

Phonos: Studio Report

Xavier Serra and Gabriel Brncic
Fundació Phonos - Institut Universitari de l'Audiovisual
Rambla 31
08002 Barcelona, Spain
xserra@upf.es

Abstract

Phonos Foundation is a center located in the city of Barcelona. It promotes the use of technology in music, combining creation and research. Phonos offers musicians, engineers and scientists a working environment based on the most advanced technologies, with the goal of finding new artistic paths and new ways of creation and sound control.

1 Introduction

Phonos was founded in 1974 by composers J.M. Mestres Quadreny, Andrés Levin Ritcher and the engineer Lluís Callejo. During many years it was the only electro-acoustic music laboratory in Spain. Through the courses taught by Chilean composer Gabriel Brncic, passed most of the Spanish musicians that are currently using electro-acoustic means. In 1982 Phonos became "Phonos Foundation" and since then it has been supported by the city, the local and state governments, and by other public and private institutions.

Recently, Phonos has moved from a space that was part of the Miró Foundation to a building at the "Universitat Pompeu Fabra" of Barcelona, sharing its facilities and working together with the newly created Institut Universitari de l'Audiovisual (IUA). The IUA is the visual counterpart of Phonos, being devoted to the innovation and experimentation in the audiovisual production by using the new media technologies. This collaboration has resulted in an emphasis on interdisciplinary work relating sound and image.

The activities of Phonos can be grouped into four complementary areas: education, research, creation and promotion. Next, the main activities in each of these areas and the facilities available in our center, are described.

2 Education

Beginning in the fall of 1994 we are offering a Master in *Musical Creation and Sound Technology*, integrated into the academic programs of the

Universitat Pompeu Fabra. This is a two year program (4 semesters) addressed to people interested in musical creation in the context of the new media technology. The courses of the Master are organized into the following areas:

- *Music*: Music Theory, Musical Analysis, 20th Century Music History, Composition Seminar.
- *Computer Music*: Introduction to Computer Music, Sound Synthesis and Processing, MIDI and Programming for Real-time Applications, Computer Music Seminar.
- *Science and Technology*: Acoustics and Psychoacoustics, Electronics, Computer Programming, Digital recording.
- *Audiovisual*: Sound and Music in the Audiovisual, Audiovisual Aesthetics, Audiovisual Post-production.

This Master is limited to 12 students and it gives especial emphasis to the practical side of the studies. There is a project to be done at the end of the Master, which can be either a composition or a research project.

3 Research

The general research areas of interest in our center are: sound synthesis and processing, real-time interaction and programming environments for music composition. Since the collaboration with the IUA started, we are beginning several projects dealing with the relation between image and sound, with an accent on the development of

software tools that integrate sound and image that could be used in the creative process. Applications of these tools are: (1) algorithmic generation and transformation of images from musical input, (2) algorithmic generation and transformation of sounds from visual input, and (3) algorithmic generation and transformation of images and sounds from an external control. All this work is being done by a staff of scientists, engineers, musicians and students doing their research projects. We also encourage people interested in these areas to join our research group as visiting scholars.

4 Creation

The major goal of Phonos is to promote electroacoustic music composition. To this objective we encourage composers to work in our laboratories and we put our facilities and technical expertise at their disposal. Together with the IUA we have a number of grants and scholarships to invite artists to our center both in the areas of audiovisual and music. Apart from the specific scholarships given to visual artists and composers we have a especial category of scholarships to promote the collaborative work between them.

5 Promotion

The Phonos concerts, with a history of more than 20 years, have been of the few regular presentations of electroacoustic music in Barcelona. We also organize lectures and other activities to promote both the work done at our center and the field of electro-acoustic music in general. We collaborate with several instrumental groups and other institutions in the organization of these activities. Together with the IUA we are starting a series of concerts of electroacoustic music, projections of experimental audiovisuals and multimedia presentations under the name of *Sala Hal: Audiovisual and new milenium*. This is a year long series that takes place at the Auditorium of the newly built "Centre de Cultura Contemporània" of Barcelona.

6 Facilities

We share with the IUA a 700m² space in the heart of Barcelona. Apart from offices, seminar rooms and common areas, there are 9 laboratories, a soundproofed room and 3 classrooms. All the work spaces have ethernet, audio, video and MIDI connections. The computer system is connected to the UPF computer network and through it to the Internet. Below, is a list of the equipment which

is used for music and audiovisual work as well:

- *Analog and MIDI*: 2 analog synthesizers E.M.S. Synthi AKS, 2 modular analog synthesizers RSF, sampler AKAI S1100, synthesizers Yamaha DX11 and SY22, Atari 1040 ST FM, Macintosh Centris 650, mixing console Dynacord Interface, 2 mixing consoles Tascam M-30, 4 speakers Electrovoice Sentry500, 2 speakers Dynacord SRC500, 2 DAT Tascam DA30, sound processor Yamaha SPX90II, amplifiers, studio monitors, ...
- *Digital Recording*: Macintosh Quadra 650, external hard-disk 1 Gb, Digidesign ProTools and SampleCell II. Software: SoundDesigner II PT, D.I.N.R., CubaseAudio, ...
- *NeXT workstations*: 2 NeXT-cubes, 3 NeXT-stations, SingularSolutions AD64x, external hard-disk 1.6 Gb. Software: MusicKit, SoundKit, Stella, CLM, CSound, SMS, SoundWorks, ...
- *PC compatibles*: 7 PC 486/66, 1 PC EISA 486/66 Server. Software: Autodesk 3D Studio.
- *Silicon Graphics workstations*: 2 Silicon Graphics Indy, 2 Silicon Graphics Indigo2 Extreme. Software: Softimage, MAX, Stella, ...
- *Video Post-production*: Macintosh Quadra 840 AV, 2 Macintosh 650, 1 PC 486/66, system Videovision studio, Abekas Digital Disk Recorder, Betacam recorder. Software: Hypercard, Authorware, Macromind Director, Adobe Premiere...