THE LABORATORIO DE INFORMATICA Y ELECTRONICA MUSICAL
OF CDMC, MADRID

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ABSTRACT: This studio is part of the Spanish Ministry of Culture's Centro para la Difusión de la Musica Contemporánea (directed by composer Tomas Marco). The lab is mainly composition oriented but is also open to music research and acts as an information center through the organization of workshops and concerts. It is based on microcomputers for sound synthesis, processing and MIDI control and can operate as a professional digital multitrack recording studio.

The Centro para la Difusión de la Música Contemporánea was created in 1985, and one of its main goals was to build an Electronic and Computer Music Laboratory, in order to take care of this important branch of contemporary composition. In 1987 the center moved to a new building, the Centro de Arte Reina Sofia, where it was possible to find an adequate space for the laboratory. After two years for architecture, design, buying and installation the lab started operation in July 1985 with part of the equipment, and after June of this year it is in operation with the complete facilities.

Goals and Activities
The lab is mainly intended as an instrument for composers. It is not a teaching institution although short seminars for introduction to the lab take place every month, and eventually it is planned to give monograph courses or lectures around computer and electronic music. It is open as well to research projects, especially those related to software development for computer composition. The lab also provides the equipment for the electronic music concerts in the CDMC.

Access
The lab is open to composers nine hours every working day. The way to access is to apply with a proposal explaining the project and indicating the estimated time of use. Concessions will be made in function of possibilities and available schedules. The user, if necessary, is always assisted by a technician.

Facilities
There are two rooms divided by glass and communicated by audio, MIDI and LAN lines. The first room is a multitrack and fully MIDI studio controlled by a Mac SE or an Atari ST-4. The equipment includes a Jmbox for MIDI interface and SMPTE control, MIDI matrix, DMP-7 Yamaha mixer, synthesizers, Kawai EXm and Yamaha TX 802, Matrix 1000, Akai S1000 HD sampler, Pitchfinder sound to MIDI converter. Processors: Lexicon PCM70 and 480L, Yamaha Sp90-II, rev3 and Symphonix 522, spectrum analyzer TC2228. An automatic Amek analog mixer (28 in, 24 out, modified for quad) and Studer and Tascam stereo and quad tape recorders, Sony PCM 3324 digital multitrack, and PCM 2500 DAT. Monitoring is done by four Westlake speakers.

The second room is for direct software synthesis and microphone sound input. It includes stereo monitoring and a few MIDI devices controlled by a Macintosh II with 8 MB of memory, tape back up,

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300 MB hard disk, AES-EBU interface and sound conversion and processing done by Digidesign’s Sound Tools, Imagewriter II printer, Opcode Studio Plus Two MIDI Interface, Yamaha MC8 MIDI Matrix, Klark Tecniks dn500 stereo equalizer, Yamaha P2150 and Denon PMA-250 Amplifiers, and two Electro-Voice Satarray 500 loudspeakers. The second computer workstation will be either a NeXT or another Macintosh.

Software includes most of the commercially available programs for sequencing, and editing the patches of all MIDI equipment, as well as sound synthesis and edition. We are also starting to use the Music 4C, a version of Music 4BF (courtesy of the University of Melbourne). We also have a variety of environments: MIDI-Lisp, Smalltalk, HMLSL-Mach2, Intelligent Developer, AAI5 Prolog, THINK and MPW C, etc.

There is also a variety of microphones and audio equipment for concerts.

Results So Far

Around 10 pieces have been finished in the 89-90 season. Five of them will be premiered in a concert at the 1990 Festival of Alicante. They have been commissioned from composers, Charles, Marchand, de la Cruz, Diaz and Lanchares. For the next season, it is planned to do software development for the Sound Accelerator Card, and a modular MIDI data generator for algorithmic composition.