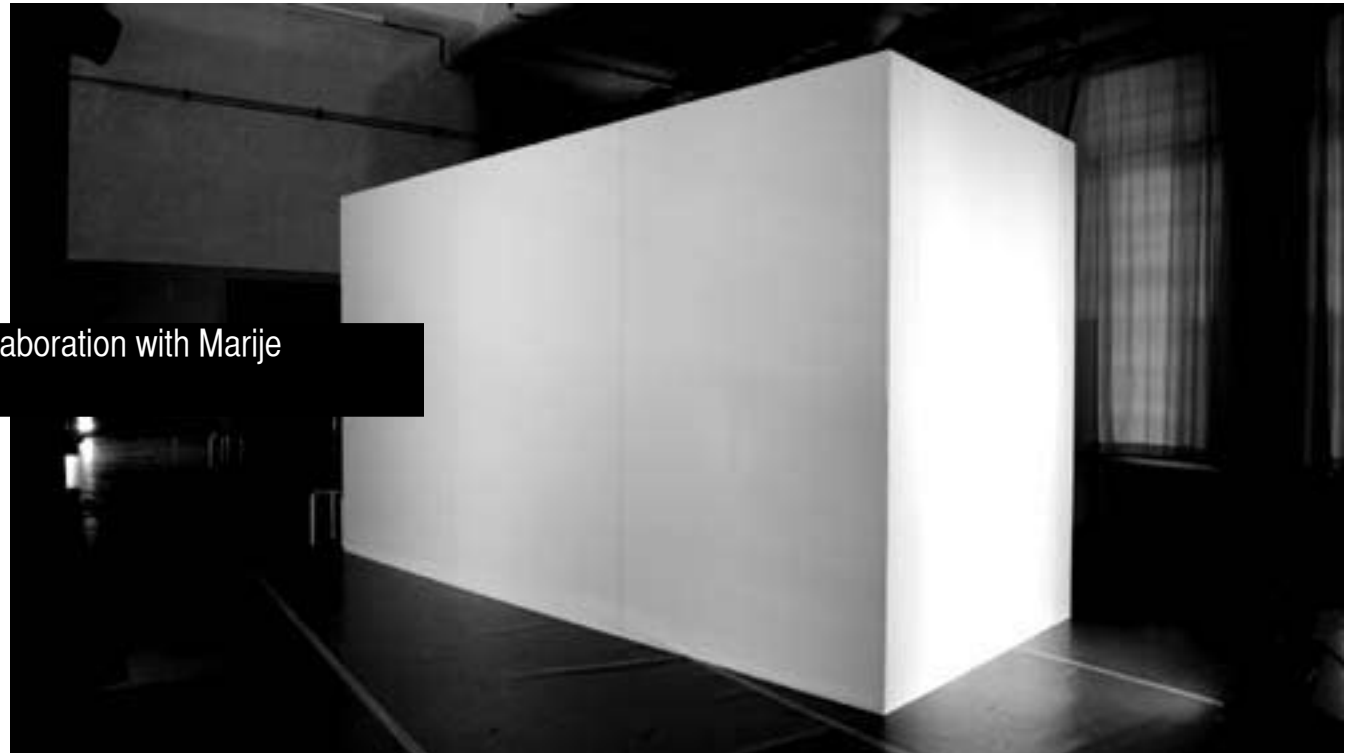


**JND:** An installation by Chris Salter in collaboration with Marije Baalman and Harry Smoak



**Just Noticeable Difference** (JND) is a sensory environment for one person at a time lying in total darkness. The installation is based on Gustav Fechner's concept of the Just Noticeable Difference: the ability to perceptually detect the smallest changes in sensory stimuli. The physical environment consists of a 4.5m l x 3m h x 1.5m w box covered in a highly reflective Plexiglas skin.

One visitor at a time lies on their back on a raised floor lined with sensors for a period of 12 minutes. During this period, the visitors experience a wide range of visual, tactile and auditory sensations that explore how we perceive the smallest degrees of change with different sensory stimuli over different levels of intensity. The structure of the composition experienced by the visitors is divided into three movements with a concluding section. In each movement, sounds, vibrations and shifting colors of barely perceived light continually play off each other with different patterns, rhythms and intensities. This barely noticeable stimuli in the first movement of the work slowly gives way to more rhythmic pulses in the second and third, as moving one's body in barely noticed ways shifts the intensity of the experience of the various media, making the patterns feel more disordered and chaotic over time and generating powerful hallucinations and afterimages.

Finally, in the third movement, the intense vibrations that ended the first movement return. These vibrations build to an almost unbearable and yet, highly pleasurable intensity while the rhythmic patterns from the second movement faintly reappear. The rising and falling vibrations and rhythms build to a peak and then, just abruptly stop, imprinting the afterimages of touch, light and sound as haunted impressions on the visitor's bodies.

**Previous Exhibitions:**

March 2010, EMPAC (Experimental Media and Performing Arts Center), RPI, NY, USA

August 2010, PACT Zollverein/ISEA 2010, Essen, Germany

September 2010, Today's Art, The Hague, Netherlands

October 2010, Meta.Morf 2010, Trondheim, Norway

January 2011 (research showing), FOFA Gallery, Montreal, Canada

February 2011, Mois Multi 2011, Quebec City, Quebec, Canada

May 2011, Elektra, Montreal, Quebec, Canada

July 2011, National Art Museum of China (Translife), Beijing, China

February 2012: CTM. Berlin, Kunstraum Kreuzberg/Bethanien



## Technical Information

### Structural Components

The installation comprises a pre-fabricated structure consisting of **19 individual** pieces:

**1 floor: (44.3 cm (h) x 251.2 (l) x 125.1 (w) ) - Weight: 188.5 KG**

**4 wall sections: (274.32 h x 155 w x 29 d) - Weight: 75 KG (each)**

**2 wall sections (front/back): (246.38 x 22.86 x 149.86 cm) - Weight: 70 KG**

**1 roof section: (252 x 23 x 150) - Weight: 80 KG**

**5 frames: (274.32 h x 121.92 w) - Weight: 10 KG (per frame)**

**5 Plexiglas walls: (274.32 h x 121.92 w) - Weight: 15 KG (each)**

**1 Plexiglas Ceiling with Aluminum Frame: (6 mm x 1219 mm x 2438 mm)**

**Flight Case with Electronic Components: (76.2 x 76.2 x 106.7 cm)**

**Weight: 150 KG**

In addition to the pre-fabricated components, the following electronic components are utilized:

- 12 Clark Synthesis Vibrotactile Actuators (installed in floor)
- 1 Apple Mac Mini
- 1 Entec USB-DMX Pro USB lighting protocol device (to control the interior lighting) + 4 SMD LED strips (mounted in ceiling)
- 1 Russound 12 channel amplifier (120 V, NEEDS TRANSFORMER)
- 1 12 channel audio I/O interface (Digidesign)
- 1 Alesis ADAT bridge device
- 2 power strips + 1 110/220 transformer
- cabling (audio, DMX, power)
- 1 custom designed lightbox (LED strip lights + controller)
- custom designed electronics (pressure pads, 3 wireless sensor nodes)

With the exception of the electronics, actuators and lightbox, all other electronic components live outside of the pre-fabricated structure.

## Transport Information/Logistics

### Dimensions and Sizes

#### Truck Transport

-The minimal dimensions of the transport vehicle should be either:

**6.0 m long x 2.0 wide x 2.0 high**

**5.0 m long x 2.0 wide x 2.80 high**

**Note: Due to their size, the individual wall units ARE NOT palletted. Therefore, they must be individually loaded and unloaded into the transport vehicle both on and off site.**

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#### Loading/Unloading:

The individual installation components are heavy and require a minimum of **4** people able to lift large objects. Also required are dollies to be able to roll the wall sections from the loading area to the installation site.

Moving the sections should be done with dollies in which part the wall sections are on placed on their sides where the longest dimension is what is needed to get through doors and around corners.

Installation should be placed either on ground floor level or if on higher floors, a **freight elevator with minimum dimensions as per the size of the roof unit**. Also, door openings and corners between loading area and installation site should be navigable with the individual sections.

## Installation Setup/Takedown

The installation takes approximately 6-8 hours for setup and tuning (1 day) with a technical team of 2 people (technical director and project director).

**The actual setup and takedown of the architectural components takes approximately 2 hours.** During this time, the artists request the assistance of 5 assistants able to lift heavy objects from the venue for the moving and positioning of the wall and ceiling components.

## Location and Noise

**The installation size is 3.10 m long x 2.75 m high x 2.3 m wide. A space with a minimum ceiling height of 3.5 m is required.**

**The installation should be placed in a quiet environment with minimal noise.** While the installation walls are soundproofed, loud sounds (especially those around 2-2.5 kHz) should be prevented. The installation should not be placed near windows due to the necessity of keeping out stray lighting from outside (the interior of the installation is almost pitch black).

The space around the installation should also house a table to greet visitors, a chair in which visitors can sit down and remove their coats and shoes. **The space around the installation should be sufficiently large enough to move the existing wall units, ceiling and floor of the installation in place.**

## Electronic Components and Placement

The audio, lighting and vibration elements of the installation are run from a single Apple Mac Mini computer which has been set up with a easy to run interface (buttons to turn on and off the installation). The installation runs reliably, the interface is robust and all start up/shut down/testing/troubleshooting routines are fully documented.

## Components to be provided (by venue)

-Gaffer tape/rubber matting for securing of cables connecting the pre-fabricated structure with the external computer and interfaces.

-Drill (powered), hammer and other miscellaneous tools.

## Power and Network Requirements

-An Internet connection is necessary **only during the install period** for the piece as well as during the exhibition in case of remote access needs.

-The installation has a bundle of cables running from the floor of the box outwards to a separate rack unit and the computer. The venue should provide power with load requirements of approximately **230VAC 50Hz 5A for the rack unit at the exhibit's location.**

## Installation Monitoring

**The installation needs to have 1 assistant/interpretation guide with it at all times. The assistant/interpretation guide's job is to explain the work to visitors, assist them in filling out a release form and getting into the installation, monitoring the installation while visitors are inside and assisting visitors in exiting the installation and filling out a survey. Additionally, the installation overseer will keep track of reservations made and troubleshoot for any problems that may arise (in accordance with the troubleshooting guide provided by the artists.**

## Audience Reservations, Control and Warnings

A reservation system or sign up list should be established in advance by the exhibition organizers for the smooth operation of the installation. The reservation system has been successfully used in several venues for JND and works well provided that there is communication between the reservation taker and the installation monitor.

In terms of allotted times:

1 person per 6 minute reserved slot (6 minutes inside the installation + 4 minutes explanation/preparation-entrance/exit).

If the installation runs 8 hours a day (as has been the case previously), it can fit **5-6 people per hour for a total of 40 people per day. The installation has run at large festivals/exhibitions in Europe and fills up immediately.**

## Audience Warnings

-Audience members should sign a waiver before entering the installation.

-Signage should indicate that the installation involves extreme darkness and occasional flashes of light.

**NOTE:** The installation is extremely dark and designed for one person at a time. Based on our previous experience with audiences having a wide range of ages and professions, most people are comfortable with these conditions. The installation is not good for those who are claustrophobic or afraid of darkness.

## Team Contacts

**For all technical inquiries, please contact Marije Baalman.**

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