'Time Travelling'

Towards an Appreciation of Bach in the Style of Joachim

Emulating Joachim's 1903 B Minor Bourée Recording – Technical Notes

Three ribbon microphones were used to capture this recording: a spaced pair of Sontronics Sigma mics, and a central SE-Neve RNR1. Ribbon mics have long been cherished for their silky, naturalistic response. It should be noted, however, that unlike traditional ribbon mics, these modern devices exhibit extended frequency response. In the case of the RNR1, with its Rupert Neve designed transformer, the high frequency response goes all the way to 24 KHz, past the upper limit of normal human perception.

Neve-designed Focusrite microphone preamplifiers were used for optimal, clean audio fidelity, whilst a Neve 1073 – famous for its warmth – was paired with the RNR1.

A Universal Audio Apollo firewire interface took the audio into the digital domain, with the project capture set to 96 KHz recording at 32-bit.

For the historical audio emulation we stuck with a closely positioned Sigma mic, based on the assumption that Joachim would have stood as close to the open horn for the original capture, in order to achieve the best possible signal-to-noise given the primitive mechanical setup he was using.

Distressing Our Recording in Stages

Taking this mono channel, we first sought to match some of the harmonic distortion found on Joachim's disc – most clearly obvious with double-stops and during transient peaks. We applied a basic valve (tube) distortion emulation – 'Datube' – driving its input stage such that it became most apparent in the same sorts of places as on Joachim's disc.

Next we applied an instance of the Izotope Vinyl plugin to give a little mechanical noise, dust, and scratch, and further harmonic distortion.

We then used the Fabfilter Pro-Q parametric equaliser, applying increasing attenuation above 1Khz to emulate the loss of top end on the primitive recordings of the very early 20th century. Next we applied two narrow-band cuts – one at 300Hz, another at 700Hz – to take away a little of the realism of the remaining sound. This brought us yet closer to the desired lo-fi effect.

The final technique we applied was to take the longest sample possible of the crackle found on the run-off of Joachim's disc. This lasts about 1.5 seconds, and was just long enough to loop.

Blending the processed mono channel with the 1903 disc's authentic crackle and hiss produced a suitably distressed result. From this we produced a mono mix down.

Although ours was a relatively unfussy process of reverse engineering, we both felt we were better able to imagine how Joachim might have sounded in person, or via modern recording equipment, by hearing what was lost via the recording process of the day.

Joseph Joachim in 1903

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http://pianorecording.co.uk/about.html