STUDIO REPORT:
HUDDERSFIELD POLYTECHNIC ELECTRONIC AND
COMPUTER MUSIC STUDIOS

Michael Clarke, Mark Bromwich and Geoff Smith
Department of Music, The Polytechnic, Queen'sgate,
HUDDERSFIELD HD1 3DH
England

Abstract
In the last 18 months major changes have taken place in the studio at Huddersfield Polytechnic. The interior of the building has been completely redesigned to provide four studios in the main block, in addition to a small recording studio attached to St Paul's Halls. New hardware and software has been bought. The Polytechnic is undertaking a major review of the way electro-acoustic music is taught and of its place within a music degree. The studio is part of a large Music Department (with over 200 music undergraduates) and there is increasing demand for use of the studios.

Report

Introduction
Although the studio was founded in 1979 and is therefore well established the rapid development in music technology and the increasing demand for electro-acoustic course from students has meant that it has recently proved necessary to plan a major expansion of the studio facilities. This plan falls into three main areas:
1) to redesign the studio accommodation;
2) to increase and update the equipment available;
3) to reconsider the place of electro-acoustic music education within the courses offered in the department.

1) New Studio Accommodation
The studio at Huddersfield is in a small detached building close to the main Music Department. The interior of this building has recently been redesigned to provide three new studios in addition to the existing 'Main Studio'. The new studios are a good size for individual users, but are also large enough to take classes of at least four students. Although a large laboratory style studio with many workstations (and headphones) was considered, it was thought better to provide a good compositional environment with loudspeakers. Composition is a major feature of the curriculum at Huddersfield and in the studios we want to encourage students not only to learn techniques but also to work creatively.

2) Additional Hardware and Software
The purchase of more powerful computers and an expansion in the range of MIDI equipment have been the main developments in this area. It is our aim to provide for a variety of different approaches to electro-acoustic music and this is reflected in the differing characteristics of each studio.

The MIDI studio is based around a Macintosh II computer (with 512 K RAM and 3 hard disk drives) which can be used either for controlling MIDI equipment or, using Digidesign converters and accelerator board, directly for synthesis or digital signal processing (using "Alchemy", "Sound Designer", and "SofaSynth").
In addition to these functions the computer controls all the audio and MIDI routing in the studio (by means of an Akai DP5200 and Function Junction Plus). The MIDI equipment comprises: an Opcode Studio 3 MIDI interface, Akai S1000 and Ensoniq EPS samplers, Yamaha TX816 and Roland D110 synthesizers, and 3 SMP7s. As well as the commercial software for routing and sequencing we have LeLisp with IRCAM software (PreFORM, Patchwork) allowing the composer critical alternatives to the traditional sequencing packages. Mastering is done on a Sony 1000ES DAT machine. A second studio with a Mac SE computer provides composers with an introduction both to the Mac and to MIDI (before they move on to the "MIDI studio" previously described). Other equipment includes a DGT, a DS5 and an SPX90.

The "CDP studio" presents composers with a very different way of working. It contains an Akai 1040ST with a Soundstreamer and software (CSOUND, GROUCHO, Phase Vocoder etc.) from the Composers' Desktop Project. This studio also contains a Vignen (AT) with a TS800 transport TRQA4 board installed which runs CSOUND (as adapted for the transporter by the Durham Music Technology Group) at very high speed.

The original "Main Studio" is currently being reorganised, although the equipment remains largely unchanged. We believe that an introduction to analogue recording, mixing etc. is still important for students. An old Roland 100M modular synthesizer is also an excellent teaching tool, preparing students for the mysteries of FM and LA synthesis or even for CSOUND. Another part of this studio is now to be used exclusively for developing live electro-acoustic work, an area to which we wish to give greater emphasis. This studio also includes high quality AKG digital recorders and delay units, two 4-track machines, and a 2-track Studer or a Technics portable DAT for mastering.

1. New Courses

The studio is the centre for a research project looking into the teaching of electro-acoustic music in higher education. The size of the Department and the enthusiasm of its students for E-A courses is causing us to reconsider the role of the studio within the Department, and to look at ways of changing our approach to teaching the subject so as to allow more students access to the studio courses, and to make the courses more flexible to meet the needs of different groups of students. A full-time research student is investigating these issues and he is currently writing a series of computer-assisted tutorials (modelled on a Hyperbase system developed by the BBC Radiophonic Workshop) which make use of the MIDI studio's augmented audio and MIDI routing equipment.

The Polytechnic has at last just introduced a M.A. in composition in which electro-acoustic music plays an important part.