

Stereo Bugscope 00

What is Stereo Bugscope?

With the development of digital technology, our lives have come to be filled with electronic devices like computers and cellular telephones in a way that seems entirely natural. These convenient devices improve the efficiency of our work and provide us with entertainment, as well as acting as an extension of our brain and body. Through our use of them, new trends, customs, environments and cultures also emerge, return to us and exert a strong influence on the society at large.

The name "Stereo Bugscope" refers to a performance system that detects oscillating sounds emitted by the circuitry inside electronic devices. I arrived at the name in the summer of 2002 as a term to signify the act of listening to the electromagnetic world that emerges from electronic circuits through the use of two inductive microphones (pickups). Connected to the left and right (stereo) channels of the microphone output, the pickups were picked up and moved, placed on machine surfaces, put down, and held in the air to observe and perform with sound. The oscillating circuit sounds come from things like an IC board, movement noise from a power inverter, and electromagnetic noise from the electrical current that drives a motor. Waveforms, similar to the signals of audio frequencies from electromagnetic leakage which are faintly emitted from machines, are also emitted from the inductive coil in a pickup. This sound is then electronically amplified. All of these signals are ordinarily so faint as to be inaudible. According to one's position in relation to and distance from the source, changes in the sound can be observed.

What interests me is the psychological mechanism that is triggered in us through the extraction of these sounds. Devices such as computers and MD players as well as the pickups (production of the Sony TP-15 telephone pickup ceased in June 2002) that were used to detect sound are all readymade objects. In each of them there is also a visual element which, like a kind of pop art, is a slightly altered form of what a machine was originally supposed to look like. In addition, many of the signals that are emitted from the machines have simple waveforms - sine, sawtooth, square. There is something about the sounds that is similar to the minimalistic, electro-acoustic music that became increasingly popular in the mid-90s. To take the comparison even further, the nerves in our body also function via electricity and though extremely weak, magnetic fields are also known to exist within us. While looking at the environments surrounding these devices and social transitions that are occurring due to their influence, I also consider them to be a kind of mirror reflecting the way we use them. Those with a grounding in electrical theory might like to make calculations regarding the movement of the magnetic field of the sounds that are detected. But even for those without such a background, I hope you will be freely inspired to imagine anything you like as you listen to the sounds and performances on this album.

No external oscillators, synthesizers or samplers have been used in these recordings. Neither has any post-production processing been used. All of the sounds were recorded using two inductive pickups to capture the oscillating sounds emitted from the internal circuits of electronic devices. When playing these recordings, be careful to adjust the volume of the speakers or headphones. Because of mechanical differences caused by local temperature, humidity and electric sources, the numerical values given should be seen merely as observational records of the machines and not as definitive measurements.

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1.	Bugfield 1 "Start Up"-"Track Pad" with human operation (PowerBook G4)	4:29
2.	Bugfield 2 "No Wave"-"Sleep"-"Wake Up" with human operation (PowerBook G4)	8:08
3.	Bugfield 3 "CD Writing"-"Shut Down" with human operation (PowerBook G4)	5:53
4.	Click from mobile phone with power off	3:49
5.	Motor and LCD sound from digital audio recorder with running tape	2:50
6.	Slow surface tracing around built-in machine fan (iMac)	7:18
7.	Pulse from wireless router (AirMac Extreme)	3:27
8.	Left and right side of machine body (PowerMac G4)	5:45
9.	High frequency and motor sound of mini-disc recorder with spinning disc	5:40
10.	"Start up"-"Shut down" with human operation (Vaio Notebook)	10:43

Total playing time 58:29

Track 1-2-3

Sound source: computer (PowerBook G4, 667MHz Apple) Date: Jan. 28, 2004

"Bugfield" is a single 18-minute, 30-second composition. For this reason, the first three tracks ("Bugfield 1," "Bugfield 2," "Bugfield 3") have been spliced together as one selection. This version is a studio recording. The premiere performance of "Bugfield," accompanied by video images, was given at the Aka Renga (Red Brick) Warehouse gallery in Osaka on August 9, 2002. It was the first event in a continuing series presented by View Masters (the Sound Collection and Observation Organization). The following is an excerpt from a published report on the performance:

"White, tablet-like contact pickups were placed on either side of a laptop computer and an enlargement of the scene was projected with a video camera on a wall-screen behind the performer. 'Start Up.' The pickups began to capture the oscillating sounds being emitted from within the electronic device. Lightly grasping the two pickups in her fingers, the performer searched for the machine's electromagnets. The pickups acted as a stethoscope, amplifying the inner sounds like a lens zooming in to get a closer look at the electric circuits. The distance of the pickups from the computer controlled the volume, while movements to the sides created a panning effect between the speakers. On the computer screen, a file called 'No Wave' was opened. No waveforms were displayed in the time and amplitude ranges - the sound software was merely running on empty without any source material. To conclude the performance, the performer gradually inserted a blank CD-R into the drive. The fantastic sound of the drive caused the audience to perk up instantly."

(from *Improvised Music from Japan 2002-2003*)

Track 4

Sound source: cellular telephone (J-T010, Toshiba) Date: Jan. 4, 2004

With the power of a cellular telephone turned off, the left pickup, placed near the multifunction button, and the right pickup, placed against the back of the handset, were moved slightly. The clocklike sound that was detected measures voltage at one-second cycles in order to determine the device's state of charge.

Track 5

Sound source: DAT player (DAT Walkman. PCM-M1. Sony) Date: Jan. 11, 2004

The two pickups were placed approximately six centimeters apart against the back of a portable DAT player as a tape was run, fast-forwarded and stopped. When the blue, liquid-crystal display was turned on, a high-pitched, sustaining sound was emitted at roughly 1127Hz.

Track 6

Sound source: computer (iMac 1.25GHz. Apple) Date: Jan. 13, 2004

While a fan spun within the upper section of a semi-spherical computer, the pickups, held in either hand, were slowly moved in a stroking motion near the air holes. The computer was turned on, but no programs were in operation.

Track 7

Sound source: wireless router (AirMac Extreme Base Station. Apple) Date: Jan. 13, 2004

The two pickups were placed approximately four centimeters apart against the back of a wireless router. Power was supplied to the device, but no input signal was received. A pulse was detected which repeatedly beat in a precise cycle of approximately 0.1 seconds.

Track 8

Sound source: computer (PowerMac G4 466MHz. Apple) Date: Jan. 11, 2004

The pickups, held in both hands, were moved toward and away from the left and right sides of a computer at a distance of between 1.5-10 centimeters. Insistent low oscillating sounds of 42Hz and 45Hz were emitted and combined with a 60Hz-frequency signal from the power source. At intervals of about 1.5 seconds, a cyclic throb of sound was emitted, but because the recording was being made directly from the built-in hard disk using a music software, it is thought that the change in the magnetic flux that accompanies the movement is somehow responsible for the sound.

Track 9

Sound source: MD player (MD Walkman. MZ-N10. Sony) Date: Jan. 11, 2004

The two pickups were placed approximately 5 centimeters apart against the upper back of an MD recorder as a disc was spun, fast-forwarded and stopped. The sound of the motor and an oscillating sound with a frequency of more or less 8000Hz was detected.

Track 10

Sound source: computer (Vaio Notebook. PCG-5414. Sony) Date: Jan. 11, 2004

With the pickups placed on the left and right sides of a laptop computer, the device was "started." Then while grasping the pickups loosely in the left hand, the right hand was used to operate the computer's touch pad, without touching any other part of the keyboard. After returning the pickups to their original position, the device was "shut down."

Recorded and mastered by Haco at Mescalina, Nishinomiya, Japan
Photos: Hideto Uchiike
Text and artwork: Haco
Translation: Christopher Stephens
Design: MGX.Factory

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Apple Computer, Inc., and BIAS, Inc.

technical requirements for a possible concert / performances

For a performance using the 'Bugscope' system, accompanied by video images:

- 2 D.I. boxes (2-channel, stereo) for electronics
- 1 small table (more than 70cm high) for sound devices
- 1 video camera (with stand)
- 1 video projector
- 1 video screen

Performer (Haco) will be bringing:

- Inductive pickups (microphones) with connectors
- Laptop computer and small devices
- Small mixer for inductive pickups
- Transformer for changing 100V to 220V

Performer (Haco) needs a PA system and an engineer.

- PA mixer
- PA speakers
- Monitor speakers (stereo is the best, if possible)

HACO

Vocalist / lyricist-composer / multi-instrumentalist / sound-artist. Haco was born in 1963, in Kobe, Japan. At her studio, Mescalina, in Kobe, she has created numerous recordings both as producer and engineer. As a musician, Haco has also given performances throughout Japan and the world. With her unique sensibility, Haco has developed her own genre of art based on principles of post-punk, electroacoustics, the avant-garde, improvisation, post-rock, environmental sound, and technology. Haco also frequently lectures and gives workshops on various sound-related topics.

In the 80s, Haco formally studied acoustics, electronic music, and recording technology. She earned a large following for her recorded work and performances as the composer / lyricist / vocalist of After Dinner (1981-1991), one of the first Japanese indie bands to tour abroad. In 1990, Haco appeared in the film *Step Across the Border*, a documentary on Fred Frith, which was selected as one of the top 100 films of all time by *Cahiers du Cinema*. One of Haco's songs, which she played on piano, was also included in the soundtrack CD. A DVD version of the film was released in 2003.

In the 90s, Haco worked as a sound exhibition and installation curator at Xebec, an innovative hall and presentation space for computer music and sound art, which was profiled by the writer David Toop and others. In 1995, Haco released her first solo album. Around the same time, she began performing improvisations with compact samplers, self-produced electronic units, electric mandolin, percussion and toys along with voice. Her "howling pot" performances, which make creative use of feedback, have been compared to sound art. Since her first solo tour of Europe in 1996, her live performances have been hugely successful at the LMC Festival (London), Le Weekend (Scotland), Vooruit Geluid Festival (Belgium), Isole Che Parlano (Italy), and other events.

In addition, she is involved with the guitar improvisation duo Mescaline Go-Go (Christopher Stephens), the odd-song unit Happiness Proof, and the all-female collaboration Hoahio (Michiyo Yagi: koto, Mari Era: percussion). She has collaborated on recorded work or in performance with numerous musicians, including Ash in the Rainbow (Hiromichi Sakamoto), Yesterday's Heroes (Terre Thaemlitz), Kam-pas-nel-la (Kazuhisa Uchihashi, Samm Bennett, Zeena Parkins), Peter Hollinger, Pierre Bastien, Carl Stone, Seiichi Yamamoto, Otomo Yoshihide, Ikue Mori, Aki Onda, Martin Tetreault, Diane Labrosse, and Yoshimi P-we. Her original style of vocalizing, experimental pop sound and improvisation surpasses conventional genres and national borders, and continues to attract new listeners.

In a sound-art context, Haco established the "sound collection and observation organization," View Masters, an environmental sound project which seeks to select, extract and define sounds from daily life. In 2002, she began to curate and produce a four-year series of View Masters lectures, concerts and workshops at Aka Rengo Soko (Red Brick Warehouse) in the Osaka Port area. In the first installment, she premiered a performance of "Bugfield," which captured oscillating sounds emitted from the electronic mechanisms of a standard computer, and thus, established herself in a new genre of art. In 2002, She began giving live sound installations, "Minimaxus," with the video artist, Mariko Tajiri, and formed a research group for Max/Msp (a graphical environment for music, audio, and multimedia) with Yuko Nexus6. Also she developed an educational program for elementary school students called "Picnic for Sound-Spotting," a series of workshops that was offered as part of Nature Art Camp. The series was held on Mt. Rokko, Kobe in October 2003. In November of the same year, she gave her first performance using the "Pencil Organ," an instrument created from a home electronics kit that uses test leads (+/-) to produce sound, at the Festival Beyond Innocence in Osaka.

Major recorded works:

- 1982 *After Dinner / Cymbals at Dawn* (EP, Kagero Records, Japan) - Added to the German National Radio (Bavaria) permanent playlist
- 1983 *An Accelerating Etude* (tape composition) - Winner of the Outstanding Performance Award for graduates of the Visual Arts College, Osaka, Japan
- 1984/1991 *After Dinner / Live Editions* (LP, CD, ReR Megacorp, UK)
- 1995/1997 *HACO* (CD, P-Vine, Japan; ReR Megacorp, UK)
- 1999/2000 *Happiness Proof* (CD, P-Vine, Japan; ReR Megacorp, UK)
- 2001 *After Dinner with remixes: Paradise of Replica / Paradise of Remixes* (CD, Bad News, Japan; ReR Megacorp, UK)
- 2002 Hoahio: *Ohayo! Hoahio!* (CD, Tzadik, US)
- 2003 Haco and Hiromichi Sakamoto: *Ash in the Rainbow* (CD, ReR Megacorp, UK)
Hoahio: *Peek-Ara-Boo* (CD, Tzadik, US)
- 2004 Yesterday's Heroes (Haco and Terre Thaemlitz): *1979* (CD, La Louche, France)
- 2004(October) Haco: *Stereo Bugscope 00* (CD, Improvised Music from Japan, Japan)
- 2005(March) Synapse (Haco/Ikue Mori/Aki Onda): *RAW* (CD, Tzadik, US, US)
- 2005(June) Diane Labrosse/Martin Tetreault/Haco: *Lunch in Nishinomiya*
(CD, Improvised Music from Japan, Japan)

Major concerts, tours, art performances:

- 1989 After Dinner tour: Switzerland, Austria, Germany, France, Netherlands, Denmark, Italy*
- 1990 After Dinner concert: "Festival International de Musique Actuelle de Victoriaville," Canada*
- 1997 Haco & Neatopia tour: Switzerland, Italy*
- 2000 Hoahio concert: the Festival "City of Women," Ljubljana, Slovenia*
(*Supported by the Japan Foundation)
- 2001 solo concerts for Japanorama tour: UK, Belgium
- 2002 solo concert and live collaboration with Alex Mackenzie (multi-projector film): "Images Festival of Independent Film & Video," Toronto, Canada
- 2002 solo concerts, composition for "Upstream" - VOC (the Dutch East Indies Company): Hoorn, Amsterdam, Netherlands
- 2002 solo art performance "Bugfield" (for "View Masters" group): Osaka, Japan
- 2003 sound and video live collaboration with Tajiri Mariko "Howling Rose": "The 2nd Women's Performance Art Osaka," Japan
- 2003 solo concerts for "String Reverb": Museum of Contemporary Art, San Diego; US - La Antigua Bodega De Papel, Tijuana, Mexico; "San Francisco Alternative Music Festival," US
- 2004 solo performances of "Pencil Organ," Off Site, Tokyo; and Kawasaki City Museum, Kawasaki, Japan
- 2005(May) solo performances of "Bugfield": "Trollofon festival", Bergen, Norway

Major lectures and workshops:

- 2001 voice collaboration with Carl Stone for his composition, "Ghost Orchestra," and lecture: Xebec, Kobe, Japan
- 2002-2005 curation and direction for a four-year series of View Masters' lectures, concerts and workshops, Aka Rengo Soko, Osaka, Japan
- 2003 planning and teaching (with Yuko Nexus6) of "Picnic for Sound-Spotting," a series of workshops as part of Nature Art Camp (organized by the Kobe City School Board), Mt. Rokko, Kobe, Japan
- 2004 documentary exhibition "Nature Art Camp 2003," Kobe Citizen's Gallery, Kobe, Japan
- 2005(July) planning, teaching, and performing of "An Expedition for Sound-spotting," Yamaguchi Center for Arts and Media, Yamaguchi, Japan

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Produced by Haco www.japanimpv.com/haco

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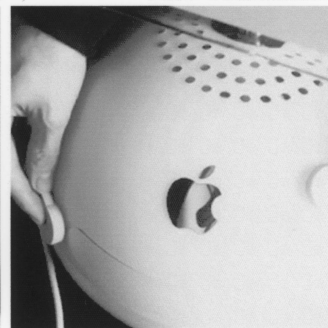
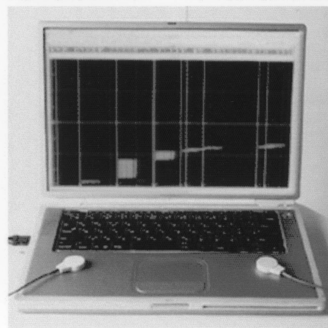
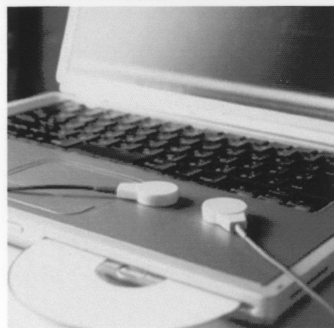
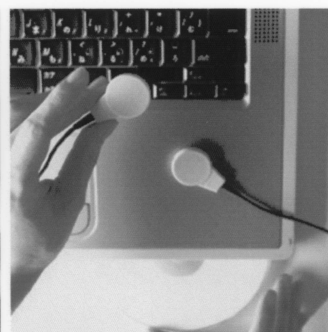
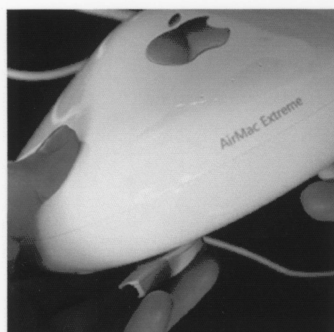
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www.japanimpv.com info@japanimpv.com

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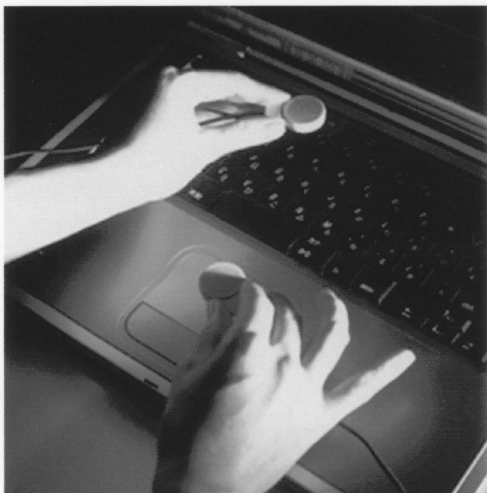
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Haco

<photos on the project, "Bugscope">



Stereo Bugscope



performance, "Bugfield"