



The Soundboard Transducer

New Artistic Possibilities With Electronics

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Steingraeber Worldwide Dealer Meeting

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What is a transducer?

- Used in speaker technology
- Reversible glued to the soundboard
- Convert the soundboard into a speaker



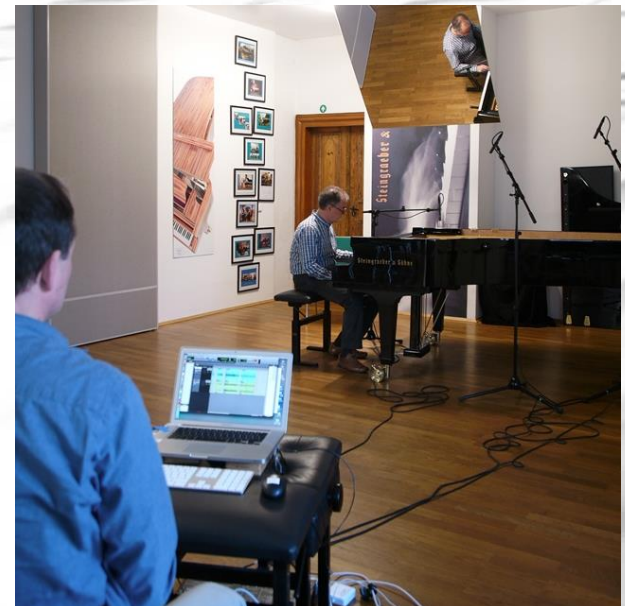
Cooperating Partners

- Idea by Robert HP Platz
- IRCAM Paris
- Music University Vienna

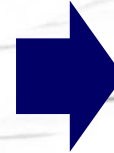
- Modartt / Pianoteq
- SWR Experimentalstudio,
in particular Michael Acker



SWR
EXPERIMENTAL
STUDIO



How do transducers work?



Pianist plays the piano with additional midi function (and maybe hammer stop)

midi signal goes to the computer and can be modified

Information goes to transducers which make the soundboard resonate

Authentic Sound



- Virtual piano model
- Consists of few recordings and numerous Steingraeber-specific sound factors
- Advantages compared to conventional sampling:
 - The sound is mixed anew with every stroke due to numerous factors.
 - No mere reproduction of many previously recorded sounds and artificially added gap fillers.
 - Numerous options for the user to influence the sound.

PIANOTEQ 6 PRO

Steingraeber & Söhne

Note Edit Options Help

Steingraeber Player

[Icons] Random [A B]

TUNING

Diapason
440 Hz μ

Temperament
Equal temperament

Unison width

Octave stretching

Direct sound duration

VOICING

Hammer hardness

Piano Mezzo Forte

Spectrum profile

Hammer noise

Strike point

Soft pedal

DESIGN

Soundboard

Impedance Cutoff Q factor

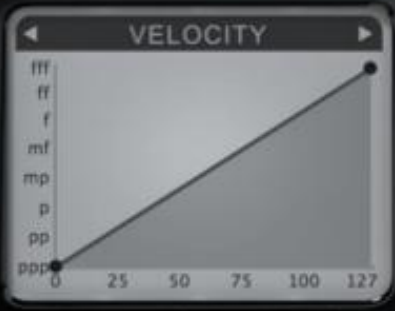
String length

Sympathetic resonance

Duplex scale

energy < Blooming > inertia

OUTPUT



Sound Recording

Volume

Dynamics

ACTION

MALLET BOUNCE

EQUALIZER

EFFECTS

Calibration Reset



Delay Equ3 Reverb



Transducer + Sound Software = Possibilities

Without Hammer Stop

- Play with increased soundboard vibration (strings + transducers = „Volume Booster“)
- Play on 2 levels (e.g., Quarter tone music)
- Piano with live electronics coming out of the piano (without additional speakers)

With Hammer Stop

- Play in all registers (e.g., 415 hz, 435 hz, 442 hz, 460 hz)
- Play in all temperaments (historic, oriental, etc.)
- Other instruments (Harpsichord, Synthesizer, etc.)

Transducer + Sound Software = Possibilities

The classical acoustic piano will not be replaced.

Grand pianos with transducers and sound software

- as an additional product for special target groups
 - Music universities
 - Opera houses
 - Composers
 - Recording studios
 - Techies
 - Etc.
- as an additional product with a lot of possibilities

adSilent



- Our preferred silent system
- Steingraeber sound coming soon
- Medium-term goal:
 - Integration of pianoteq sound (virtual piano model)
 - High computer performance necessary
- Short-term goal:
 - Integration of a Steingraeber sampling sound, generated from the virtual piano model
 - Available only in Steingraeber & Söhne uprights and grands