

THE META-PIANO

A hybrid piano between lutherie, gesture and embodied thought

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Playing on the meta-piano's two keyboards (acoustic keyboard and MIDI keyboard, stacked) © Isabelle Scotta

WHAT IS THE META-PIANO?

In 1977, composer and pianist Michael Levinas was already questioning the place of the tempered piano within a contemporary music increasingly drawn to malleable sound material. It was in response to this question that I developed, during my SACRe composition doctorate (PSL / CNSMDP, 2022-2026), the meta-piano: a hybrid device that extends the acoustic piano rather than replacing or covering it.

A founding principle guided every technical choice: the least possible intrusion on the instrument and on the pianist's gesture. Many “augmented” instruments impose on the musician an interface foreign to their practice; the meta-piano instead adds a second MIDI keyboard fixed directly beneath the acoustic keyboard, in the natural continuation of the pianistic gesture. Nothing is connected to the strings or to the mechanism: the electronic part is diffused by the soundboard itself, by means of small transducers, with no loudspeaker at all. The piano remains a piano, but augmented.

AN INSTRUMENT DESIGNED FOR GESTURE

This way of conceiving the instrument connects to a broader intuition, which I have theorized in my doctoral writing around the notion of “evidence”: gestural, conceptual, perceptual. Musical thought cannot be separated from the body that produces it. The meta-piano applies

this idea to instrument-making: rather than bolting an electronic system onto the instrument, it seeks to integrate it into the pianistic gesture itself, so that the performer thinks and plays the electronics the way they play the piano.



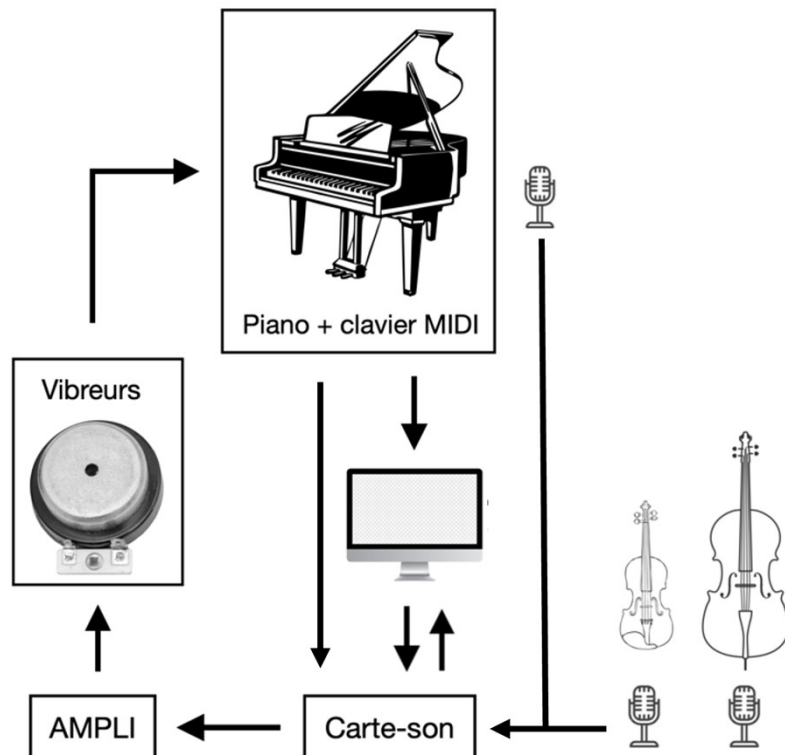
Transducer fixed under the soundboard



String pickup, real time and recording

HOW IT WORKS

The device is built on a classically made grand piano, fitted with: a second MIDI keyboard (Doepfer PK88) fixed beneath the acoustic keyboard, a gestural controller (Touché®) for shaping timbre and pitch in real time, and six transducers fixed under the soundboard, which diffuse the electronic part through the natural resonance of the wood, with no loudspeaker. The whole system is computer-driven (Ableton Live environment), with real-time processing of the MIDI signal as well as of the sound of the piano or of partner instruments (violin, cello...), and the triggering of electronic material composed in advance.



Schematic overview of the system (example of Jeux en filigrane, 2024)



The meta-piano (Bechstein), MIDI keyboard and transducers © Isabelle Scotta

Presentation videos

- [Demonstration at the Royan festival \(November 2024\)](#)
- [Improvised session at CNSMDP \(March 2024\)](#)

A COLLECTIVE RESEARCH EFFORT

The meta-piano grew out of a multidisciplinary team brought together at the Paris Conservatoire (CNSMDP): François Longo, computer music designer, and Fabien Bourrelier, piano technician, under the supervision of Jacques Warnier and Julien Dubois. A patent was filed with the INPI on 18 October 2024 (no. 2411301, held by PSL and CNSMDP), so that the device could spread beyond my own work, to other composers and performers.



Recording session for Jeux en filigrane, CNSMDP, April 2024

Lise Baudouin, pianist, creator of *Étude en blanc no. 4 – Mutations*, says: “I loved being able to navigate and converse with the electronics (...). It's wonderful to work with this mass of

sound. I'm sure the meta-piano will give rise to many other exciting works, and will interest performers as much as composers going forward.”

TWO WORKS ALREADY CREATED FOR THE DEVICE

Jeux en filigrane (2024)

For violin, cello, meta-piano and electronics. Commissioned by the Arkaï Trio and CNSMDP, for the “Filigranes” recording (INITIALE label). Created by Reika Sato (violin), Yi Zhou (cello) and Arhzel Rouxel (meta-piano). Computer music design: François Longo. Duration: approx. 13'30". Publisher: Lacroch'.

- [Score](#)
- Video: [filmed excerpt](#)
- Commercial recording “*Filigranes*” (INITIALE, 2025) — [Paris Conservatoire](#)

Étude en blanc no. 4 - Mutations (2025)

For solo meta-piano, the fourth piece in the cycle 6 Études en blanc (work in progress). Commissioned by ensemble Ars Nova. Dedicated to and created by Lise Baudouin on 26 March 2025 at the ElectroSession festival (Saint-Palais-sur-Mer). Computer music design: Manuel Polletti. Duration: 15 to 20 minutes. Publisher: Éditions l'Octanphare. Revived at the Opéra de Limoges (January 2026) and at CNSMDP (April 2026).

- [Score](#)
- Recording: [video footage](#)

TO FIND OUT MORE

- www.didierrotella.com
- YouTube: [the composer's channel](#)
- SoundCloud: soundcloud.com/didier-rotella
- Spotify: [discography](#)

For any technical questions about the device, or to discuss a collaboration around the meta-piano: didier.rotella@gmail.com