RCEVH

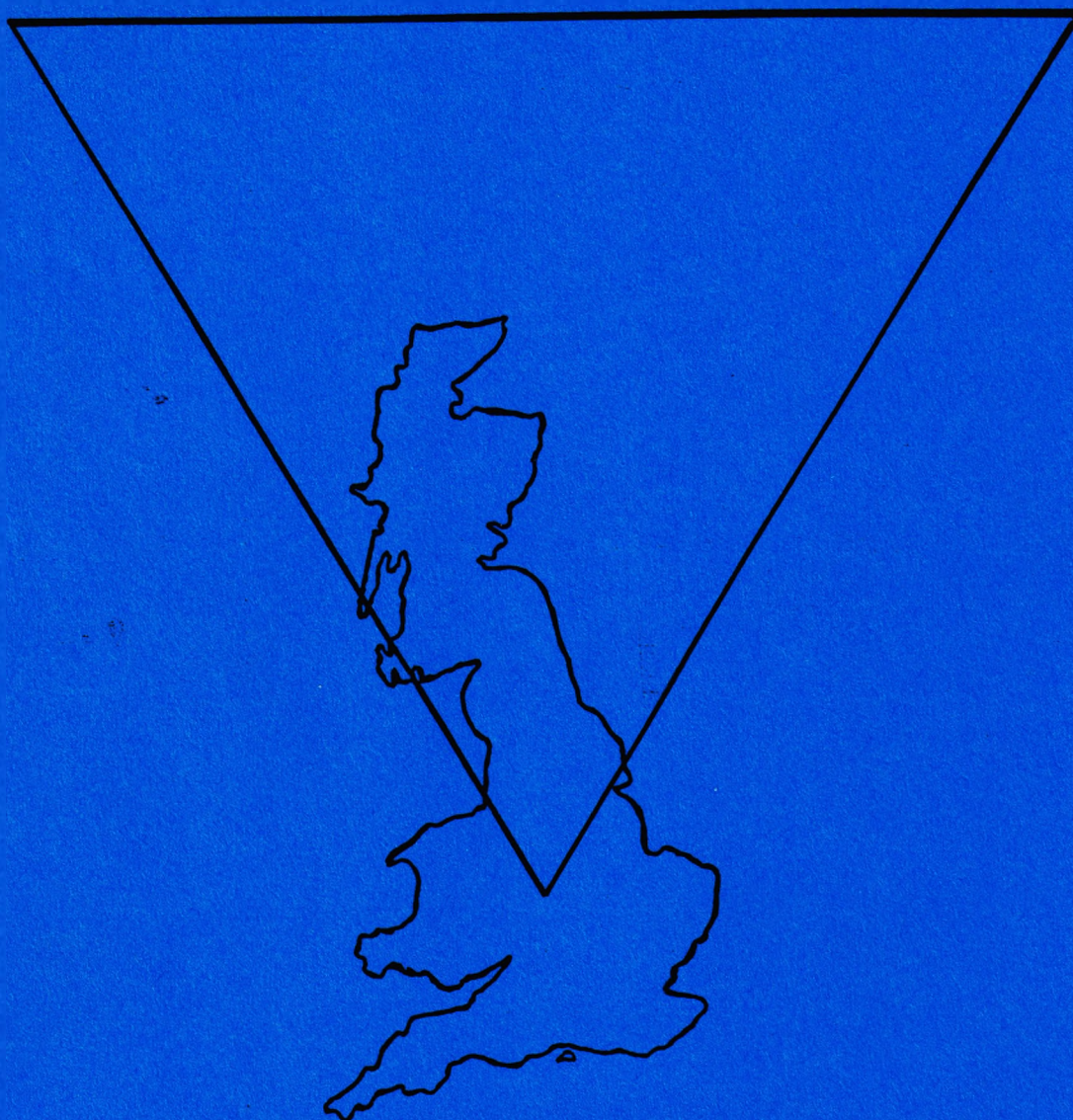# CENTRE
SOFTWARE
CATALOGUE

JUNE, 1994

RESEARCH CENTRE FOR THE EDUCATION
OF THE VISUALLY HANDICAPPED

SCHOOL OF EDUCATION
EDGBASTON
BIRMINGHAM B15 2TT
TELE: 021 414 6733

**THE UNIVERSITY
OF BIRMINGHAM**

CONTENTS

1. GENERAL INTRODUCTION

This brochure lists all the software available from the Research Centre and also gives details of all the hardware needed to run the programs. Since 1983, the Centre has produced programs for use on the BBC range of computers. As can be seen, these range from those specifically for the very young and less able children, using touch screens, joysticks, concept keyboards, etc., to those for adults wishing to convert their braille into text or to enable totally blind adults the freedom of using word processors. A number of these programs have now been re-written to run on the RM NIMBUS 186 and other micro-computers compatible with the IBM PC, and the Archimedes. Documentation for certain programs has been converted into braille and is available on request. The Research Centre also produces a newsletter each term containing current information about *CENTRE* SOFTWARE, includes information about working parties, and publishes short articles from outside sources. Anyone interested can request to go on the mailing list.

TRAINING/DEMONSTRATION DAYS
Anyone interested in having a look at *CENTRE* SOFTWARE is welcome to come along to the Training/Demonstration days which take place at the Research Centre every Thursday. The sessions are very flexible, depending upon the needs of the individual. They consist of a general demonstration of what is available, or can concentrate on a certain area, i.e. braille, speech, or touchscreen, if required. If the user would like some tuition and hands-on experience, this is also given during the sessions. The sessions are from 10.00-12.00 a.m. and 2.00-4.00 p.m. Would-be visitors are asked to contact the Research Centre in advance (Tele: 021 414 6733/6735).

PROGRAMS IN PRODUCTION
For use on the Archimedes and IBM Window: *SoundBook,* Version 2. A program which allows the association of real-life sounds and pictures to areas of the concept keyboard.

2. BBC USERS

VERY YOUNG AND LESS ABLE CHILDREN
All *CENTRE* SOFTWARE is designed to be as versatile as possible. Each program can be used with a variety of different 'add-on' devices which makes the software more fun and easier to use by the additionally handicapped. Of these methods, the joystick is the simplest and cheapest. Interface Designs manufacture a robust four-way joystick, the '1 to 4 Way Special Education Joystick with User Port Termination', which plugs into the user port. Alternatively, the analogue port can be used for 'free' joysticks such as the Voltmace 14/b.

The Concept Keyboard is a rectangular board, A4 or A3 size, consisting of a set of 128 small switches. It is generally used in conjunction with 'overlays' - sheets of paper which mark out areas of the Concept Keyboard into larger switches.

The touchscreen is the most straight-forward from the child's point of view in that the association between an external controlling device and the images on the screen does not have to be made. Faced with a selection on the screen, the child can directly touch the appropriate image. This directness and its lack of moving parts makes the touchscreen ideal for very young and

additionally handicapped users. Microvitec make the Touchtech 501 which slots on to the front of their 'metal monitor'.

OLDER CHILDREN, STUDENTS, AND ADULTS

Most *CENTRE* SOFTWARE serving this group will require the use of a speech synthesizer to supplement or replace the monitor as an output device. Of those on the market the cheapest and most portable is the Dolphin Apollo. Several *CENTRE* SOFTWARE programs involve the input and output of braille. Input can be either via the standard keyboard, using six selected keys, or with the Clwyd Technics modified Perkins Brailler. While the first method is simpler and cheaper, the advantage of the Perkins is that it gives instant 'hard copy' as braille characters are typed. The following table lists the devices which are used with *CENTRE* SOFTWARE. This list is not intended to be exhaustive, but most of these devices have been used by the Research Centre in developing software and have our approval. Most manufacturers offer an educational discount. We therefore recommend that teachers and others working in educational establishments contact their LEA advisory service for help and advice before buying equipment.

DEVICE	MANUFACTURER	MODEL
BBC Micro Computer*	Acorn	Master 128*
VDU Monitor	Microvitec	Medium Resolution Metal Monitor 1451 MS4
Printer (Dot Matrix	Panasonic	KX-P1081
Disc Drive Single Disc Drive Dual	Cumana	CS200 40 Track CD800/S 40/80 Track
Speech Synthesizer	Dolphin	Apollo
Large Character Display (LED)*	Dolphin	Window*
Braille Embosser	Concept Systems (Supplier)	Index Budget Basic Index Classic* Index Basic Index Everest
Perkins Modified	Clwyd Technics	Perkins Brailler
Touch Sensitive Screen	Microvitec	Touchtech 501
Concept Keyboard Universal 2010 Keyboard	Concept Keyboard Co. Ltd.	A3/A4 with Pack* A3/A4 with Pack
Switched Joystick Analogue Joystick	Interface Designs Voltmace	1 to 4 Way Spec. Ed. with User Port Termin. Delta 14/B
Teletext Adaptor* Word Processor	Morley Electronics Computer Concepts	Teletext Adaptor* Wordwise* Wordwise Plus
Spell Checker	Computer Concepts	Spellmaster
Microphone for BBC	Toys for the Handicapped	Micro Mike
Lap-held Micro-computer	NEC	8300
Spreadsheet Package	Computer Concepts	Intersheet
Colour Printer	Integrex	Colourjet 132*/600

**No Longer Available*

3. PC COMPATIBLE USERS

All *CENTRE* SOFTWARE packages designed for PC-compatibles (e.g. RM NIMBUS 286/386/486 or PC 1640) require a colour monitor.

VERY YOUNG AND LESS ABLE CHILDREN

While the packages can be used simply with a standard keyboard, other input devices are more suitable for most handicapped children. One example of such an input device is the PC-joystick which is generally sold with an interface card to be fitted into the PC. Microsoft-compatible mice come as standard with some PC-compatibles (e.g. as above). If not, a Microsoft mouse can be used which requires an interface card to be fitted into the PC.

BBC-type input devices are another alternative provided that a Special Needs Interface Card (SNIC) has been fitted into the machine. This card has a 'BBC User Port' and 'BBC Analogue

Port' allowing various special needs input devices (e.g. Concept keyboard) to be used. Serial Concept Keyboards are now available which plug directly into the RS232 serial port at the back of the machine. Switches can also be connected to this port via an interface box. (The SNIC card is no longer available but can be usec　　　　　ave o

OLDER CHILDREN, STUDENTS, AND ADULTS

Some *CENTRE* SOFTWARE packages covering this group can be used in conjunction with a speech synthesizer, either via serial ('RS232') or parallel ('printer') port. While many PC compatibles (e.g. RM NIMBUS 286/386/486) have these ports fitted as standard, some require an expansion card to provide an RS232 port.

DEVICE	MANUFACTURER	MODEL
Microsoft-compatible Mouse	Microsoft	'Bus' Mouse
Atari-compatible Joystick	Various	
Concept Keyboard* Universal 2010 Keyboard	Concept Keyboard Co. Ltd.	A3/A4 with Pack* A3/A4 with Pack
True Analogue Joystick	Voltmace	
Switched Analogue Joystick	Interface Designs	1-4 Way Special Ed. + Analogue Termination
User Port Joystick	Interface Designs	
User Port Switches	Interface Designs	
Micro Mike	Toys for the Handicapped	
Concept PC Keyboard	Concept Keyboard Co.Ltd.	
Touch Window	Keyboard Technology	
Flipper Switch Box	Dolphin Systems	

*No Longer Available

4. RM NIMBUS 186 PC USERS

A Nimbus with colour monitor is required for all *CENTRE* SOFTWARE packages.

VERY YOUNG AND LESS ABLE CHILDREN

While the packages can be used simply with a standard keyboard, other input devices are more suitable for most handicapped children, such as a mouse or joystick. Alternatively, a Piconet Parallel Interface Module (PPIM) can be used to provide a 'BBC User Port' and 'BBC Analogue Port', allowing various special needs input devices (e.g. Concept Keyboard) to be plugged into the Nimbus.

OLDER CHILDREN, STUDENTS, AND ADULTS

Some **CENTRE SOFTWARE** packages covering this group can be used in conjunction with a speech synthesizer, plugging into the Nimbus' AUX port. Details on how to produce the lead required to connect a Nimbus to a Dolphin Mimic or Apollo speech synthesizer are available from the Research Centre (Information Sheet No. 10: Making Nimbus and Archimedes Leads for the Apollo and Mimic Speech Synthesizers).

DEVICE	MANUFACTURER	MODEL
Atari-compatible Joystick	Various	
Mouse	Research Machines Ltd.	Nimbus Mouse
BBC User Port and Analogue Port Interface	Research Machines Ltd.	Piconet Parallel Interface Module (PPIM)

5. ARCHIMEDES USERS

There are several different machines which come under the generic title of *Archimedes*. **CENTRE SOFTWARE** should work with Archimedes 300, 400, and 500 series machines as well as the 'A' series machines (A3000, A3010, A3020, A4000, A4, and A5000). If you are about to purchase an Archimedes, we would recommend an A3010. All Archimedes software will continue to be compatible with earlier machines. If you wish to use a joystick, switches, or a concept keyboard, then a Podule must be added to your machine. This is a circuit board which is inserted into the back of your computer to give it a user port, analogue port, and 1MHz bus. One way of getting

hold of a podule is to order the Acorn Special Access Package at the same time that you buy your Archimedes. As well as a podule, the Special Access Package provides some useful programs which have been designed to give people with special needs better access to the computer.

DEVICE	MANUFACTURER	MODEL
I/O Podule	Acorn or Acorn Dealer	
Touch Screen	Microvitec	TouchTech 503
	Keyboard Technology	Touch Window
Touchscreen	Hybrid Technology	Access 2000*
Concept Keyboard*	Concept Keyboard Co. Ltd.	A3/A4 with Pack*
Universal 2010 Keyboard		A3/A4 with Pack
Switches	Quest Enabling Designs Ltd.	
Speech Synthesizer	Dolphin Systems	Apollo/Mimic*/Juno-SP
Switched Joystick	Interface Designs	1 to 4 Way Spec. Ed.
		with User Port Term.
Analogue Joystick	Voltmace	Delta 14/B

*No Longer Available

6. MANUFACTURERS OF HARDWARE

ACORN COMPUTERS LTD., Acorn House, Vision Park, Histon, Cambridge CB4 4AE ☎0223 254254

CLWYD TECHNICS LTD., Antelope Industrial Estate, Rhydymwyn, Nr. Mold, Clwyd CH7 5JH ☎0352 741751

COMPUTER CONCEPTS, Gaddesden Place, Hemel Hempstead, Hertfordshire HP2 6EX ☎0442 63933

CONCEPT KEYBOARD CO.LTD., Moorside Road, Winnall Ind.Est., Winchester, Hampshire SO23 7RX ☎0962 843322

CONCEPT SYSTEMS, 1-7 Mount Street, Stapleford, Nottingham NG9 8AL ☎0602 499455

CUMANA, The Pines Trading Estate, Broad Street, Guildford, Surrey GU3 3BH ☎0483 503121

DOLPHIN SYSTEMS FOR PEOPLE WITH DISABILITIES LTD., Unit 96C, Blackpole Trading Est. West, Worcester WR3 8TU ☎0905 754577

HYBRID TECHNOLOGY LTD., 88 Butt Lane, Milton, Cambridge CB4 6DG ☎0223 861522

INTEGREX SYSTEMS LTD., Church Gresley, Swadlincote, Derbyshire DE11 9PT ☎0283 550880

INTERFACE DESIGNS, 12 East Meads, Guildford GU2 5SP ☎0483 32909

KEYBOARD TECHNOLOGY LTD., 51 High Street, Kegworth, Derby DE74 2DA ☎0509 672222

MICROSOFT LTD., Microsoft Place, Winnersh Triangle, Wokingham, Berks. RG11 5TP ☎0734 270001

MICROVITEC PLC, Futures Way, Bolling Road, Bradford, West Yorkshire BD4 7TU ☎0274 390011

MORLEY ELECTRONICS LTD., Morley House, West Chirton, North Shields, Tyne & Wear NE29 7TY Tele: ☎091 257 6355

NEC Portable Microcomputers/PANASONIC Printers. See your local hardware distributor.

QUEST ENABLING DESIGN LTD., Ability House, 242 Gosport Road, Fareham, Hants. PO16 0SS ☎0329 828444

RESEARCH MACHINES LTD., New Mill House, 183 Milton Park, Abingdon OX14 4SE ☎0235 826000

TFH(TOYS FOR THE HANDICAPPED), 76 Barracks Road, Sandy Lane Ind. Est., Stourport on Severn, Worcestershire DY13 9QB ☎0299 827820

VOLTMACE LTD., Unit 9, Bondor Business Centre, London Road, Baldock, Herts., SG7 6NG ☎0462 894410

7. VIEWBOOKS FOR THE VISUALLY HANDICAPPED

The idea behind Viewbooks is very simple - they are books published on disk rather than paper. Each page is presented as a screenful of information, together with the set of Viewbook commands. Viewbooks have all the features of conventional books, together with some extra functions. You can turn to a given page, the next page or the previous page. You can search

for a word or phase within the text, print out a hard copy of a range of pages, or transfer pages to a word processor file. Although Viewbooks were originally devised for mainstream education, the extra flexibility provided by books on disc rather than paper indicates their tremendous potential for handicapped users. Information Education (I.E.), the Company behind Viewbooks, and Birmingham University's RCEVH, have co-operated to produce a series of packages aimed at providing easy access to Viewbooks by visually handicapped learners. The Viewbooks catalogue includes titles ranging from Shakespeare's Macbeth to an introduction to Marx by John Ure. Aimed mainly at 16-19 year olds, the subject areas covered are English Literature, Media Studies Sociology, Geography, Economics, Social Policy, General Studies, and History. A full list of titles is available from: Information Education and not RCEVH. For further details, please write to Information Education at Unit 33, Enterprise Centre, Bedford Street, Stoke on Trent ST1 4PZ ☎0782 281643

8. CATEGORIES OF PROGRAMS

ACCESS PROGRAMS:
PRINT ACCESS (OCR), TALKING GRASS, TALKING INTERSHEET, TALKING SCREEN READER, TALKING WORDWISE.
BRAILLE/MOON:
ANYCON BRAILLE, BRAILLE DISPLAY, BRAILLE TO TEXT, SOUNDBOOK, TALKING BRAILLE CELL, TALKING TRANSCRIBE, TEXT TO BRAILLE, TRANSCRIBE.

AUDITORY STIMULATION:
SOUNDINGS, TOUCH AND LISTEN.
LARGE PRINT/TYPING:
COPIER, PRINTER, READER, TYPEWRITER, WRITER.
MATHEMATICS:
SOUNDGRAPH, TALKING JANE.

VISUAL TRAINING/ STIMULATION:
AMAZING, ANY JIGSAW, BUILDER, DIRECTIONS, GAMES, JUST LOOK, JUST TOUCH/TOUCH IT, MICRO MIKE, NO LIMITS!, PICTURE MATCH, PUZZLE, QUESTIONS AND ANSWERS, SEQUENCER, SNAKES, STRIKER, TOUCH AND MATCH, TOUCH AND PAINT,

VISUAL TRAINING/ STIMULATION: CONT.
TOUCH IN PAIRS, TOUCH SCREEN DIRECTIONS, TRACER, WHICH/MATCH BLOCK, WHICH/MATCH CHARACTER, WHICH/MATCH ONE, WHICH/MATCH WORD, WHICH AND MATCH.
MISCELLANEOUS:
ANYCON, EXAMPLES, SMILE, SOUNDBOOK, WALKABOUT.

9. EQUIPMENT CHARTS FOR BBC, PC, NIMBUS 186, AND ARCHIMEDES USERS

EQUIPMENT CHART FOR BBC USERS

CENTRE SOFTWARE PROGRAM	CONCEPT KEYBOARD	JOYSTICK	MICRO MIKE	TOUCH SCREEN	SWITCHES	ADAPTED PERKINS	BRAILLE LINK	VERSABRAILLE	PRINTER	BRAILLE EMBOSSER	SPEECH SYNTHESIZER	INTERSHEET CHIP	WORDWISE CHIP
AMAZING		❖		❖	❖								
ANYCON	❖										❖		
ANYCON BRAILLE	❖										❖		
BRAILLE DISPLAY						❖							
BRAILLE TO TEXT						❖	❖	❖	❖				
COPIER									❖		❖		
DIRECTIONS		❖											
EXAMPLES									❖		❖		
GAMES		❖		❖									
JUST LOOK													
JUST TOUCH/TOUCH IT				❖									
MICRO MIKE			❖										
PICTURE MATCH	❖		❖	❖	❖								
PRINTER									❖				
QUESTIONS AND ANSWERS	❖		❖	❖	❖						❖		
READER									❖		❖		
SEQUENCER	❖	❖		❖	❖						❖		
SMILE									❖		❖		
SNAKES		❖											
TALKING BRAILLE CELL					❖						❖		
TALKING GRASS											❖		
TALKING INTERSHEET									❖		❖	❖	
TALKING JANE											❖		
TALKING SCREEN READER											❖		
TALKING TRANSCRIBE	❖				❖						❖		
TALKING WORDWISE									❖		❖		❖
TEXT TO BRAILLE										❖			
TOUCH AND LISTEN	❖			❖									
TOUCH AND MATCH	❖		❖	❖							❖		
TOUCH AND PAINT				❖									
TOUCH IN PAIRS	❖		❖	❖	❖								
TOUCH SCREEN DIRECTIONS				❖									
TRANSCRIBE					❖								
TYPEWRITER									❖		❖		
WALKABOUT											❖		
WHICH/MATCH BLOCK	❖	❖		❖	❖								
WHICH/MATCH CHARACTER	❖	❖		❖	❖								
WHICH/MATCH ONE	❖	❖		❖	❖								
WHICH/MATCH WORD	❖	❖		❖	❖								
WRITER									❖		❖		

EQUIPMENT CHART FOR PC USERS

CENTRE SOFTWARE PROGRAM	CONCEPT KEYBOARD PC	CONCEPT KEYBOARD SNIC	DOLPHIN FLIPPER BOX	JOYSTICK	MOUSE	TOUCH WINDOW	BRAILLE EMBOSSER	PRINTER	SPEECH SYNTHESIZER	CGA	EGA	VGA	SVGA	IMAGE SCANNER (OCR)	HAL	MICRO MIKE	SWITCHES
AMAZING	❖	❖		❖	❖					❖	❖	❖	❖				
ANY JIGSAW					❖	❖					❖	❖	❖				
ANYCON	❖	❖							❖	❖	❖	❖	❖				
ANYCON BRAILLE	❖	❖							❖	❖	❖	❖	❖				
BRAILLE DISPLAY				❖							❖	❖	❖				
BRAILLE TO TEXT							❖	❖			❖	❖	❖				
BUILDER		❖		❖	❖						❖	❖					❖
COPIER								❖	❖	❖	❖	❖	❖				
DIRECTIONS				❖	❖					❖	❖	❖	❖				
GAMES				❖	❖					❖	❖	❖	❖				❖
JUST LOOK										❖	❖	❖	❖				
MICRO MIKE										❖	❖	❖	❖			❖	
NO LIMITS!				❖	❖						❖	❖	❖				
PRINT ACCESS (OCR)				❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖			
PRINTER								❖		❖	❖	❖	❖				
QUESTIONS AND ANSWERS		❖							❖	❖	❖	❖	❖				❖
READER				❖	❖				❖	❖	❖	❖	❖				
SNAKES	❖	❖		❖	❖					❖	❖	❖	❖				❖
SOUNDGRAPH										❖	❖	❖	❖		❖		
STRIKER					❖	❖					❖	❖					
TALKING BRAILLE CELL								❖			❖	❖	❖				
TEXT TO BRAILLE					❖		❖				❖	❖	❖				
TOUCH AND MATCH	❖	❖		❖	❖	❖					❖	❖	❖				❖
TRACER			❖		❖	❖					❖	❖					❖
TRANSCRIBE											❖	❖	❖				
TYPEWRITER								❖	❖	❖	❖	❖	❖				
WHICH AND MATCH	❖	❖								❖	❖	❖	❖				❖
WRITER								❖	❖	❖	❖	❖	❖				

EQUIPMENT CHART FOR NIMBUS 186 USERS

CENTRE SOFTWARE PROGRAM	CONCEPT KEYBOARD	PICONET	JOYSTICK	MOUSE	PRINTER	SPEECH SYNTHESIZER	GRASS DATABASE	MICRO MIKE	SWITCHES
AMAZING	❖	❖	❖	❖					❖
ANYCON	❖	❖	❖	❖		❖			
ANYCON BRAILLE	❖	❖	❖	❖		❖			
COPIER				❖	❖				
DIRECTIONS	❖	❖	❖	❖					❖
GAMES		❖	❖	❖					❖
JUST LOOK									
MICRO MIKE								❖	
PRINTER					❖				
QUESTIONS AND ANSWERS	❖	❖				❖			❖
READER		❖	❖	❖	❖	❖			
SNAKES	❖	❖	❖	❖					❖
TALKING GRASS						❖	❖		
TOUCH AND MATCH	❖	❖	❖	❖					❖
TYPEWRITER					❖	❖			
WHICH AND MATCH	❖	❖							
WRITER					❖	❖			

EQUIPMENT CHART FOR ARCHIMEDES

CENTRE SOFTWARE PROGRAM	ANALOGUE JOYSTICK	CONCEPT KEYBOARD	USER PORT	GRASS DATABASE	MOUSE	SWITCHES	TOUCHTECH 5000	ACCESS 2000	TOUCH WINDOW	SPEECH SYNTHESIZER	ACORN CGA MONITOR
BUILDER	❖				❖	❖	❖				❖
PUZZLE					❖		❖	❖			❖
SOUNDBOOK		❖									❖
SOUNDINGS		❖			❖	❖	❖	❖	❖		❖
STRIKER					❖	❖	❖	❖			❖
TALKING GRASS				❖						❖	❖
TRACER	❖	❖			❖	❖	❖				❖

10. CENTRE SOFTWARE PROGRAMS

Package Name : AMAZING

Target Users/Educational Purpose : Blind or partially sighted children aged 5-11 years, or additionally handicapped adults. To encourage partially sighted youngsters to make the maximum use of the sight they have, and to facilitate the development of hand-eye co-ordination skills. To encourage blind children to make sense of their environment, and to facilitate the development of hand-ear co-ordination skills.

Description : The package consists of two parts: "teacher" and "child". The teacher part is used for drawing new mazes, while the child part is used for presenting mazes to the user. Using one of the input devices listed (e.g. joystick), the child guides a coloured square through a maze. Difficulty of the task can be changed by altering the size of the square in comparison to the width of the maze. Blind children can use AMAZING by using an audio help facility and testing each possible direction before moving.

Package Name : ANY JIGSAW

Target Users/Educational Purpose : All ages and all abilities with some sight, including the less able multi-handicapped. The educational aim of this package is to assist in the development of hand-eye co-ordination, matching, discrimination, scanning, and memory skills.

Description : This package consists of two disc, one containing the program **ANY JIGSAW** and one containing some pictures and jigsaw templates which have already been created. The program is designed to be very flexible in that it includes a menu screen which allows the user to tailor the program to his/her own needs. The program is content free - that is to say the program provides a tool which performs a specific purpose, namely allowing the user to do a jigsaw on the computer. However, the content of the jigsaw - the picture - and the number of pieces the picture is split up into is designed by the user. In fact, the user can create his/her own pictures and jigsaws for use by the program
Developed by : Michael Vallender.

Package Name : ANYCON

Target Users/Educational Purpose : The primary school blind (or partially sighted) child. Also the less able visually handicapped of post-primary age. The educational aim of this package is to assist in the development of the user's pre- and early reading, matching, discrimination, scanning, and auditory skills. These skills are addressed towards both the visual and tactile aspects.

Description : This is a drill and practice disc which is used to give a sequence of ten questions. The answer to each question is an area on the Concept Keyboard. The questions may be spoken (using a text to speech synthesizer) and/or can be displayed in large print on the screen. A range of examples and overlays are provided. For use with the blind, the overlays will need to have tactile markings (braille or shapes) put onto them. We have also included, for your guidance, one A3-sized overlay for use with the A3 Concept Keyboard. Users have found the SEMERC Blue File program "Touch Explorer" to be a useful complement to this program. Touch Explorer can be obtained from your local education authority or if that is not possible you should try your local SEMERC.

Package Name : ANYCON BRAILLE

Target Users/Educational Purpose : The primary school blind (or partially sighted) child. Also the less able visually handicapped of post-primary age. The educational aim of this package is to assist in the development of the user's pre- and early braille reading, matching, discrimination and scanning skills.

Description : This is a drill and practice disc which is used to give a sequence of ten questions. The answer to each question is an area on the Concept Keyboard. The questions may be spoken (using a text to speech synthesizer) and/or can be displayed in large print on the screen. A range of examples and overlays are provided.

Package Name : BRAILLE DISPLAY

Target Users/Educational Purpose : Early learners of braille with some sight, and sighted teachers of braille. Braille documentation available on request. To give partially sighted learners who are being introduced to braille visual feedback of cells as they are brailled. To make the very first stages of learning braille more interesting and fun.

Description : For the BBC version, the package consists of a suite of four programs. **BRAILLE CELL DISPLAY** and **BRAILLE KEY DISPLAY** present a single braille cell on the screen corresponding to keys pressed on the BBC keyboard or the Perkins brailler. The only difference between them is that when using the **KEY DISPLAY**, the "dots" disappear off the screen when the user releases the keys, and with the **CELL DISPLAY**, they remain on the screen until the user brailles the next character. **TWO CELL DISPLAY** shows a pair of braille cells, enabling Grade 2 braille contractions to be presented. **BRAILLE SPY** can be used by a sighted teacher of braille as an easy way of monitoring the learner's use of braille. The IBM version of this program is the same as above except it does not include **BRAILLE KEY DISPLAY**. Please note that **it is not possible to use a Perkins Brailler when using this version**. The user would be required to use the keyboard only.

Package Name : BRAILLE TO TEXT

Target Users/Educational Purpose : Visually handicapped people who need to have their braille put into print for sighted colleagues etc. Braille documentation available on request. This disc is for a visually handicapped person to create a document in braille which is then converted into print for the benefit of a sighted person. This would be particularly useful in an integrated

setting, for example a sighted examiner reading the exam paper of a visually handicapped student.

Description : This program will enable someone working in Grade 2 standard English braille (or Grade 1 French or German braille, when using the BBC version) to produce a print copy on a text printer. The braille to be translated into text must first be entered into a file. When using the BBC version, this can be done using an adapted Perkins brailler or the six keys on the keyboard. Please note that when using the IBM version, **it is not possible to use the Perkins.**

Package Name : BUILDER

Target Users/Educational Purpose : Very young visually handicapped children or the less able multi-handicapped. To encourage the use of vision, to develop hand-eye co-ordination, visual memory, cognitive abilities, and to assist in the assessment of functional sight.

Description : This package consists of one disc containing two programs: **BUILDER** and **Interactive BUILDER**. Each program has been designed to create a visually stimulating display, the characteristics of which can be altered from an easy-to-use menu.

When using **BUILDER**, a teacher or parent will use the menu to set up a visual exercise, and then encourage the child to attend carefully to events on the screen by asking suitable questions. The second part of the documentation gives some concrete examples illustrating this kind of process.

With Interactive BUILDER **the child, by using for example, a mouse, joystick, or touch screen, is given some control over the screen display.** A kind of 'quick reference' glossary is provided towards the end of the documentation. This is expected to be of most use to experienced users.

Developed by : Nick Bozic, Michael Vallender

Package Name : COPIER

Target Users/Educational Purpose : Visually handicapped people who already have a basic knowledge of the keyboard. Braille documentation available on request. This program enables the user to copy what appears on the screen and is intended to improve accuracy and speed. It is not designed for those who have never typed before.

Description : Text appears on the screen in a clear print (there are various sizes to choose from) and the user then has to copy what is there. For those who need to use the program with the speech synthesizer, each letter, each word, or each line is spoken, whichever they prefer. This is facilitated by pressing the appropriate red function keys. A buzz sound will indicate that the wrong character has been pressed on the keyboard.

Package Name : DIRECTIONS

Target Users/Educational Purpose : Very young visually handicapped children with some sight, or multi-handicapped individuals of all ages. To provide the earliest introduction to using a joystick, a skill which must be grasped before other software packages can be used. To assist in the teaching of the concepts of up, down, left and right.

Description : The package consists of a suite of 4 programs concerned with up-down and left-right practice and with all four directions together. Events on the screen correspond to the joystick movements.

Package Name : GAMES

Target Users/Educational Purpose : Visually handicapped children aged 5-11 years with some sight or additionally handicapped adults. Under-5's without a handicap. To encourage visually handicapped youngsters to make the maximum use of the sight they have, and to facilitate the development of hand-eye co-ordination skills. To be motivating and fun. The games may be used simply as a reward. For example, a child who has successfully completed some other learning task may be allowed to play a game. To assess vision. For example, the colours of the shapes used in the games can be altered, allowing the child's performance to be assessed using various combinations of foreground and background colour.

Description : The package consists of a suite of programs featuring a set of bat and ball games. Using one of the input devices listed (e.g. joystick) a ball is hit around the screen with a bat. Difficulty of the task can be changed by altering the size of the bat or speed of the ball.

Package Name : JUST LOOK

Target Users/Educational Purpose : Visually handicapped youngsters with some sight. To act as the earliest introduction of the computer to a child, teaching the notion that the computer screen has interesting, eye-catching things happening on it. To teach left-right scanning skills as used in reading text and to provide practice in tracking moving objects. To provide visual stimulation. The programs feature bright colours which can help to provide a visually stimulating environment, facilitating the development of visual neural pathways.

Description : The package consists of a suite of programs in which brightly coloured shapes build up to form a pattern filling the screen, or move across the screen in random fashion. The display can be frozen at any point and restarted.

Package Name : JUST TOUCH/TOUCH IT

Target Users/Educational Purpose : Visually handicapped youngsters with some sight, or the less-able, multi- handicapped. These discs are intended as an introduction to the use of the Touch screen. They are basic programs to help motivate and encourage the youngsters to explore the screen.

Description : In **JUST TOUCH**, the emphasis is on letting the user just touch the screen and find out what happens. **TOUCH IT** is meant to complement this and provides various targets on the screen which the user is required to touch.

Package Name : MICRO MIKE

Target Users/Educational Purpose : The multi-handicapped, with some sight. This disc has been designed to encourage the multi-handicapped with a little sight to make sounds of varying volumes and to see what effect thee sounds have on the screen.

Description : The disc consists of 6 programs which change and move colours on a screen when sounds of a sufficient volume are made into the Micro Mike. For example, one of the programs, namely Lifter, displays a triangle on the screen which can be lifted towards the top of the screen by making a sound into the Micro Mike.

Package Name : NO LIMITS!

Target Users/Educational Purpose : All ages and all abilities with some sight, including the less able multi-handicapped. The educational aim of this package is to assist in the development of hand-eye co-ordination, matching, discrimination, scanning, and memory skills. Used to its full potential, it can be used as a teaching aid.

Description : The program will create diagrams, but not normal diagrams. *CENTRE* **NO LIMITS!** can have up to three parts which are Background Level, Cell Level, and Link Level. The fact that such layers exist makes the program different from a normal paint package and more powerful. Placing objects in the cell layer means that they are never fixed and can be moved around. Thus, you can re-arrange the objects in your diagrams. Setting links means that you can create several diagrams with a similar theme and then link them together to make a story or a presentation. So, a *CENTRE* **NO LIMITS!** diagram is more than just a picture maker.

Developed by: Michael Vallender

Package Name : PICTURE MATCH

Target Users/Educational Purpose : Visually handicapped youngsters with some sight, or the less-able, multi- handicapped. This disc aims to develop a child's matching, discrimination, grouping, and sequencing abilities based on up to 9 simple picture or text elements on the screen. There are a variety of exercises on the disc and new exercises can be created.

Description : The user can choose an exercise from 16 different exercises stored on the disc. Each exercise consists of up to 10 tasks and is designed to test a particular skill. Each task begins with a screen containing pictures and/or text. The task is completed by the user choosing element(s) on the screen in an appropriate order. The choice of an element on the screen is made using the device you have chosen. When an exercise has been completed a report can be shown and printed.

Modern computer technology allows text from the printed page to be processed and reproduced in a variety of forms that are more useful to a visually handicapped person. These are primarily hard copy braille, refreshable braille, large text and synthetic speech. A computer based system that facilitates this could be termed a print access system.

To implement this print access system, you would need:

The Scanner: a scanner, a scanner interface card, and scanner driver software. These items should be supplied together but often the price quoted for the scanner does not include that for the interface card or driver software. The interface card for a scanner must be fitted into your PC to allow it to work The scanner driver software operates the scanner hardware and interface card.

The Processing Software: OCR Software, the *CENTRE* **SOFTWARE** application programs **TEXT TO BRAILLE, SPEECH, READER,** and **PRINTER**.

The Output Devices: a braille printer, a speech synthesizer, and a graphics printer.

If you want output in braille, *CENTRE* **TEXT TO BRAILLE** allows you to translate text files rapidly into either grade 1 or grade 2 braille. You can format the resulting braille with a high degree of flexibility and reproduce it on a braille printer.

If you want output in synthetic speech, *CENTRE* **SPEECH** allows you to speak paragraphs, sentences, or words, or to search for key words within a text file.

If you want hard copy output in large text, *CENTRE* **PRINTER** allows you to reproduce text files in hard copy large text on a graphics printer.

If you want screen output in large text, *CENTRE* **READER** allows you to select and view text files in large characters on the standard computer display. This is combined with a facility that allows you to speak sections of the enlarged text.

Developed by : Stephen Campbell.

Target Users/Educational Purpose : Those who wish to create printed text in a large bold font. The teacher of the partially sighted can produce printed material where the size of text is appropriate for each pupil. Partially sighted pupils can produce written work which they themselves can read.

Description : This program takes a file stored on a floppy disc which contains simple text and prints it out boldly in a size selected by the user. There are 5 sizes of character and a selection of inter character spacing. The largest size is 1.5 cm tall, and 15 to 24 characters will fit on an A4 line. The smallest is 1.4 mm tall, and 60 to 80 characters will fit on an A4 line.

Target Users/Educational Purpose : Anyone who needs training in visual matching/discrimination skills. This will depend on the needs of the user. Puzzle could be used to help develop colour matching skills or practise the ability to discriminate between shapes; it all depends on the type of pictures that are being used.

Description : A picture is displayed on the right hand side of the screen. The four quarters of the picture appear at the top of the screen and the user must use the Mouse or a TouchWindow to move each quarter to its appropriate position inside a frame on the left hand side of the screen. Pictures can be created in *Paint* or scanned in and scaled using a utility called *SprScale* which is provided with Puzzle.

Developed by : Nick Bozic.

Target Users/Educational Purpose : Visually handicapped youngsters with some sight and reading skills, or those with no sight using a speech synthesizer and concept keyboard. The educational aim of this package is to assist in the development of the user's reading, matching and scanning skills.

Description : Each exercise consists of up to 10 tasks in the BBC version, or an unlimited number in the IBM and Nimbus version and is designed to test a particular skill or area of knowledge. Each task consists of a set of up to 5 lines of text. The choice of a line on the screen is made using the selected input device. Each screen is successfully completed by choosing the correct

line or lines, possibly in the right order. When the whole exercise is finished a report can be shown and printed.

Package Name : READER

Target Users/Educational Purpose : Visually handicapped individuals with enough sight to read a close circuit television screen. To provide visually handicapped learners with access to information in standard text files in the form of large characters and/or speech synthesized output. For example, a file produced by a teacher using a word processor or text editor can be read by visually handicapped learners.

Description : The user is first provided with the names of the text files held on the disc, this information appearing on the screen in large characters. The user then moves through the file selected, with large characters appearing on the screen. Information in the file can be reviewed in synthetic speech either as words or as individual letters. The size of the large characters can be adjusted to suit the individual learner.

Package Name : SEQUENCER

Target Users/Educational Purpose : Visually handicapped youngsters with some sight, or the less-able, multi- handicapped. The main educational aim of this package is to assist in the teaching of the concept of a SEQUENCE of items. In addition it is hoped that the user's matching, discrimination and scanning skills will be developed.

Description : Each exercise consists of up to 10 tasks and is designed to test a particular skill. Each task begins with a sequence root which must be extended. The task is completed by the user choosing element(s) on the screen in an appropriate order. The choice of an element on the screen is made using the selected input device.

Package Name : SMILE

Target Users/Educational Purpose : Pupils of all abilities in the age range 11 to 16 years old. Especially partially sighted children and those who participate in the ILEA SMILE mathematics project. To make mathematics enjoyable and to encourage pupils to think mathematically in areas ranging from Angles to Fractions to Vectors.

Description : This package of 6 discs containing 30 very varied mathematical programs, most of which require some useful sight to use. However using a speech synthesizer enables pupils with no sight to use some programs on their own. There are too many programs to describe them all here but as examples the following are descriptions of the games 'BOAT' and 'LOCATE'. "Two girls and 2 women want to cross a river using 1 small boat. At most the boat will carry 2 girls. So the 3 possibilities are: 1 girl, 2 girls, or 1 woman. Try and tell them how to cross in as few crossings as you can. If they cross in the smallest number of crossings possible you can try a harder problem. This is to get 2 girls and 4 women across in the fewest number of crossings. Good luck."

"You will see a circle in a large box. Type in 2 numbers separated by a comma. This pair of numbers represents a point in the box and will appear as a letter. Try and locate the letter inside the circle in as few goes as you can. You will be told if your number pair is outside the box. A list of all your attempts will be displayed on the screen."

Simple instructions on how to use each program can be accessed using large characters on the screen and/or synthetic speech. A detailed record of the sessions can be kept and printed out later in one of a selection of 6 character sizes.

Package Name : SNAKES

Target Users/Educational Purpose : Very young visually handicapped children with some sight, or multi-handicapped users of all ages. This disc has been designed to interest and stimulate the multi-handicapped who are able to see images on the screen. It acts as an introduction to using a joystick and helps the user to grasp the concept of left and right movements.

Description : The disc is made up of several programs. When using the first 2 - Moving Snake and Randomly Moving Snake - the user merely watches the movement on the screen. The remaining programs entail the use of the joystick or similar input devices. The speed and length of the snake can be changed to suit the particular user.

Package Name : SOUNDBOOK

Target Users/Educational Purpose : Young blind children. To develop braille or moon reading skills. To add an auditory dimension to simple tactile maps.

Description : This program allows digitized sounds to be associated with particular areas of a concept keyboard, so that when that area of the concept keyboard is pressed, the sound is played back. *CENTRE* SOUNDBOOK can be used as an additional resource when teaching children to read braille or moon. The program allows teachers to create their own exercises, with overlays and sounds designed for use with particular children.

Developed by: Nick Bozic

Package Name : SOUNDINGS

Target Users/Educational Purpose : Blind children with or without additional handicaps. The development of listening skills and intentional behaviour.

Description : This program provides an easy way of playing back digitized sounds. Children merely have to touch an area of the screen, hit a switch, or press part of the concept keyboard to hear a real-world sound. The disc comes with some pre-recorded sounds and guidance on how teachers and parents can go about adding their own sounds into the software. The documentation also suggests some activities in which the program might be used to encourage listening skills.

Developed by: Nick Bozic

Package Name : STRIKER

Target Users/Educational Purpose : Very young visually handicapped or the less able multi-handicapped. To encourage the use of vision, to develop hand-eye co-ordination, visual memory, cognitive abilities, and to assist in the assessment of functional sight.

Description : This package consists of one disc containing two programs: **STRIKER** and **Interactive STRIKER**. Each program has been designed to create a visually stimulating display, the characteristics of which can be altered from an easy-to-use menu. A ball moves around the screen moving behind or in front of a variable number of squares. When using **STRIKER**, a teacher or parent will use the menu to set up a visual exercise, and then encourage the child to attend carefully to events on the screen by asking suitable questions. The second part of the documentation gives some concrete examples illustrating this kind of process. With **Interactive STRIKER** the child, by using for example, a mouse, joystick, or touch screen, is given some control over the movement of the ball and hence its effect on the screen display. A kind of 'quick reference' glossary is provided towards the end of the documentation. This is expected to be of most use to experienced users.

Developed by : Nick Bozic, Michael Vallender

Package Name : TALKING BRAILLE CELL

Target Users/Educational Purpose : The visually handicapped who already have some knowledge of braille. Braille documentation available on request. To enable the visually handicapped student to practise their braille without needing the constant attention of the teacher.

Description : The package consists of two programs. The first one, namely **TALKING BRAILLE CELL**, displays on the screen and also speaks the cell which is brailled by the user. The second program, namely **BRAILLE CELL TEST**, speaks a cell which the user has to braille. The user will be corrected if the wrong cell is brailled. They only operate on single braille cells and no attempt is made to interpret the cell in the context of others which may have been brailled. So, for example, if you braille "know" in the **TALKING BRAILLE CELL** program, the computer will say "dot five KAY". Thus, a lower D will always say "full stop". Please note that when using the IBM version of this, the user must use the six keys on the keyboard **as it is not possible to use a Perkins**.

Package Name : TALKING GRASS

Target Users/Educational Purpose : Any partially sighted or blind user **who already has** a copy of Newman College's Grass database and would like to add sound and synthetic speech to it. It is imagined that such a user will be taught how to use the database by a sighted person, but after appropriate teaching, will have acquired the skills to use it independently. To allow partially sighted or blind pupils to 'insert, interrogate, and interpret' data in a computer database and

thereby meet certain requirements of the National Curriculum for Mathematics and Technology. **Description :** To use this package, one must also possess a copy of Newman College's Grass database system and an Apollo speech synthesizer from Dolphin. The **TALKING GRASS** program translates information presented visually on the screen into synthetic speech so that blind and partially sighted users can use the database. It also produces informative sounds to signify the occurrence of visual events such as a new screenful of information or the deletion of a character. The documentation is in two parts: a glossary of extra commands and facilities provides, and a guide to effective use of the program in the form of answers to questions that users are likely to ask. Please write to the RCEVH if you have any additional questions.
Developed by : Nick Bozic, Michael Vallender

Package Name : TALKING INTERSHEET

Target Users/Educational Purpose : The blind person who needs to use the INTERSHEET spreadsheet program installed in their computer. Braille documentation available on request. To enable the visually handicapped person to use a spreadsheet program.
Description : There are three main things it enables the user to do: (1) You can hear what you are typing. (2) You can move around the document in edit mode and ask for the location and contents of the current box to be spoken. (3) At any time you can switch into 'Screen Reader' and use speech to read in detail everything that is on the screen.

Package Name : TALKING SCREEN READER

Target Users/Educational Purpose : Visually handicapped people who wish to use the computer and access the information on the computer screen using synthetic speech. Braille documentation available on request. To enable a visually handicapped person to use software not adapted for them.
Description : There are three main things it enables the user to do: (1) You can hear what you are typing. (2) At any time you can switch into 'Screen Reader' and use speech to read in detail everything that is on the screen.

Package Name : TALKING TRANSCRIBE

Target Users/Educationai Purpose : Visually Handicapped adults who are learning braille. Braille documentation available on request. This program has been designed to test a visually handicapped user transcribing from print to Grade II braille. It can be used alongside 'Beginning Braille' and in its present form uses lessons 2-20.
Description : The braille can be entered either by using a modified Perkins Brailler or by using the keys on the BBC micro to emulate a Perkins brailler. By using certain control codes, the user is given as much access to the information on the screen as possible.

Package Name : TALKING WORDWISE

Target Users/Educational Purpose : Visually handicapped people (blind or partially sighted) with some keyboard skills. Braille documentation available on request. To enable a visually handicapped person using Wordwise or Wordwise Plus to get to a standard whereby they could function independently as a wordprocessor operator in an office situation. Once they have mastered Taking Wordwise they would be able to not only type in their required document, but also to "read" it through themselves, and make any necessary corrections.
Description : There are three things it enables the user to do: (1) You can hear what you are typing. (2) You can move around the document in edit mode to hear the word, character or line you are moving to. (3) At any time you can switch into 'Screen Reader' and read in detail everything that is on the screen.

Package Name : TEXT TO BRAILLE

Target Users/Educational Purpose : People who wish to translate their text into braille. A knowledge of braille would be useful but it is not essential. A certain amount of keyboard skill is necessary if the work is to be done at a reasonable speed. A knowledge of View or Wordwise would also be useful. To assist in the time-consuming task of transcribing text into Grade 2 braille.
Description : The package consists of Text-to-Grade 2 Braille disc, together with the documentation. The text to be translated into braille must first be entered into a text file. When this has been completed, the user can start up the translation programme and will be presented

with a menu as follows: (1) Text Editing: this involves editing the material that has been typed. (2) Perform Translation: this will actually translate the print into braille and the translation will come up on the screen. (3) Braille Editing: (BBC version only) this involves editing the braille that has been translated, but obviously is omitted if the user cannot read braille. (4) Format the Braille: this is the process whereby the document that has been entered is printed out on to a braille embosser.

Package Name : TOUCH AND LISTEN

Target Users/Educational Purpose : Very young visually handicapped children or multi-handicapped individuals of all ages. To provide the earliest introduction to the Touch Screen.
Description : The package consists about 20 tunes on 2 disc. The program associates a tune *with different areas of the concept keyboard or the touch screen.*

Package Name : TOUCH AND MATCH

Target Users/Educational Purpose : Visually handicapped youngsters with some sight, or the less-able, multi-handicapped. This disc was produced to follow on from the **WHICH AND MATCH** series of discs. It is concerned with the child's development of matching, discrimination and sequencing and gives some more interesting variations on these themes.
Description : The user can choose from 14 different BBC 'games' and 10 different IBM/Nimbus 'games' within the program. If none of the items (apart from the keyboard) listed under (iv) are available it is possible just to use the space bar to indicate the shape etc. the user has chosen.
Developed by : Michael Vallender.

Package Name : TOUCH AND PAINT

Target Users/Educational Purpose : Visually-handicapped youngsters with some sight, or the less-able, multi-handicapped. To act as an early introduction to painting and colours, enabling the user to create or play with a multi-coloured picture on the monitor screen by touching the screen.
Description : The pictures on the screen may start hidden, fully revealed, or partially revealed and there are a variety of ways in which the picture can be revealed, hidden, or coloured in. A picture created by one program can be used in another.

Package Name : TOUCH IN PAIRS

Target Users/Educational Purpose : The less-able, multi-handicapped or young children with some sight. **TOUCH IN PAIRS** is used as a test of memory. Essentially it is a 'Pelmanism' type of disc where the user has to uncover a matching pair of items. It has been produced to complement the **TOUCH AND MATCH** program.
Description : The user is able to choose from 10 different screens. Each screen will be presented until all the pairs on the screen have been uncovered.

Package Name : TOUCH SCREEN DIRECTIONS

Target Users/Educational Purpose : Very young visually handicapped children with some sight, or multi-handicapped individuals of all ages. This disc has been designed to assist in the formation of the concepts of up, down, left and right.
Description : This package contains four programs. They are left-right practice; up-down practice; matrix practice; and four bars practice. Sound, colour and size can be altered to suit individual requirements of the child.

Package Name : TRACER

Target Users/Educational Purpose : Very young visually handicapped children or the less able multi-handicapped. To encourage the use of vision, to develop hand-eye co-ordination, visual memory, cognitive abilities, and to assist in the assessment of functional sight.
Description : This package consists of one disc containing two programs: **TRACER** and **Interactive TRACER**. Each program has been designed to create a visually stimulating display, the characteristics of which can be altered from an easy-to-use menu. When using **TRACER**, a teacher or parent will use the menu in conjunction with a visually impaired child, to create a stimulating display. They can then encourage the child to attend carefully to events on the screen by asking suitable questions. The second part of the documentation gives some concrete examples illustrating this kind of process. With **Interactive TRACER** the child, by using for

example, a mouse, joystick, or touch screen, is given some control over the way in which colours are selected during the formation of a pattern on the screen display. A kind of 'quick reference' glossary is provided towards the end of the documentation. This is expected to be of most use to experienced users.

Developed by : Nick Bozic, Michael Vallender

Package Name : TRANSCRIBE

Target Users/Educational Purpose : Sighted people who are learning braille. Braille documentation available on request. This program has been designed to test the user when transcribing from print to Grade II braille. In its present form it covers lessons 1-22 of the Braille primer.

Description : The package consists of disc and documentation. As each cell is brailled, it is checked by **TRANSCRIBE** and the user is made immediately aware of any errors which can then be corrected. For the BBC version, it is recommended that you have a copy of the *Braille Primer*. Before you begin, you should have read the appropriate lesson in the *Primer*. The program covers lessons 1-22. The braille is entered by using the six keys on the keyboard which emulates a Perkins brailler (see Appendix A) or by using the Perkins brailler itself, which has to be adapted to communicate with the computer. Please note that **it is not possible to use a Perkins brailler when using the IBM PC version of this program**, and note also, that if you wish to do the supplementary exercises which are included in this program, you will need a copy of the *Braille Primer (Revised Edition, 1992)*, published by the RNIB. The program covers lessons 1-22 as above.

Package Name : TYPEWRITER

Target Users/Educational Purpose : Visually handicapped people who wish to improve their typing skills. Braille documentation available on request. This program converts the BBC micro into a typewriter, but it should not be regarded as a program for teaching a person to type. Its purpose is to enable a visually handicapped person to practise the keys which have already been learnt.

Description : Once in the program a flashing cursor will appear at the top left hand corner of the screen. This means the learner can start to type. The size of print can be decided by selection from the menu. For those who need to use the program with a speech synthesizer, each letter, each word, or each line is spoken, whichever is preferred. This is facilitated by pressing the appropriate red function keys.

Package Name : WALKABOUT

Target Users/Educational Purpose : Blind or Partially Sighted children or adults. To help the development of general abilities in orientation.

Description : It has been developed as a mobility game. It enables a user to 'walk' around a map. The user is the pedestrian and is started off at a particular point on the map, given a place to find, and given an object to pick up on the way. The 'pedestrian' uses L key on the keyboard to go left, the R key to go right, the space bar to go straight on and the B key to go back.

Package Name : WHICH/MATCH BLOCK
Package Name : WHICH/MATCH CHARACTER
Package Name : WHICH/MATCH ONE
Package Name : WHICH/MATCH WORD
Package Name : WHICH AND MATCH

Target Users/Educational Purpose : The less-able, multi-handicapped or just young children with some sight. The educational aim of this package is to assist in the development of the pre-reading, reading, matching, discrimination and scanning skills. This series of discs enables variations on these themes.

Description : Each exercise consists of up to 10 screens in the BBC version, or an unlimited amount of screens in the IBM and Nimbus version, and is designed to test a particular skill. Each screen consists of a set of either 5 (in the **MATCH** format) or 4 (in the **WHICH** format) areas. These areas can be designated, depending which disc is used, to contain either shapes, characters or numbers. In the case of a **MATCH** disc, the user is required to match those areas

with a common theme. In the case of a **WHICH** disc, the user is required to select which area is the odd-one out. The theme may be shape, colour, characters or numbers. The choice of area on the screen is made using the selected input device. On correct selection of an item a visual and auditory reward is given. In the event of an incorrect selection, a bleep is emitted. When an exercise has been completed a report can be shown and printed.

Package Name : WRITER

Target Users/Educational Purpose : Those visually handicapped with sufficient sight to read large characters on a monitor screen. To enable visually handicapped users to create documents in a simple way, with the text they are keying in appearing on the monitor screen in an appropriate size and colour.

Description : The program enables the user to create a text file on the disc. What is keyed in appears in large characters on the monitor screen and there are facilities for speaking and spelling the words using a speech synthesizer. The size and colour of the screen characters can be adjusted to suit the user.

SPECIAL OFFERS

Package Name : EXAMPLES

£5 Special Offer Program. The program allows the teacher to prepare a screen of text, specifying areas where the pupil can fill in his answers. This can be saved onto a floppy disc under a chosen name. In the lesson a screen can be chosen and this will appear on the monitor screen. What is now typed in will appear on the screen but only in the appropriate area(s) previously specified by the teacher. At any time the whole screen can be printed out. One example would be a set of sums with an appropriate space at the bottom of each for the answer to be put. The pupil would enter his first answer and then RETURN, his second answer and RETURN and so on. When finished he can print out the screen.

Package Name : SOUNDGRAPH

Target Users/Educational Purpose : Blind and partially sighted students in any mathematical discipline at any level up to and including higher education. **SOUNDGRAPH** is a tool which will enable blind and partially sighted students to view and create simple line graphs.

Description : SOUNDGRAPH consists of a single program which can be used both to view existing graphs and to create new ones; the one program fulfils both roles. The distribution disc contains the program, a number of data files containing example graphs, several environment files for the *Hal* screen reader, a text version of the manual and another program which will install **SOUNDGRAPH** onto a system disc.

Developed by: Ian Pitt

Package Name : TALKING JANE

£5 Special Offer Program. The program consists of one disc and the only keys a child needs to be able to use are the numbers, A (for Answer), and RETURN. Most totally blind children have no problem with this even if they are not fully conversant with a QWERTY keyboard. It is a fun way of introducing children to number patterns.

11. PRICE LIST/ORDER FORM

SEND TO: RCEVH, UNIV. OF B'HAM. SCHOOL OF EDUC., EDGBASTON, B'HAM. B15 2TT
PAYMENT: Cheque payable to UNIVERSITY OF BIRMINGHAM.
DISCOUNT: LESS 10% ON 2 PROGRAMS. LESS 15% ON 3 OR MORE PROGRAMS.

NAME AND ADDRESS:		TELEPHONE NO. (in case of query):			
		YOUR REF:			
		DATE:			
		DISC SIZE?: 3.5" OR 5.25"			
CENTRE SOFTWARE PROGRAMS:	BBC: £	IBM: £	NIMBUS 186: £	ARCH/A3000: £	ORDER £
AMAZING	14.00	14.00	14.00	-	
ANY JIGSAW	-	14.00	-	-	
ANYCON	14.00	14.00	14.00	-	
ANYCON BRAILLE	14.00	14.00	14.00	-	
BRAILLE DISPLAY	14.00	14.00	-	-	
BRAILLE TO TEXT	14.00	14.00	-	-	
BUILDER	-	14.00	-	14.00	
CEEFAX IN BRAILLE	No Longer Available				
CEREAD	No Longer Available				
COPIER	14.00	14.00	14.00	-	
DIRECTIONS	14.00	14.00	14.00	-	
EXAMPLES	5.00	-	-	-	
GAMES	14.00	14.00	14.00	-	
INTERSHEET WINDOW	No Longer Available				
JUST LOOK	14.00	14.00	14.00	-	
JUST TOUCH/TOUCH IT	20.00	-	-	-	
MICRO MIKE	14.00	14.00	14.00	-	
NEWSPAPER	No Longer Available				
NO LIMITS!	-	24.00	-	-	
PICTURE MATCH	14.00	-	-	-	
PRINT ACCESS (OCR)	-	35.00	-	-	
PRINTER	17.00	17.00	17.00	-	
PUZZLE	-	-	-	14.00	
QUESTIONS AND ANSWERS	14.00	14.00	14.00	-	
READER	14.00	14.00	14.00	-	
SCREEN READER WINDOW	No Longer Available				
SEQUENCER	14.00	-	-	-	
SMILE	48.00	-	-	-	
SNAKES	14.00	14.00	14.00	-	
SOUNDBOOK	-	-	-	14.00	
SOUNDGRAPH	-	5.00	-	-	
SOUNDINGS	-	-	-	14.00	
STRIKER	-	14.00	-	14.00	
TALKING BRAILLE CELL	14.00	14.00	-	-	
TALKING GRASS	14.00	-	14.00	14.00	
TALKING INTERSHEET	17.00	-	-	-	
TALKING JANE	5.00	-	-	-	
TALKING SCREEN READER	17.00	-	-	-	
TALKING TRANSCRIBE	14.00	-	-	-	
TALKING WORDWISE	17.00	-	-	-	
TELETEXT TUNING	No Longer Available				
TEXT TO BRAILLE	17.00	17.00	-	-	
TOUCH AND LISTEN	20.00	-	-	-	
TOUCH AND MATCH	20.00	20.00	20.00	-	
TOUCH AND PAINT	24.00	-	-	-	
TOUCH IN PAIRS	14.00	-	-	-	
TOUCH SCREEN DIRECTIONS	14.00	-	-	-	
TRACER	-	14.00	-	14.00	
TRANSCRIBE	14.00	14.00	-	-	
TYPEWRITER	14.00	14.00	14.00	-	
WALKABOUT	14.00	-	-	-	
WHICH/MATCH BLOCK	17.00	-	-	-	
WHICH/MATCH CHARACTER	17.00	-	-	-	
WHICH/MATCH ONE	17.00	-	-	-	
WHICH/MATCH WORD	17.00	-	-	-	
WHICH AND MATCH	-	35.00	35.00	-	
WORDWISE WINDOW	No Longer Available				
WRITER	14.00	14.00	14.00	-	
SUB TOTAL:	-	-	-	-	£
DISCOUNT (10% / 15%):	-	-	-	-	£
TOTAL DUE:	-	-	-	-	£