

Il Canto di Calipso

Monologue for Digital Minstrel Automaton

Performance

Ennio Bertrand
digital artist

Text of the monologue: Giuliana Bertolo

Reciting voice: Eleni Molos

Multi-media installation: Ennio Bertrand

Year of production: 2020



Abstract

The song of Calypso

As the ancient street singers who narrated heroic deeds or intriguing stories showed on a screen various painted scenes illustrating the plot, the Digital Automaton Minstrel illustrates moments of a story using a laser light beam. The speaking voice is transmitted by the very same red light of the Laser and forwarded to four objects / characters / actors who receive it together with the laser light beam and. By decoding it, they transform the light back into sound / word

then diffused by a loudspeaker.

TECHNOLOGY

I have occupied myself with sound and poetry for many years, creating various and mostly interactive installations. To give some example of my previous works, I created the illusion of goldfishes singing or reciting poems in a large aquarium *Swimming Sounds, 2007*, I used the proximity or the breath of the fruitor to activate the recitation of poems by the avatar of some more or less famous authors *Soffio (Breath), 2011*, I had 144 speakers play as stimulated by the shadow cast on them by the *Lux sonet in tenebris, 1992*, etc.

Currently, after more than a year of research I have developed a technology to transmit sound, words and / or music through a laser light beam. The laser produces a beam of light, normally a red one which, collimated with an appropriate lens, will appear as a thin thread of colored light.

With special electronic circuits I could introduce sound inside the light beam, just like an electric cable carries electricity. At the beginning the light beam and the sound are processed by a transmitter uniting them. As it hits the

target, the light beam is intercepted by a receiver circuit which separates the sound from the light diffusing the sound through a loudspeaker.

THE INSTALLATION

The work consists of a kind of automaton placed in central position, equipped with a rotating mirror moved by an engine and governed by the computerized system that operates it. It deflects a laser beam in a virtually infinite number of recordable positions randomly chosen and placed around the automaton at a few meters distance, like actors acting on a stage.

In the fixed positions there are targets which undertake the role of actors, equipped with a light sensor and a loudspeaker: they extract the sound contained in the laser beam and broadcast it.

Each of the target/actor receive the appropriate sound content sent exclusively to it. In other words we will listen the voice and speech by the male hero exclusively from his assigned position, while the voice and speech of the heroine will be played and broadcast only by the receiver/transmitter assigned to her.

The *Song of Calypso* is spread over four objects / actors speaking about four different feelings, moods, passions, desires, delusions extracted from the text by *Giuliana Bertolo, Il Canto di Calipso*.

DRAMATURGY

After the experience of many interactive installations I created over several years of work, I became convinced that there are small "pieces of theater" in them, with their own unusual and perhaps new dramaturgy. So I tried to consider the various technological

components of an installation as actors in a theatrical performance. Mechanical actors, with electronic bodies, digital hearts and software brains. Nothing could be further from the human physical appearance: the system is more in line with the assimilation of the living by

technology, be it digital, software, or al. There is nothing disturbing if content and narration are preserved. Actually, the witch in the woods who eats little kids running far from home never existed, this is not the reason for us to tell them.

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SOME TECHNICAL DATA

Transmitter

- quality of audio transmission: excellent
- vertical deflection of the laser: > 45°
- horizontal deflection of the laser: > 300°

Laser transmitter and rotating mirror

- Laser pointing accuracy: +/- 2mm at 4mt
 - Laser movement speed: > 3mt / s at a distance of 4mt
 - auto calibration of the Start position
 - memorization of the transmission positions for the horizontal and vertical axes
 - virtually infinite number of positions
 - 5mW red laser LED pointer type with integrated optics
 - drives: with stepper motors
 - electronic transmission circuit: proprietary
- #### Receiver
- Laser sensor: photodiode
 - Fresnel lenses for beam collimation
 - electronic conversion circuit: proprietary
 - power supply: autonomous with

rechargeable lithium batteries

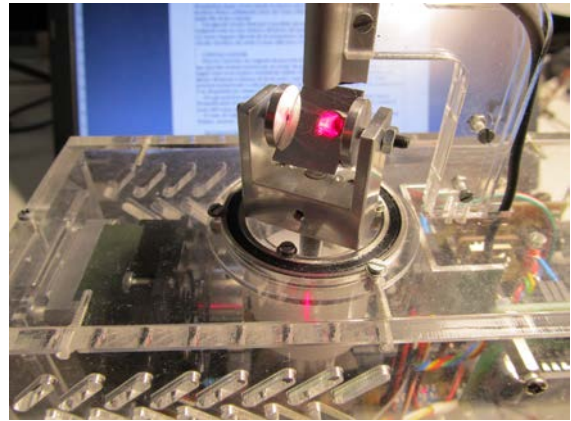
- signal output: audio for external amplifier
- transmission distance: > 15mt
- millimeter adjustment of the focus

MICRO BIOGRAPHY

I am a visual artist, for many years I have invented digital systems for interactive installations with sound, light, movement, images, video.

I was a member of Arstechnica at the Villette in Paris and co-founder of the Arslab Committee in Turin. Works of mine were/are exhibited in Italy, France, Germany, Nederland, Japan.

I teach a course on Interactive Systems at the Art Academy in Turin and in Bergamo.



Laser transmitter and rotating mirror

Laser receiver and decoder

