

AlphaSmart 2000

Cost:

£199

Version reviewed:

AlphaSmart 2000

Manufacturer:

Intelligent Peripheral Devices, Inc. 20380 Town Center Lane, Suite 270, Cupertino, CA 95014, USA (<http://www.alphasmart.com/>)

Available from:

Inclusive Technology, TAG, iANSYST



Features

The *AlphaSmart* is a simple, light (0.91 kg.) robust, attractive and easy to use note-taking device. It is approximately A4 sized, has a standard-size, quiet keyboard and a 4 line, 40 character display. It does not have any editing facilities, and it is designed for taking notes which are then transferred to a desktop computer for formatting, editing, and printing. It can also print direct to Apple, Canon, Epson and Hewlett Packard printers.

The *AlphaSmart* is very easy to use: you switch it on, choose one of the eight files by pressing F1 to F8, and start typing. The cursor and *Delete* keys are used to edit, but you cannot cut, copy or paste text. There is a 'word find' facility and a basic spellchecker. Once the work is completed, the *AlphaSmart* is plugged into the keyboard connector on the Mac, PC or Acorn A7000/RiscPC alongside the standard computer keyboard. A word processor is opened on the desktop computer, and the '*Send*' key is pressed on the *AlphaSmart* to transfer the text to the desktop computer. The text is inserted into the word processor as though it was typed on the keyboard. In use, we found that it worked perfectly on Apple computers, but sometimes caused the standard keyboard on PCs to stop working. This is because different PCs seem to have slightly different keyboards, rather than a deficiency with the *AlphaSmart* itself.

A very useful facility which makes data transfer and printing even easier is the built-in IrDA infra-red transmitter. This can be used to transmit data to computers and printers fitted with an infra-red port, without having to physically connect a transfer cable. It works up to a distance of 1 m. An infra-red receiver is available for machines which do not have IR built in.

As standard, data can only be transferred from *AlphaSmart* to desktop computer. The *Get Utility* (£19, TAG) lets you transfer files from desktop PC or Mac back to the *AlphaSmart*, while *TurboTransfer* (£25) speeds up data transfer by up to six times.

The *AlphaSmart* can hold a total of 64 pages of text in up to 8 files. It will run for between 120 and 300 hours on three AA alkaline batteries, and a mains adaptor can also be used. When the keyboard is switched off, the work is stored in memory. When it is switched on again, the writer can start typing immediately where they left off.

The machine has some features which are particularly useful for students with physical keyboarding difficulties: the keyboard can be redefined for a Dvorak two-handed ergonomic, or single left or right hand layout; the *Auto-repeat* can be turned off; and it has '*Sticky Keys*' for one-finger typists or headpointer users. A keyguard (£60) is available from Special Access Systems and Inclusive Technology. It has a keyboard timer for measuring typing speed.

There are some limitations for students with reading, writing or spelling difficulties. The spell-checker is basic: it is not possible to check a short section of text or a single word because the checker always starts at the beginning of the file; and the words are offered in two columns in alphabetic order rather than in order of the most likely words. It is also not very good at offering the correct spelling in response to errors (see Chapter 14). The screen font is crude and lacks descenders (i.e. the tails of 'g', 'y' etc. do not descend below the line of text in the normal way) which some people with visuo-perceptual difficulties may find problematic. However, the text itself is a good size, and the screen is clear and fairly high contrast.

The *AlphaSmart* is supplied with a mains adaptor and one cable for transfer to Mac, PC or Acorn, and a comprehensive manual. Accessories available include a carry case (£25), extra transfer cables (£12) and a parallel printer cable (£25).

Who might use it?

The *AlphaSmart* is useful for anyone who needs a portable, convenient electronic writing tool. The weight, simplicity and excellent battery life make it a very pleasant alternative to heavy laptop computers which need re-charging every few hours. The low cost offers a more affordable way of providing pupils with a personal keyboard compared with desktop computers. The device is not suitable for writing very long pieces of work because of the small screen and limited editing functions. Writers with reading or perceptual may have difficulty

with the screen size and font. Although the spellchecker is limited, it may be feasible to use the better hand-held Franklin spellchecker to supplement the *AlphaSmart's* system.

Pros:

Low cost; low weight; good access options; extremely simple to use; very practical.

Cons:

Poor spellchecker; small screen; limited editing features.

Conclusion

An easy to use portable note-taking device for pupils with a physical handwriting difficulty and mild spelling problems. Writers with reading or significant spelling difficulties may need to use it in conjunction with a Franklin spellchecker or desktop computer with extra support tools.

DreamWriter 400 and 200

Cost:

£150 (T100), £170 (T400), £255 (C200)

Versions reviewed:

DreamWriter T100, T400, C200

Manufacturer: NTS Computer Systems (UK) Ltd., Unit F11, Business and Innovation Centre, Aston Science Park, Love Lane, Birmingham B7 4BJ.

Available from: Tel. 0121 687 8767. (nts.dreamwriter.com)
NTS

Features

The *DreamWriter 100, 200* and *400* computers are a range of lightweight, rugged, portable computers designed for schools. They all have a built-in word processor, spellchecker, calculator, and world time clock. The more expensive systems (the *400* and *200*) also have a thesaurus, address book and scheduler. The *100* is designed for primary school use and has a simplified keyboard and software to teach typing.

All the machines are approximately A4 sized, with full-size colour-coded keyboards. The *100* and *400* weigh 1 kg and have small 8-line screens (not backlit) built into the top of the computer while the *200* is larger and heavier, at 1.45 kg and has a bigger flip-up backlit screen which can show 16 lines of text. The screens can display 80 characters on each line, and the standard font size is very small, which is fine for most writers but anyone with a visual impairment or perceptual difficulties may have difficulty reading the screen. There is a double-size font option on all the *DreamWriters* which make the text larger and easier to read. The *200* and *400* have a storage memory of 160K (around 100 pages of text), while the *100* can store up to 50 pages (80K). The *400* and *200* have slots in the side which can take Type 1 PCMCIA Memory cards that expand memory and give an extra 60 (£45) or 250 (£70) pages of text



DreamWriter 400



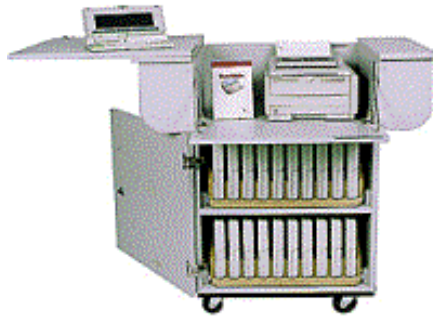
DreamWriter 200

All machines can print direct to most parallel printers, e.g. Hewlett-Packard, Canon, Epson printers and can transfer files to and from Acorn, Mac and PC desktops via a serial cable. The file transfer is straightforward, although slightly more complicated than an *AlphaSmart*. The *DreamWriter T400/IR* model also has an infra-red port for wireless transfer to a computer or printer fitted with an IrDA infra-red port, and is supplied with a *IR Jet Serial Adapter* for machines which do not have it built-in. The *200* has a built-in PC compatible disc drive for storing and transferring files to Acorn, Mac or PC.

The *DreamWriters* have re-chargeable batteries; the *100* and *400* machines last 8 hours, while the *200* lasts 6 hours. The battery technology is not as advanced as newer devices like the *eMate*, so re-charging takes 4 hours (compared to 1 hour for the *eMate*).

All the *DreamWriters* are easy to use and manage and can be used from mid-primary school upwards. They have some accessibility options for writers with keyboarding difficulties: the key repeat rate can be slowed down or turned off and they have *Sticky Keys* for single-fingered typists. The spellchecker is good and has two methods of operation: by pressing '1', the checker offers a fairly small number of words; if the required word is not there, key '9' can be pressed to produce a larger 'dictionary' list which takes more time to offer suggestions, but is more likely to have the word. The spellchecker lists words horizontally rather than vertically and some writers may find it more difficult to spot the correct word, particularly if the 'key 9' checker has been used to call up a larger number of words.

The *DreamWriters* are supplied with connecting leads and file transfer software for Acorn, Mac and Windows computers. The bundle also contains a battery charger, and manuals. NTS sell multiple class packs of computers and 'Rol-a-Labs' which can store, transport and charge 20 or 30 *DreamWriters* from a single wall outlet. A smaller 'Bookshelf' can be used to store and charge 5 *DreamWriters*.



Rol-a-lab 20



Bookshelf

Who might use it?

The *DreamWriters* are good, general purpose word processors which can be used across a wide range of ages and abilities because of the flexible built-in software, simplicity, access options, effective spellchecker and full-size keyboard. The smaller *DreamWriters* are lighter, have a better battery life and are slightly more straightforward to use. The *DreamWriter 200* has the advantage of the larger screen and the disc drive, but is bulkier and more expensive. Writers with perceptual or reading difficulties might find the small text difficult to read particularly on the non-backlit smaller screens. The *DreamWriters* are in the same price range as the *AlphaSmart* and have more word processing and other facilities, but the latter has much better battery life and simpler maintenance. Writers who need word processing facilities for longer pieces of work, or a good spellchecker should look at the *DreamWriters* in preference to *AlphaSmart*; those who need a very practical note-taking device and don't want to be bothered charging batteries should consider the *AlphaSmart* first. Users who need a much bigger screen for editing and formatting work should consider the more expensive machines such as the *eMate*, *Dreamwriter IT* or Windows CE computers. Those who want maximum portability should look at palmtops like the *Psion*.

Pros

Easy to use; good spellchecker; several built-in software applications; reasonably easy to transfer files; inexpensive.

Cons

Small, non-backlit screen (on *100* and *400*); basic screen font; battery life and charging could be better.

Conclusion

The *DreamWriters* are good general purpose, low cost portable computers which are suitable for a variety of tasks in the classroom.

Apple eMate

Cost:

£429 (but no longer available)

Version reviewed:

eMate 300

Manufacturer:

Apple Xemplar Education Limited, 2 Furzeground Way, Stockley Park, Uxbridge, Middlesex UB11 1BB. Tel. 0181 218 1500.
(www.uk.euro.apple.com/education/index.html)



Features

The *eMate* is a portable computer expressly designed for school use. It is now discontinued but we have included this review because there are still many machines in use in schools and writers may well need to compare them with new offerings from other manufacturers. In 1999, Apple are bringing out a replacement for the *eMate*, called the *iBook*, which will run standard MacOS applications.

The *eMate* is slightly larger than A4 size, weighs 1.8 kg (4 lbs), is robust and has a built-in carry handle. The case is sculpted in a stylish translucent green plastic (reminiscent of the iMac case) and most students consider it cool. The screen folds up and down like a typical laptop PC, and it is larger and clearer than other lightweight laptop or palmtop computers, measuring 14.5 x 9.5 cm. It is backlit and has 480 x 320 pixels so it can display graphics as well as text. Although it is monochrome, not colour, it is very easy to read, and it can be folded flat and rotated for drawing using the pen stylus. The keys are slightly smaller than a standard computer keyboard but still suitable for touch typing. The user can select items and draw on screen using a pen stylus. The *eMate* has a re-chargeable battery which lasts between 12 and 24 hours, depending on how much the screen backlight is used. Charging the battery takes between one and two hours. As standard, it has 1 MB RAM to store about 320 pages of text, and 2 MB of 'flash' RAM for backing up files. This can be expanded with standard PC Card cards.

The *eMate* has a built-in word processor, drawing program (operated via the pen stylus), a graphic calculator which can display graphs and functions, spreadsheet, address book, calendar and hand-writing recognition facilities. The word processor has good editing and formatting functions, 5 attractive fonts of various sizes and styles, and a spellchecker. The spellchecker is fairly good; a nice feature is that you can double click on a word to bring up a spellchecker suggestion list for the word. A version of Writer's Toolkit, a useful program to support writing, is available for the *eMate* from SCET. The machine has a password facility that restricts access to files, so it can be shared by several pupils. Note that although the *eMate* is made by Apple, it cannot run standard MacOS programs.

The *eMate* can print directly to Apple printers, and can transfer documents to Mac or Windows computers via a serial link. Data can also be 'beamed' via infra-red to other *eMates* and to Macs and printers fitted with an IR transceiver. This facility can be useful in a class full of *eMates* as the teacher can 'beam' work to all the computers in the class at the same time. There is no disc drive so file transfer must be done by cable or IR. As standard it can print direct to Apple printers, and to most standard PC printers via the *eMate* Print Pack (£49).

Surprisingly, although the *eMate* is designed for schools, it lacks accessibility features for writers with physical difficulties: you cannot change the keyboard repeat and there are no Sticky Keys or other keyboard access tools. The biggest accessibility limitation is that the *eMate* requires the writer to use the pen stylus, which demands fairly good fine motor skills (there are some keyboard shortcuts, but some menu selections do not have them), and you cannot plug in a mouse or other pointing device.

The *eMate* comes with comprehensive manuals, a Teacher's Guide, mains adapter; *eBase* database software CD; and *Connectivity* CD with software for transferring data to Macintosh and Windows computers. A PC/Acorn serial data cable costs £9 extra; transfer software for Acorns costs £10

Who might use it?

The *eMate* is suitable for learners who need a portable writing tool with good word processing and spellchecking facilities. Writers with physical motor difficulties may have problems with the pen stylus which is used for selecting items from the screen. Compared with devices like the *AlphaSmart* and *DreamWriter*, it is a more flexible, usable and sophisticated classroom tool – you can write, edit and format longer and more complex documents – but it was also more expensive, and heavier. It costs slightly more than a *Psion* or *Windows CE* palmtop; the main differences being that the *eMate* is physically larger with a bigger screen and is specifically designed for school use. The *Psion* and most *Windows CE* devices have got much smaller

screens and keyboards, and the Windows CE palmtops have poorer battery life than the *eMate*. The new *DreamWriter IT*, which runs Windows CE, is bulkier than the *eMate*, has a poorer battery life, and is more expensive. On the other hand, it has a built-in disc drive, a colour screen, and many ports for connecting external devices.

Pros:

Ease of use; style; robustness; screen; keyboard; battery life; good word processing and other software.

Cons:

No disc drive; use of pen instead of mouse or keyboard may be difficulty for some learners; no longer available!

Conclusion

An excellent portable computer for word processing and general classroom use.

Franklin Spellmasters

Cost:

£24.21 – £32.30

Version reviewed:

Elementary SpellMaster, SpellMaster.

Manufacturer:

Franklin Electronic Publishers, 11 Windmill Business Village,
Brooklands Close, Sunbury-on-Thames, Middlesex England TW16
7DY. Tel. 01932-891025 (www.franklin.com)

Available from:

Scottish Learning Products, iANSYST, various



Features

'Franklins' are small hand-held electronic spellcheckers and dictionary tools. There are several versions available, ranging from small credit-card devices with spellchecker and thesaurus, to the *Bookman* systems that have bilingual dictionaries and speech output facilities. The *Spellmasters* are 13.5 x 9 x 2 cm, have a small calculator-style keyboard and a single line LCD screen. The writer types a suspect word into the device then presses *Enter* and the checker then suggests some correct spellings. Since only one suggestion can be seen at a time, the user scrolls up and down through the suggestions using arrow keys. There are usually a maximum of seven suggestions.

The Franklins are particularly good at dealing with phonetic mis-spelling patterns: the word can often be typed in the way it sounds, and the device will come up with the correct spelling. The single line display is fairly large (10 x 1.5 cm, with 16 characters) and easy to read.

The *Elementary Spellmaster* is supplied with The Oxford Children's Dictionary. It has a dictionary of 30,000 words based on the Oxford Children's Dictionary and is aimed at younger users or those with specific spelling difficulties. Up to 50 personal words can be added to the spellchecker. It has six built-in word games for developing spelling skills. Once a word has been found on the Franklin, the user can press the *PAGE* key and the relevant page number for the word in the Oxford dictionary is shown on screen.

The standard *Spellmaster* has an extra 'confusable' feature which gives short definitions for homonyms and other commonly confused words. Typing in *road* returns 3 confusables: *road: street, rode: ride, and rowed: boat*. Up to 500 new words can be added to a personal word list. The *Spellmaster* has a larger dictionary of 80,000 words from Franklin's own word list and is aimed at children over the age of 8. The disadvantage of the larger dictionary is that simple correct words may be offered further down the list than the *Elementary Spellmaster*.



Franklin Speaking Bookman

The Franklin suppliers sell 'A Teacher's Guide to Prompt Spelling' which outlines effective strategies for developing spelling skills in late primary and secondary age pupils.

The Franklin *Thesaurus* machines have the spellchecker features and a thesaurus with 500,000 word synonym, plus 'core meanings' for 30,000 words. The *BookMans* have larger 3 line screens and a large range of models is available: versions with complete dictionary definitions; with bilingual dictionaries; with texts from the Bible; and with speech output.

The Franklins are available in standard 'desktop' and 'pocket' sizes.

Who might use it?

Franklin spellcheckers provide very good support for children who have spelling difficulties. They are small and light and can be used to correct different types of work in different situations. To use a Franklin productively, the writer must be able to:

- recognise when he or she has made an error;
- type the suspect word into the Franklin without making any further errors;
- recognise the correct spelling when they see it;
- and transfer the correct spelling back into the text, without introducing any mistakes.

Although the Franklins are therefore not by themselves suitable for writers who have difficulty knowing which of their words are correctly spelled, they can be used productively with a word processor that has a less effective spellchecker - an *AlphaSmart*, for example. The word processor highlights questionable words in the text and then the *Spellmaster* is used to check and correct the spelling, although the writer still has to transfer the word from one to another without making a mistake.

Pros:

Good phonetic spellcheckers; portable; ease to use; very low cost.

Cons:

The writer must know when they have mis-spelled a word and be able to copy the correct spelling into the document.

Conclusion

The *Spellmasters* are very effective spellcheckers, particularly for writers who spell phonetically.

Psion 3 and 5

Cost:

£159 (3mx), £275 (5), £319 (5mx)

Version reviewed:

Psion 3c, Psion 5

Manufacturer:

Psion Ltd, 1 Red Place, London, W1Y 3RE. Tel. 0990 134224
(<http://www.pSION.com/>)

Available from:

various, e.g. Dixons, Dabs Direct, Technomatic



Features

The *Psion 3* and *5* are 'palmtop' computers that can easily fit into a jacket pocket or school bag. The smaller *3* weighs 275 g. and measures 16.5 x 8.5 x 2.2 cm while the *5* weighs 350 g. and measures 17 x 9 x 2.3 cm. The *3* is also known as the 'Acorn Pocketbook' and is sold by Xemplar. The *Psions* have a 'clam-shell' design where the lid lifts up to show the screen underneath. The *3* screen measures 127 x 44 mm and can display graphics and up to 26 lines of text, with 80 characters across. The *5* screen measures 133 x 50 mm and can display 640 x 240 pixels and up to 26 lines of text, with 100 characters. Both screens are backlit and pleasant to use, with a 'zoom' feature so that detail can be seen more clearly. The new *Psion 5mx* has a better screen than the standard *5*.



Psion 3



Psion 5

Both *Psions* have much better battery life than other similar devices, including the *eMate*, *DreamWriters* and *Windows CE* palmtops. Only the *AlphaSmart* lasts longer than a *Psion 3*. The *3* will run for about 80 hours (2 months) and the *5mx* for 30 hours, both on 2 AA alkaline batteries. A mains adapter is also available for £15.

The *3* has a small 'calculator' style keyboard which is really too tiny for touch typing, although users say they can achieve reasonable enough speeds with some practice. The *5* has a mini laptop-style keyboard which is faster to type on but still not as large or as easy to use as an *eMate*, *DreamWriter* or *AlphaSmart*.

Both models can transfer data to desktop Mac and PC computers with a serial or infra-red link. The built-in infra-red port can also send data direct to printers fitted with an IR receiver. The data transfer is relatively quick and easy to do. *PsiWin* software and cable to transfer to a PC costs £39 extra for the *3*. The *Psion 5* is supplied with *PsiWin* software. A version for Macs costs £32.

The current *3mx* has 2 MB of RAM and can probably store around 500 pages of text, while the *5* has got 8 MB and the *5mx* 16 MB. Extra 'Flash ROM' cards can be slotted into the computers for storing or backing up data.

The *Psions* are designed for business, industry and personal use and have a good range of built-in software, including word processor, 'jotter' for taking quick notes, spreadsheet and organiser. Sound can be recorded, edited and played back, for short memos – the *Psion 5* can store 16 minutes of such speech for every 4 MB of RAM. The software in general is well-designed, reasonably easy to use and appears like modern desktop applications with pull-down menus, while data can be converted from and to popular applications from Microsoft, Lotus, Corel, and others. A small range of fonts, sizes and styles are available. Extra programs are available for the *Psion* but again, most is designed for business or adult users (i.e. games, contact managers, personal organiser software, etc.).

Keyboard response settings are limited: only the repeat rate can be adjusted or turned off. The *Psion 5* has a touch-sensitive screen operated by a stylus or finger-nail, but unlike the *eMate*, all commands can also be given using the keyboard. The stylus can also be used for sketches and, with extra software, hand-writing recognition.

There are two built-in spellcheckers. One operates within the word-processor and is of average performance. The other is a single word checker and thesaurus like the Franklin – a word is typed in and the checker gives suggestions. It was not possible to test this checker fully, but a brief evaluation showed that it was more effective than the word processor checker.

Who might use it?

The main advantages of the *Psion* computers compared to the other devices reviewed here are size and portability, the quality of the software applications, and the cost (compared to the more expensive *eMate* or *DreamWriter IT*). They are popular with students and older pupils who need a very portable note-taker and who are happy to use the small keyboard, although they have also been used successfully in primary schools. Another reason for their popularity is appearance – the new ‘mx’ series have an attractive silver metallic finish. Many students with organisational difficulties find the *Agenda* and *Diary* software useful. The keyboard size means that they are not suitable for writers with co-ordination or targeting difficulties; while conversely, some writers with good dexterity but limited range or power (for example, due to arthritis or muscular dystrophy) may find the small keyboard an advantage.

Pros

Good quality screen; very portable; good battery life; excellent software; wide range of software available; good value.

Cons

Small keyboard and screen on the 3.

Conclusion

The *Psions* are powerful pocket computers suitable for users who need good software in a very portable package, and who can manage the small screen and keyboard.