



A guide to some high technology communication and leisure products

DLF Factsheet

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INTRODUCTION

This factsheet aims to provide first stop information and guidance on a range of high technology products and services designed to make life easier for older and disabled people. The equipment covered includes computer-based solutions, TV, Radio and Audio Systems.

The first section focuses upon computer-based equipment. This includes aids and adaptations which may make using a computer easier if you experience difficulty entering information to the computer or obtaining information from it.

The second section deals with audio/visual leisure equipment and services.

Information within this fact sheet is an outline of the equipment available and is intended as a guide to direct you to other organisations and inform you prior to approaching suppliers. In-depth advice on accessible computer-based solutions is contained in fact sheets and skill sheets produced by organisations such as AbilityNet, Royal National Institute of the Blind, Royal National Institute of Deaf People and Communication Matters. See 'Useful Organisations' at the end of this fact sheet for contact details.

For up-to-date product and supplier information, please contact our equipment helpline, open Monday to Friday 10am – 4pm, Tel: (0845) 130 9177 (calls charged at local rate); or if you use a Textphone

(020) 7432 8009 (calls charged at standard rate).

Alternatively, you can write to our letter enquiry service, or contact us via email at advice@dlf.org.uk. To help us give you a concise and informative reply, please provide us with as much detail as possible including the difficulties you are having and any solutions you have considered, including equipment ideas.

STATUTORY PROVISION AND OTHER SOURCES OF FUNDING

STATUTORY PROVISION

The supply of equipment may depend upon your age, your financial circumstances and the type and extent of your disability.

For adults

Home computers, and leisure equipment are not regarded as daily living needs, and are therefore not supplied via Community Occupational Therapist referrals/recommendations.

If you are in paid employment and need assistive technology to enable you to access a computer at work, then you may be entitled to help with the cost and provision of equipment through a scheme called Access-To-Work (ATW). The scheme is run by the Department for Work and Pensions, and is designed to pay for the additional cost of aids and

adaptations needed because of a disability. In some circumstances, a part-time support worker may be funded to perform these tasks if you are unable to do them for yourself. For more information, contact the Disability Employment Adviser (DEA) at your local Job Centre or JobCentrePlus office.

For children at school

If a child has a disability, is under the age of 18 and still at school, access to funding for equipment may be available if they have a Statement of Special Educational Needs. For further information contact your local education authority.

For students in further or higher education

If you are a student in Higher Education, you may be entitled to a Disabled Students' Allowance, It is awarded by your local authority (LA) to cover specific additional costs resulting from a disability. For example, these costs may include the initial cost of a computer, initial set up and instruction in use, any required accessories and software, and/or an allowance towards the purchase of text books and photocopying. If you are a student in Further Education, you may be entitled to funding through a scheme called the Access To Learning Fund.

For additional information on help available to students, contact an organisation called SKILL – the national

bureau for students with a disability. (See 'Useful Organisations' for contact details)

OTHER SOURCES OF HELP AND FUNDING

Charitable Trust Funds

Many Charitable Trusts provide financial assistance for a number of purposes, including disability equipment. When applying to trusts, it is always important to check to see if you meet their criteria for giving. Charities can only give grants in accordance as outlined in their constitution. Some funding bodies may only accept applications by referrals from a Social Worker or other professional who knows you. Other charities may allow you to apply on your own behalf.

Most libraries hold directories of suitable Charitable Trusts in their reference section. Titles include: *Directory of Grant Giving Trusts* and *A Guide to Grants for Individuals In Need*. The following fact sheets are available:

- *Sources of obtaining funding for equipment for older and disabled people* (available from the Disabled Living Foundation)
- *Funding for an adapted computer* (available from AbilityNet)

HELP WITH THE SUPPLY OF EQUIPMENT

In addition to grant-giving organisations or trust funds, some charities provide equipment instead of finance. For example, many large companies, donate

their IT equipment to charities for recycling. The machines are refurbished and supplied to individuals in need. Contact AbilityNet for further information. The Wireless for the Blind Fund (BWBF) provides free (on a permanent loan basis) a radio, radio-cassette or radio-CD player, to individuals whom are registered blind. Products that are loaned have been specifically designed to be easy-to-use for people with sight loss. (See 'Useful Organisations' for contact details).

DISABLED LIVING CENTRES (DLC'S)

If you decide to purchase equipment privately, it is best to try and compare the different ranges first. You may have a Disabled Living Centre near you

There are 52 Disabled Living Centres in the UK. Their role is to offer solutions to practical difficulties in daily living to disabled people, their carers and people who work with or for them on a professional basis. They provide unbiased, expert advice and information about equipment, how much it costs, and where to get it, and offer the opportunity to try out a wide range of products. Advice and information about other issues related to daily living can be given.

For details of your nearest centre, contact Assist UK (see Useful Organisations section), or look at their website www.assist-uk.org . It is always advisable to contact the centre first to check they

have a display of the specific products you are looking for. Some may also operate an appointment only policy

COMPUTING EQUIPMENT AND ACCESSORIES

Computers, together with any required accessories and software, can offer a useful and speedy means of communicating, obtaining information and pursuing leisure interests. For example, a computer set up with the necessary equipment and software can be used to:

- Print a letter, document or greeting card.
- Write an email to another person or organisation
- Make and receive telephone calls, with a live video of the other person if both you and the other person have the necessary equipment.
- Look up information on the internet, for example about products, organisations, services, places or even your families ancestors
- Fill in application forms online
- Pay bills and manage bank accounts
- Shop online for anything from groceries to televisions
- Read printed material out loud from books, magazines, letters and so on
- View and/or print photographs from digital cameras
- Play DVDs and CDs, access radio and TV
- Play games
- Control environmental control systems

For persons with physical, sensory, and/or cognitive disabilities, computers can also be used to compensate for various limitations and produce the same results as persons without those limitations. This section gives an overview of some of the options available to assist in making computers easier to use.

CHOOSING A COMPUTER TO SUIT YOUR NEEDS

Nowadays, there are a number of different types of computer systems designed to meet a variety of needs and applications. For example, some laptops are designed to be as small and light as possible for ease of portability whilst others have large wide screens to suit the playback of films from DVD. You are therefore strongly advised to seek professional advice about the best computer for you, and the necessary specification, from an organisation such as AbilityNet before making a purchase.

AbilityNet is a charity that offers an information service about making computer systems easier to use, and provides advice on adaptive computer technology. They also offer consultancy and assessment services to assist in choice and use of computer equipment at work and at home. They have centres established in Bristol, Warwick, Cambridge, Liverpool, London, Reading, York, Weybridge and Edinburgh. They also produce a number of skill sheets and fact sheets which are available on request or from their website. A selection of these

fact sheets are referred to, when relevant, below.

The main types of Computer include a Personal Desktop Computer, a Laptop or Notebook or a PDA (handheld computer). The majority of advice and equipment below can be used with desktop, laptop and notebook computers.

The level of greater independence that computers can provide cannot be utilised if the user is unable to input information or readily access the output. Consequently this section of the fact sheet covers:

- Operating and entering information to the computer (Input)
- Receiving information from the computer (Output)

OPERATING AND ENTERING INFORMATION TO THE COMPUTER (INPUT)

Information is usually entered to a computer via a keyboard and mouse. Users may experience difficulty using these inputs, perhaps because of difficulties with motor function or visual limitations. Solutions include:

- Changing settings in the computer so that only one key needs to be pressed at a time or to ignore unintentional repeated pressing of keys.
- Changing the appearance of the cursor on the screen, which the mouse controls, so that it is larger or has more contrast.
- Placing sets of large high contrast letters on the keyboard so the keys

are easier to see. Braille keytop overlays provide blind computer users with the Braille equivalent of the information printed on the keys.

- Placing a **keyguard** over the keyboard. Keyguards can help reduce the number of unwanted keystrokes (perhaps due to someone with limited manual coordination hitting more than one key at a time), keep the keyboard safe from spills and help individuals identify the keys.
- Using **large key keyboards** or **one-handed keyboards**
- Replacing the mouse with a **joystick** or **trackball**. Trackballs allow individuals with limited hand and arm motion to spin a rotating ball in the direction they wish the cursor to move as an alternative to having to move the entire mouse.
- Keyboard alternatives also include devices and software which allow keyboard input by means of **puff/sip (pneumatic) switches**, **large tactile switches**, or **scanning selection**.
- Using software which predicts the words as you enter them (**word predictive software**)
- Using an **onscreen keyboard** and a **switch** (there is a wide selection of switches to choose from) instead of a keyboard and mouse.
- Using an **onscreen keyboard** and a **headpointer switch**. The pointer is moved around the screen by small head movements.
- Using a **touch screen** instead of a keyboard and mouse. These monitors, or monitor attachments,

allow the user to select areas displayed on the monitor by touching them with their fist, finger, headwand or mouthstick.

- Using **voice recognition software** as an alternative to typing on a keyboard. The user's voice can control commands and input text.
- **Eye tracking systems**. For people with very limited movement there are devices which enable control of the PC by following the movement of the users eyes. An eye controlled input system tracks the eye movements of the user as he/she looks at different squares on an on-screen keyboard. The system accepts the key indicated on the keyboard if the user's gaze remains on that square for longer than a few seconds.

AbilityNet have produced the following skill and fact sheets which explain how to make these changes to computer input and obtain any necessary equipment.

- Keyboard - Single Handed Use – StickyKeys
- Keyboard – Tuning the Response – FilterKeys
- Keyboard - Dvorak Layout,
- Mouse - Adding Pointer Trails
- Mouse - Enlarging your mouse pointer
- Mouse - Locating the Pointer
- Mouse - Slowing Down the Double Click Speed
- Mouse - Slowing it Down
- Mouse - Using the keyboard – MouseKeys
- Keyboard and mouse alternatives

- Voice recognition software – an introduction

RECEIVING INFORMATION FROM THE COMPUTER (OUTPUT)

Information is usually viewed or read on a computer monitor. For anyone that has difficulty viewing the monitor the following techniques and equipment may be used:

- Changing the size and type of font, background colour and monitor resolution.
- Using a **larger screen**
- Changing the size, colour or contrast of the mouse pointer
- Visual beep indicators alert individuals with hearing difficulties to computer "beeps" (which are produced when something is wrong with the computer, when a function of the computer cannot be performed or when the computer generates a question or message for the user) by means of a visual message on screen.
- Using **software which magnifies** a portion of the screen
- Using **screen reader software** to read out information displayed on the screen with a synthetic voice (speech synthesizers). The voice output can be personalized according to gender and age and with different accents so that a young British girl sounds like a young British girl and an American man sounds like an American man.

Voice output can also assist individuals with learning disabilities by providing auditory reinforcement to visual learning.

- Using screen reader software to convert information displayed on the screen to Braille output. Refreshable **Braille displays** allow individuals who have visual difficulties to read screen output through tactile feedback. Small knob-shaped pins in rows and columns simulate Braille text. The display is updated when the user has read what is on the display, the pins change according to the text on the screen and the user continues reading. Alternatively, paper output in Braille can be obtained by using a Braille printer and text-to-Braille translation programs.

AbilityNet have produced the following skill and fact sheets which explain how to make changes to the computers output and discuss any necessary equipment.

- Vision Impairment and Computing
- Choosing your preferred colours in Windows
- Choosing your preferred text style in Windows
- Making Text easier to see in Windows
- Screen Display Options in Windows XP
- Windows Magnifier

The following RNIB fact sheets also detail relevant equipment and techniques:

- Using a computer with low vision
- Using a computer without vision
- What is an electronic reading aid?

ASSISTIVE AND EDUCATIONAL SOFTWARE

The functions that a computer can perform are governed by 'software' or 'programs' which are usually contained on a CD or DVD and loaded onto the computer. Software packages have been produced to develop:

- office and financial management
- Photo editing and enhancement
- cognitive and motor skills training,
- communication skills training,
- word prediction software
- organisational skills and mind maps
- text to speech and phonetic support software
- voice recognition software
- learning living skills,
- employment skills
- environmental control,

The price of software can vary considerably from free software to packages costing hundreds of pounds. Ability Net maintain a list of 'Useful low cost programmes' on their website as does the OATS (Open source Assistive Technology Software) website. Priory Woods School maintain a guide to educational software they recommend and

detail how skills can be built using switches for computer control. Retailers and manufacturers of computer software offer their own selection of programmes.

- Ability Net
<http://www.abilitynet.org.uk>
- Assist- I.T.
<http://www.assist-it.org.uk>
- Priory Woods School
<http://www.priorywoods.middlesbrough.sch.uk/>
- OATS
<http://www.oatsoft.org/>

SOUND AND VISION EQUIPMENT AND SERVICES

There are literally thousands of TV's, radios, DVD/CD players and other audio/video products coming onto the market today. Ensuring a new product is suitable for your needs and is easy-to-use is getting ever increasingly difficult.

This section offers some general pointers to buying sound and vision equipment and details changes resulting from the introduction of digital broadcasting.

Listed below is a simple check-list which may help you choose a suitable product:

- Does it have features I will never use?
- Should I choose 'Analogue or 'Digital'?
- Does the product need to be lightweight and portable?

- Does it require headphones or does it have speakers?
- Can I operate the controls?
- Can I read the displays?
- Is the product affordable?

TV AND RADIO BROADCASTING SERVICES

Background to services

Technological advances in radio and TV broadcasting have led to a rapid expansion in the number of channels that are available, a greater choice of equipment, and changes in the way programmes can be broadcast into your home. Traditionally, a few broadcasters sent their programming through the airwaves (known nowadays as terrestrially) from a transmitter. The broadcast signal would then be carried 'over the air' to your home and picked up, via a receiving aerial by your radio or TV set. The picture and sound quality often varies and can be prone to electrical interference and changes in atmospheric weather conditions.

Nowadays these relatively poor quality (analogue) signals are being replaced by Digital Broadcasting Services. Digital signals offer much clearer reception, more channels and additional facilities.

Whenever and however you change your TV to digital, you'll still get the traditional channels – BBC1, BBC2, ITV1, Channel 4 and Channel 5. But you will also be able to receive many more, including the new

BBC, ITV and Channel 4 channels you may have seen advertised, and digital radio channels via your TV.

Digital switchover

From 2008 until 2012 the terrestrial analogue TV transmitters will be switched off, region by region, to be replaced by digital only TV broadcasts. This means that if you have an older analogue TV set you will no longer be able to receive programmes. If you are confident using your current TV learning to use a new TV may be unsettling. Many of the older TV models have larger buttons and controls relative to many newer sets which also have more functions to learn. Consequently the new sets may be relatively more complicated to use, until you get familiar with how they work.

To help with the changeover, the Government has set up an agency called Digital UK to assist people with advice and information. There is also a dedicated help service if you are aged 75 or over, or if you, your partner, or a dependent living with you has a disability. Full detailed consumer advice and information about the Help Service is available from Digital UK helpline on 0845 650 5060 or their website – www.digitaluk.co.uk.

There are no plans at present to discontinue non-digital radio broadcasts.

TV services for Deaf or Blind people

Under the Communications Act 2003, UK broadcasters are obliged to provide a certain number of programmes and services accessible for deaf and blind viewers. Broadcasters are regulated by OFCOM – the Communications regulator.

Television Access Services include:

- on-screen subtitling,
- signing (where an on-screen narrator uses British Sign Language to describe dialogue)
- audio description services (an extra soundtrack where a narrator describes events).

For additional information please refer to:

- How to access Subtitles (RNID factsheet), available at
- http://www.rnid.org.uk/information_resources/factsheets/equipment/factsheets_leaflets/how_to_get_subtitles.htm
- Audio Description factsheets (RNIB Media and Culture Department)
- Tel: 020 7391 2398 Website: www.rnib.org.uk/audiodescription

METHODS OF ACCESSING DIGITAL TV BROADCASTS

Unlike traditional analogue services, there are several different ways (or 'platforms' as it is now sometimes called), in which Digital Broadcasts can be received.

- Set top box with aerial
- Satellite dish
- Cable or Phone Line

Set top box with aerial

This is a simple and inexpensive way to gain access to Digital TV and Digital Audio Broadcasting (Radio) channels that are 'free to air' (not requiring a subscription). All you need is a 'set top box', and possibly an upgraded aerial. They are easy to install, all you have to do is plug the set top box into your TV and an aerial and it is ready to work. It works by simply converting an incoming digital signal into an analogue one that can be viewed on your existing TV set. Many new TV's are fitted with 'Freeview' built in so all you will need is the aerial.

In common with most other items of audio/visual equipment, a remote control is used to change channels, adjust volume and access other functions. If you find it difficult to use some remotes, it might be worth shopping around for a product you can operate comfortably. There are many 'freeview' products that are readily available from High Street shops and online.

If you are unable to use standard remote control, it may be possible to substitute it for a more accessible design. There are several replacement remote controls available, such as a Universal Jumbo remote with fewer and more accessible buttons. It is strongly advised that you

check for its compatibility and suitability before making your purchase.

If you have a hearing loss and wish to access subtitled programmes, or have a visual disability and want to access audio described programmes, it is important to check that the 'freeview' box you buy supports these accessibility options.

Using a satellite dish

To receive Digital TV and Radio signals from a satellite, you will need to use a dish placed on a wall outside your home. Check to see if there are any restrictions preventing you from doing this before going ahead.

Using a cable via a telephone line

To access digital channels this way, you will need to subscribe to a service provider. The subscription cost depends upon the number of channels you select (especially sport and film channels, which are usually more expensive) and any other services that may be provided, such as telephone calls or internet access. Subscriptions are normally paid monthly and sometimes there may be an installation or set up cost. Connection is made via a set-top box.

For detailed information about digital television products contact the charity Ricability who have produced a comprehensive database and consumer reports on Digital TV for older and disabled people. (see 'Useful Organisations for full

contact details or visit www.ricability-digitaltv.org.uk).

DIGITAL RADIOS

Choosing a suitable radio

Which product do I need?

- Small Personal Radio?
- Clock Radio?
- Lightweight Portable?
- Cassette or CD – Radio?
- Mini Hi-Fi System?
- Hi-Fi Tuner or Tuner Amplifier?

Whatever style you choose, it is always best to try it out, if at all possible, before you make the final decision to buy it. If this is not possible, carefully consider just how the size, layout, style and overall design will affect your ability to operate it. Even a simple design will require the user to switch it on and off, adjust the volume and tune into a station. You may find designs with additional features or controls more complicated to use.

If you need a radio just to listen to one or a few stations, and find it difficult to adjust to new technology, perhaps a traditional AM/FM (analogue) radio is best suited to your needs. However, many portable FM radios require the use of an extended aerial, which may require adjusting to achieve optimum performance. Otherwise the signal may fade or pick up electrical interference.

Digital DAB radios are a lot clearer in sound and can receive an increased number of stations. Before purchasing a digital radio check that there is good DAB signal strength in your area. Poor reception will result in a total loss of programmes. Contact a local dealer, or the BBC Engineering helpline for advice about receiving BBC radio.

Size and weight

If you require a product that needs to be carried around, check that you can lift it easily. Some models are fitted with speakers, which add to the weight and others are used only with a headphone for personal use. If you only have the use of one hand a physically larger and heavier radio may be more stable on a work surface.

If you require a portable device, can you change its battery easily, or does it have a mains adaptor that you to use the electricity supply indoors. If you have limited dexterity, choosing a model which uses a charger and re-chargeable

Controls

There are many different kinds of controls and switches used in the design of radios and other equipment. This includes lever style switches, push-button switches for wave change functions; sliders or rotary controls for volume level, and thumb switches and rotary controls for station tuning. In later designs, some of these function controls have been replaced by

using push buttons to increase volume and change station selection. Many digital radios come with a remote control so you can change stations and volume from your chair or bed even if the radio is across the other side of the room.

If you have limited dexterity, you may experience difficulty in operating push-button switches used in older analogue designs. These are of electro-mechanical construction and require some pressure to operate them. The buttons for each waveband are interlinked and close to each other, making them particularly difficult if you have involuntary hand movement or tremor. Radios fitted with lever switches may provide a better alternative.

Rotary or slider controls are sometimes used to control volume or station tuning. The size and shape of control knobs fitted to rotary dials and sliders may determine their suitability for people who find it difficult to grip and turn smaller controls. Sometimes the volume and station selection is controlled digitally using miniature, buttons for volume level and programme selection. Although these require little force to push, they are small, often close together and offer little tactile feedback to help you judge whether you have pressed the switch or not. New digital radios may use a menu display to activate different functions, this may be confusing if you've never used a menu control before (menu controls are often used on mobiles and computers) and you may wish to practice with a friend or relative who has used this type of control

before. If you are blind or partially sighted, the design layout, use of colour contrasting and tactile controls, may determine the ease of operation.

Displays

With digital radios the station you are listening to is often named on a display. Some people with vision loss may find this display difficult to read, there is one portable DAB radio available with an audible radio station information display.

If you have difficulty using standard buttons, switches, knobs and dials and displays there are a few manufacturers whom provide equipment specifically designed for people who find standard designs inaccessible. Please contact the DLF helpline for more information.

Prices vary depending upon specification, features and type, to suit most pockets.

USEFUL ORGANISATIONS

AbilityNet
PO Box 94
Warwick
Warwickshire
CV34 5WS
Tel: (01926) 312847
Fax: (01926) 407425
Helpline 0800 269545
Email: enquiries@abilitynet.org.uk
Website: www.abilitynet.org.uk

Communication Matters
c/o The ACE Centre
92 Windmill Road
Oxford OX3 7DR
Tel & Fax: (0845) 456 8211
Email:
admin@communicationmatters.org.uk
Website: ww.communicationmatters.org.uk

Digital UK
22 Percy Street
London W1T 2BU
Tel: : (0845) 072 4025
Helpline: (0845) 650 5050
Website: www.digitaluk.co.uk

Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA
Tel: 020 7981 3040
Fax: 020 7981 3333
Textphone: 020 7981 3043
Website: www.ofcom.org.uk

Ricability
30 Angel Gate
City Road
London EC1V 2BT
Tel: (020)7427 2460
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Textphone: (020) 7427 2469
Email: mail@ricability.org.uk
Website: www.ricability.org.uk

RNID
19-23 Featherstone Street
London, EC1Y 8SL
Tel: (020) 7296 8000
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Text: 0808 808 9000
Helpline: (0808) 808 0123
Email: informationline@rnid.org.uk
Website: www.rnid.org.uk

Royal Nation Institute of Blind People
(RNIB)
105 Judd Street
London WC1H 9NE
Tel: (020) 7388 1266
Fax: (020) 7388 2034
Helpline: 0845 766 9999

SKILL: the National Bureau for Students
with Disabilities
Chapter House
18-20 Crucifix Lane
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Tel: (020) 7450 0620
Fax: (020) 7450 0650
Minicom: 0800 068 2422
Helpline: 0800 328 5050
Email: skill@skill.org.uk
Website: www.skill.org.uk