

GRANULAR SYNTHESIS



Kurt Hentschläger x Ulf Langheinrich

GRANULAR~SYNTHESIS

GRANULAR~SYNTHESIS was co-founded in 1991 in Austria by audiovisual media artists Kurt Hentschläger (1960) and Ulf Langheinrich (1960).

During more a decade they strived to fuse video and sound into one medium where video is sound and vice versa. As an important part of this undertaking they developed real time video software and customized computer configurations, enabling them play video as a musical instrument. With their often symphonic performances and space within space installations *GRANULAR~SYNTHESIS* created electronic emotion machines, that surround, immerse their audience, overwhelm the human sensory apparatus by massive use of subsonic and penetrating light frequencies, what literally touch the visitors.

Since 2004 Hentschläger and Langheinrich are working independently again on their own projects, but *GRANULAR~SYNTHESIS'* performances, installations and single screen videos are available and continue to be exhibited.

<https://granularsynthesis.info/Works>

Kurt Hentschläger (1960) lives in New York (US)
kurthentschlager.com

Ulf Langheinrich (1960) lives in Tema (GH) and Dresden (DE)
ulflangheinrich.com

GRANULAR~SYNTHESIS

In the chain of a basic audio/video recording, any single frame (containing the sonic information as well as its visual representation) is a media grain available for unlimited copying into new patterns, with the aim of composing artificial assemblies and media structures. If the content of a grain is a sample/scan of real moment it would be prominent and made aware to the viewer in its re-manipulation and displacement. It is this time-based intervention which creates the drama. Time becomes a territory defined by duration and designed through structures, using cloned fragments within, and so forming a grid, a web, a tissue.

The ability to control and manipulate time allows the elements to lose their history and with repeated fragmentation and repetition become mechanical, reasonless and meaningless. Although the public's reception and perception of the work focus on the mirror of the projection and dwell in the drama of the newly stringed images, our other concern is the potential of the machine: Its fundamental capacity to create unlimited variations and to generate structures which seem independent of causal orders.

GRANULAR~SYNTHESIS aesthetic concept has been moving towards the complete construction of audiovisual abstraction, to digitally generated images and sounds. Not using "real" figurative footage denies the option of rendering a sensation by deconstructing a given original continuum. The sophisticated time-based treatment as found in the *GRANULAR~SYNTHESIS* (as we understand it applied to a video stream) is aimed now on a neuronal and sensorial level. This concept doesn't need "reality" samples, they even disturb the deeper encounter of losing one's consciousness about time. Recent work such as new shows within the frame of *AREAL* or the installation *FELD* investigate the possibilities of audiovisual fields and oscillations. The task is to create an audiovisual entity that is abstract but sounds as it looks and looks as it sounds and so is forming one whole.

We think about the visual equivalents to audio bit resolution, low pass filters, etc. How does an image fall into pixels as the resolution gets lower and what is falling into pixels and is falling into pixels the right equivalent anyway? Any resulting algorithm or translation we see as a means to create an abstract reality with emotional substance and depth, a subjective artistic invention.

Our approach has become the approach of sound designers who think sound as a body and a substance and from this position we think visuals as structures and movements in time. Designing here is Architecture of sound qualities in a visual representation rather than visual effects.

The sound is a body of a certain consistence and weight. The visual representation displays a membrane, at the surface. A surface of a certain colour and structure.



GRANULAR SYNTHESIS

Performances

AREAL (1997-2003)

MINUS (2003)

«*N*» (2004)

SINKEN (1999)

Performances/Installations

<*360*> (2002-2017)

POL (1998-2008)

MODELL 5 (1994-2007)

Installations

LUX (2003)

FELD (2000)

FORM / FORMEN (1999-2000)

NOISEGATE (1998)

RESET (2001)

AREAL

1997-2003

Audiovisual immersive performance series

Single channel video (across several screens), 5 to 12 channel audio



Steirischer Herbst, Graz, 1997 - Photo: Granular~Synthesis

AREAL is a laboratory, it has interpreted, re-mixed and combined material from various GRANULAR~SYNTHESIS works, over time.

The performance re-mixed- and combined various GRANULAR~SYNTHESIS works, its current gestalt is an abstract, predominantly flickering, audiovisual landscape.

In its early editions *AREAL* lasted for several hours. Conceived as part improvisation and also endurance test for audiences it became GRANULAR~SYNTHESIS media performance laboratory. Staged in various, changing architectural setups, both frontal, surround and in between, it was shape shifting by default. While the title of the work remained the same, over time the work did anything but.

"Small coarse-grained units of information jerk and shake in light/against-the-light mode. The biological unit "human being", tolerated here to a certain extent, humbly



Elektra Festival, Montreal, 2000

tries to withstand a Wall of Sound which is to get more and more infernal during the following hours...”

AREAL emerged in its first version from our experience with *X-tended Thrill*, a collaboration with *Sensorband* at the ICC - Nippon Telecoms' then new, ambitious IntercommunicationCenter, Tokyo, in 1997.

AREAL-A premiered at the Steirischer Herbst Festival later in 1997, followed by *AREAL-V* at the Vergessen Festival (both in Austria). At that time *AREAL* was sourcing images and sounds from both *WE WANT GOD NOW* and *FORM*.

Not one recording, sadly, exists, due to *GRANULAR~SYNTHESIS* then ironclad belief that documentation of live / ephemeral events stands in contradiction to such work itself and thus must be not allowed. By today's standard of recording technology also, SD video cameras could barely record in the dark or in high contrast scenarios so recordings would usually disappoint. *GRANULAR~SYNTHESIS* sound was always multichannel, delivered on top of a massive infrabass foundation, which, again, squeezed into stereo and listened to via home speakers could in no way reflect the actual physical experience of an audience attending the live event.

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)
Torso in version 1 originally performed by: Michael Ashcroft
Software Development VARP9: Dirk Langheinrich

MINUS

2003

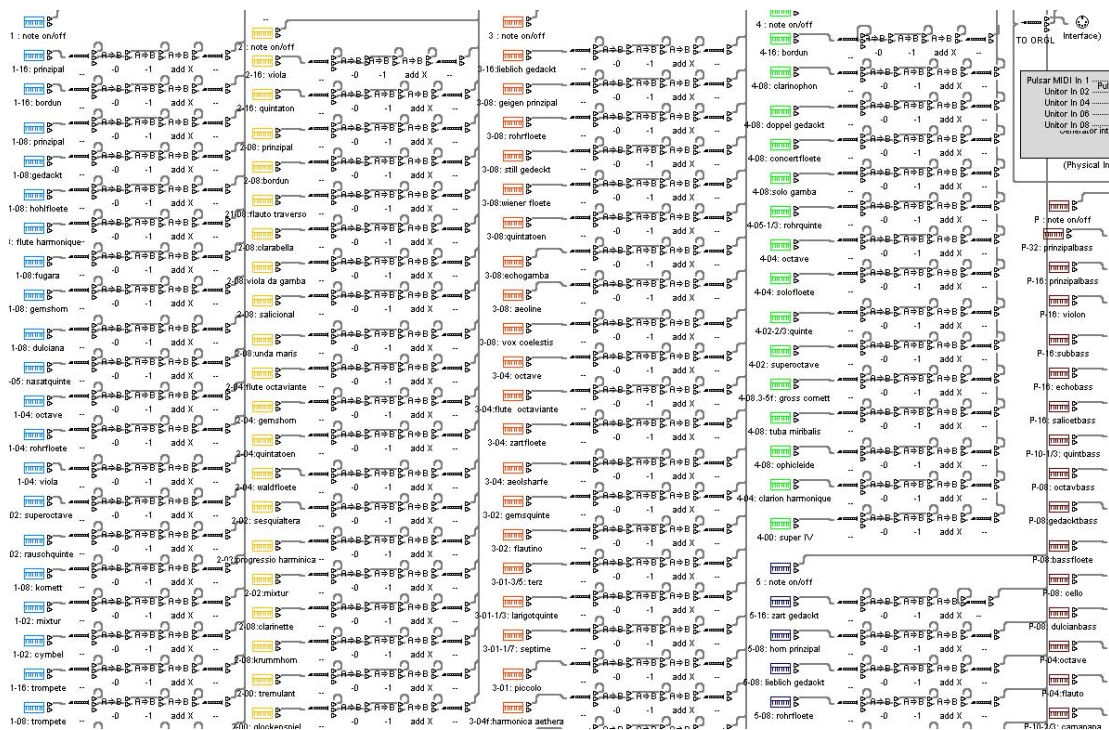
Audiovisual concert performance
Single channel video, 6-channel audio



Originally commissioned for the opening of Wien Modern Festival, Vienna and specifically so for the Rieger Organ in the Viennese Konzerthaus, *MINUS* is a 1-hour composition for two pipe organs and one digitally generated stream of audiovisual information. The visual stream is presented as a 8x11 meter front projection. The electronic sound partly displayed by multiple numbers of small obscured loudspeakers and at its low end powered by a battery of subwoofers engulfs the person rather than creating distinct sound events at localizable positions.

MINUS was especially designed for the grand hall of the Konzerthaus Vienna, a place not only known for its history, architecture and superb sound but also for its huge pipe organ. The Konzerthaus organs wall of apparently countless pipes looks as impressive as the array of five keyboards and one pedal. *MINUS* can also be adapted to any venue with a pipe organ which is MIDI controllable.

Although music for organ is usually connected to and determined by the interface for the performing musician, which historically is the keyboard, this interface does not have to be the only way to access the sound producing pipe works. The Konzerthaus organ is fully MIDI controllable. MIDI means to think and access the sonic potential of the pipe work without thinking for a performing musician.



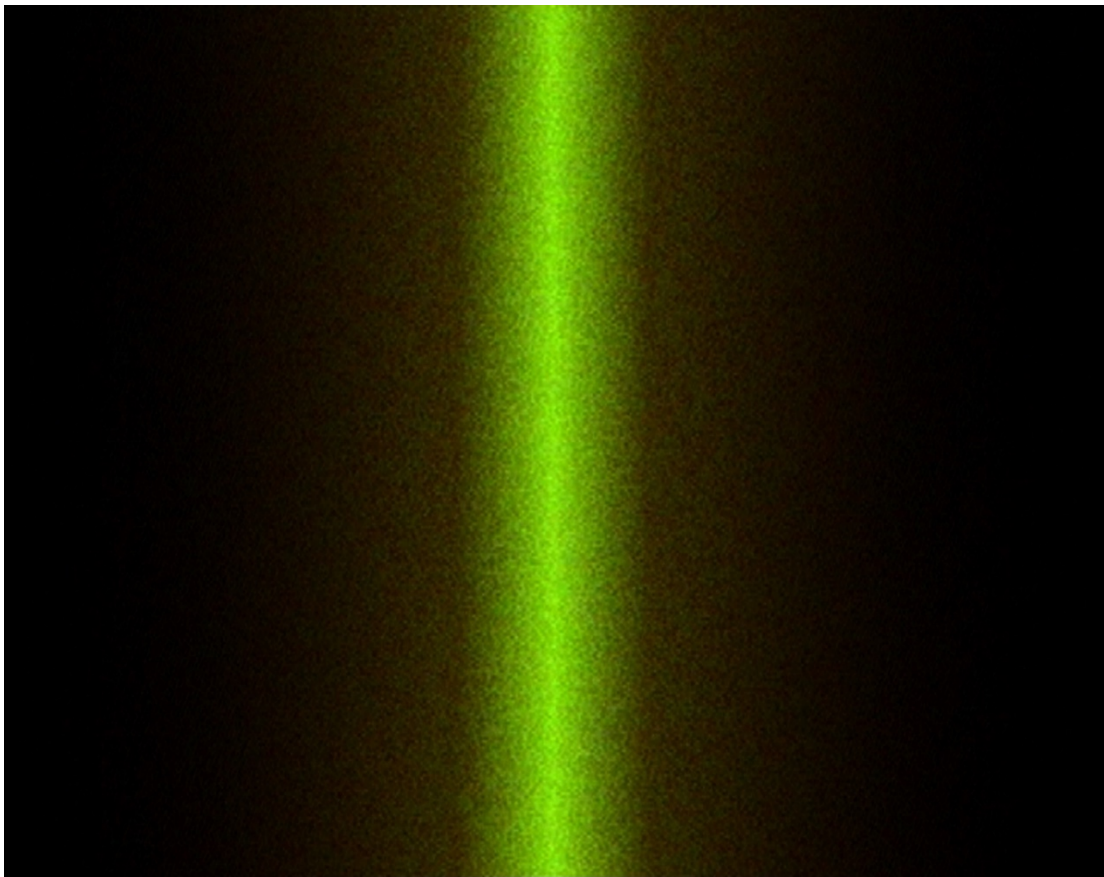
Compared to an organist the fairly unattractive performance of a sequencer means to skip a great deal of what is normally associated with a concert for pipe organ. To *GRANULAR~SYNTHESIS* it means to integrate the sonic capital of the pipe work into the sequencer based audiovisual composition of *MINUS*. The first part of *MINUS* is reserved solely for the pipe works.

The second pipe organ is the old baroque organ of the Michaelakirche in Vienna. The sounds of the Michaelakirche are unique for another reason. They are based on the opportunity to adjust the amount of air accessing a pipe by means of fully mechanically controllable stops. Reduction of air pressure from the default full pressure results in beautifully ethereal colours and mists of sound. The sounds produced by this fully mechanical instrument base on a defined number of first of all fixed keys but constantly changing air pressure into the various registers. As a part of the compositional process they are recorded in advance and during *MINUS* are played back over the PA in the Konzerthaus. They perfectly blend with the digitally

controlled sound of the Konzerthaus organ as well as with electronically generated sounds.

The visuals are almost aseptically pure and minimal, a counter position to the big blend of sounds. The intricate micro time treatment results in audiovisual flicker and stroboscopic patterns and in combination with subsonic frequencies this pulsating, resonant matrix may be efficient on a neuronal and sensorial level.

Thus, *MINUS* is another laboratory to investigate the possibilities of audiovisual fields and oscillations together with an audience. Like other recent work it may appear less violent and oppressing but physical and tactile: a sensual field, a landscape, maybe an inner landscape. The visual representation is a membrane, a more or less transparent surface of a certain colour and structure, whereas the sound is a body of a certain consistence and weight.



Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

«N» — with BALLET PRELJOCAJ

2004

Dance performance for 12 dancers,
3D animation, pulse & strobe lights and electronic sound



«N» is the title which has been given to the work prepared with Ulf Langheinrich and Kurt Hentschläger. It is a “masked title” which purposefully does not express what is evoked in the work, which deals with the unspeakable, what is beyond description. Suffering, torment, humiliation, torture ... the body as the primary vector for annihilation and destruction.

If what we are trying to say seems virtual and distant to a part of the world population, it is in fact quite close and cogently, sharply real.

It has spread throughout time from the very dawn of our existence to the present day, without interruption, reaching incandescent peaks of trouble. Its force is matched solely by our disbelief.

Concepts about the “humanimal” condition were defined during the early meetings of the collaboration. Most of the thoughts and concerns back then have in the meanwhile become amplified further N, the finished artifact, has, during the process of creation, moved towards a state of pointed ambiguity, describing a state of being and an atmosphere, predominantly the problem of the absence of empathy, rather than creating a singular narrative.

Angelin Preljocaj

« *Syn-aesthetic is not sync-aesthetic* »

Sound is designed as a sonic image, an unsettling current, an almost independent primal matter organised in various and at times countless single layers. Consistencies are recognizable. Melodies seem as if not yet invented. I envision a force, one slow motion wave and everything and all is drifting and drowning in it.

Kurt Hentschläger

The show comprises high sonic levels composed by bass frequencies and stroboscopic effects inadvisable for young children, pregnant women, epileptics people or ones who have pacemaker and hearing aids.

Ulf Langheinrich

A collaboration of Ballet Preljocaj and Granular~Synthesis

Concept and dramatization: Angelin Preljocaj, Kurt Hentschläger, Ulf Langheinrich

Choreography: Angelin Preljocaj

Image, Light design: Kurt Hentschläger

Music & Sounddesign: Ulf Langheinrich

Costumes: Angelin Preljocaj with Martine Hayer

Motion capture: DoDes'Kaden /Stephane Dalbera

Choreologist: Dany Lévêque

Rehearsal assistants: Nadine Comminges and Youri Van den Bosch

Dancers: Isabelle Arnaud, Hervé Chaussard, Sébastien Durand, Yan Giraldou,

Natacha Grimaud, Anna Hagermark, Harald Krytinar, Céline Marié, Thomas Michaux, Lorena O'Neill, Toshiko Oiwa, Guillaume Siard

Co-production:

Théâtre National de Chaillot-Paris, Festival Montpellier Danse 2004, Festival Perspectives-Saarbrück/Moselle, Théâtre de l'Olivier-Istres, le Groupe Partouche-Casino municipal Aix/Thermal

Residence at Scène Nationale de Cavaillon

SINKEN

1999

Single channel video, stereo sound, duration 20:19

Featuring performer Michael Ashcroft

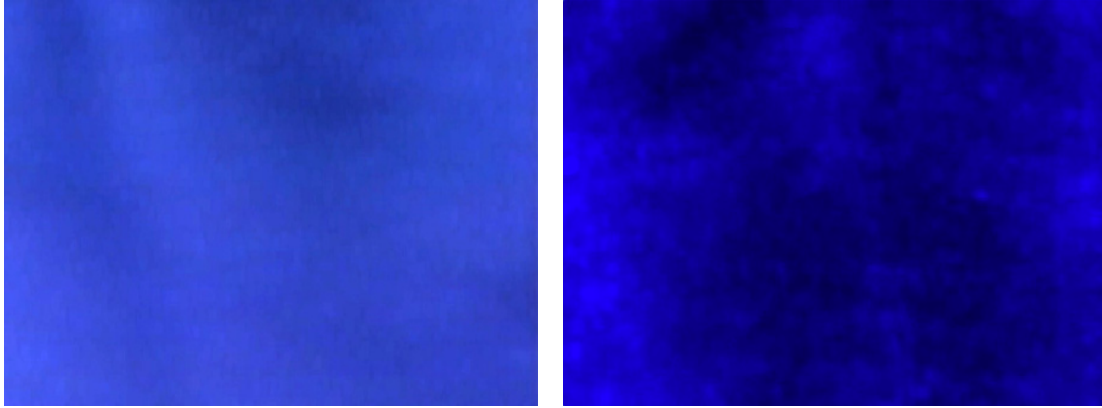
Originally created for Orchestre National de lille and Art Zoyd's project *Dangerous Visions*



SINKEN is a 20 minutes long piece for digital audio and visuals and string-orchestra. The visual part is a video projection across four screens forming a panoramic stretch. Together with to the composition played by the string orchestra, the electronic soundscape, as part of the video, is diffused through surround speakers, around the audience.

The overall tenor of *SINKEN* is contemplative, featuring a sense of slow motion and time standing still. The audience usually first passes through a phase of frustration, with the absence of dramatic development, before reaching a state of heightened concentration and trance like relaxation.

The digital audiovisual material is almost entirely abstract, yet still organic and clearly alive and breathing. It stems from processed and zoomed in human torso footage, becoming close up texture rather than discernible human form, and eerily so.



An unrelenting glissando, played by 48 string instrument musicians of the live orchestra, is met by minimal, pumping and flickering, audiovisual movements. Sonically, *SINKEN* is starting off with a narrow band of detuned violins, sliding downwards in perceived pitch, and eventually ending in a physical rumble of deep double bass notes. The final bass part is supported by pre-recorded and amplified double bass sounds. At that time the video has started flickering in stroboscopic dark blue and black.

The orchestral score, although conceptually simple, proved to be unusually demanding for the musicians.

Video/Audio samples from a seven-minute dedicated performance for camera by British performer Michael Ashcroft, recorded in 1995 in Cardiff, have served *GRANULAR~SYNTHESIS* as a source of inspiration for many years. After the initial production for *WE WANT GOD NOW* and later *FORM* the material finally also became the foundation for *SINKEN*, a composition for string-orchestra and parallel audiovisual track.

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

SINKEN was commissioned by Art Zoyd and Orchestre National de Lille for the *Dangerous Visions* program of 1999 for shows in Maubeuge and Lille in northern France. It had two more presentations at the Palacio de Bellas Artes, Mexico City with the National Orchestra of Mexico and at the Donau Festival, St.Poelten with the Niederösterreichisches Tonkuenstlerorchester.

The installation was reformatted as a loop for the New Austrian Cultural Forum in New York (USA) in June 2002

<360>

2002 (2D)-2027 (2D)

Audiovisual immersive performance and installation

Single channel video (across 12 to 16 surround screens), 4-channel audio



<360> is an expansive audiovisual architecture that completely immerses an audience in ambient electronic sound and flickering digital video - conceived and composed as an artificial counterpart to a natural maelstrom.

<360> combines physical and immaterial components, creating a virtually sublime landscape.

Referencing to abstract colour field painting and expanded cinema <360> creates an abstract theatrical experience in which electronic flows, looping into infinity, replace traditional performers and delivery.

Sound is diffused by multiple small and obscured loudspeakers and at its low end powered by a battery of subwoofers. It acts as a morphing mass, engulfing the audience rather than creating distinct sound events at localizable positions. Changes happen at a moment in time rather than at a position in the space.

The overall structure and length of the piece supports a perception of an endless continuum.

<360> can be presented as both an installation and a live performance.

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

Software development and image integration in AVIE: Nikolaus Völzow

AVIE hardware design: Marc Chee, Robin Chow, Damian Leonard, Densan Obst

AVIE touring: Jan Gerigk

Production: Granular~Synthesis and Epidemic Paris

With the help of NVIDIA, ZKM Karlsruhe and University of New South Wales iCinema Centre Sydney

<360> premiered 2002, September 26th

Commissioned for the Villette Numérique Festival at the Grande Halle de la Villette in Paris.

Original version from 2002:

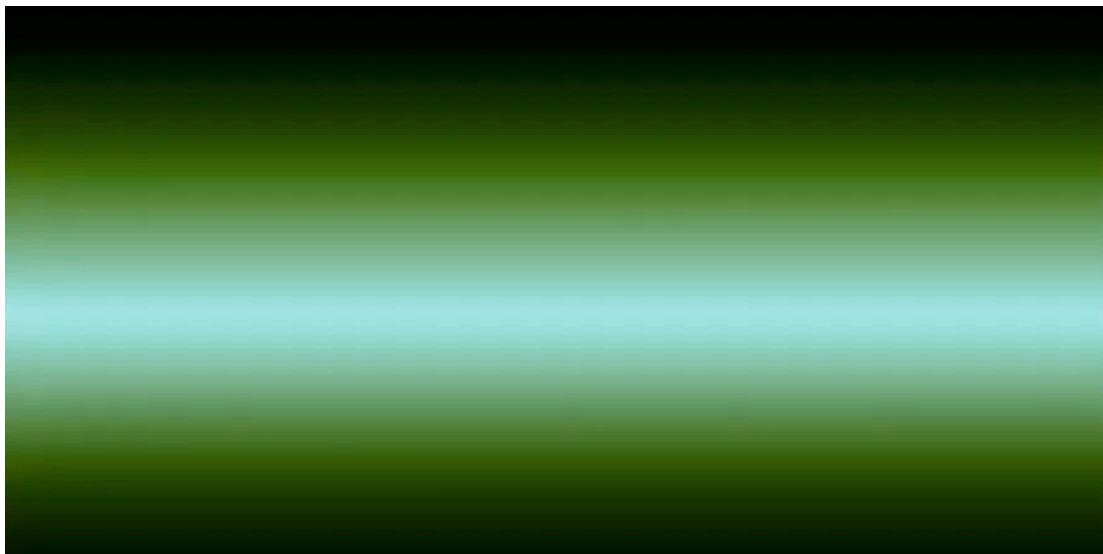
Audiovisual immersive performance and installation

Single-channel video (across 12 to 16 surround screens), 4-channel audio

Reissued version from 2017:

Audiovisual immersive stereoscopic installation across a cylindrical screen

12-channel audio (AVIE system).



POL

1998-2008

Real-time audiovisual performance and installation
4-channel video (on 7 screens), 12-channel audio (4 mono + 4 stereo)
Featuring performer Diamanda Galás

POL (German word for pole) is a live improvised performance.

Using high intensity light, video and audio projection including massive sub-bass *POL* subjects the audience to an overwhelming flow of stimuli and strives to achieve a perceptual situation of disorientation and recollection. *POL* "attacks" the audience, by challenging all sensual barriers. The main theme is overload.

POL is a semi-surround environment composed of 7 video screens forming a parabolic panorama that fills the entire audience's field of view. It has a dedicated centre, from which the sounds and images originate and from there then flicker from screen to screen, towards the edges, emanating a sense of "visual radiation".

POL features audiovisual samples of a human being, of acclaimed singer/performer *Diamanda Galás*. The show virtually buries the few seconds of electronic evidence = samples of this performer in waves of audiovisual noise, transforms it into something between an alien and an angel. Realistic "Flesh portions" occur like flashes in a continuous stream of abstract noise mass. Video becomes a light source rather than presenting images. No light / images at all but sound is a crucial part of the *POL* dramaturgy.

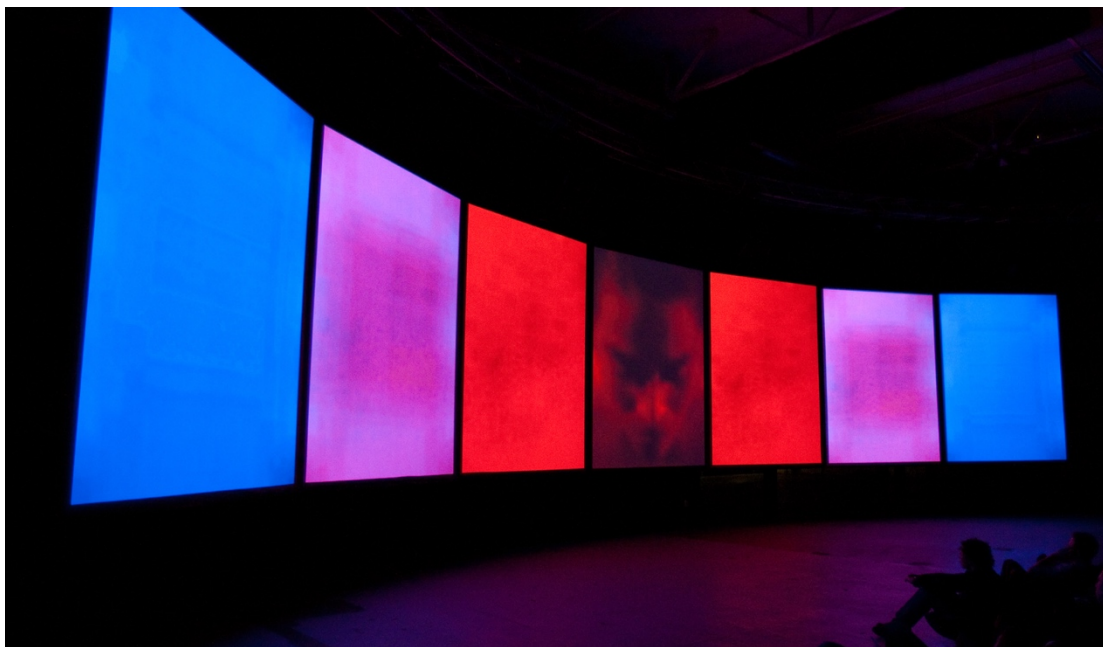
In its now final form, *POL* is presented as a live performance or installation.

POL 1.0 - World premiere: ISEA Liverpool, 4th September 1998

POL 2.0 - World premiere: Zeitfluss / Salzburg Festival, 2nd August 1999

POL 3.0 - World premiere: Wien Modern, Vienna, 15th November 2000

POL 4.0 - World premiere: Romaeuropa, Roma, November 2008



GRANULAR~SYNTHESIS-Retrospective, STRP Eindhoven, 2009 - Photo: Granular~Synthesis

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

Original voice and performance samples: Diamanda Galás.

Original software Realtime Audio+Video "VARP 9": Dirk Langheinrich & Granular~Synthesis

Photography director video recording Diamanda Galás: Wolfgang Lehner

Director video recording Diamanda Galás: Florian Michel

POL was commissioned by Hull Time Based Arts, Hull and co-produced by Ars Electronica Linz, Maison des Arts Creteil and Manège Maubeuge, as well as Institut für Bildmedien / ZKM Karlsruhe, with support of WIEN Kultur

MODELL 5

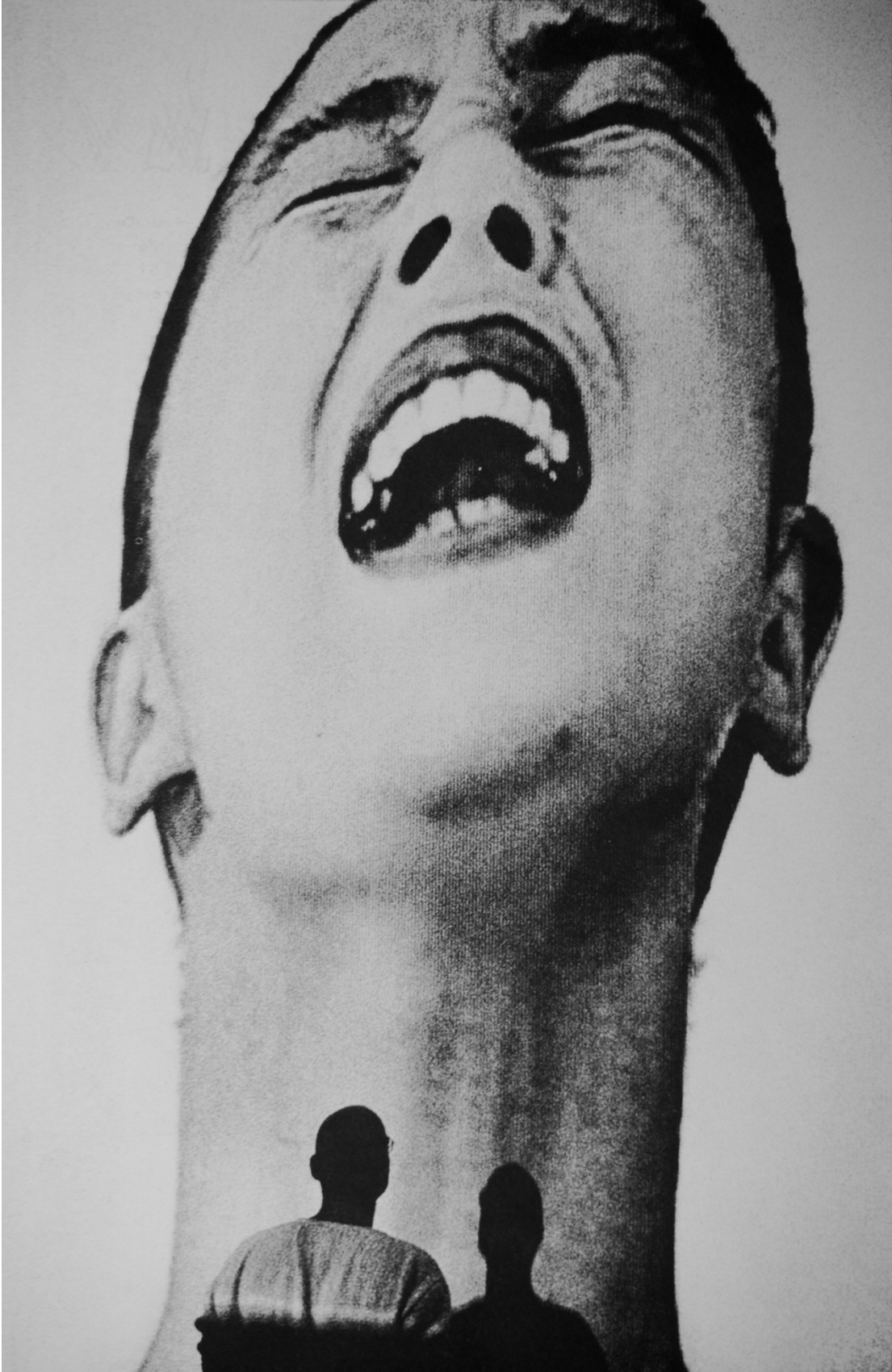
1994-2007

Audiovisual performance and installation
4-channel portrait video, 12-channel audio
Featuring performer Akemi Takeya



MODELL 5 is a performance or installation in which the face of Japanese performer Akemi Takeya is subject to drastic time-based interventions that create in essence a cyborg-like hybrid, between human and machine. A roller coaster dramaturgy following the "life" of the four clones on screens.

Edited on various AVID Suites in England and Austria between 1994-1996



MODELL 5, premiered in a first version 1994 at the ICA London has been described as one of the most beautiful experiments in bringing digital video to a theatrical setting. Using a technique derived from the principals of the sound design technique called "granular synthesis" but applied to the rather fat grains of single video frames (visual content and sound), *GRANULAR~SYNTHESIS* manages to evoke from a few expressions on the face of the performer **Akemi Takeya**, a frenzied exploration of the alter ego within touching distance.

Every prejudice against Techno-Culture certainly has its justification - except in this case. Never before has more frenetic applause followed, without a doubt deserved by one the most intensive and, at the same time, open and free theatre evenings I have ever visited.

(Tagesspiegel / Arnd Weseman about ISEA 95)

The artistic treatment of alienation has not been experienced at its more frighteningly beautiful for a long, long time.

(Kurier)

*The performance of the *GRANULAR~SYNTHESIS*, which unbelievably impresses and, at the same time, deeply affects the observer, verged on the bounds of the acceptability and bearability... Here at Klangart ("Sound Art") a total novelty was displayed in the form of *GRANULAR~SYNTHESIS*.*

(NOZ)

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

Sample session performed by Akemi Takeya

Edited on various AVID Suites in England and Austria between 1994-96

Produced by: Mike Stubbs, at HTBA (Hull Time Based Arts) in Hull England

Co-produced by PYRAMEDIA Vienna

Funded and sponsored by The Curator of the Austrian Minister for science, research and the arts Stella Rollig, The Curator of the Austrian Minister for science, research and the arts Markus Brüderlin, Archimedia Institute Linz, Arts Council of England, BMWFK - Austrian Ministry for science, research and the arts, BMAA - Austrian Ministry for foreign affairs, FISCHER Film Linz-Wien, Kulturabteilung Land Niederösterreich, Kulturamt Stadt Linz, Medienwerkstatt Wien, MEDA - Mission for vision, Oberösterreich Kultur, WUK - Werkstätten und Kulturhaus Wien, WIEN Kultur, Yorkshire & Humberside Art Board

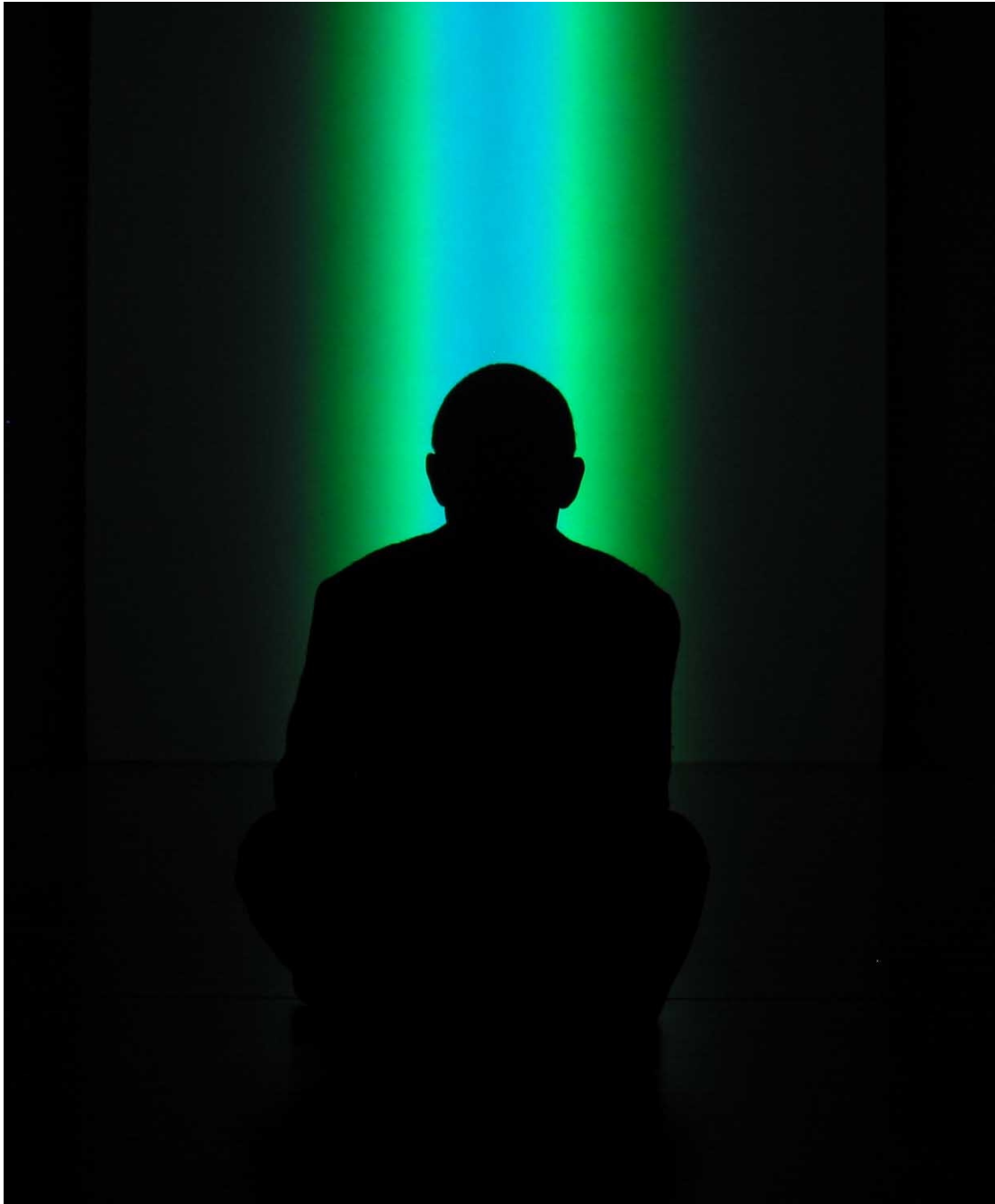
Special thanks to: Mike Stubbs, Bettina Bartsch-Herzog, Christine Boehler, Birgit Flos, Verena Formanek, Werner Frey, Kurt Henrich, HILUS, Dirk Langheinrich, Zelko Wiener

LUX

2003

Audiovisual installation

Single channel video, stereo sound, 20 min



Lia Rumma Gallery, Milano, 2002

LUX is the last *GRANULAR~SYNTHESIS* installation reflecting on digital technology as framework for creating a second, man-made, vaguely simulation based, nature. It is part of a body of work including *<360>* (2002), *MINUS* (2002), *RESET* (2001), and *FELD* (2000).

The audience experiencing *LUX* enters through a light blocking gate into a dark space, with a single video projection on the opposite side of the entrance as the single light and visual element. Carpet on the floor allows for sitting or lying down.

Sound appears to be inherent to the image and vice the versa. Both sound and image represent two qualities of one aesthetic creation. Any motion, change or reorganization of the visual and sonic formations function as a unified field, any modulations of the video in light and colour, causing equal modulations in the sound.

The sound, synchronized to visuals, is a densely woven ambient electronic fabric, organic yet artificial, ebbing and flowing in intensity and change over time. A battery of subwoofers spread an energetic, physical rumble - and at times a slow pulse - evenly, rather than creating distinct sound events at localizable positions.

The overall structure and length of the piece supports the perception of an endless continuum. The duration of the loop is approximately 20 min.

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

LUX was presented at the Gallery Lia Rumma Milan in 2003 and was also presented at Laboratorio Alameda in Mexico City and IEAR! festival in Troy in 2003, *Z33-Feel the New* exhibition in Hasselt and Arborescence festival Aix-en-Provence in 2004.

FELD

2000

Audiovisual immersive installation

Single channel video (across multiple screens), stereo sound



Musica per gli Occhi, Bolzano, 2002

At the end of the nineties **GRANULAR~SYNTHESIS** became more and more interested in the sensual and emotional impact created by being immersed in an optical and sonic environment, -an audio-visual consistence, -a mass, -an audio-visual body with a more or less transparent surface.

Looking at this from the perspective of sound designers, who think sound as a body and a substance, **GRANULAR~SYNTHESIS** thinks visuals as structures and movements in time. Designing here means architecture of sound, means visual representation rather than visual effects. Abstract does not mean abstract gestures but an abstract space in which one may resonate on a purely neuronal and sensorial

level. The question is, how to shift the position of a person who enters a space from looking at something to being inside it.

As a result in this research *FELD* was for the first time completely "abstract" it is an ever-modulating line of prismatic light horizontally along the screen. Most of the time it seems not unreasonable to read this image as a bare landscape horizon.

The modulations of light and color and the form of the line is clearly related to the crashing modulations of sound, however the sound appears less oppressing as in earlier work, yet has become invasive and potentially dislocating because of the design of inter-modulating subsonic frequencies. These subsonic frequencies modulate the amplitude of all sonic events in the space, so they not only modulate the *FELD* sound itself, but also the voices of the visitors talking to each other.

Images or better now light: is a flickering, pulsating, a resonant matrix to sync the brain. This flickering light can "lift off" the image from the projection screen, visually modulating the space.

Such a space does not introduce itself in an immediate fascinating shock. Since it is rather empty it almost denies a quick understanding, a massive nothing suggests a decision: to be either at a loss with what is presented or to allow it in. An abstract space such as *FELD* asks for a bit of patience as it starts to slowly engulf the visitor. The insistence on repetitions change the perception of time, time can suddenly become excitingly slow.

Granular~Synthesis

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

FELD was premiered at the Woodstreet Galleries Pittsburg, USA in October 2000. It was exhibited at the OK Centrum für Gegenwartskunst in Linz, Austria (2000/2001), at the Musica per gli occhi festival in Bolzano and at the Municipal Museum of Daejeon (Korea) in 2002.

The current version is *FELD 2.0*. It consists of a three-dimensional sound-field produced by symmetric projections of sonic information from 9 loudspeakers in a given space. This field is surrounding and targeting at a central near field which is defined by flickering light and video (images and sound) emitted by two video-monitors and nearfield speakers.

WIDE a site-specific installation using the audiovisual material of *FELD* was created for the opening of the new Austrian Cultural Forum NY in April 2002.

FORM

1999-2000

Single channel video, stereo sound

Featuring performer Michael Ashcroft

Commissioned originally as contribution to Robert Lepage's stage work *Zulu Time*



Video samples from a seven-minute performance of Michael Ashcroft recorded in 1995 in Cardiff have served as a source of inspiration for many years.

It was originally shot to obtain human torso performance footage for *WE WANT GOOD NOW*, a one-hour long video work for the British performance group Man Act (of which Michael was a member).

The *WE WANT GOD NOW* video they edited in 1995 for the dance performance of Man Act had a rather short life, as a work on stage at least. The raw video material

however has been later used by GRANULAR~SYNTHESIS in many forms/clones, for instance in *Xtended Thrill* and *AREAL*.

One work composed also from just a few seconds of raw footage of *WE WANT GOOD NOW* is *FORM*.

It was first commissioned as a contribution to Ex Machina/Robert Lepage's technological cabaret *Zulu Time* in 1999. It was reedited again and, in its final edition, had its last public appearance at the PS1 Clock tower in New York in 2000.

FORM now is shown as a single channel stand-alone video work.

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)



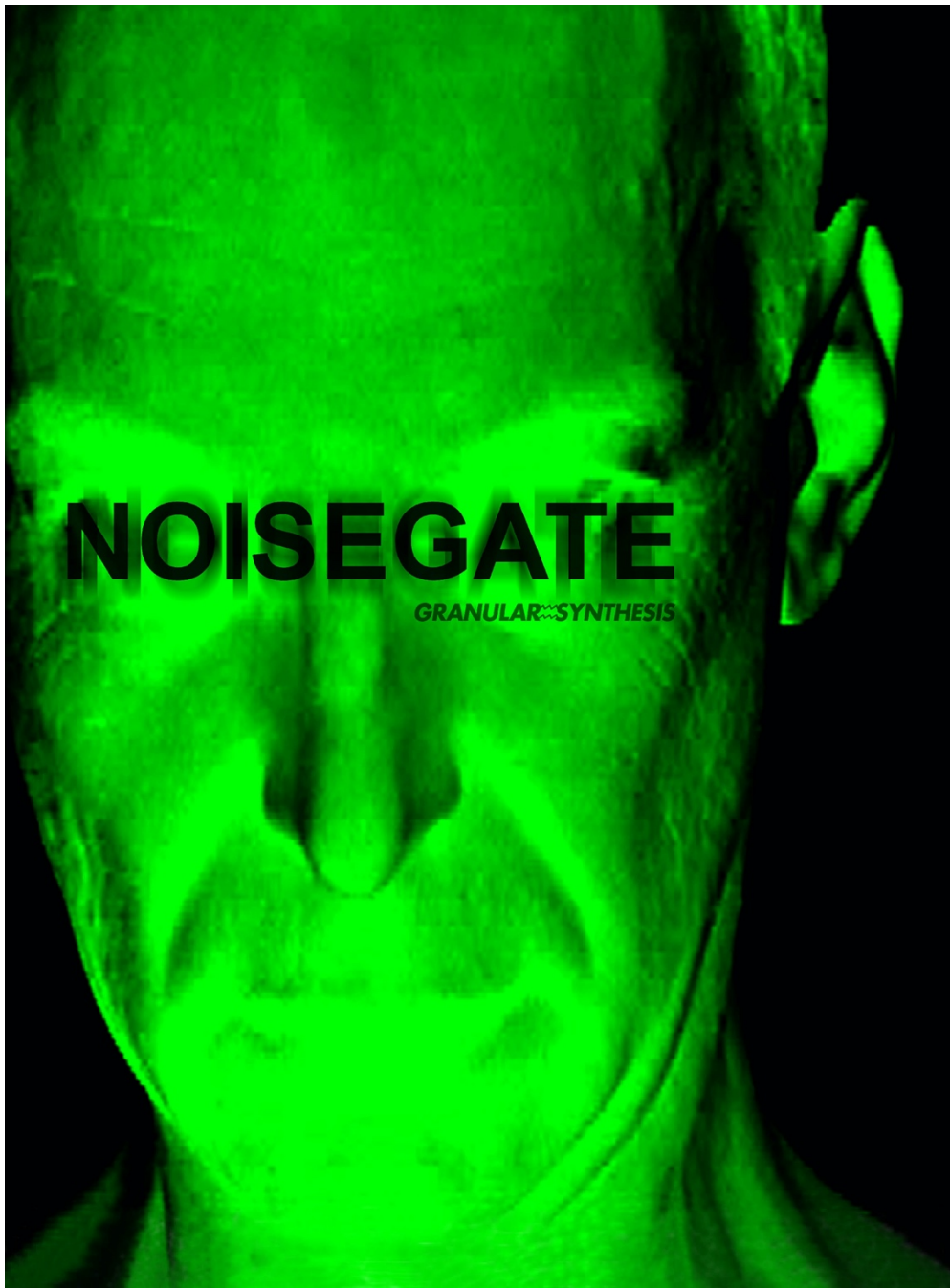
NOISEGATE

1998-2000

Realtime, partially interactive audiovisual installation

6-channel video, 12-channel audio

Featuring performer Michael Kramer



NOISEGATE is an area of “encaged” virtual beings.

This artificial area reflects the human desire for total control and for world creation through exaggeration and refusal. The head-creatures are authentic fiction and realistically unreal. The movements of the visitors, processed into machine code, give (chaotic) life to the installation. The audience is in this respect being mirrored via the animated creatures they are staring at, so in many aspects they are looking at themselves and, of course, at the particular (media-machine) society they live in.

After an intensive start, there come days and weeks in which the whole situation in the installation moves towards emptiness and noise. For visitors of that zone, it is as though they are tapping on the glass of crocodile tanks in the zoo, but the animals do not respond. The knowledge that they could react becomes increasingly sinister.



NOISEGATE premiere, Museum of Applied Art, Vienna, 1998. Image © Klomfar & Sengmueller

Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)
Performer: Michael Krammer
Technical Director & Realtime AV-Software Development: Dirk Langheinrich
Production Assistent Granular~Synthesis: Cai Mosich
Recording construction "Head Shooting Device": Leo Schatzl
Cameraman, Light: Wolfgang Lehner
Life Control Surfaces and Embedded Compositional Forms: Garnet Willis
Sensordesign in cooperation with ARCHIMEDIA Linz
Institute for Arts & Technology: Sensor-Environment, Technical Consultant: Hermann Gruber
Motion detection Software: Stefan Hainzer
AV Matrix and Emergency Unit: Werner Frey
Technical Coordination: Philipp Krummel, Harald Trapp
Architecture Concept: Wilhelm Kühas

NOISEGATE is a co-production by MAK - Österreichisches Museum für angewandte Kunst Vienna, Marstall - Bayerisches Staatsschauspiel, München, Créteil Maison des Arts, Le Manège Scène Nationale de Maubeuge, Hull Time Based Arts, Muziekcentrum De IJsbreker Amsterdam, Kunstverein Hannover, Granular~Synthesis
Curator MAK: Bettina M. Busse

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RESET

2001

Audiovisual immersive installation

2-channel video, 4-channel audio

Commissioned for the Austrian pavilion at Biennale di Venezia 2001



Venice Art Biennial, 2001 - Photo: Bruno Klomfar

RESET is an abstract work about the interaction of light and sound, the modulations of light, color and sound experienced in an artificial "landscape".

It is a composition reflecting on the syn-aesthetic relation between an abstract sonic matter and visual matter, about their specific qualities and potential for creating distance or intimacy, for being both invasive and inescapable.

Like most of the work of *Granular~Synthesis*, *RESET* audio-visually immerses the audience, using large-scale video projection, a three-dimensional sound sphere and a distinct level of subsonic frequencies that physically animate the visitor.



Concept, audiovisual composition: Granular~Synthesis (Kurt Hentschläger & Ulf Langheinrich)

GRANULAR~SYNTHESIS

ARS ELECTRONICA Catalogue / Mike Stubbs¹, 28.6.98,
co-edited by Gina Czarnecki

This written information is an attempt to edit further into the hearts and minds of future generations. The information I share will be personal and reflective. My relationship with Kurt Hentschläger and Ulf Langheinrich and to *GRANULAR~SYNTHESIS* has become close. Their phrase "we have a serious problem", as the hard drive crashed a week before the premiere of *MODELL 5* back in 1994 could never have been more false, since then the three of us have all experienced personal catastrophes, invariably in the middle of production.

The language they use to describe their work is formal. We share a joke between us; "Granular & Synthesis" a duo, Kurt on guitar and Ulf on bongo! They both have a disdain for acoustic music and "the expressive arts". They are obsessed with specific technology to produce and perform the work, for example their insistence on having 30 kW of less than 40Hz sub-bass for the new performance projection *POL* is not formalist or macho, but it is necessary because they know what this sound technology can do: The objective of this volume is not merely to be loud, but because specific tones, pitches and shifts trigger physiological effects on the body and subsequently evoke deep psychological resonance. Despite being hard, loud, technological artwork, the work of *GRANULAR~SYNTHESIS* is effectually some of the most "human" contemporary art.

Their attention to formal detail, working with single frame or within the single frame in long sequences of audio and video is an acute process which leads to maximum effect. The audience are subjected to a heavy onslaught of stimuli; - bombarded with light, video and audio projection - attempts to intellectualise or understand give way to the sheer physicality of the work, the audience are both affronted and seduced. Fascinated, overwhelmed and suffering in that overload gives rise to that state of mind which allows a submerging into the work - attempts to rationalise or understand defeated. Letting go of self-consciousness - letting go of oneself. Disturbing, frightening, seductive and erotic.

My first exposure to the work of *GRANULAR~SYNTHESIS* at the AVE Festival in Arnhem, Netherlands (*MODELL 3*) reminded me of one of my earliest childhood TV experiences watching the 1939 version of the *Wizard of Oz* (Fleming), I was scared by the wizard at the end of the yellow brick road. Dorothy, played by Judy Garland, learns at the end of this tale, that the wizard is, in fact, the projection of an insecure, ordinary man, I now know this was a live video projection. This maybe leads back into the motivation of why we make Art. It is also in the context of science fiction that I have always associated *MODELL 5* and the Japanese face of Akemi Takeya, with one of the most resonant moments in any film for me, that in *Blade Runner* at night time when the air ship cruises overhead with an apparently embedded media projection hoarding of a Japanese woman's face.

Artists image ideas, manifest the conceptual and realise fiction. Artists are good at simulating what scientists work at and they make up stories that may be true and in so doing make things real. Stelarc's performance *Body I Ping* has always reminded me of dressing up and fetishising the body, however Stelarc has provided an early manifestation of a real working cyborg.

GRANULAR~SYNTHESIS have made real a series of virtual beings. Wanting to escape from using images of the single head they used the torso in *We want God Now, X-tended Thrill* and *AREAL A*, however the attraction of the face seems too compelling and again in *POL* they are working with the female face. It is implicit that the face will be re-processed and as much trace of her original expressive qualities removed. *NOISEGATE* was originally titled "deep sea". The effect initially required was one of the aquarium or zoo. Virtual beings caged behind glass or screen. The need to create characters expressive and existential in existence has been drawn upon before, and yes, the effect of the slowed down and blurred "roar" in *MODELL 5* does give the appearance of a moving Francis Bacon painting; this for me is the paradox.

There are these characters who are caged, and their images digitally stripped naked, somehow the fetish of the pixel and the frozen electronic image of the human form is a zeitgeist for the era in which we were brought up, the seventies and eighties. Our ability to invent technologies that can see finer and finer details in time and space can only mean that humans abilities to notice difference will become more sensitive. The processes of deconstruction and analysis in the histories of video and Media Art are apparent. Digital video has taken this further with the deconstruction of each frame into the units which make the image, the pixels, *GRANULAR~SYNTHESIS* work is about the process of reconstruction.

They have outstripped software and in order to develop their work through live audiovisual sampling have had to devise new software.

"There was and still is nothing on the market that would fit our needs. In 1996 we sat down and started to layout an audiovisual machine that would merge our experiences from working with Non-linear video-editing systems as well as from audio-sampling. The goal was to access video and synchronised audio from such a device single framewise in real-time. The trigger and control protocol was definitely to be MIDI, as we wanted this instrument to easily fit into the rest of our set-up. It was furthermore essential to be able to load different (audio-video) samples into RAM, to switch between them and to read them out dynamically. Also, we wanted the software to run on PC, as we need independent machines for each image/sound projection. Developing the software was exciting and because of our excellent software designer and programmer, Dirk Langheinrich the program does exactly what we always wanted: VARP 9 (the name of the baby) runs stable... last time we have had that feeling with ATARI. Before we accomplished our goal (by the end of 1997) Dirk and us found ourselves completely exhausted by almost 100 beta-versions, "fascinating" hard/software incompatibilities and so forth. Amazingly the software itself (naturally) represents so much of our aesthetic knowledge that a big compositional part of recent work is embedded in the software. Most rewarding was to find out about aesthetic possibilities that we knew and dreamed about but simply were out of reach to edit "by hand". Things like applying flickerframes in an adjustable frequency within a series of other frames or modulating one visual sample (series of frames) with another, or (super exciting) visual floating - timewise mirroring of movement within a series of frames."

GRANULAR~SYNTHESIS

They are very detailed in their approach to time and data. The fascination with deconstructing narratives and real time movement has much in common with the tradition of scratch video and cut-up movies. The difference being that the found-footage movie appropriates, re-processes, re-structures appropriated material, whereas *GRANULAR~SYNTHESIS* go to great pains to capture their own images working within very strict conditions; constructing machines (or seating modules) to hold their subjects in. In the recently recorded raw material of the female form, pre-processed the woman appears as a pinned butterfly exhaling its last disharmonic chant; a multiphonic guttural noise.

This captured material will then be re-processed and synthesised, forming new narratives; developing a specialised meshed-media art form which has impact for a large number of younger people. This cross over audience is un-reliant on academic education and their pleasure and fear has always provided me personally with that extra edge of something to personally promote their work within the context of Hull Time Based Arts programme.

What many of the HTBA artists or projects share is their ability to subvert and entertain through content or placement, the interventions, the pranks and strategies. They intervene in audience expectations, physical location or the system they operate on. What makes **GRANULAR~SYNTHESIS** different from other HTBA interventionist artworks is that of context, the performance projections *MODELL 3*, *MODELL 5* and *POL* are interventions into different contextual environments, that of industrial space, club and disco. The scale and power of the projection tools and the physicality of the sounds and imagery created are truly spectacular. A lot of people expect and respond to the spectacular - whether the spectacle of duration, the extreme, or the grand. It is of real interest to witness many people enjoying a de-constructive artwork.

The work of **GRANULAR~SYNTHESIS** is not directly political, but it does affect change.

The possibilities offered with dial-up multi-channel TV on demand with its promise of choice and the illusion of freedom still stands little chance of competing with the new cinema. Trance inducing performed cinema, physical and visceral.

¹ **Mike Stubbs** is the former Director of HTBA - Hull Time Based Arts and is also an artist and filmmaker.

GRANULAR SYNTHESIS

Solo Shows

2013

POL & MODELL 5 (installations) — Wood Street Galleries, Pittsburgh

2009

GRANULAR-SYNTHESIS Retrospective, STRP & MU-Gallery, Eindhoven
(*MODELL 5* installation / live — *POL* installation / live — *FELD* — *FORM*
LUX — *RESET* — *SINKEN* — *SWEETHEART* — *WE WANT GOD NOW*)

2004

FORM & MODELL 5 — ACMI, Australian Center for the Moving Image, Melbourne

2003

LUX — *IEAR Presents!*, Rensselaer Polytechnic Institute, Troy
LUX — premiere, Lia Rumma gallery, Milano

2002

WIDE — Austrian Cultural Forum, New York

2000

FELD — Wood Street Galleries, Pittsburgh
NOISEGATE — National Museum for Photo Film and TV, Bradford
NOISEGATE — Creative Time Inc., In the Anchorage, New York

1999

NOISEGATE — Kunstverein, Hannover
NOISEGATE — Musée d'Art Contemporain, Montreal

1998

NOISEGATE — MAK, Wien
NOISEGATE — Marstall, Munich
NOISEGATE — Transpennine, Hull
NOISEGATE — Stedelijk Museum, De Ijsbreker, Amsterdam

1995

MODELL 5.2 — MAK - Museum of Applied Arts, Vienna

Group Shows

2023

<360> — 3D version (for the AVIE system), *DIMENSIONS — Digital Art since 1859*, (chief curator: Richard Castelli, co-curators: Dan Xu, Clara Blume), Stiftung für Kunst und Kultur e.V. Bonn, Pittlerwerke, Leipzig

2019

MODELL 5 — Out of the Box, Ars Electronica Festival, Linz

2018

<360> — 3D version (for the AVIE system), *DIMENSIONS*, curated by Richard Castelli, VIA Festival, Manège Maubeuge Scène Nationale

2017

<360> — 3D version (for the AVIE system), *Digitalife 2017*, curated by Richard Castelli, Romaeuropa Festival, Rome

<360> — 3D version (for the AVIE system), *The Art of Immersion*, curated by Peter Weibel, Richard Castelli and Dennis Del Favero, ZKM, Karlsruhe

2011

MODELL 5, NOISEGATE — The [Secret] Return of Noever - A SCI-Arc hosted exhibition, curated by Gehry, Frank and Moss, Eric Owen, Ace Museum, Los Angeles

2010

MODELL 5 — MADDE-IŞIK, curated by Richard Castelli, Borusan Music House, Istanbul
POL, Mapping Festival, Genève

2009

SWEETHEART — Imagining Media@ZKM, ZKM, Karlsruhe

LUX — Videorama Artclips from Austria, Galerie Henze & Ketterer, Wichtrach/Bern

LUX — Videorama, Artclips from Austria, Kunsthalle Wien

SINKEN & FORM — See this Sound, Lentos Museum Linz

POL installation — Le Volcan, Le Havre

FELD — Sounds and Visions, Tel Aviv Museum of Art, Tel Aviv

2008

POL installation — *eLandscapes*, curated by Richard Castelli, eArts Festival, Zendai MoMA, Shanghai

MODELL 5 installation — *Les Voix Magnétiques*, Le Tri Postal, Lille

MODELL 5 installation — Rotterdam Film Festival, V2_, Rotterdam

2007

MODELL 5 installation — *BODY MEDIA*, curated by Richard Castelli and Gong Yan, O Art Center, Shanghai

LUX — What color does a sound make?, Honolulu

2006

FELD — *Code Blue*, Millenium Museum, Beijing

MODELL 5 — *Slow Tech*, Museum for Contemporary Arts, Taipei

SWEET HEART — *40 Jahre Videokunst Deutschland*, ZKM - Kunsthalle, Bremen

LUX — *What color does a sound make?*, The Center for Art and Visual Culture, Baltimore

2005

LUX — *What color does a sound make?*, Eyebeam, New York

FELD — Gabinete Literario, Las Palmas de Gran Canaria

FELD — Circulo de Bellas Artes, Santa Cruz de Tenerife

2004

LUX — Arborescence Festival, Aix-en-Provence

LUX — Z33, Hasselt

2003

LUX — Centro Nacional de las Artes, Centro Multimedia, Laboratorio Alameda, Mexico City

2002

FELD — Municipal Museum of Art, Daejeon

FELD — Musica per gli Occhi, Bolzano

2001

RESET — Austrian Pavilion, Venice Biennial, Venice

2000

FELD — OK-Center, Linz

FORM — PS1-clocktower, New York

1999

MODELL 5 installation — *Face to Face*, Beyeler Foundation, Basel

1998

NOISEGATE — Exit Festival, Créteil

NOISEGATE — Via Festival, Maubeuge

MODELL 5 — Museum of Contemporary Art, Seoul

1997

SWEET HEART — Kunststücke ORF, Austrian Broadcasting Corporation, Austria

1993

MODELL 4.2 — Diagonale, Salzburg

MODELL 4.1 — Wro 93, Wroclaw

1992

MODELL 4.0 — Medienbiennale, Leipzig

Performances

2024

Motion Control MODELL 5 — 30th anniversary of the work, newly restored version, Recombinant Festival 2016, Gray Area, San Francisco (US)

2016

MODELL 5 — Recombinant Festival, Gray Area Grand Theater, San Francisco

2013

MODELL 5 — Platforma Media Performance Festival, Winzavod Center for Contemporary Art, Moscow

2010

AREAL — Fabbrica Europa 2010 - XVII edition, Firenze

2008

POL live — Officine Marconi, Romaeuropa Festival, Rome

MODELL 5 — Rotterdam Film Festival, V2_, Rotterdam

2007

AREAL — Le Parvis, Ibos Tarbes

«N» with the Ballet Preljocaj — Pavillon Noir, Aix-en-Provence

2006

MODELL 5 — VEO - Valencia Escena Oberta Festival, Greenspace, Valencia

AREAL — Sonic Acts, Paradiso, Amsterdam

«N» — New National Theatre Tokyo

«N» — Temps d'images Festival, Tanzhaus, Düsseldorf

2005

AREAL — Montclair State University, The Alexander Kasser Theater, Montclair

«N» — Palais des Congrès, Issy-les-Moulineaux

«N» — Odysud, Blagnac

«N» — Espace Jean Legendre, Compiègne

AREAL — Dissonance Festival, Roma

«N» — Biennale du Val de Marne, Maison Alfort

«N» — Leipzig Oper, Leipzig

«N» — Théâtre du Châtelet, Paris

2004

AreaLight — Exit Festival, Maison des Arts, Créteil, Paris

«N» — Saarbrücken Festival, Saarbrücken

«N» — Théâtre de L'Olivier, Istres

«N» — Montpellier Danse, Montpellier

«N» — Danse à Aix Festival, Aix-en-Provence

«N» — Théâtre National de Chaillot, Paris

«N» — Transart Festival, Italy
«N» — Biennale du Val de Marne, Maison des Arts de Créteil, Créteil
«N» — Les Grandes Traversées, Bordeaux
«N» — Théâtre National de la Criée, Marseille

2003

AREAL 3.0, d-motion, Festival für Interaktive Medien, Volkspark, Halle
<360.2> performance — SAT Montreal, Elektra Festival, USINE C, Montreal

2002

FORMEN (for *Zulu Time* by Robert Lepage) — Montreal International Jazz Festival, Usine C, Montreal
<360> — Villettes numériques, La Villette, Paris
MODELL 5.7 — Transart, Borgo Valsugana
AREAL — Format 2002, Brugge 2002 Cultural Capital of Europe, Brugge
MINUS — Wien Modern, Konzerthaus, Wien
AREAL — CYNETart02_realtime, Festspielhaus Hellerau, Dresden

2001

MODELL 5.7 — Arena - Dresdner Zentrum für Zeitgenössische Musik, Dresden
MODELL 5.7 — Göteborg Art Sounds, Göteborg

2000

AREAL — Elektra Festival, Montreal
MODELL 5 — Elektra Festival, Montreal
POL — Netmage Festival, Bologna
POL — Wien Modern Festival, Wien
POL — Muffathalle, München
POL — Via Festival, Maubeuge
AREAL — Musiques en Scène, Musée d'Art Contemporain, Lyon
POL — Exit Festival, Créteil
NOISEGATE — Musiques en Scène, Musée d'Art Contemporain, Lyon

1999

SINKEN — Via Festival, La Luna, Maubeuge (with Art Zoyd and Lille National Orchestra)
SINKEN — Le Nouveau Siècle, Lille (with Art Zoyd and Lille National Orchestra)
FORMEN — Zürcher Theater Spektakel, Zürich
FORMEN — Festival d'Automne à Paris, Maison des Arts, Créteil
FORM — Recombinant, Ars Electronica Festival, Linz
MODELL 5.7 — Atonal Festival, Berlin
POL 2.0 — Zeitfluss, Salzburg Festival, Salzburg
POL 2.0 — Taktlos Festival, Bern
POL 2.0 — Elektra Festival, Acreq, Montreal
SINKEN — Palacio de Bella Artes, Mexico City (with Art Zoyd and Mexico National Orchestra)
SINKEN — Donau Festival, St Pölten (with Art Zoyd and Niederösterreichisches Tonkünstlerorchester)

1998

MODELL 5.7 — Recombinant, Miami

AREAL V — Vergessen, St. Veit

MODELL 5.7 — Dive into the Future, LISBOA'98, Lisboa

POL — ISEA 98, Liverpool

POL — Ars Electronica Festival, Linz

POL — Root 98, Hull

POL — Zkm Karlsruhe

1997

MODELL 5.7 — De Ijsbreker, Amsterdam

MODELL 5.7 — ACREQ, Montréal

X-TENDED THRILL, ICC, Tokyo (with Sensorband)

AREAL A — Steirischer Herbst, Graz

1996

MODELL 5.6 — The Butterfly Effect, Budapest

MODELL 5.6 — Visas Festival, Maubeuge

MODELL 5.6 — Exit Festival, Créteil

MODELL 5.6 — Elektra, Oslo

MODELL 5.6 — Marstall, Munich

MODELL 5.7 — 38èmes Rugissants, Grenoble

MODELL 5.7 — Recombinant, Los Angeles, San Francisco

1995

MODELL 5.1 — Skuc, Ljubljana

MODELL 5.3 — Spring Project, Vienna

MODELL 5.4 — Artec 95 - City Museum, Nagoya

MODELL 5.3 — Klangart, Osnabrück

MODELL 5.5 — Ars Electronica, Linz

MODELL 5.5 — Kunstverein Hannover

MODELL 5.5 — Isea 95, Montréal

MODELL 5.5 — Manca Festival, Nice

MODELL 5.5 — Deaf 95, Rotterdam

1994

MODELL 3.2 — Futur Antérieur, Nancy

MODELL 5 — ICA, London

MODELL 5 — Root 95, Hull

1993

MODELL 3.1 — Austrian Avant Garde, Antwerpen

MODELL 3.1 — Les Halles, Bruxelles

MODELL 3.2 — Ave Festival, Arnheim

1992

MODELL 3.0 — Tanzsprache, Vienna

MODELL 3.1 — Zeitschnitt, Vienna

MODELL 3.1 — Taansit, ORF, Innsbruck

Grants & Prices

1999

PS1 Residency New York City

Austrian Federal State Grant for Fine Art

1995

GRAND PRIX Open Competition ARTEC 1995

1993

Austrian Furtherance Prize for new media art

DVD-ROM

2009

KUNSTHALLE wien et al., *Videorama: Artclips from Austria*, 2009, ISBN 978-3-7165-1614-0 (DE), ISBN 978-3-7165-1616-4 (EN)

2006

Frieling, Rudolf, *1997 Sweet Heart GRANULAR~SYNTHESIS*, DVD-ROM in conjunction with the exhibition *40yearsvideoart.de - Part 1, Digital Heritage: Video Art in Germany from 1963 until the Present*, March 25, 2006 - May 21, 2006: 274-277

2004

GRANULAR~SYNTHESIS - IMMERSIVE WORKS, a DVD compilation containing extracts and documentation of GRANULAR~SYNTHESIS' work over ten years, publication: ZKM Karlsruhe, distribution: CANTZ, ISBN 978-3-7757-1351-1

<http://www.hatjecantz.de/controller.php?cmd=schnellsuche&s=immersive+works>

2004

INDEX.DVD – GRANULAR~SYNTHESIS - Remixes for Single Screen, incl. *RESET*, 2001, 25 min, and *MODELL 5*, 1994, 30 min, published and distributed by ARGE INDEX (Medienwerkstatt Wien & sixpackfilm)

<http://index-dvd.at/en/program/003/index.html>

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2009

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2004

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1999

Beyeler, Ernst; Brüderlin, Markus and Hohl, Reinhold, *Face to face to cyberspace*, Fondation Beyerle, Hatje Cantz, Basel, March 1999, ISBN 9783905632064

1998

Stubbs, Mike, *GRANULAR~SYNTHESIS*, in Stocker Gerfried und Christine Schöpf (Hg), *INFOWAR*, Wien 1998, p. 252-257

1996

Richard, Birgit, *Motion Control. Ein elektronischer Bildersturm?*, in Bolz, Norbert (Hg), *Riskante Bilder*, München 1996, p. 117-128

1993

Hentschläger/Langheinrich, Interview mit Ursula Hentschläger, in: *Medien. Kunst. Passagen.* Heft, Wien, January 17 - April 15, 1993, p. 51-54

1990

Schöllhammer, Georg, *The Diana "Lichtwerk."*, Redesign Diana. Wein, 1990, p. 24-27

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2023

Smerling, Walter, Castelli, Richard, Xu, Dan, Blume, Clara, Peitz, Lennart (ed.), *DIMENSIONS — Digital Art since 1859*, Stiftung für Kunst und Kultur e.V. Bonn, Pittlerwerke, Leipzig, 2023

2019

Stocker, Gerfried (aut, ed.), Leopoldseder, Hannes and Schöpf, Christine (ed.), *Out of The Box. The Midlife Crisis of The Digital Revolution* (Ars Electronica 2019 Festival for Art, Technology, and Society), Hatje Cantz, Linz, 2019, ISBN 9783775745765

2011

Mittmannsgruber, Otto, *The [Secret] Return of Noever*, Southern California Institute of Architecture, Los Angeles, CA 90013, Austria, 2011

2010

Castelli, Richard (cur.), *MADDE-IŞIK (Matter-Light)*, Istanbul

2009

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2008

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2007

Castelli, Richard (cur.) & Gong, Yan (cur.), O Art Center, *BODY MEDIA*, Shanghai, 2007, ISBN 9787806857762

2006

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Busto, Andrea, *Collectors #1*, Collezione La Gaia di Bruna Girodengo e Matteo Viglietta at Cesac - Centro Sperimentale per le Arti Contemporanee, Caraglio

2005

Kathleen Forde (cur.) *What Sound Does A Color Make?*, ISBN 9780916365714

2004

GRANULAR~SYNTHESIS Immersive works - ZKM digital arts edition DVD (1991-2003), ISBN 9783775713511

Castelli, Richard (cur.), *Cinémas du futur*, Lille 2004 Capitale Européenne de la culture, ISBN 9789076704616

Perkins, Matthew John, *Anxious Bodies*, Linden St. Kilda Centre for Contemporary Arts, Melbourne, June 3-July, Plimsoll Gallery University of Tasmania, Hobart, June 2007, ISBN 9783775714921

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2002

Rinder, Lawrence and Bahk Jungoo (cur.), *GRANULAR~SYNTHESIS, 2002 Media Art Daejeon-New York: Special Effects*, Lee Joongki, Park ILHo, Daejeon, May 24 - July 7, 2002

Tognon, Paola (cur.), *Musicaxocchi. Musica per gli occhi*, exhibition held at various venues in Bolzano Apr. 13-June 16, 2002, ISBN 9788882154035

2001

Schweeger, Elisabeth (cur.), *GRANULAR~SYNTHESIS*, The Venice Biennial, Wien, 2001, ISBN 3775790942

2000

Schweeger, Elisabeth and Sturm, Martin, *Der körpererfüllte Raum fort und fort*, December 2, 2000 - March 4, 2001, OK Centrum für Gegenwartskunst, Linz, ISBN 3853070280

Jaffrennou, Pierre-Alain and Giroudon, James. *Musiques en Scène, Musée d'art contemporain de Lyon*, 2000

Denk, Wolfgang, Huck, Brigitte and Völckers, Hortensia. *98/99/2000: Stipendien für bildende Kunst - die neue Künstlergenerationn*, Kunsthalle Krems, ISBN 9783901261190

1998

Noever, Peter and Busse, Bettina, *GRANULAR~SYNTHESIS, NoiseGate M6*, Wien, 1998, ISBN 3893224173

Sherman, Tom, *GRANULAR~SYNTHESIS*, essay

Stocker, Gerfried and Schöpf, Christine, *Ars Electronica 98: Infowar*, 1998, ISBN 9783211831342

Shaw, Jeffrey (cur.), *Surrogate 1*, ZKM, Karlsruhe, 1998

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