

# contact

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## **Electronic Music Studios in Britain - 5&6**

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### **UNIVERSITY OF EAST ANGLIA, NORWICH**

#### **DENIS SMALLEY**

THE MUSIC SECTOR of the School of Fine Arts and Music opened for business in the new Music Centre building in October 1973 after an eight year occupancy of premises in the University Village. The generosity of the Nuffield Foundation combined with the consultancy of Tristram Cary and Electronic Music Studios, London, enabled the building of the Electronic and Recording Studio and the purchase and installation of equipment for sound recording and electronic music composition.

Our sound engineer, Tryggvi Tryggvason, coming from Decca, took up his appointment during the summer of 1973. Most of his time for the first twelve months was spent in correcting anomalies, continuing the purchase and installation of equipment, and setting up the M.Mus. sound recording course. He is responsible for the day-to-day administration, and teaching related to sound recording.

Only with the appointment of composer Ian Bonighton as lecturer in October 1974 could composition activities start to take shape. His accidental death in May 1975 put a temporary halt to any new developments since under the University's financial restrictions at that time the vacant post was automatically frozen. However, the University was able to offer a temporary fellowship to continue (or recommence) essential teaching and composition development. I took up this one year fellowship in October 1975 and was appointed to a permanent lectureship in October 1976 when the post was unfrozen. It is therefore only recently that a composer has been associated with the studio long enough to initiate compositional directions and teaching centred around the studio.

The history of the post of technician has also been a checkered one. A junior technician appointed in 1974 resigned in April 1975 provoking the freezing of the post until the Autumn Term, 1976. Our present technician, Michael Lewis, formerly of Grundig, joined us in November 1976.

The studio occupies three rooms — the sound engineer's office, the technician's workshop, shared with the computer, and the studio itself, a large rectangular room, comfortably decorated and furnished, capable of dealing with classes of up to 20 people. A listening room in another part of the building is equipped for editing. The three studio rooms are at first floor level adjacent to the balcony of the Concert Room (housing two Steinways, harpsichord and chamber organ) which is designed as a large, orchestra-sized recording studio in addition to its other roles for concerts and teaching. It is acoustically variable and linked to the recording studio by 20 microphone lines and closed-circuit television.

The studio and equipment are put to a variety of uses. The main, paired functions are as a composition studio (central jackfield and remote control to tape recorders in six positions) and as a control room for professional sound recording. The Midas mixer was purchased for outside recordings (M.Mus. recording projects and preparation of master tapes for LPs, several of which have been produced by the studio) but along with the Lockward Major and Tannoy speakers provides a flexible, interesting and powerful diffusion system for electronic music concerts. Presentation of electronic music before a public is regarded as an integral function since without it a composition studio can easily become inward-turning, avoiding a special part of its responsibilities. In addition, few people realise the problems and the vastly different impact which electronic music well-diffused among an audience can achieve. Our system was first used in the Norwich and Norfolk Triennial Festival last October and was further put to the test last November in a series of concerts of works for electronic sound and voice (with Sarah Walker) for the Arts Council's Contemporary Music Network. Finally, we provide and maintain equipment for teaching in the Music Centre.

The studio's teaching functions cover several different kinds of courses. All students in composition undertake a studio apprenticeship which I feel to be an essential experience to retrain the ear, whether or not the composer is or intends to remain studio-orientated. Second and third year students in Acoustics II study electronic systems and elementary sound recording. Certain other specialised seminar series (Electronic Music for example, which is listening- and project-orientated rather than strictly compositional) involve concentrated studio work. The undergraduate course is partly assessed through continuous assessment, and for the final examination submissions composers may present a composition folio of work over their three years. The one-year, taught, post-graduate M.Mus. offers both sound

recording and electronic composition. M.Phil. and D.Phil. degrees are available in research only. To supplement its teaching facilities, the studio possesses an extensive library of LPs and a growing tape collection of works composed since 1970, which provide an indispensable research facility as well as a pool of works for possible concert use. We are a small music school (under 40 students) which favours concentrated work rather than courses of an introductory nature.

In recognising composition and creativity as valid research activities we have been fortunate to be able to receive applications from composers to realise a work in the studio out of term. So far, the studio seems to have been particularly attractive to French composers, partly because of my contacts with them, partly because of our equipment, and also because of the surfeit of trained composers compared with the lack of open studios in France. Although commissioning is not possible we have been able to offer visiting composers accommodation and all facilities for four week periods. Pierre Tardy and Fernand Vandenbogaerde completed works in 1976. André Bon and Paul Mefano have works in progress.

The System 2100 computer, a generous gift of the international insurance brokers Faber, Willis and Dumas was installed in April 1976. It is only now, with the stabilisation of studio personnel, with the working out of the computer's individual difficulties, and with the assessing of possible projects in detail that we have decided to begin the development of an elementary mixed digital synthesis system. Ideally I should like to see our two generation studio transformed into a three generation studio, a confluence of the classical studio with its still very much indispensable techniques, the analogue synthesizer and a mixed digital synthesis system.

Composers and commentators have recently been talking about what they call 'the crisis in electronic music'. Changing technological possibilities and ideas have not been paralleled by changing musical concepts. The result has been a confusion between means and ends, reaction and progress, and in the extreme, a situation where potentially progressive tools are used to create backward-looking products. Now that our basic equipment, mainly of very high quality, is installed with permanent personnel to work with it (a technician is perhaps more important than the equipment itself), we like other studios are entering a period of reassessment.

Electronic and Recording Studio  
Music Centre  
University of East Anglia  
Norwich NR4 7TJ

*Current Personnel*

Directors: Denis Smalley (Lecturer)  
Tryggvi Tryggvason (Sound Engineer)  
Technician: Michael Lewis

*A selection of works composed in the studio*

Address enquiries for performance or educational use to the address above. We shall refer to the composer where necessary.

Ian Bonighton	<i>De Quartuor Vigilia Noctis</i> (1974) <i>Three Perspectives</i> (1974)
Denis Smalley	<i>Darkness After Time's Colours</i> (1976) first performance: Fylkingen, Stockholm, November 11, 1976
Pierre Tardy	<i>Dissensions</i> (1976) first performance: Norwich and Norfolk Triennial Festival, October 16, 1976
Fernand Vandenbogaerde	<i>Kaleidoscope</i> (1976) for four-track and stereo tapes (certain elements realised in the studio of the Conservatoire Municipal de Pantin, Paris) first performance: Festival of Metz, November 19, 1976

*List of main studio equipment as at January 1977*

Electrosonic 16-in 4-out mixer (with four EMS voltage-controlled quadrapans)  
Midas 12-in 4-out mixer

One Quad 303, ten Quad 50E amplifiers  
Studio monitors: four Lux LX77 speakers  
Concert speakers: four Lockward Major speakers  
eight Tannoy HPD 315A 12" speakers in custom-built QLS cabinets (two  
speakers per cabinet)

Two Studer B67 stereo tape recorders (38, 19, 9.5 cm/sec)  
Two Bias Electronics stereo tape recorders, one with variable speed (38, 19 cm/sec)  
Revox A77 stereo tape recorder with editing modification and Angus McKenzie modification (38, 19 cm/sec)  
Two Revox A77 stereo tape recorders (38, 19 cm/sec)  
Two Revox A77 stereo tape recorders (19, 9.5 cm/sec)  
Bias Electronics 1/2" four-track tape recorder (38, 19 cm/sec) with variable speed  
Teac A2340 four-track tape recorder (19, 9.5 cm/sec)  
Teac, Neal and Akai cassette recorders

Microphones:

Six Neuman KM84, three Neuman KM83, two Neuman omnidirectional capsules  
Three AKG414, one AKG contact, one AKG Lavalier, two AKG D224  
Two Calrec 1000, two Calrec 1050  
Two Beyer M160

Synthi 100 synthesizer

VCS3 synthesizer

System 2100 computer, General Computer Systems Inc. (core capacity: 24,000 16 bit words; peripheral storage: two digital tape decks)

Eight Dolby noise reduction processors, A type, model 361

AKG BX20 reverberation unit

EMS variable speed unit

Transcriptors turntable with quadraphonic replay facilities and V15 mark 3 cartridge

Various headphones, test equipment etc.

## MORLEY COLLEGE, LONDON

### MICHAEL GRAUBART

MORLEY COLLEGE (unlike Goldsmiths' College, whose studio was featured in *Contact 15*) is exclusively an adult education college with no full-time students; most of its classes take place in the evenings or on Saturdays. In 1959 it became the first academic institution in this country to hold classes in electronic music, with Daphne Oram as tutor; owing to the lack of equipment, it was only through the generosity of Miss Oram in inviting students to her own studio that any practical work was possible at all. In 1964 Miss Oram became too busy to carry on, and the classes were discontinued until the present director set up the college's studio in 1971, the first class taking place in September of that year; from the outset, the emphasis has been on teaching the theoretical and practical fundamentals.

Our initial equipment (advice on which was kindly given by Hugh Davies) consisted of two Revox G36 and two Revox A77 tape machines (one with variable speed and self-synchronization), one VCS3 synthesizer, a small stereo mixer, an amplifier, two large Tannoy speakers, headphones, two microphones and an oscilloscope. This was stored (and partly operated) on two large trolleys, which had to be wheeled in and out of a small store adjoining the room in which the class was held.

The College's expansion into a new building in 1973 made it possible to instal the equipment in a permanent home, but the room is in use by other music classes for most of the week, the electronic music equipment — on a large bench and shelves — being protected by lockable shutters.

The studio is intended first and foremost to enable a number of students to work simultaneously. In addition, it was felt that a real understanding of the use of equipment could best be fostered by ensuring that students had to think out the matching and interconnecting problems themselves. For this reason, it was decided to do without a central patching system. Instead, each item of major equipment has been (or is being) fitted with strips of 1/4" jack sockets on the front, enabling students to use whatever equipment they require (in situ or elsewhere) and connect it up by means of jack leads. This arrangement combines convenience with flexibility. It seems to us that the criteria for a class-teaching studio and for a studio intended to be used by one composer at a time are, in fact, very different.

The equipment is also used regularly by a live performance group. For this reason, and because of the director's own interests in taped electronic music as an art and as a teaching medium in which it is possible to listen to sounds over and over again till they are exactly what the composer wants, the emphasis in the electronic music class as such is on taped music, beginning with musique concrete and emphasising the creation of complete forms, however simple, before moving on to the use of synthesizers. There is a Friday evening class, primarily on sound, hearing and the theoretical aspects of the use of equipment, but including some analysis of electronic compositions. On Saturday (all day) the students use the studio for their compositional work, rotas being arranged when necessary to ensure the most efficient use of time and equipment.

The staff consists of the director, who also teaches the theory class. There are, however, occasional lectures by guest speakers, including Harrison Birtwistle, Tristram Cary, Lawrence Casserley, Hugh Davies, Lily Greenham, Stanley Haynes, Roger Smalley and Peter Zinovieff.

Electronic Music Studio  
Morley College  
61 Westminster Bridge Road  
London SE1 7HT

#### *Current Personnel*

Director and Tutor: Michael Graubart

*A selection of works composed in the studio*

Address enquiries for performances etc. to the above address; these will then be referred to the composers.

Graham Bradshaw	<i>Tribute to a Dancing Lady</i> (1975-76; partly composed at Goldsmiths' College)
Roger Cawkwell	<i>Technicolour Yawn</i> (1971)
Michael Graubart	<i>Improvisation on a chord</i> (versions 1 & 2) (1971, 1972) <i>Metabola</i> for flute, bass clarinet, viola, percussion and tape (1974)
Peter de Moncey-Conegliano	<i>Hannele</i> (1975-76) <i>Amphibian Fogg</i> (1976-77)
Roger North	<i>On B<math>\flat</math></i> (1976; partly composed in private studio) <i>Agony of Kings</i> (1973-74; tape for music-theatre piece; partly composed in private studio)
Andras Ranki	<i>Dr. What on Earth</i> for flute, clarinet, bassoon, string trio and tape (1974)
Anne Ross	<i>Nine</i> (1975-76)

#### *Studio equipment as at January 1977*

Portable 5-in, 2-out mixer  
Lux and Lecson amplifiers  
Tannoy and Lecson speakers  
Revox A77 tape recorder (low speed; two-track stereo)  
Revox HS77 tape deck (high speed, with variable speed and self-synchronisation; two-track stereo)  
Two Revox G36 tape recorders (one high, one low speed; two-track stereo)  
Revox A77 tape deck (low speed; four-track stereo)  
Akai tape recorder (low speed; four-track stereo)  
Two VCS3 synthesizers  
Touch keyboard with sequencer for one VCS3  
EMS 8-octave filter bank  
Simple envelope-follower (own construction)  
Simple ring modulator (own construction)  
Erskine Laboratories Type 13 oscilloscope  
Microphones, headphones  
Record player, electric organ, piano, percussion instruments

Successful experiments have been going on into the use (by means of some simple additional equipment) of the keyboard and sequencer as a sophisticated envelope-shaper.

This is the fourth of a series of articles designed to acquaint composers, technicians and other studio users as well as our general readers with current activities in electronic music studios. At present the series will be confined to those in Britain. Studio directors are invited to submit *brief* articles, following the layout displayed above, for inclusion in future issues. It must be stressed that only brief articles will be considered for publication and that, since we normally only have space enough for one studio per issue, a waiting list may develop. The next studios to be featured will be the West Square Electronic Music Studio, London and the studio at the University of Glasgow (*Contact 17*).

# MUSIC AT GOLDSMITHS'

## **M.Mus. courses**

*(two years part-time; one or two evenings per week)*

### *Analysis*

a comprehensive introduction to contemporary musical analysis, including hierarchical techniques, functional analysis, set theory, information theory, structural linguistics, semiology and other modern techniques which have been given musical application by analysts; examination by dissertation, portfolio, one written paper on aesthetics, criticism and interpretation and a viva voce

### *Composition*

intended for graduates possessing original talent in this field; submission of a substantial work for orchestra or instrumental ensemble, which may include choral or solo vocal parts or electronic resources, a portfolio of smaller works, studies in analysis, one written paper on aesthetics, criticism and interpretation, a six-hour composition paper and possible viva voce will be required; all composition students have access to the department's well-equipped electronic music studio (see the article on this in *Contact 15*)

### *Musicology*

study of the basic tools for research, including paleography, bibliographical work, techniques of deciphering early hand-writings and early forms of notation, of compiling and annotating a critical text, of adducing information from archival, iconographical and other historical sources, book production and interpretation; examination by special study, portfolio, one written paper on aesthetics, criticism and interpretation and a viva voce

## **M.Phil. and Ph.D.**

Research degrees by thesis; forms of application can be obtained from the address below

**B.Mus. (Hons) part-time** *(usually four years; two or three evenings per week)*

**B.A. Combined Studies (Hons)** *(four years full-time; third year abroad)*

Music/French and Music/German are at present available

**B.H. (Hons)** *(three years full-time)*

Music/Dance

The above courses are offered in addition to the three-year full-time B.Mus. (Hons) degree course

Other non-degree music courses, Saturday Schools, concerts etc.: details from SASS Office at Goldsmiths' College

Further details concerning the degree courses above can be obtained from The Admissions Office, University of London Goldsmiths' College, New Cross, London SE14 6NW