



## ***Audiovisual art at the Stage for Music Visualisation***

### **"PRESTO 126/4"**

**Music:** Ludwig van Beethoven, Bagatelle for piano op. 126 No. 4, Presto (1824); recording with Paul Komen (2003) playing Conrad Graf's piano forte (1824), a permanent loan from the Hummel family to the Beethoven-Haus.

**Production:** Johanna Dombois (concept, direction/dramaturgy), Uli Lechner (director of visual effects), Florian Dombois (idea, concept, project management), Martin Suttrop (concept). Produced for the Beethoven-Haus in co-operation with Vertigo Systems GmbH and rmh – new media gmbh. © Fraunhofer Institute for Media Communication, Sankt Augustin (2004)

**Performance duration:** 4 minutes

Despite the literal meaning of "trifle", a bagatelle in Beethoven's work is far more than just that. The bagatelle op. 126/4 in H minor to be played "Presto" captivates the audience through its brevity and can well be called "modern". Beethoven composed the piece around 1823/24 as part of his third "Bagatelle Cycle", which he described as follows: "6 bagatelles [...] for piano only, [which] are likely the best of this type I have ever written." The recording you are about to hear was played on the piano forte of the Beethoven-Haus. The instrument was manufactured in the same year the bagatelle was written and - according to Beethoven - has the ideal sound.

**For the visualisation of "Presto 126/4", digital technologies are used to transform the music's volume, sound spectrum and parts of the form into three-dimensional images. Optical elements such as colours, dots and movements are determined by the musical structure and data flow and thereby make visible the aesthetic and physical side of sound, creating a lyrical-intimate atmosphere.**

## Elements of the musical visualisation of "Presto 126/4":

### 1. Colours

In a frequency analysis the physically measurable sound spectrum of the piece was divided into four frequency areas. These four areas are displayed by moving forms in certain colours: Blue circles, red squares, green ribbons and yellow triangles. The frequency determines how many colour particles emanate and with what speed. When the colour particles flow backwards, a three-dimensional image is created.

The method of frequency analysis and its visualisation used in media players was transferred to a virtual three-dimensional space for the first time.

### 2. Interaction

By means of interaction the audience can influence the visualisation. Using the provided interactive devices, visitors can move the coloured forms horizontally and vertically (trackball for blue circles, joystick for red squares, ropes for green ribbons and touch triangles for yellow triangles). Thus, each performance creates an individual colour pattern to visualise the flow of data.

### 3. Dots

Black dots and their flow direction show the piece's musical form. The form consists of two parts quite different in their atmosphere as well as the repetition of these parts.

ABAB

A     March-like character                     Horizontal movement

B     Spherical character                        Vertical movement

In their dynamics particularly emphasised parts of the score (sforzati) are shown by a swelling of the dots.