

DANIEL JOLLIFFE
JOCELYN ROBERT

Ground Station





Theorists Mieke Bal and Donald Preziosi have talked about “double vision”—how the viewer must work to see beyond the image. Contemplation is thus not only an act of looking with wonder and curiosity, but of pondering what may or may not be connected to the work being shown. With *Ground Station*, one needs to have triple audiovision. Besides contemplating the satellite-operated piano (the immediately audiovisual), one must question what knowledge constituted this piece. Thirdly, the viewer has to log into the narratives that describe GPS and how the artists’ relation to the GPS signal changed during the course of making the current work. All this is helpful in *positioning* the piece.

Some years ago, a friend of mine said of the GPS: “Isn’t it strange how we have increasing precision of where we are located, while one has less and less of an idea of where one is?” There are many applications that use GPS today, but very few of them are able to provide a cultural or social context for the technologies being used. Rather than explaining location through function and use, artists and researchers can provide more insight into *how* one is situated in a location. Rather than being magicians or special effect designers, media artists can be critical practitioners by providing or pointing at alternate contexts for contemporary technologies.

GPS did not begin as a project that would allow people to know where or who they are. It began as a project to allow the military to know where something (human or non-human) is located on Earth. In *Ground Station*,

the satellites are the actuators, but the artists are correct in saying that it is the US Defense Department that runs the system—that is, a large multiplicity of authors behind the data that the satellites provide. However, when it comes to the authorship, or the missing pianist/composer of this piece, I would like to suggest is that it is neither the GPS military engineer nor the satellite that is “missing from the picture.” It is the artists themselves who are the missing pianists or composers, though the gallery visitor may only see their ghosts (spectres) which have marked the location with their presence.

Tapio Mäkelä

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Tapio Mäkelä has presented at several international forums on media art and cultural studies. From 1994 to 1997, Mäkelä was director of the artist association Muu in Helsinki. Mäkelä is a vice chair of m-cult, Finnish Center for New Media Culture and the programme chair of the International Symposium of Electronic Arts, ISEA2004. He has done several Internet projects: Hygeia Revisited, with Susanna Paasonen, was presented in ISEA1998, and Net Sauna in Ars Electronica was presented in 1997. Mäkelä is currently working with David Rokeby on a telematic project, steamingmedia.org, using bathing as a cultural interface.

Ground Station is the result of a collaboration of two Canadian artists, Daniel Jolliffe and Jocelyn Robert. They began working on the piece in 1999, presenting it first in 2000 as *La Salle des Noeuds: Pedestrian Movements* at Artspeak Gallery in Vancouver and at the Outer Ear Festival in Chicago. Although each of the artists has an independent art practice (Jolliffe's work invites physical interaction with a machine and Robert's work almost always incorporates a device that creates sound), they agree on the purpose of their work—namely, to provide a lyrical human interface and experience within a technologically imperialized culture.

In modern society, it is a truism to say that we are immersed in technology. We are inundated by pressure to acquire new technology, for our work, our homes, our leisure. And this growing dependence of ours on technology is shifting our perception of the world. It's therefore become increasingly important for us to find a space where we can reflect and listen to the world around us, to consider what it is to be human...here...now...at latitude 49° 16' 09" N, longitude 123° 06' 02" W.

Liane Davison

Curator, Exhibitions & Collections
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POSITIONING *GROUND STATION*

"The changing of Bodies into Light, and Light into Bodies, is very conformable to the course of Nature, which seems delighted with Transmutations."
Isaac Newton, *Opticks*, (1717)



Ground Station, by Daniel Jolliffe and Jocelyn Robert, is a sophisticated transmutation of GPS satellite data into a sound installation suggestive of a musical score. The GPS satellites move around Earth on an orbital scale. Their positions provide the changing variables that fall into the compositional environment created by the artists. In the abstract space of the gallery, the audience listens to a computer-driven player piano that makes this transmutation between the two scales audible.

An immediate observation from the point of view of a viewer or a narrative theorist is to write down a note regarding the death of the pianist. The artists suggest that this departure leads towards a compositional role taken by the computer, rather than an authorship of the satellite that feeds the data. Another interpretation positions the work in the history of automatons that were numerous presented in the recent exhibition at the Getty in Los Angeles. As Barbara Maria Stafford eloquently describes the interrelated history of art and science in *Artful Science* (1996), both visual and mechanical representation of science have acted as popular education, entertainment and art since the 17th century. The automaton from that time



which is most relevant here is the flautist built by the engineer Jacques Vaucanson (1709–1782). It moved its fingers and was able to blow several tunes through the lips of the anthropomorphic machine.

Ground Station performs the automaton as an electromechanical construction, like the classical clavier that played music without the human visible touch. In an earlier era, the mechanics of punctured holes on a cylinder acted as the “secret” behind the curtains, the hard software loaded into the pre-composed instrument. Once such a technique became unnoticeable in everyday life, the “magic” of the automaton would also vanish. The magic, the invisible hand that plays *Ground Station*, is a combination of electronics and wireless technologies, satellites and computing. The magicians—the artists—have built the system, which captures the satellite information and maps it onto a *Max* software instrumental environment.

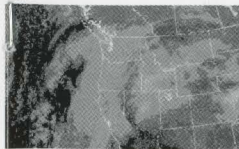
Like some of the earlier automatons, *Ground Station* also has philosophical underpinnings. It plays, according to the artists, “not music but rather the creation of sound under the direct influence of the scientific data which we have more or less plucked out of the air.” The work makes “visible the collision of these two cultures and physicalizes the invisible data.” Thus, in the tradition of conceptual media art, the automaton by Jolliffe and Robert also performs reverse engineering (or “imagineering”) by using satellite data that usually serves both military and commercial purposes to play a piano instead.

In an earlier phase of their collaborative research, Jolliffe and Robert had intended to design a piece in which users could move through landscapes and cities, activating sounds according to GPS information. Shortly after developing a prototype of this initial work, however, the US Department of Defence degraded publicly available GPS location information, presumably not to allow “enemies” to use the data. As a result, the relatively poor precision did not allow a user-activated GPS piece, and so the artists decided to work on that very information—noise—which led to the current form of *Ground Station*. Interesting to note is that some months before the initial show of the work at the Artspeak Gallery in 2000, the US Department of Defense stopped degrading the GPS signal. This resulted in *Ground Station* playing only the occasional note. After reprogramming, the artists then decided to invert the process, making the precise position information of the satellites the source of the data that plays the work.

In 1988, Austrian artist Richard Kriesche performed *RadioZeit* during a sound art symposium *With the Eyes Shut* in Graz. He used weather satellite information to play a digital sampler/keyboard with Mozart’s “Eine Kleine Nachtmusik” loaded in it, and to project satellite imagery for a small audience in his studio. He also read a text about *RadioZeit*, which the audience could not hear. Thus, this piece addressed “noise” in digital communications, but in a different era of satellites and without the aspect of a computer software generating music. Like *Ground Station*, *RadioZeit*

jams with technology that penetrates our everyday lives yet is seemingly inaccessible. With or without the presence of the human agent, these works perform the technology.

Embodied user performance has been a key theme in Daniel Jolliffe's previous work involving interaction between sculptural electromechanic objects. For instance, *Room for Walking* (1999) allowed the user to browse through collaged satellite imagery of the gallery location by moving a small cart on wheels. Jocelyn Robert works often on the boundary between natural or commonplace phenomena and various art forms. In a 2002 work titled *L'Invention des animaux* (which won first prize in the Berlin Transmediale arts festival), he created an animated character that shifts between an airplane and birdlike form on a blue sky, changing its sound and shape in a software loop generating a video image. His collaborative series titled *La Salle des Noeuds: Pedestrian Movements* contributed greatly to the compositional environment in which *Ground Station* runs. The current work is a result of a residency research period at STEIM in Amsterdam and a long email-mediated dialogue between the two artists living in separate locations.



GPS, like the Internet, is no longer solely a military technology. GPS devices are used as an aid by people who are driving, fishing and hiking, not just trying to kill others with bombs. Some cameras are able to bring you to the same "shooting" position any time you like. With all the popular uses in place, harnessing GPS to play a piano cannot be considered a loud political statement as such. Like many works based on research into science and art, *Ground Station* is political only insofar as it is contextualised that way. In general, an average visitor to a gallery is likely to read 1 to 5 sentences of a statement and linger 1 to 5 minutes with one piece before moving on. This is always the challenge of conceptual work that is linked not only to a satellite, but also to surrounding narratives or discourse that enhance its significance. *Ground Station* is likely to capture audience's attention due to its contemporary affect of technological wonder.

Media art, or art and science work, is often insightful by bringing together—or putting into collision—different practices, theories, technologies or sets of knowledge. What is taking place between these various domains in *Ground Station* is a transmutation rather than a translation. Any data that a satellite transmits about position cannot be *understood* as music, even if it can be perceived as such once mapped onto an instrument.