UNIVERSITY OF EDINBURGH
Edinburgh Regional Computing Centre

User Note 40

(December 1985)

Title:

Edinburgh University Microcomputer Teaching Laboratory

Author:	Contact:	Software Support Category:
G. Coughlan	G. Coughlan	n/a

Contents

Edinburgh Regional Computing Centre

James Clerk Maxwell Building, The King's Buildings, Mayfield Road, Edinburgh, EH9 3JZ. Telephone 031-667 1081

1.0 Introduction

1.1 Information Sheets

Information sheets will be produced from time to time as ERCC User Notes, and as such will be available in the usual way to all persons using or interested in using the Microcomputer Laboratory.

1.2 Formation of the Laboratory

The Laboratory came into being following the initiative of the Computer Science Department in introducing a new first year course in Information Systems under the guidance of Dr Malcolm Atkinson. The Laboratory is opposite the lift doors on the fourth floor of the Appleton Tower.

The equipment for the Laboratory has been provided jointly by Computer Science and ERCC. Equipment is selected after discussions between the ERCC Training Group, Computer Science and other interested departments.

1.3 Microcomputer Laboratory Contacts

Gerry Coughlan — ERCC Microcomputer Laboratory Supervisor
Appleton Tower
031-667 1011 ext. 6778

Responsible for day to day running of the Laboratory, fault reporting and maintenance of equipment. Arranges bookings of Laboratory time and equipment. Security.

ERCC Operators — Appleton Tower Machine Room
Appleton Tower
031-667 1011 ext. 6407

Responsible for closing the Laboratory in the evening and for making security checks after 17.00.

User Support Group
59 George Square
031-667 1011 ext. 2300-3

Responsible for giving advice and assistance on programming problems, system queries and software faults. Queries should be made to Gerry Coughlan in the first instance.

Service Support Group
The King's Buildings
031-667 1081 ext.2641

Responsible for distribution of micro software releases and for arranging maintenance on micros and peripherals in the Laboratory. Queries should be made to Gerry Coughlan in the first instance.

Small Systems Group
The King's Buildings
031-667 1081 ext.2611

Responsible for back-up support on the UCSD Pascal Operating System, which forms the common software base between the systems used in the Laboratory. Queries

should be made to Gerry Coughlan in the first instance.

1.4 Laboratory Seminar Room

A Seminar Room now exists beside the Laboratory, to be used by courses which require teaching as well as practical use of the Laboratory equipment. The Seminar Room is equipped with an Electrohome Projection Monitor, two Barco Colour Monitors, a JVC Umatic Video Recorder, a Sirius microcomputer, a Newbury Network Terminal, an overhead projector, screens, Network and File Server Ports.
The Seminar Room also has an Apple II with colour monitor, and a Sanders Printer. A Houston Instrumental Hiplot Flatbed Plotter and an Apple Graphics Tablet are shared with the George Square Demonstration Laboratory. The Room can seat 24 people. Limited use may be made of this facility by Academic departments provided their requirements do not clash with the requirements of the ERCC Training Group. The following list of priorities has been set up:

I The ERCC Training Group.
II The Department of Computer Science.
III Other ERCC Departments.
IV Existing Users.
V New Users.

Enquiries should be made to Gerry Coughlan in the first instance.

2.0 Equipment

2.1 Equipment in the Laboratory

The following general purpose equipment is available for use in the Laboratory during the 1985-86 session.

a) Apple II

5 Apple IIs with the following configuration:
Apple II - 64 Kbytes of memory
2 Disc drives (2 x 140 Kbytes - 5" floppy)
Apple Pascal system
Colour card
Colour Television Monitor
Visual 200 Monitor
2 CCS cards (RS-232 communications cards)

b) Apple Macintosh (Office of the Future)

6 Apple Macintoshes with the same configuration:
512 Kbytes of memory
1 400 Kbytes internal disc drive
1 400 Kbytes external disc drive
Mouse

Office of the Future also has:
Appletalk Local Area Network
1 Apple Laser Printer
Selection of Apple MacIntosh software

c) ACT Sirius I

12 Sirius Is each with the same configuration:
Sirius I - 512 Kbytes of memory
2 Disc drives (2 x 560 Kbytes - 5" floppy)
UCSD p-System, version IV.13
MS DOS
CP/M-86
2 RS-232 communications ports

d) Printers

3 Paper Tiger (Integral Data System 440) Printers
2 Additional Printers (Probably Epson FX100+s)
1 Hewlett Packard Laser Jet Printer
1 Apple Laser Printer
1 Epson FX100 Printer
1 Epson LX80 Printer

e) Visual 200 VDUs

12 Visual 200 VDUs (connected to Network via TCPs in the Appleton Tower basement)

f) Computer Science APMs

3 Computer Science APMs with the same configuration:
8Mb Processor
1Mb Store
Level 1.5 Colour Graphics Board
Colour Monitor (High Resolution)
Visual 200 Terminal
Mouse
Ethernet Tap

g) File Server

1 APM based File Server with the following configuration:

8Mb Processor
1Mb Store
160Mb Disc
1 Disc Controller
16 RS232 Ports
1 Ethernet Tap

It is proposed to install a second 160Mb Disc into the File Server.

h) Graph Plotters

2 Hewlett-Packard HP7475A 6 pen Graph Plotters

i) Communications

There are 16 Network connections in the Laboratory. These are made available to work stations through a flexibility crate, which also enables the printers to be connected to micros as required. 12 of the ports are normally used for the Visual 200 VDUs, and the other 4 are generally available.

The File Server is accessible through both an RS232 communications network and an Ethernet communications network. All 12 Sirius microcomputers are connected to the network, and the Ethernet network has the 3 Computer Science APMs, the LX80 printer, one graph plotter and one spare slot.

2.2 Add-on Interfaces

Due to the difficulties in vetting 'home brew' interfaces, it has been decided that connection of user devices to the machine must be via the standard (RS-232) port on each system. If you wish to connect any other interfaces into the micro on a temporary basis, you should discuss your requirements with Gerry Coughlan.

2.3 Software for the Laboratory

The Laboratory systems have a common base in the p-System operating system. This provides a standardized interface to both the Apple and Sirius (as well as a wide range of other machines). The p-System provides Pascal and Fortran-77 compilers, Assemblers, a screen editor, filing utilities, linker, etc. Very large programs can be run by using segmentation.

We strongly recommend that all software written for Laboratory use is not made specific to any one hardware configuration. It is highly likely that we will wish to include more modern micros in the Laboratory as it is expanded. The main area of machine specific components in a program is likely to be the sections which exploit the graphics capabilities of the system.

We suggest that the Turtlegraphics package is employed for graphics support, as we expect to be able to provide this level of graphics package on the Sirius in the near future, in black and white initially, and it should be possible to maintain a similar (but not the same) interface on future raster scan systems.

The following software is also available for the various machines.

a) Sirius.
XTalk, Offload, Wordcraft, MSDOS V2.1, DOS hosted p-System and CP/M 86.

b) Apple II.
DOS 3.2/Basic, DOS 3.3/Basic and XTalk.

c) Apple Macintosh.
MacWrite, MacPaint and all packages released by Apple.

3.0 Opening Arrangements

3.1 Hours of Use

The opening hours for the Laboratory are as follows:

Term Time

08.45 - 20.45 Monday to Thursday
08.45 - 18.00 Friday

Vacation Time

08.00 - 16.00 Monday to Friday

The Microcomputer Laboratory will be closed when the Appleton Tower is closed.

The opening hours may be reviewed from time to time and may be altered if necessary.

3.2 Laboratory Time-table

The Laboratory time-table for each term is displayed in the Laboratory. Each week has its own separate time-table. Booked sessions are displayed by hatching, and open sessions are left clear.

4.0 Use of the Laboratory

4.1 Course Time-tabled Sessions

The responsibility for the running of the Laboratory, and the conduct of the students using the Laboratory, lies with the member of staff running the course. ERCC will expect any signing in procedures thought necessary during these sessions to be invoked by the course supervisor. If at the end of a time-tabled session there are no further booked sessions, students may remain providing the member of staff remains in the Laboratory. If the member of staff leaves at the end of a time-tabled session, students remaining would be required to sign in as in the procedure for open sessions.

During course sessions, other users will not normally be allowed to use the Laboratory.

4.2 Open sessions

4.2.1 Accredited Users

Every person using Microcomputer Laboratory must be an accredited user of the Laboratory. Visitors may accompany an accredited user, but must be signed in by the user. Users may be accredited by contacting Gerry Coughlan.

4.2.2 Signing In

All users entering the Laboratory must sign in, giving name and user number. Visitors must be signed in by an accredited user. We need this information both for security purposes and to quantify the requirement for opening the Laboratory other than for time-tabled courses.

4.2.3 Allocation of User Numbers for use of Laboratory in Open Sessions

Users who already have ERCC job numbers will use these. For other users, in particular groups of students, they will be allocated in a block to their user representative, who will be responsible for providing ERCC Microcomputer Laboratory staff with a list of users within the number range before a user may enter the Laboratory.

4.2.4 Departmental Representatives

Departments using the Laboratory should nominate a departmental representative as a contact point for information, and to aid in the running and the use of the Laboratory. There may be more than one representative per department, if more than one course is being run by a department. Users of the Laboratory will be accredited in conjunction with their departmental representative.

Users without a departmental representative may be accredited by contacting Gerry Coughlan.

4.3 Use of the Microcomputer Teaching Laboratory for ERCC Courses

The ERCC Training Group uses the facilities of the Microcomputer Teaching Laboratory regularly for the demonstration, tutorial and practical components of the following short courses.

Introduction to Computing	- 2 or 3 courses per term, 1 day per course;
p-System	- 1 course per term, 2 days per course;
Pascal Programming	- 1 course per term, 5 days per course;
Office Systems (Wordcraft)	- 2 or 3 courses per term, 8 half days per course;
Microcomputers	- 1 course per term, 8 to 10 evenings per course.
Communications	- 1 course per year, 3 half days per course.
Computer Methods	- 1 course per year, 5 days per course.
MS-DOS/PC-DOS	- 1 course per term, 2 days per course.
Packages (Spreadsheets, Databases)	- 1 course per term, 3 half days per course.
Screen Editors	- 2 courses per term, 1 day per course.

These include use of the UCSD p-System as a text processing and programming environment, on both Sirius and Apple machines, and the communications facilities for transmissions to and from the ERCC mainframe computer systems.
The Wordcraft system on the Sirius machines and the colour graphics facilities on the Apple machines are also included.

4.4 Departmental Course Arrangements

When departmental courses are being run in the Laboratory, the responsibility for running the Laboratory is with the course tutor or lecturer. Setting up of equipment etc. and providing discs for the micros would be undertaken by Gerry Coughlan. Specific equipment belonging to departments that is for use on departmental courses may be locked away in the Laboratory. Marked drawers may be provided for special discs etc. for use by departmental students during open sessions.

5.0 Access to the Laboratory

5.1 Opening Time

5.1.1 Term Time

During Term Time, the Laboratory will be opened by ERCC staff at 08.45. It will be open on week-days, except University holidays. The Laboratory will be closed at weekends. The Laboratory will close at 20.45 in the evening. Users should note that the Appleton Tower building closes at 21.00, therefore users should vacate the Laboratory at 20.45.

5.1.2 Vacation Time

During Vacation Time, the Laboratory will be opened by ERCC staff at 08.00. It will be open on week-days, except University holidays, and will be closed at weekends. The Laboratory will close at 16.00 in the evening. If access is required after this time, permission should be requested from Gerry Coughlan in the Microcomputer Laboratory in advance.

Please note that during Vacation Time, some equipment will be withdrawn by the Department of Computer Science.

5.2 Security

This is recognized by the Laboratory staff to be a cause for some concern. The micros and colour TVs are considered to be attractive targets as they can be moved easily. Also the Apple covers can be easily removed and the boards and cards could be tampered with.

While wishing and trying to make the Laboratory a friendly environment to work in, certain security precautions have been implemented. These precautions are mainly to prevent impulse thefts.

5.2.1 Securing Equipment

A girdle has been made to fit the Apple and the two Apple disc drives. This will prevent users from opening the Apple and interfering with the boards. A cable is fitted round the handle of the TV monitor and connected to the girdle of the Apple. The cable and girdle are secured with a padlock.

5.3 Checks on the Validity of Users

Random checks will be carried out by ERCC staff to ensure that all persons in the Laboratory are accredited users or visitors to the Laboratory and signed in. If necessary, staff would ask each person in the Laboratory to give their name and user number, which would be checked off against the log-sheet. If an accredited user was not signed in, they would be asked to sign in and mark the log-sheet accordingly. The user would be warned that they would be excluded from using the Laboratory if they were found not signed in again. If a user was not accredited, they would be asked for identification and requested to leave the Laboratory. Log-sheets would also be checked to ensure that valid names and user numbers had been given.

6.0 Use of Microcomputers in Department

6.1 Booking Micros

It is not our normal policy to allow micros to be booked out to user departments during vacation periods. Special cases, however, may be accommodated for brief periods. Enquiries should be made to Gerry Coughlan.

6.2 Transport

Departments or individual users will be expected to make arrangements for picking up and returning equipment in full working order to the Microcomputer Laboratory by the end of the loan period.

6.3 Insurance

Insurance has been arranged to cover the micros when in transit. However it is important to note that if private vehicles are used, users should ensure business use does not invalidate their personal cover in the event of an accident.

7.0 Miscellaneous

7.1 Consumables

No charge will be made for consumables used in the Laboratory except discs. Discs should be obtained from ERCC Stores at the King's Buildings, though individual discs can be purchased from ERCC reception in George Square.

7.2 Documentation

One set of documentation is provided for use in the Laboratory. Copies of most documentation may be purchased from the Receptionist, ERCC, 59 George Square.

7.3 System Software

System software is protected by copyright laws, and may only be used under licence on Laboratory micros. Copies of system software may be borrowed by a user or department for Laboratory use only from Gerry Coughlan. Users may not copy this software, either in whole or in part.

7.4 Development and Evaluation

Departments without access to a microcomputer of their own to prepare software for use in the Laboratory should use the Laboratory micros while the Laboratory is in open session.

7.5 Maintenance of Micros

All Laboratory equipment is on a maintenance contract with a response time of 24 hours. We expect to have any fault reported to us corrected within 48 hours. However, Laboratory users should not expect 100% machine availability for any

particular class.

7.6 Fault Reporting

Any faults on equipment in the Laboratory should be reported to Gerry Coughlan in the Microcomputer Laboratory. Fault report forms will be available in the Laboratory and should be filled in with the relevant details.

7.7 Charges

The current level of charges (where these are applicable) for the Microcomputer Laboratory are:

Use of Laboratory

Individual Casual	£ 1.20 per hour
Booked	£ 2.00 per hour
Entire Laboratory	£50.00 per hour
Section of Lab	£25.00 per hour

Hire of Microcomputers

Apple or Superbrain	£ 3.00 per day
Sirius	£ 6.60 per day
Minimum period is 2 days:	
weekly charge is 4 times the daily charge.	
Delivery and Checkout	£20.00