native IE Audio Instead Of RSP-Style Mixing

The audio port follows the same rule as the graphics port. Preserve the musical behaviour at the right level. Do not reproduce the wrong machine part merely because the original machine used it.

In the case-study port, the sequence player still owns musical timing, note allocation, pitch, envelopes, and live-note decisions. The final sample playback and mixing work moves to native IE voices.

61.1 The Audio Split

The split is:

Old responsibility	IE responsibility
Sequence timing	Keep in the game audio code
Note selection	Keep in the game audio code
Pitch and envelope decisions	Keep in the game audio code
Sample voice playback	Map to IE SFX voices
Final mixing	Use the IE audio mixer

The result is not a software copy of the old audio processor. It is the same music logic speaking through Intuition Engine.

61.2 Voice Mapping

Each live note can be represented as an IE voice with a sample pointer, length, frequency, volume, and control word. The IE side tracks the voices, updates only what changed, and lets the mixer produce the final output.

This matters because audio is updated many times during a frame. A port that writes every voice field every time wastes bus bandwidth. A port that shadows voice state can reduce writes while preserving the same sound decisions.

61.3 Keeping Audio Fed

Long file or asset operations can starve audio if the game only pumps sound at the end of a frame. The IE asset layer has a hook so audio work can be serviced during longer transfers.

That is a small detail, but it is the difference between "the port runs" and "the port feels like a programme".

61.4 The General IE Lesson

When moving audio to IE, keep composition and timing where they make sense, then use the native audio engines for playback. Preserve the song, not the old mixer implementation.