

VECTOR VARIATIONS

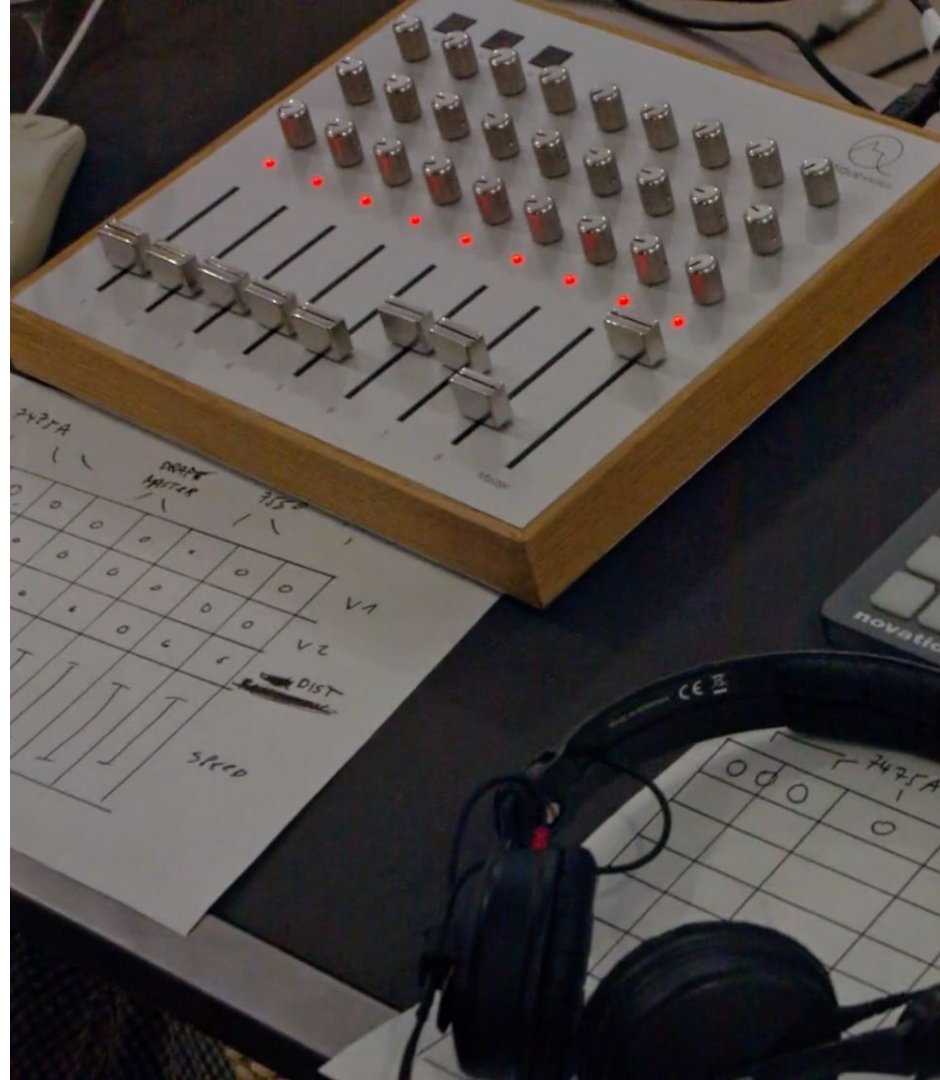


PLOTTER CONCERTO

Can machines draw and make music at the same time? And can the barrier between art and audience dissolve in the process? By presenting a carefully orchestrated performance of plotters, (machines that produce vector graphics drawings), this project wishes to further blur the boundaries between sound, image and time, employing technological means such as algorithms and strategies of generative art.

In contrast to already commonplace techniques that promise to “visualise sound” or to “sonify images”, this project, instead, is a creative endeavour into the realm of algorithmic composition, where drawings, in the act of being drawn, reflect in the sound, which, in turn, feed back into the system guiding the overall composition. Each machine and their properties, such as drawing speed, drawing direction and drawing pattern, for example, have a consequence on the sound and the visuals.

Speculative and open-ended in nature, it essentially consists of an installative performance, a multi-sensory experience governed by algorithmic systems and man-machine interaction. In order to realise it, a 6 months of work is estimated, which includes all key phases: research, development, collaborative processes, rehearsal, publicity and public presentation.





As an artist, I explore and investigate the potentials of algorithms in the field of aesthetics, from digital to analog, and from analog to digital. With codes, algorithms, experimentation, trial and error, open-ended explorations, planning, I create plotter-made drawings, multimedia performances, interactive installations, NFTs and other artistic outcomes. Often, the apparatuses employed are created from scratch, while many plotters are either upcycled or repurposed to each project's needs. Why plotters specifically? I am fascinated by the preciseness of vector graphics, how it can be controlled by algorithms, and its unlimited potential to produce machine-generated aesthetic outcomes.

This project is a further exploration of these artistic interests and unfolds from the potentials left open from a previous project titled *Octet*, an installative performance that took place in May 2023 in Berlin, Germany (<https://schwittlick.net/octet/>). The intention now is to create sound and image at the same time. Despite the methodic planning of all aspects, it seeks innovation, thus, consequently, it is an open-ended experimental endeavour from beginning to end, where, artistically speaking, “results” are purposefully not predetermined.

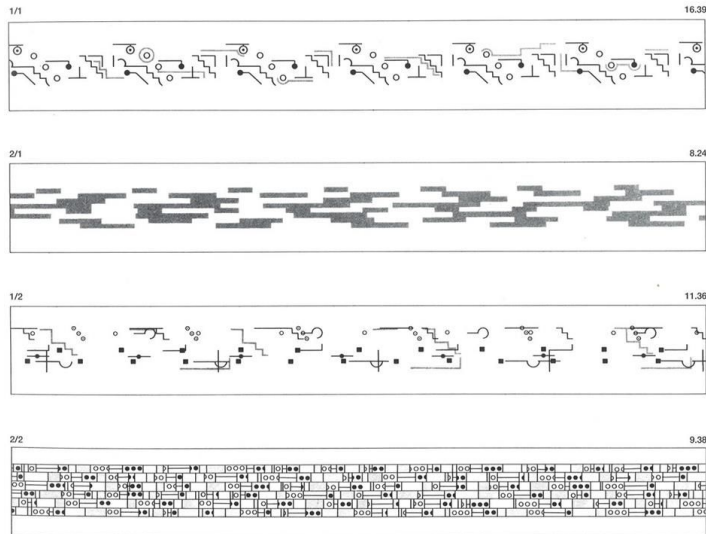
The technical aspect is dependent on controllers such as programmable sliders, knobs and buttons that enable playing a certain movement on each plotter; turning each plotter into an instrument in itself.

The project's inspiration originated from the process itself. During the the past several years of working with vintage plotters, studying them, repurposing them (practically an archeological work!) and during the rehearsals and presentation of *Octet*, I could notice the many different sounds the plotters make while they work. I was struck by the idea of creating a musical composition which would come into existence as a reflection of the plotters themselves in the act of drawing. I was already interested in the work of Iannis Xenakis, a source of inspiration, who pioneered new methods of musical composition, as well as John Cage, with his concept of indeterminacy in the arts. Much in the spirit of intermedia experiments, happenings and systems art, through contact microphones connected to each plotter, some realtime sonic information stemming from the space itself will be integrated as well – be it interaction from the audience or accidents purposefully integrated into the network and into the graphical notation.

Conceptually speaking, my artistic agenda aims to continue generative art's sustained inquiry into the possibilities for a more transparent, participatory process of collective communication. This project reflects that in many ways: it pushes the interdisciplinarity of my artistic endeavours further than ever before, requiring collaborative work with other creatives, experts and technicians; it employs concepts, values and thinking from cybernetics, context engineering and mathematics, such as “circularity”, “decentralisation”, “interconnectedness”, “automation”, “coding”, “data transmission”, “stochastic process”, “man-machine interaction”, “high entropy”, “non-determinism” and “semi-determinism”; last but not least, it attempts to dissolve the barrier between art and audience, where the latter is no less creator than the artist, the machines and the flux of “events” taking place in the physical space.

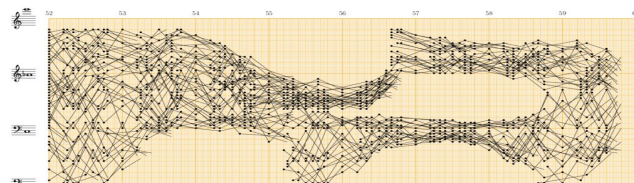


ARTISTIC PRECEDENTS

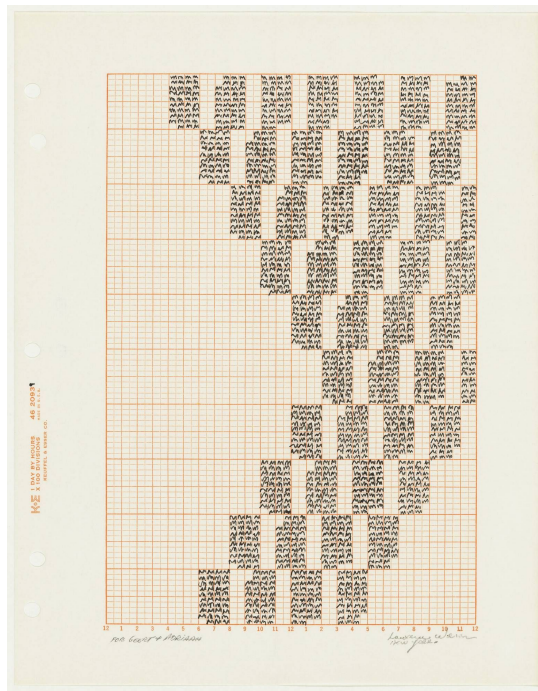


All compositions by Brian Eno except 1/1 which was co-composed with Robert Wyatt (who also played acoustic piano on this track) and Rhett Davies. Universal Music Publishing Ltd. The voices on 2/1 and 1/2 are those of Christine Farn, Christine Gurnea and Ingo Zechinger. Engineering was by David Hahns (2/1, 1/2), Corey Plank (2/2), Rhett Davies (1/1) and Brian Eno. Concept, Design and Production by Brian Eno.

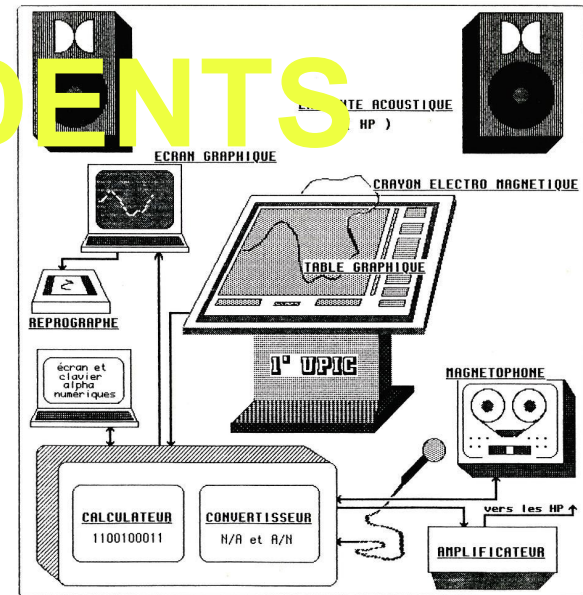
Brian Eno- Music for Airports



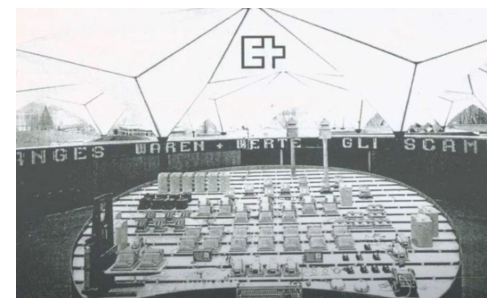
Iannis Xenakis - Pithoprakta



Lawrence Weiner, Untitled, 1967-68




Iannis Xenakis - UPIC




Rolf Liebermann - Symphonie Les Echanges (Version für 156 Büromaschinen)

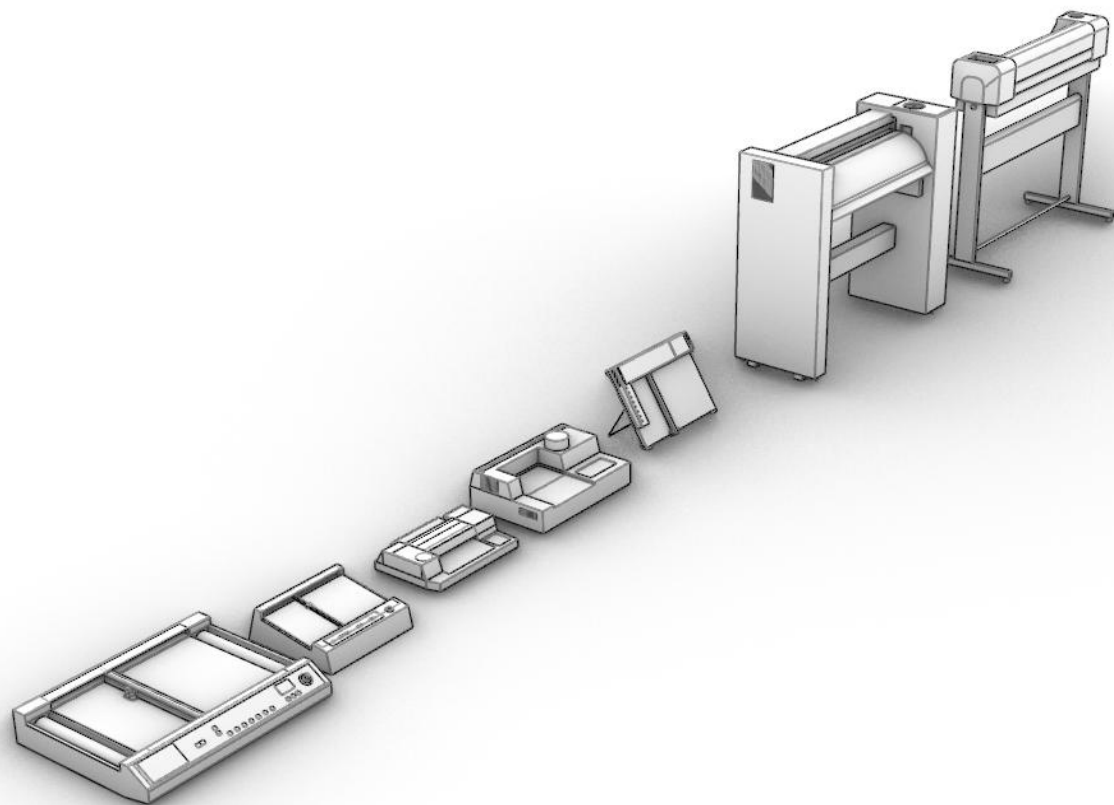
<https://www.youtube.com/watch?v=2V5Wn2CKcdw>

Sound of Signs

Box Drawing ^[1] Official Unicode Consortium code chart  (PDF)																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+250x	—	—			---	---			---	---			┐	┐	┐	┐
U+251x	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
U+252x	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
U+253x	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
U+254x	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
U+255x	=		┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
U+256x	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐	┐
U+257x	┐	/	\	X	-		-		-		-		-		-	
Notes 1.^ As of Unicode version 15.1																

Miscellaneous Symbols ^[1] Official Unicode Consortium code chart  (PDF)																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+260x	☀	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+261x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+262x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+263x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+264x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+265x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+266x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+267x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+268x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+269x	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+26Ax	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+26Bx	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+26Cx	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+26Dx	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+26Ex	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
U+26Fx	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂	☂
Notes 1.^ As of Unicode version 15.1																

https://en.wikipedia.org/wiki/List_of_Unicode_characters



TEAM

Marcel Schwittlick

Concept, audio-visual
composition

Bruno Gola

Audio software, realtime
audio processing

Lucas Rehnman

Text

Nikoloz Kapanadze

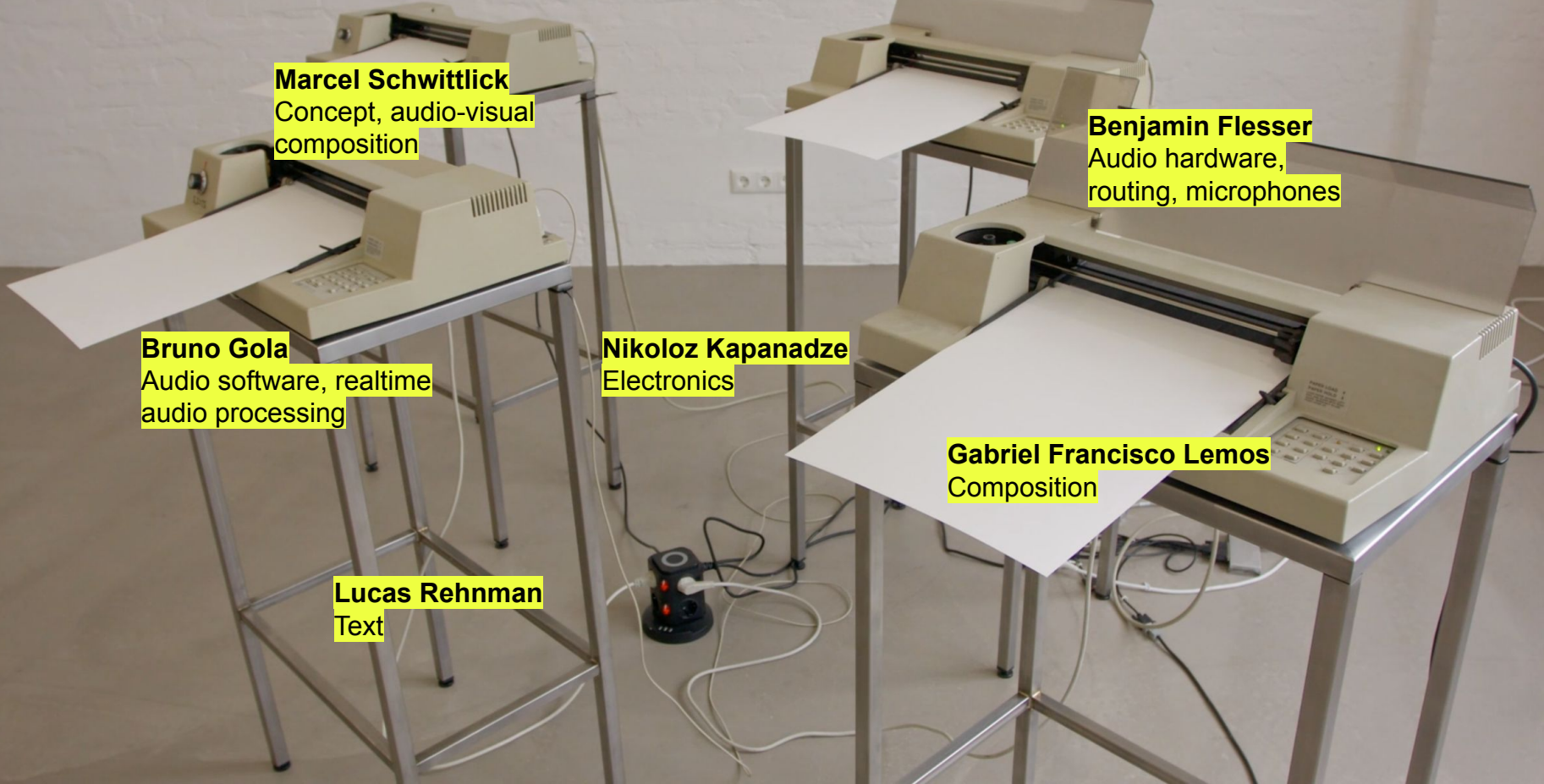
Electronics

Benjamin Flesser

Audio hardware,
routing, microphones

Gabriel Francisco Lemos

Composition



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