

Visual Impairment and ICT



**British Educational
Communications
and Technology agency**

JULY 2000

About this information sheet

This sheet aims to provide:

- an introduction to the growing emphasis on the place of information and communications technology (ICT) for pupils with visual impairment (VI)
- a list of organisations, both voluntary and commercial, which provide information, advice, training, hardware or software relevant to students who have VI
- details of some of the published sources of information and advice on ICT and VI.

This sheet can be accessed on the Internet:

- in summary at: <http://www.becta.org.uk/technology/infosheets/html/visual.html>
- in full as a pdf file at: <http://www.becta.org.uk/technology/infosheets/pdf/visual.pdf>

What is Visual Impairment?

The term 'visual impairment' covers a wide variety of conditions – some present since birth, some resulting from gradual deterioration of sight. The vast majority of sight-impaired people have some useful sight, although the degree of sight can vary greatly. Some are able to read newsprint, whilst others need large print of varying sizes. A minority relies on non-sighted methods of reading and writing, such as Braille, touch-typing and Moon. Only 7% of registered blind people use Braille, so it is by no means a pre-requisite that teachers of the sight-impaired know Braille. Moon is a simpler concept than Braille, being a system of raised symbols based on the Roman alphabet.

The type of partial sight from which a learner may suffer is extremely varied, reflecting the scores of different eye complaints which exist. It is therefore essential, before starting any teaching programme, to establish a student's degree of useful vision, and determine what lighting conditions suit best and what methods are to be used for reading and writing. A key issue in the assessment process is the stability of the condition. If it is felt that the condition may alter, it is essential that reassessment of the chosen equipment is built in to the review cycle.

In general, VI results in a complex of both literacy and numeracy problems. All reading and writing tasks are made slower and harder by visual loss.

The literacy and numeracy problems experienced by visually impaired people are likely to include:

- a lack of reading, writing and numeracy practice
- difficulty in scanning pages, or even in scanning words
- a cumulative 'falling behind' in education.

Typically, a child will write phonetically, or have spelling problems because of an imperfect memory of the shape and length of words. There are similar difficulties with numeracy.

How can ICT help?

For many VI or blind students, computers can enable access to the curriculum by providing alternative methods of reading and recording work. Not all learners require large print, but high-contrast print is easier for many learners to see than their own hand-written work. For these students, a word processor with suitably sized fonts on screen may prove useful, especially if the computer screen allows for good contrast, with high-quality resolution and picture steadiness.

There is a range of alternative hardware and software features which can make it easier for a VI person to use a computer. Of the software features, many are offered within standard Windows but are also offered by a range of other software packages.

General software features

Brightness

The light behind text on screen often makes it easier for someone with VI to read text on screen, rather than on the printed page.

Colour combinations

Some colour combinations are easier to read for particular sight conditions, and VI users find it beneficial to be able to change either the text or the background colour, or both. (Within Windows this is done via 'Settings/Control Panel/Accessibility').

Fonts

Many VI students find it useful to be able to choose a particular font and to avoid fixed-space fonts, which may be more difficult to read. A plain font, with sans serif letters or certain letter shapes, is often easier to read.

Mouse pointers

It is usually possible to change the shape and size of a mouse pointer, and show mouse trails to make it easier to locate the cursor on screen. (Within 'Settings/Control Panel/Mouse' in Windows).

Print size

Large print is often helpful to VI students, whether it be on screen or on printed-out documents. On screen, for instance, it can be helpful to make the text of a whole document larger (In Windows, for instance, use the 'Zoom' facility within 'View' in the top bar menu). This does not affect the size of the text when printed out. Printing in large fonts is useful for students to print out their own work, with perhaps a smaller version for their teacher, and for teachers to print out teaching materials for the visually impaired. If wishing to set large print for printing out rather than for viewing on screen this is generally set at the print command stage. (For instance, in Windows: within 'File' in the top bar menu: 'Print/Properties/Effect/enlarge'). Alternatively, a document can be set as large print throughout using the text sizing options within the software, and these settings will appear both on screen and in print. Inkjet or laser printers are popular for their clear crisp print.

Sound effects

Many systems have a range of sounds which can alert blind users when they maximise a window, for example. (In Windows, for instance, these are under 'Settings/Control Panels/Sounds').

Input/output options

For those with VI, the use of mouse pointers and pull-down windows on screen can present problems. Although there are utility programs available for most computers, many students find the use of keystroke alternatives easier.

Braille

For learners inputting in Braille, Braille translation software can produce a text version of the learner's work for their teacher to read. It can be very beneficial for some students to print out in Braille or softbraille using an embosser. Written text can be converted to Braille using a scanner and a Braille printer. Braille keyboard computers are available with synthesised speech or moving Braille output.

The Mountbatten Brailier (from PulseData International (UK) Ltd) is a useful innovation, being a cross between a laptop computer and a traditional Brailier. Document files can be created with the usual facilities of retrieval, and even correction, in Braille, and it has the added advantage of quiet operation, which is helpful in a mainstream classroom.

High contrast key labels

It can be very helpful for learners to have their keyboard labelling altered. Some learners may prefer large letters, others may like labels in a variety of textures or colours for frequently used keys. Bold upper-case letter stickers in yellow and black or white and black are available from *Techno-vision*

Systems, and high-contrast letters are available from *Inclusive Technology*. A plastic keyboard sleeve with black letters on a yellow background can be used (*Kid Glove* from *Inclusive Technology*), which can be lifted off when other pupils are using the keyboard.

Overlay keyboards

An overlay keyboard can be very helpful: being a flat 'tablet' on which an appropriate overlay is placed showing, for instance, a replication of the screen from which an option can be pressed. *Intellitools* is an overlay keyboard which can be used with tactile overlays, and the *Intellitools Activity Exchange* (<http://www.intellitools.com/>) gives sample lessons, games and exercises.

Scanners

Text can be scanned in and then enlarged on screen or converted to Braille, or 'read' aloud by a speech synthesiser attached to the computer.

Speech recognition

Voice input has considerable benefits for VI pupils who can speak to their computer and produce correctly spelt documents, but there are issues with the use of sound in the mainstream classroom.

A speech synthesiser with screen-reading software can be attached to the computer to read back text on the screen, or some computers have a built in speech capability. Synthesised speech still has a robotic quality, as the computer creates the words from its store of phonetic possibilities. However, more sophisticated sound technology is offering a better quality of speech and is becoming more affordable. The specialist screen-reading software, such as *Jaws* from Dolphin Computer Access, is necessary for those with severe difficulties. For those with fewer difficulties, there are products which add speech support to standard software, such as *Write:OutLoud* from Don Johnston Incorporated and *TextHelp* from Lorien Systems. Multilingual speech synthesisers are also now available from Dolphin Computer Access. Digital speech can be recorded via a microphone and attached to words and pictures. Calculators, thermometers and electronic dictionaries, all with in-built speech, may also be useful.

Touch screens

The use of touch screens at the Royal School for the Blind in Liverpool has shown that pupils can often see more, partly because some eye conditions affect the ability to focus. Visual tracking is much improved when pupils do not constantly have to look from screen to keyboard and back again.

Additional considerations for learners with VI

In the longer term, VI pupils need to develop touch-typing skills. Examples are *Touch Type* (from SEMERC and Inclusive Technology), where you see the letter, hear it and type it, and *Touch-type, Read and Spell* (from Philip Alexandre), which has feedback and a scoring system which motivates children. A pilot project in Greenwich using *Touch-type, Read and Spell* reported that VI pupils showed a marked improvement in listening skills and spelling, as well as learning to be accurate typists.

The tape recorder continues to be an invaluable portable means of recording information for VI pupils from their own class notes and personal letters to instructions and lessons, and for listening to taped books.

A number of learners will have additional literacy problems, possibly because we tend to focus on visual memory as a strategy for reading and spelling. Skimming and scanning text can be difficult tasks, as each section may need to be scrutinised in order to extract meaning. It is important that the provision of equipment is seen as integral to the development of the strategies required for the user to access the curriculum effectively. It is important to build regular access to the technology into the curriculum, as experience has shown that without continuity of contact it is difficult for students to retain a mental map of the system.

Support may be needed to design a screen layout to meet individual requirements, so that a student can load software and files independently, and edit and save his/her work. Technology such as quality printers and enlarging photocopiers can be used to produce large-print versions of work materials. Consider ambient lighting conditions in order that the learner can make effective use of his vision. Magnifiers and additional lighting may be required, taking care not to allow too much light to

interfere with the screen display. Screen glare can be alleviated by the use of anti-glare filters or by adjusting the on-screen colours. The use of copyholders and angled work surfaces may be helpful.

Ensure that the equipment is powerful enough to run your required software effectively. It is also important to make sure that the computer can be connected to all the peripherals required. Support will be needed to ensure that any chosen combination of peripherals (printers, scanners, synthesisers and so on) is able to work together.

The increasing use of images as well as text, in particular on CD-ROMs and in other multimedia materials, can increase the difficulties experienced by students with VI. Software that enlarges areas of the screen or converts text into speech can help, but not always. However, software displaying bright attractive moving images can provide valuable visual stimulation, encouraging children with VI to use their vision and improve their tracking skills. Examples are, *Switch Suite* and *First Looks – Patterns* from Inclusive Technology.

Access to the Internet can be difficult, as not all sites have built-in accessibility for users with VI, although some specialist Web browsers enlarge text and speak the contents of a Web page. There are still problems, however, with text in magazine or column format, as the screen reader will read from left to right across the columns. This can be overcome by using the text-to-speech Internet enhancer, BETSIE, from the BBC (<http://www.bbc.co.uk/education/betsie/>), which reorganises Web pages into a more logical format, removing all the images and the unnecessary formatting. This makes it easier for screen readers to read the page to an on-line user. Software can be installed on the PC of the visually impaired person. PwWebspeak software is a talking Web browser that orders information from a Web page into an understandable layout and reads it in synthesised speech. Further information is available at: <http://www.soundlinks.com>. Information on a project using pwWebspeak with visually impaired children is available in print from the RNIB and at: <http://www.rnib.org.uk/technology/iprsummary.htm>.

Conversion of PDF files is possible via the Internet using the e-mail facility explained by Adobe at http://access.adobe.com/access_email.html. This Web page gives e-mail options to convert PDF files to plain text or HTML format to make them more accessible to screen-reading software. An e-mail conversion provided by the Trade Research Center is also listed.

One of the best uses of the Internet is to help people to keep in touch not just with world events but also with one another. E-mail is being used to give VI pupils access to other pupils with similar experiences – for example, as an e-mail pen pal scheme at the VI resource base at Alderman Callow School in Coventry. This can offset the possible feelings of isolation as pupils with VI are integrated into mainstream schools.

Publications

You should check the Bookshops link under 'Internet sources' (below) for a wider range of publications.

Sensory Series (CD-ROMs) and a video series

These give details of information and support for visually impaired learners, including ICT. Available from the Scottish Sensory Centre. SEE details of this centre under 'Organisations' (below).

Special Needs and ICT information sheet

Becta. 2000 *Free*

<http://www.becta.org.uk/technology/infosheets/html/senict.html>

Provides information on generic special needs and ICT software, hardware, organisations and publications.

Journals

British Journal of Visual Impairment

Covers all aspects of VI, including the occasional article on technology for all those professionally concerned with children and adults who have VI. Published three times per year.

The Royal London Society for the Blind, Unit 1, Park Royal Link, Old Oak Lane, LONDON NW10 6UD
Tel: 020 8838 438

New Beacon

A monthly magazine for visually impaired people and their families, as well as voluntary and professional workers in the field.

RNIB, PO Box 173, PETERBOROUGH PE2 6WS Tel: 0345 023153

Visibility

Termly, for parents and professionals interested in the education of visually impaired children.

RNIB Education Information Service, 224 Great Portland Street, LONDON W1N 6AA Tel: 020 7388 1266

Organisations

General

Please note that, for brevity and ease of maintaining these sheets, the details of these organisations, central to the whole field of Special Needs, are given only in brief on this sheet, with the full details held on the main special needs information sheet entitled 'Special Needs and ICT'.

ACE (Aiding Communication in Education) Centre Advisory Trust
 ACE (Aiding Communication in Education) Centre North
 CENMAC (Centre for Micro-Assisted Communication)
 Inclusive Technology Ltd
 SEMERC

Specific to VI

British Computer Association of the Blind (BCAB)

BM Box 950, London WC1N 3XX

Tel: 0131 535 4101 E-mail: info@bcab.org.uk

<http://www.bcab.org.uk/>

This charity is linked with the RNIB. It is an organisation of visually impaired people who use ICT. Their main aim is to promote the use of ICT by visually impaired people in education, employment and the home. Information is provided on the latest systems and access software. Courses and workshops are held, and also an annual seminar covering matters of general interest and future progress. There is a scholarship fund to help members with training needs. The DataTape magazine is produced free and is available from the RNIB.

British Royal Society for the Blind Dual Sensory Loss Service (BRSB)

Still House Lane, Bedminster, Bristol BS3 4EB

Tel/Minicom: 0117 953 7750 Fax: 0117 953 7751 E-mail: BRSB@compuserve.com

Provide information services for deafblind people, and a library of over 70 topics available on request in any language or format.

British Wireless for the Blind

Gabriel House, 34 New Road, Chatham ME4 4QR

Tel: 01634 832501 Fax: 01634 817485 E-mail: info@blind.org.uk

<http://www.blind.org.uk/frames.html>

An independent charity providing radios and other audio equipment for the blind and partially sighted.

Clear Vision Project

Linden Lodge School, 61 Princes Way, London SW19 6JB

Tel: 020 8789 9575 Fax: 020 8780 2712

A subscription-based nationwide lending library of Braille/print children's books.

Deafblind UK (The Association of Deafblind and Dual Sensory Impaired People)

Head Office, 100 Bridge Street, Peterborough PE1 1DY

Tel/Minicom: 01733 358100 Fax: 01733 358356 E-mail: info@deafblind.org.uk

Helpline: 0800 132320

Technology Services: Tel.(text/via Typetalk) 01733 358991 (Typetalk linkline 0800 515152)

E-mail: hasicom@deafblind.org.uk

A charity providing many services, including a 24-hour free helpline and communication skills training for workers with deafblind people. Other important services are the Usher Syndrome Project run by

the Scottish Office of Deafblind UK (details below), and the Technology Services Section (based at Head Office) which deal specifically with access to ICT.

Scottish Office, 21 Alexandra Avenue, Lenzie G66 5BG

Tel/Minicom: 0141 777 6111 Fax: 0141 775 3311 E-mail: info@deafblindscotland.org.uk.

E-mail : s.joyce@deafblindscotland.org.uk

Stephen Joyce is the co-ordinator for the Usher Syndrome Project mentioned above.

<http://www.deafblindscotland.org.uk/>

Electronic Aids for the Blind

Suite 4B, 73-75 High Street, Chislehurst, Kent BR7 7AG

Tel: 020 8295 3636 Fax: 020 8295 3737

A charity which provides access technology for visually impaired people.

National Listening Library

12 Lant Street, London SE1 1QH

Tel: 020 7407 9417 Fax: 020 7403 1377 E-mail: info@listening-books.org.uk

<http://www.listening-books.org.uk>

A charity which provides a postal audio book library to people in the UK who have difficulty reading in the normal way.

Partially Sighted Society

Queen's Road, Doncaster DN1 2NX

Tel: 01302 368998 Fax: 01302 368998

Offers mail order items such as talking clocks and large-print playing cards. Produces a subscription magazine called '*Oculus*', giving information and advice on current developments and events.

Queen Alexandra College

49 Court Oak Road, Harborne, Birmingham B17 9TG

Tel: 0121 428 5050 Fax: 0121 428 5048 E-mail: enquiries@qac.ac.uk

<http://www.qac.ac.uk/>

Provides assessment, rehabilitation, work preparation and residential education and training for adults aged 16 to 63 who have a visual impairment. Situated in a residential area and yet near to the city, QAC offers a wide choice of individually tailored programmes to meet a wide range of individual needs.

Research Centre for the Education of the Visually Handicapped (RCEVH)

University of Birmingham, School of Education, Edgbaston, Birmingham B15 2TT

Tel: 0121 414 3344 Fax: 0121 414 3971 E-mail: J.R.Whittaker@bham.ac.uk.

This centre assesses and identifies software that will allow visually impaired students to access the National Curriculum. A catalogue of the software developed at the centre is available.

Royal National College for the Blind (RNC)

College Road, Hereford HR1 1EB

Tel: 01432 265725 Fax: 01432 353478 E-mail: md@rncb.ac.uk

<http://www.rncb.ac.uk/>

Caters for people who are blind or partially sighted. Based on a large residential campus, where students prepare for a wide range of nationally recognised academic and vocational qualifications. RNC's students are drawn from all over the UK and overseas.

Royal National Institute for the Blind (RNIB)

224 Great Portland Street, London W1N 6AA

Tel: 020 7388 1266 Fax: 020 7388 2034 E-mail: CServices@rnib.org.uk

<http://www.rnib.org.uk/>

Regional Education Centres: for details contact RNIB helpline Tel: 0345 669999

RNIB Talking Books Service, Mount Pleasant, Alperton, WEMBLEY HAO 1RR

Tel: 020 8903 6666 Fax: 020 8903 6916

A leading charity working for blind and partially sighted people throughout the UK. Their Web site contains general information about RNIB, including annual reviews, corporate strategy and a list of RNIB addresses. There are sections on activities and services, news and events, together with an international guide to agencies and links to other sites. The RNIB Technology Information Service provides information and support to use technology at home, in education or employment. Their

range of fact sheets covers topics from screen magnification to speech output:
<http://www.rnib.org.uk/technology>, Tel: 024 7636 9555 E-mail: technology@rnib.org.uk. The RNIB also produces a fact sheet on the *deafblind manual alphabet* which can be found at:
<http://www.rnib.org.uk/wesupply/fctsheets/dbmanual.htm>. There is an area of RNIB's Web site which gives help on making information accessible to blind people. Included are their particular recommendations and examples of accessible Web sites, useful links and how to join their campaign:
<http://www.rnib.org.uk/access/welcome.htm>. There is an e-mail newsletter and a video called 'Web sites that work', both available from <http://www.rnib.org.uk/digital/>
 Tel: 020 7391 2191 (Julie Howell)

RNIB Vocational College
 Radmore Road, Loughborough LE11 3DS
 Tel: 01509 611077 Fax: 01509 232013
<http://www.rnib.org.uk/voccoll/index.htm#top>
 The college provides a Basic Education and Skills Service.

Scottish Sensory Centre
 Moray House Institute of Education, Holyrood Road, Edinburgh EH8 8AQ
 Tel: 0131 651 6501 Fax: 0131 651 6502
<http://www.ssc.mhie.ac.uk/>
 Their VI Service is at: <http://cil.gcal.ac.uk/connectd/info/groups/VisImpService.html>
 The Centre promotes and supports new developments and effective practices in the education of children and young people with sensory impairments, i.e. visual, hearing or dual (deafblindness) sensory impairment.

Talking Newspaper Enterprises Ltd (TNEL)
 National Recording Centre, Browning Road, Heathfield, East Sussex TN21 8DB
 Tel: 01435 866102 Fax: 01435 865422 E-mail: info@tnel.co.uk
<http://www.tnel.co.uk/>
 The commercial division of the charity 'Talking Newspaper Association' (TNAUK). The TNAUK provides audio cassettes of national newspapers and magazines. The TNEL has extended the service to cover information from, for example, government departments, companies, and local authorities.

Equipment suppliers

CR Clarke & Co (UK) Ltd
 Unit 3
 Betws Industrial Park
 Ammanford
 Dyfed SA18 2LS
 Tel: 01269 592329 Fax: 01269 591890
 E-mail: sales@crclarke.co.uk
<http://www.crclarke.co.uk/>

Don Johnston Special Needs Ltd
 18 Clarendon Court
 Calver Road
 Winwick Quay
 Warrington WA2 8QP
 Tel: 01925 241642 Fax: 01925.241745
 E-mail: jmunro@djsn.u-net.com
<http://www.donjohnston.com/uk/>

Concept Systems
 143 Derby Road
 Stapleford
 Nottingham
 NG9 7AS
 Tel: 01159 391391 Fax: 01159 490390
 E-mail: info@conceptsystems.net
<http://www.conceptsystems.net/>

Flexible Software Ltd
 PO Box 100
 Abingdon OX13 6PQ
 Tel: 01865 391148 Fax: 01865 391030
 E-mail: info@flexible.co.uk.
<http://www.flexible.co.uk>

Dolphin Computer Access Ltd
 PO Box 83
 Worcester WR3 8TU
 Tel: 01905 754577 Fax: 01905 754559
<http://www.dolphinuk.co.uk/>

Force Ten Company Ltd
 183 Boundary Road
 Woking GU21 5BU
 Tel: 01483 762711 Fax: 01483 756303
 E-mail: enquiries@forcetenco.co.uk
<http://www.forcetenco.co.uk/>

Hagger Electronics
 Unit 22, Letchworth Business Centre West
 Avenue One
 Letchworth SG6 2HB
 Tel: 01462 677331 Fax: 01462 675016
<http://www.hagger.co.uk>

Lorien Systems
 Enkalon Business Centre
 25 Randalstown Road
 Antrim
 County Antrim
 Northern Ireland BT41 4LJ
 Tel: 01849 428105 Fax: 01849 428574
 E-mail: info@texthelp.com
<http://www.loriens.com/>

Philip Alexandre
 Touch-type, Read and Spell
 PO BOX 535
 Bromley
 Kent BR1 2YF
 Tel: 020 8464 1330
 E-mail: p.alexandre@ttrs.co.uk
<http://www.ttrs.co.uk>

Pia Publishing
 1st floor, 102 Bute Street
 Cardiff CF10 5AD
 Tel: 029 2030 1000 Fax: 029 2030 1019
 Dotline: 029 2030 1015
 E-mail: info@pia.co.uk
 Braille E-mail: braille@pia.co.uk
<http://www.pia.co.uk/>

Portset
 Shield House
 Brook Street
 Bishops Waltham
 Southampton SO32 1AX
 Tel : 01489 893919 Fax: 01489 893320
 E mail: admin@portset.co.uk
<http://www.portset.co.uk>

Professional Vision Services Ltd
 Wellbury House
 90 Walsworth Road
 Hitchin SG4 9SY
 Tel: 01462 420751 Fax: 01462 420185
 E-mail: sales@professional-vision-services.co.uk
<http://www.professional-vision-services.co.uk/>

PulseData International (UK) Ltd
 Blotts Barn
 Brooks Road
 Raunds
 Wellingborough
 Northamptonshire NN9 6NS
 Tel: 01933 626000 Fax: 01933 626204
 E-mail: helenc@pulse-data.co.uk
<http://www.pulsedata.co.nz>

Queen Alexandra College
 49 Court Oak Road
 Harborne
 BIRMINGHAM
 B17 9TG
 Tel: 0121 428 5050 Fax: 0121 428 5048
 E-mail: enquiries@qac.ac.uk
<http://www.qac.ac.uk/>

RNC Enterprises
 Royal National College for the Blind
 College Road
 Hereford HR1 1EB
 Tel: 01432 265725 Fax: 01432 353478
 E-mail: md@rncb.ac.uk
<http://www.rncb.ac.uk/>

Sight & Sound Technology
 Cantel House
 Anglia Way
 Moulton Park
 Northampton NN3 6JA
 Tel: 01604 798070 Fax: 01604 798090
 E-mail: sales@sightandsound.co.uk
<http://www.sightandsound.co.uk/>

Techno-Vision Systems Ltd
 76 Bunting Road Industrial Estate
 Northampton NN2 6EE
 Tel: 01604 792777 Fax: 01604 792726
 E-mail: info@techno-vision.co.uk
<http://www.techno-vision.co.uk/>

Telesensory
 1 Watling Gate
 297-303 Edgware Road
 London NW9 6NB
 Tel: 020 8205 3002 Fax: 020 8205 1192
 E-mail: uk@telesensory.com
<http://www.telesensory.com/>

Internet

There are many Internet sources which may be of help, and the URLs are cited alongside the organisation, publication or other source to which the site pertains. This section is limited to sources believed to be available only via the Internet, or foreign sites where access will be greatly eased by making use of the Internet.

General

For brevity and ease of maintaining these sheets, the details of Internet sources central to the whole field of Special Needs are given on the 'Special Needs and ICT' sheet rather than repeating them on each specific sheet. Some of those general sources may also be able to provide you with assistance.

Bookshops

<http://www.takethat.co.uk/links.htm>

Index page giving access to a wide range of bookshops including, for example, Amazon, Internet Bookshop (WH Smith) and Book PI@ce.

VI Sites

<http://www.deafblind.co.uk>

This Web resource for the deafblind gives information covering Internet resources, conferences and courses, equipment, service providers and so on. It also has a bibliography.

<http://www.deafblind.com/>

An A-Z to Deafblindness. A Web site in several languages, giving information ranging from resources on the Internet to organisations, courses and equipment suppliers. It also gives the Deafblind Manual Alphabet.

<http://newsindex.com/>

A news search engine with a VI facility.

<http://www.nlbuk.org/>

National Library for the Blind

This site has a virtual reference library, a 'what's on' section, professional support, and an access helpline with information on Braille, Moon, Audio and adaptive ICT, including accessible Web site design.

<http://www.nyise.org/access.htm>

Blindness Resource Center

This is part of the New York Institute for Special Education Web site, and covers the latest technological advances available for the VI. It gives guidance and product information on, for example, designing accessible Web sites and access resources such as talking Web browsers.

<http://www.winguide.co.uk/>

Winguide: Windows Concepts Training and Documentation

Guides and courses, for users and trainers, on Windows for blind and visually impaired users and other professionals.

While every care has been taken in the compilation of this information to ensure that it is accurate at the time of publication, Becta cannot be held responsible for any loss, damage or inconvenience caused as a result of any error or inaccuracy within these pages. Although all references to external sources (including any sites linked to the Becta site) are checked both at the time of compilation and on a regular basis, Becta does not accept any responsibility for or otherwise endorse any information contained in these pages including any sources cited