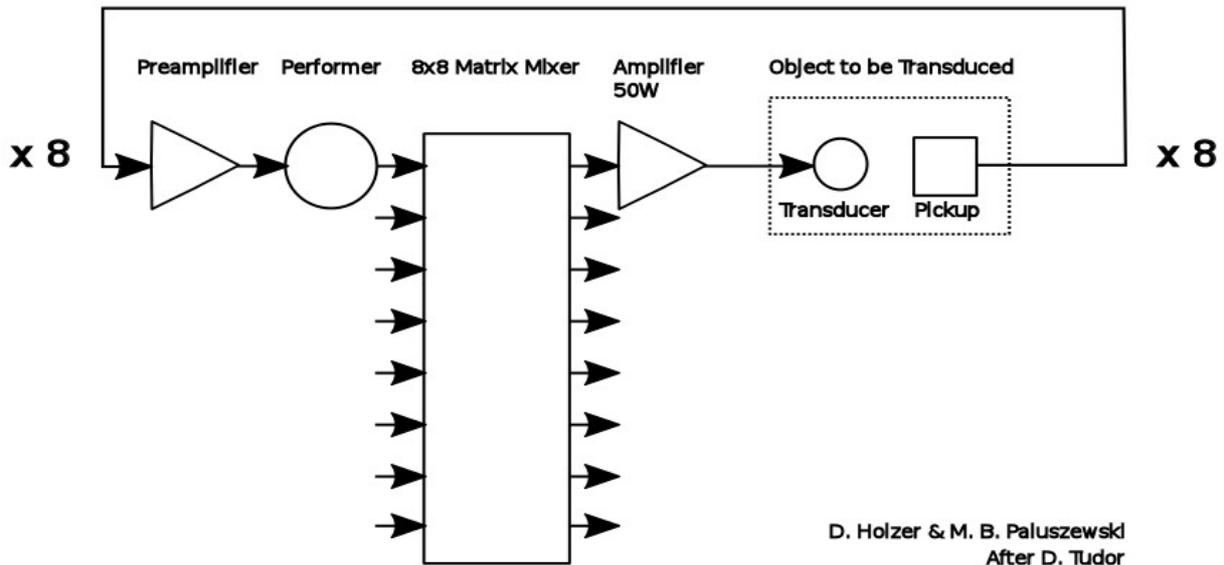


RAINFOREST 2012 SCORE



Rainforest 2012

A Sound Installation in the Spirit of David Tudor

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I. INTRODUCTION

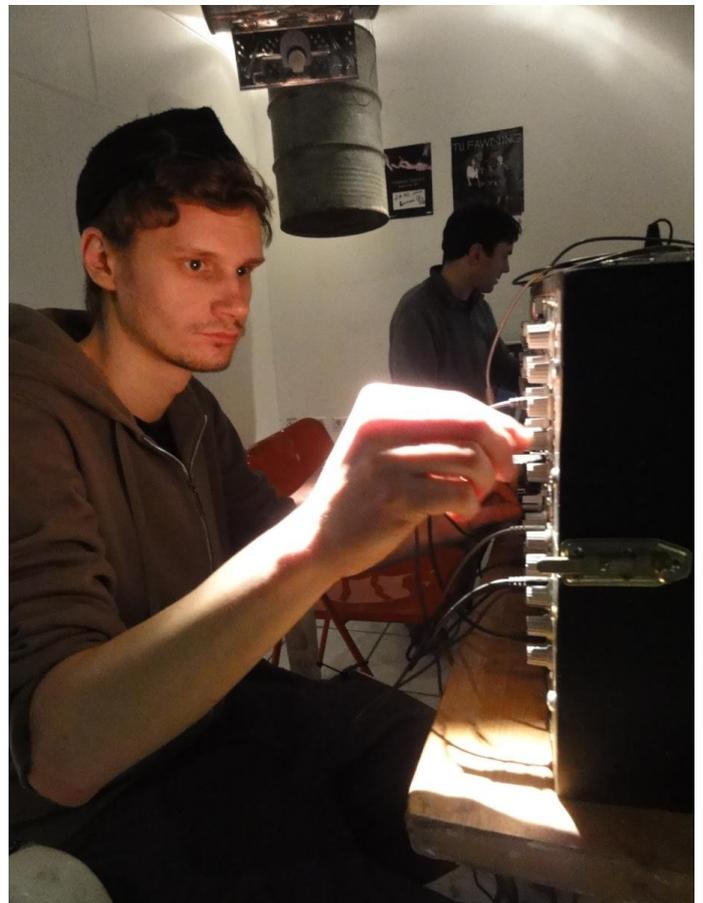
Rainforest 2012 is a contemporary re-interpretation of David Tudor's series of compositions from the 1970's entitled Rainforest. It uses various types of sonic transducers to play live sounds through a selection of resonant, found-metal objects in the performance space. An matrix mixer allows the sound from any of the performers to be sent to any of the objects, creating an immersive, tactile and spatial sonic experience.

The project is developed in a workshop format with up to 8 participants over a period of several days. The participants will work from the bio-acoustic model of an actual rainforest, where it is necessary for each species' survival that they can both hear and be heard within their own niche of the busy forest soundscape.

The resulting work should shift between relatively static installation-like moments and performative sections where the artists seek new relationships with the objects and each other. The audience is free to move around the performance space, engage in conversations and explore the resonant objects, thus adding new life to the rainforest.

Keywords: *workshop, collaborative, installation, concert, physical sound, sonic sculpture, composing inside electronics, generative music, systems music, soundscape, experimental electronics*

Right: *Regenwald 2011, Club Transmediale, Berlin DE.*





Regenwald 2011, Club Transmediale, Berlin DE.

II. WORKSHOP INFORMATION

The *Rainforest 2012* workshop is designed for up to 8 participants, and generally lasts 5 days. At the end of the workshop, the project is presented with an opening concert, and afterwards as an installation.

A. Participant Requirements

Each participant is expected to have the following skills and attributes:

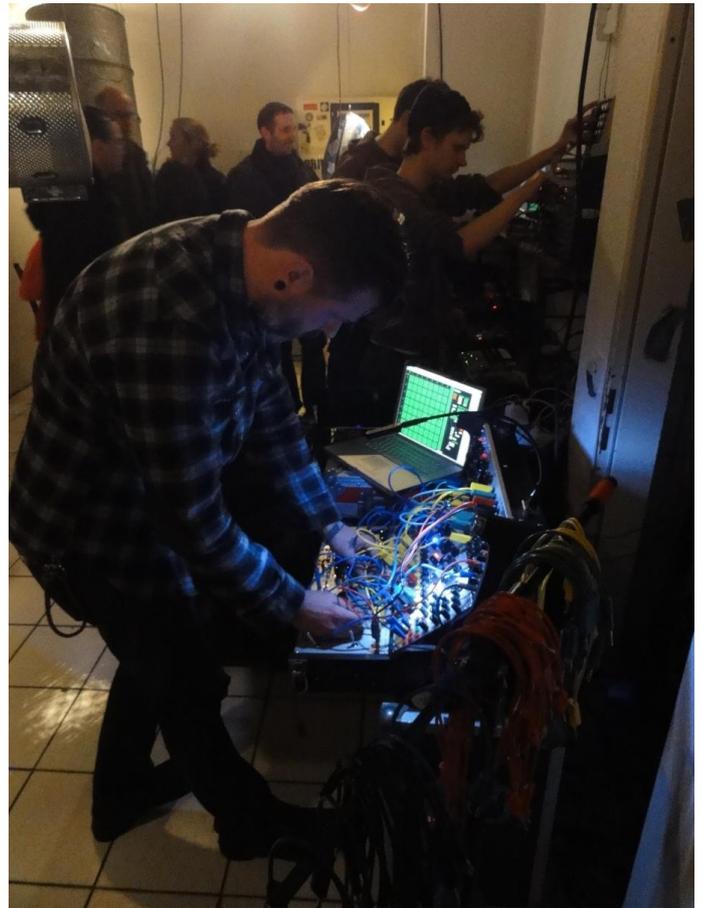
- Comfortable working in a collaborative environment
- Knowledgeable in the basics of acoustics
- Proficient in one or more chosen analog or digital sound instruments and/or systems for working with sound
- Capable of bringing any equipment they require beyond the basics of the transducer system (instruments, mixers, computers, etc etc)
- Able to commit to all the activities of the workshop, including the selection and hanging of objects, collaborative planning/composition meetings, rehearsals and presentation.

B. Workshop Timetable

- Day One: meet and greet, shopping for metal objects at a local scrapyards, hanging of metal objects in the workshop space.
- Day Two: finish hanging and cabling of objects, first planning meeting where solo and group rehearsals will be planned, first solo rehearsals which should be used for discovering and tuning individual voices through specific objects or the entire selection of objects.
- Day Three: solo rehearsals continue according to the timetable agreed upon on Day Two.
- Day Four: solo rehearsals conclude, first group rehearsal to combine voices developed into a cohesive work.
- Day Five: second group rehearsal, final technical duties (lighting, etc), evening performance, project continues as installation.

C. Compositional Considerations

While there are no rules for the sounds used in *Rainforest 2012*, we have discovered that certain types of sound work better with the system. These sounds are often discrete, rather than continuous, dense drones, and in order to co-exist with others' sounds in the installation, participants should seek to find a unique sonic identity in terms of frequencies and dynamics which allows communication between everyone involved.



Regenwald 2011, Club Transmediale, Berlin DE.



Regensskog 2010, Piksel, Bergen NO.

III. WORKSHOP PRESENTATION

Rainforest 2012 has been presented in a number of circumstances since 2010, but the common factor is that none of them so far have been traditional performance venues. The benefit of this is both a fresh set of expectations from the audience and a decentralized presentation which encourages the audience to explore the objects on their own terms. Rather than the typical, seated concert situation, audience members should feel free to move about and explore the installation.

Typical spaces employed include a disused ship-repair dry-dock, an old fish canning factory and a former doctor's office converted into a bar. The integration of the *Rainforest* works into existing architectural and social situations is encouraged, either through placing new objects within a given space, or activating existing features of a structure with the transducer system. An outdoor version of *Rainforest 2012* is currently under development.

IV. TECHNICAL INFORMATION

A. Audio transducers

Rainforest 2012 uses a set of audio transducers, driven by small 50W amplifiers, to send vibrations directly into a physical object. This in effect transforms anything they are attached to into a loudspeaker. The sound which is heard depends on the material of the object being transduced. Resonant metal objects, in particular stainless steel, retain the sonic energy for quite some time, giving the sound a type of “reverb” effect. Dense, thick objects such as wood can muffle the sound, or emphasize certain frequencies. In addition to being heard, the sound can also be felt by touching the object.

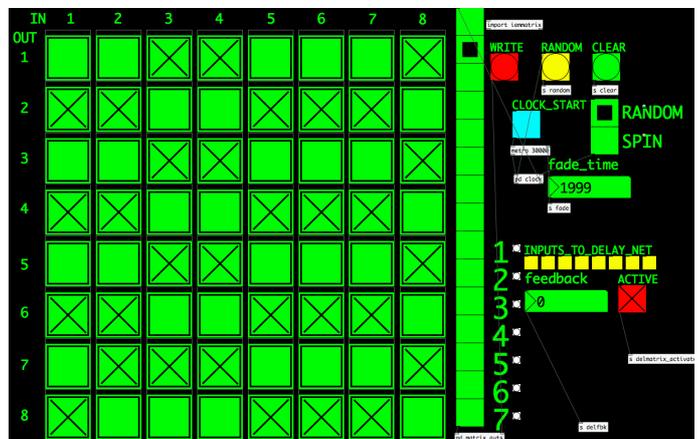


Rolen Star audio transducer.

Rolen Star audio transducers are used for the higher frequencies, while Bass Shakers deliver the lower frequencies capable of being felt, and often time capable of visibly moving certain objects.

B. Matrix Mixer

The matrix mixer, which allows complex routing of sound between the various objects being transduced, is based on a Hammerfall DSP sound card in conjunction with custom software written in the Pure Data programming language which controls the mapping of audio signal inputs to outputs. The matrix can be manually clicked, set to randomize the connections, “spin” the sounds across the range of objects or recall specific, saved routing combination.



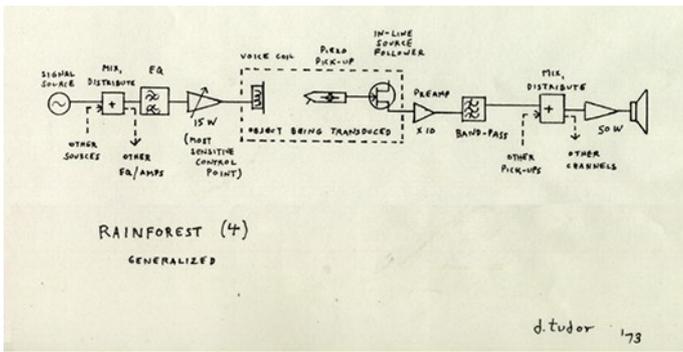
Pure Data matrix mixer patch.

C. Other Hardware

The following equipment is normally provided by the hosting organization of the installation:

- Mackie 1642-VLZ audio mixer.
- Lighting and rigging of the objects, including qualified technicians for these tasks.

Generally, the workshop leaders have provided the bulk of cabling necessary to create the installation. However, some circumstances may require extra cables to be rented by the event organizers. A detailed tech rider is available on request.



One of David Tudor's original "Rainforest" scores, 1973.

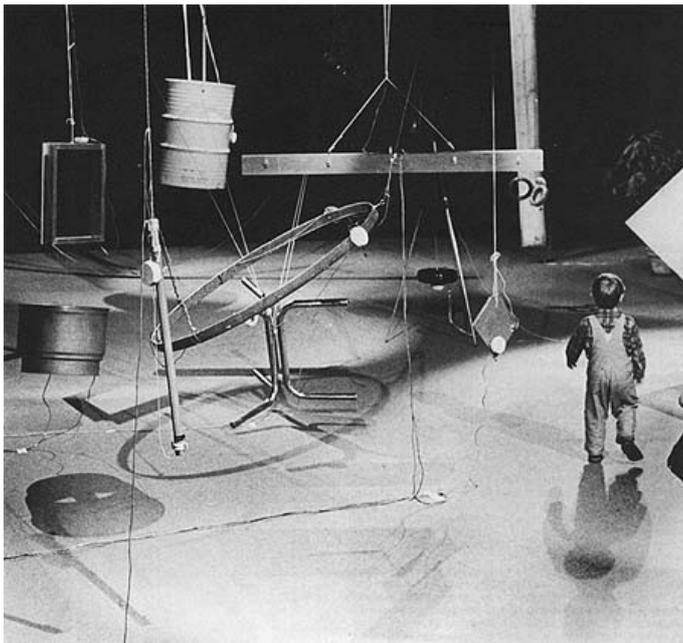
V. HISTORICAL INFORMATION

My piece, "Rainforest IV", was developed from ideas I had as early as 1965. The basic notion, which is a technical one, was the idea that the loudspeaker should have a voice which was unique and not just an instrument of reproduction, but as an instrument unto itself.

-David Tudor.

Although David Tudor was considered one of the premier avant-garde pianists of the mid-20th Century (4'33", John Cage's often-referenced "silent piece", was composed for Tudor), by the middle of the 1960's he was searching for a new mode of expression. Abandoning the piano, he hid himself away for many months and educated himself in electronics. Of his electronic works after this, the *Rainforest* pieces are best known.

Rainforest IV (performed from 1973 until Tudor's death in 1996) used a series of transducers to play prerecorded and live sounds through various resonant metal objects suspended by wires in the performance space. It was also conceived as a workshop, involving different musicians and artists in a collaborative setting, each constructing and playing their sculptural instruments in open-ended performances, which often lasted four or five hours!



Rainforest IV, 1973.

A complex mixer system allowed the sounds coming from one resonant object to be directed through another. These sounds could be heard through loudspeakers as well as through the objects themselves, however they could also be physically felt by touching the objects. Tudor was especially interested in two audiences: children and the blind.



Regnskog 2011, Full Pull Festival, Malmö SE

VI. PREVIOUS RAINFOREST EVENTS

2011 Sep – Regnskog, Full Pull Festival, Malmö SE

2011 Feb – Regenwald, Club Transmediale, Berlin DE

2010 Oct – Regnskog, Píksel, Bergen NO



Regenwald 2011, Club Transmediale, Berlin DE.

VII. ABOUT THE ARTISTS



Derek Holzer (1972) is an American sound artist living in Berlin, whose current interests include DIY analog electronics, sound art, field recording and the meeting points of electroacoustic, noise, improv and extreme music. He has played live experimental sound, as well as taught workshops in noise art technology, across Europe, North America, Brazil and New Zealand.

<http://www.macumbista.net>



Mads Bech Paluszewski-Hau (1977) is a Danish artist and independent cultural producer living in Copenhagen, Denmark. Educated MA in Geography and Performance Design from Roskilde University, his interests are within the realms of urban space interventionism, sound-installation and performing with sound, circuit bending, experimental music and DJing. Since the early 2000's he has worked as artist, musician, composer, sound technician, cultural producer, project leader, workshop facilitator, conceptual developer, and cultural development consultant.

<http://obernkarbi.dk>

VIII. FURTHER INFORMATION

[1] Online introduction to Rainforest projects:
http://macumbista.net/?page_id=2447

[2] Documentation of each Rainforest event:
<http://macumbista.net/?tag=rainforest>

[3] Holzer, Derek (2011), "Schematic as Score: Uses and Abuses of the (In)Deterministic Possibilities of Sound Technology", *Vague Terrain Journal* 19:
<http://vagueterrain.net/journal19>

[4] Viola, Bill (2004). "David Tudor: The Delicate Art of Falling". *Leonardo Music* 14.

[5] Driscoll, John and Rogalsky, Matt (2004). "David Tudor's Rainforest: An Evolving Exploration of Resonance". *Leonardo Music* 14.

[6] A PDF of this document can be found at:
http://macumbista.net/files/rainforest_overview.pdf



Regenwald 2011, Club Transmediale, Berlin DE.