THE INTERNATIONAL DIGITAL ELECTROACOUSTIC MUSIC ARCHIVE

Marcia L. Bauman
Stanford University Center for Computer Research in Music and Acoustics;
Tel: (415) 723-4971 E-mail: baus@ccrma.stanford.edu

Thomas Gerwin
Zentrum für Kunst und Medientechnologie
Tel: 0721/9340-300 E-mail: tg@zkm.de

Abstract

The International Digital ElectroAcoustic Music Archive (IDEAMA) was created to collect, preserve and disseminate historically significant electroacoustic music. It was co-founded in December, 1990, by Stanford University’s Center for Computer Research in Music and Acoustics (CCRMA), and by the Center for Art and Media Technology (ZKM), in Karlsruhe, Germany. Technology for digital sound and text storage and retrieval has been implemented at both locations. This paper describes various phases in the creation of the IDEAMA and plans for its dissemination. The hardware and software used to author and access the IDEAMA’s various disk formats are also discussed.

I. Phase One - Setting up Shop: Administrative Structure

Boards

An international advisory board of renowned composers was formed to help establish the international scope and reputation of the archive. To identify, locate and choose materials for the target collection, CCRMA and ZKM each formed a selection committee comprised of eminent composers, musicologists and other individuals who are well-versed and active in the field.

There are three types of IDEAMA institutions: founding institutions (ZKM and CCRMA), partner and affiliate institutions. The founding institutions have collaborated to establish policies and procedures for creating the archive and its ongoing function. The partner institutions have partispread in the formation of the archive, in most cases by contributing materials. They will eventually house the archive, as will the affiliate branches.

Branches

Presently, there are eight formally designated partner institutions: The New York Public Library; the National Center for Science Information Systems (NACSIS) in Tokyo; IRCAM and INA/GRM in Paris; GEM in Bourges; EMS in Sweden; the IPEM at the University of Ghent, Belgium; and most recently, the Koninklijk Conservatorium in the Hague, Netherlands.

II. Phase II - Creating the Target Collection

CCRMA and ZKM are jointly responsible for collecting archive materials on a regional basis: ZKM focuses on European electroacoustic music, while CCRMA is responsible for music from the Americas, Asia and Australia. The original analog tapes for targeted works, composed between 1940 and 1970, have existed in a number of archives, radio stations, studios and private collections. Over two hundred works have been acquired by CCRMA, and approximately 320 European works are now being processed at ZKM.
ZKM Selections
Sources for the European works include numerous major centers such as INAGRM Paris; WDR Köln; EMI Stockholm, Experimental Studio Warsaw and the Zentrum Studio d’Onomologia, Milan. In addition, works from smaller studios and private collections, and from the estate of Hermann Heiss have been included. The European target collection list contains 80 historical works.

CCRMA Selections
Sources for works in the USA include the Columbia-Princeton Electronic Music Center, the defunct San Francisco Tape Music Center (works now housed at Mills College, the University of California at San Diego, and by individual composers), the University of Illinois Experimental Music Center, Bell Telephone Laboratories (personal collection of Max Mathews), various individual composers, and commercial CDs. Significant works by Canadian and Australian composers are presently being sought. The Laboratorio de Investigacion y Produccion Musical (LIPM), the first major center for Latin American electroacoustic music, has digitized approximately 30 works for the target collection. Approximately 50 Japanese works have been provided by the National Center for Science Information Systems and by Dr. Emmanuelle Louise. Most of the Japanese works were originally produced at the Tokyo studio of NHK radio. Concurrent with the collection of the music, arrangements for copyright clearance and research to obtain information about the music have been ongoing at CCRMA and ZKM.

III. Phase III - Transferring to Permanent Storage Media and IcEAMA Distribution
The final phase of the project involves transferring the music to the permanent digital storage media, creating the database and distributing the IDEAMA to partner and affiliate institutions. Works were originally transferred from analog tapes to DAT cassettes. They are now being transferred to disks. Four-channel works are being transferred to CD-ROM. At CCRMA, stereo works are also transferred to CD-ROM, as well as mixed-mode CD and stereo audio CD. CD-ROM is the preferred archival medium because of its greater capacity for error detection, and because it is easier to retrieve and download the sound from. ZKM uses the Sonic Solutions system to produce stereo audio CDs. Equipment at CCRMA includes the Apple Power Mac 7100; the Apple CD-500 CD-ROM reader; the Microsystex external SCXi hard drive (17 gigabytes); digitdesign's ProTools audio card and audio interface; Pro Tools and Sound Designer II audio editing software; OMII's QuickTORNIX software to author disks; and the Sony CDW 900 E CD recorder.
At ZKM, IDEAMA works will be stored on stereo audio CDs, forming a major component of ZKM’s Mediathek library. Stanford University will be store works on CD-ROMs and house them at the Bass Music Center’s Archive of Recorded Sound. At Stanford and at ZKM, the disks will be placed in a jukebox which will be activated via computer terminal. CD-ROMs and mixed-mode CDs can be accessed using either an Apple computer or a pc. The Claris FileMaker Pro commercial database will be used to access catalog information about the music. CD-ROMs also contain a larger text file with information about the music. Partner and affiliate institutions will be able to specify their choice of format for sound, and will receive the catalog database on a floppy disk.

Acknowledgements
At Stanford University, the IDEAMA is supported by CCRMA, the Andrew W. Mellon Foundation and the National Endowment for the Arts. ZKM receives its support from the state of Baden-Wuerttemberg and the city of Karlsruhe.