

Phonos

40 years

of electronic music

in Barcelona

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INTRODUCTION

The Phonos Foundation seeks to promote musical technology with a social and cultural outlook. It was created in 1974 as an electronic music laboratory and, with its 40 years of history, it has been and continues to be a leading centre in its field internationally, with a large impact on Barcelona's cultural life.

This exhibition presents an overview of Phonos' history through a selection of electronic devices created or used by the Foundation. The display also covers people and musics that hold a significant place in the history of electronic music in Barcelona.

The Museu de la Música, as an institution devoted to the preservation and dissemination of our musical heritage, hosts this show on our recent musical past. Born in the 20th century as an experimental discipline in parallel to other musical trends, electronic music has left a rich technological and aesthetic legacy that inspires a large part of today's musical creation.

THE PHONOS LABORATORY: BEGINNINGS

In a cultural context in which initiatives were beginning to arise to promote and disseminate the most experimental musical creation, the composers **Andrés Lewin-Richter** and **Josep Maria Mestres Quadreny**, together with the computer engineer **Lluís Callejo**, founded the Phonos Laboratory in 1974. It was installed in a detached house in Barcelona's Sàrrià neighbourhood and its aim was to gather and train composers interested in the new electronic technologies. It was equipped

like the leading electroacoustic laboratories of the times, with modular synthesizers, recording and playback equipment such as the **Revox** tape recorder, and amplifying and sound processing devices, all of which were interconnected by means of a connection matrix.

The Laboratory's first investigations were focused on the design and building of electronic devices: mixers, ring modulators and filters. In 1975 Lluís Callejo built the sound generator **Stokos IV** on the basis of some ideas from Mestres Quadreny, and he began to investigate with the **Rockwell AIM 65**. The development of the musical electronics market in the 1980s allowed the purchase of analogue synthesizers like the **EMS Synthi AKS**, so the Laboratory's research began to focus on the development of software for musical composition.

A fundamental facet of Phonos is the educational activity carried out by the Chilean composer **Gabriel Brnčić**. For years his courses made up for the lack of official musical education centres in the field of electroacoustic composition, drawing several generations of composers to the facility.

Revox A77 MK IV

Tape recorder. Studer-Revox (Switzerland), 1974

Museu de la Música. MDMB 1521. Donation from Montserrat Puig Gros, 2005

Two-track tape recorder with three heads (erase, record and read). Phonos purchased this model in 1974, using it to record, edit and mix the sounds generated by the studio's synthesizers. This device belonged to the composer Jep Nuix.

Rockwell AIM 65

Computer. Rockwell (USA), 1976

Museu de la Música. MDMB 1680. Donation from Phonos, 2005

Computer based on the MOS Technology 6502 microprocessor. Phonos purchased it as a kit in 1980 and Lluís Callejo assembled it, built the converter to control external synthesizers and programmed it to work in real time.

Stokos IV

Synthesizer. Lluís Callejo (Barcelona), 1975

Museu de la Música. MDMB 1679. Donation from Phonos, 2005

Four-channel sound synthesizer generating sequences of random heights and lengths, designed and built by Lluís Callejo for Phonos in 1975. It was conceived to create a wide variety of complex sound textures that could be manually controlled.

EMS Synthi AKS

Synthesizer. EMS (UK), 1972

Museu de la Música. MDMB 1677. Donation from Phonos, 2005

Portable analogue synthesizer with sound generators and modifiers, an interconnection matrix and a touch-sensitive keyboard. Phonos bought this device on beginning its activities and all the composers used it a great deal.

THE MIRÓ FOUNDATION: CREATION AND DISSEMINATION

The first Phonos concert was held in 1976 at the Miró Foundation under the title of «Sound Spaces», which presented the first works produced at the Laboratory. A regular concert cycle at the Miró Foundation was established from that moment on and in 1987 the Phonos Laboratory moved there. This period was highly productive from the creation and dissemination standpoints and it allowed the development and promotion of a music that did not fit into the more commercial circuits.

Moreover, composers trained at Phonos helped to create other institutions devoted to electronic music. Worthy of note in this respect was the Centre of Initiatives and Experimentation for Young People (CIEJ) of the Caixa de Pensions Foundation,

promoted by **Josep Manuel Berenguer** (head of research at Phonos) and **Jep Nuix**; a studio at the Municipal Higher Conservatory, promoted by **Albert Llanas**, and the Spanish Electroacoustic Music Association (AMEE), promoted by **Lluís Callejo** and **Gabriel Brnčić**, with **Eduardo Polonio** as its first president.

Phonos became an open space where composers and researchers sharing an interest in music and technology converged. In the late 1980s, the Laboratory began to work with personal computers, like the **Apple II**, combined with commercial analogue synthesizers. These new devices made musical experimentation with computer technologies much more affordable. It also continued to work with analogue synthesizers like the **RSF** and the **Polymoog**, and with the first digital samplers, like the **AKAI S1100**.

Polymoog Synthesizer 203a

Analogue polyphonic synthesizer. Moog Music (USA), 1975–1980

Museu de la Música. MDMB 1678. Donation from Phonos, 2005

This was the Moog factory's first polyphonic synthesizer. It had eight moderately configurable predefined sounds and provided an "overall" polyphony of 71 notes. Phonos used it as a concert instrument in the 1980s. This device belonged to the composer Eduardo Polonio.

AKAI S1100

Sampler. AKAI (Japan), 1988–1993

Phonos Foundation Collection

16-bit digital sampler for sound editing and for looping and time-stretching sound without changing its tone. It was one of the first samplers conceived for professional use. Phonos bought this device in 1991 and used it in conjunction with the Polymoog.

RSF Kobol Expander + Expander II Synthesizer. RSF (France), 1979

Phonos Foundation Collection

Modular monophonic analogue synthesizer formed by two modules, the Expander Kobol and the Expander II, providing a great versatility. Phonos purchased this device in 1984 and it was used a great deal for educational purposes because of its clarity.

Apple II Europlus + Roland CMU-800 and CMU-810

Computer. Apple Computer Inc. (USA), 1978
Synthesizer. Roland (Japan), 1983

On loan from the family of Lluís Callejo

The Apple II is a personal computer and the CMU-800 and CMU-810 modules configure a 4-voice analogue synthesizer. The Apple II allowed control of the CMU in real time with a musical programming language. This equipment was on hand at Phonos as from 1983.

POMPEU FABRA UNIVERSITY: A COMMITMENT TO RESEARCH

In 1994, Phonos established ties with Pompeu Fabra University (UPF) and moved there. The director of Phonos at that time, **Xavier Serra**, joined the UPF as a teacher and created the Music Technology Group (MTG), which came to be acknowledged a few years later as an international leading body in its field. From that moment on, Phonos began to work closely with MTG.

In the 1990s, it started to be possible to compose and produce music on a single computer device, such as the **NeXT** computer, on which **Eduard Resina** created «The Schizophrenia of Sounds», a work that was presented at the first Sónar Festival.

The collaborative research conducted by musicians and engineers has allowed the performance of projects that are highly significant from both the musical and technological standpoints. Worthy of note in this respect was the creation of Vocaloid in collaboration with Yamaha; the development of the **Reactable** instrument by a team led by **Sergi Jordà**, and the creation of the Freesound.org website, which allows sounds to be shared through the Internet

.At the present time Phonos continues to play a very active role through a programme of grants for new creators and regular concert cycles at various venues in the city. Other activities, such as the «Barcelona Sounds» project, foster young people's interest in sound as a tool for understanding and interacting with our environment. Forty years after its founding, Phonos continues to carry out its mission of promoting the creation and dissemination of music, bringing the musical technologies closer to the cultural world and to society.

NeXTcube

Computer. NeXT (USA), 1990

Phonos Foundation Collection

Equipped with the Motorola DSP56000, the NeXTcube was one of the first computers to offer 16-bit 44,1 kHz stereo digital sound, with a programming environment that was closely adapted to musical creation and production. Phonos bought four NeXTcube computers in 1992, which allowed it to begin research on sound synthesis and transformation. They were used in many musical productions.

Reactable

Interactive musical instrument. Music Technology Group (MTG) at Pompeu Fabra University (UPF), Barcelona, 2007

Reactable Systems Collection

Musical instrument in the shape of a glowing translucent table, inspired by the modular analogue synthesizers of the 1960s. The research for its creation took place between 2003 and 2005, and from 2009 the MTG spin-off company Reactable Systems took charge of its production and development. The Reactable on display here was used by the singer Björk on her "Volta" tour (2007-2008), an event that helped to boost this instrument's popularity.

Temporary exhibition: 18/12/2014- 27/9/2015.

Organize: Museu de la Música and Phonos Fundació Privada