ASPREX Fact Sheet

Brailler

Mechanical device, designed like a typewriter, used to write braille. The most popularly known and most widely used device is the Perkins Brailler that has been in use since 1951. It has only six keys that represent the 6-dot cell of braille code. In addition to the 6 keys, it also has a space key and the keys to insert new line and going backward. It also has two side knobs, like a manual typewriter, to move paper through the machine, a lever for carriage return and adjustable margin stops. The rollers of the device that advance the paper, are specially designed with grooves to save the raised dots created by the brailler, from getting crushed. The casing of the brailler is of metal. The paper used by the braillers varies as some use a standard A4 or A5 size paper while others need a special Braille paper. The braille produced on special braille paper is much more durable compared to that produced on standard paper.

- Product Classification
  - APL (WHO Assistive Product Priority List): 4 (Braille writing equipment/braillers)
  - ISO 9999:2022: 221330 (Typewriters)
- Possible configuration variants
  - Perkins SMART Brailler (electronic device that has a small video screen at the front of the device that displays braille in large print; it also provides an audio feedback; the device allows users to edit, save and transfer their documents electronically via USB; in addition, the device also has a built-in software that provides braille writing lessons for beginners).
  - Mountbatten Brailler (electronic braille writer, notetaker and embosser, all in one; it has been built like computers with software to support functions like embossing, text reading and data storage; the built-in audio feature helps users in managing all its operations; the device is ideal for students with blindness and visual impairment, greatly helping them in their education).
  - Embosser (device that generates braille output on paper; users can read text on monitor screen either by using screen reading software or through refreshable braille displays; users can use a special software that allows the six keys on the computer keyboard to be used as a braille entry device, just like the Perkins Brailler).
  - Unimanual brailler (helpful for people who are able to use only one hand to write braille).
  - Light touch brailler (helpful for children or adults with weaker hands, to type easily,).
  - Large-print brailler (helpful for people with tactile challenges).
- Possible accessories or optional components
  - Braille paper.
  - Soft carry bag.
  - Dust cover.
- Product goals

  Activities or functions the product is mainly intended to support, according to WHO ICF Classification:
  - Writing [d170].
- Indicated impairments

  Difficulties the product is mainly intended to address, according to the WHO ICF Classification:
  - Seeing [b210] (blindness).
- Contraindicated impairments

  Difficulties for which the product may be inappropriate:
  - Difficulty in organizing thoughts into a written text.
  - Difficulty with fine hand use.

- Indicated environments

  Specific environments in which the product should be used:
  None specified.
- Contraindicated environments

  Environments in which the product may be inappropriate:
  - Places where electricity is not available to maintain battery charge.
- Other indicated factors

  Other factors or situations the product is intended to address:
  - Writing in Braille.
- Other contraindicated factors

  Other factors or situations in which the product may be inappropriate:
  - Unfamiliarity with writing and reading braille.
- Points to be considered in product selection
  - Braillers are not suitable for producing graphics, nor for writing mathematical or scientific expressions.
  - Braille transcription services are limited as trained professionals are required who know braille and are also able to use braille writing devices.
  - Intellectual property rights should be considered when transcribing books or articles into braille.
  - In the field of education, experienced and trained teachers are required who can use the braille writers effectively.
  - Mass production of braille is a challenge that can be better solved by using braille press or embossers connected to computers. Both techniques are used to print two-sided braille documents and books on a large scale. However, the embossers are faster and efficient as compared to the braille press. The embossers work by receiving input from computer software and can print on pages of different weights, printing nearly one thousand pages within an hour. The braille press in comparison is an expensive method, as plates have to be developed for each side of a document. Trained personnel are required to operate the press throughout the process.
- Points to be considered in product fitting
  - Braillers are difficult to use for people who lose their vision at a later age. They need a comprehensive training to learn braille and even though they can have the benefit of using screen readers that can read the braille to them, they still need to learn using “notetakers” to be able to write first.
  - Backward braille writing (right to left) may be hard to learn for some people; a well-structured training should be provided to users to learn writing braille.
  - Users need to be trained in using various built-in software in the electronic or smart braillers.
- Points to be considered in product use
  - Comprehensive training is required when teaching people, especially children, how to manage their braille equipment. They need to be trained on how to operate the device, whether mechanical or electronic.
  - In order to write braille, a special paper is needed that may not be available everywhere.
- Points to be considered in product maintenance / follow-up
  - The maintenance and repair of braillers is expensive and trained technicians are required for the purpose.
  - Braillers must be stored in a clean and dry environment as humid and moist conditions can cause corrosion of the metal components.
  - The exterior of the brailler must be cleaned on a regular basis; a lint-free cloth and soft bristle brush can be used for the purpose.
  - When not in use, the brailler must be covered to protect it from dust and debris which can cause sluggish movement of keys and carriage.
  - The device must be sent to a certified repair center for regular service. An ideal time period for service depends on how frequently a brailler is used; a brailler that is used irregularly or is in normal use, should be serviced every 3 to 5 years but for a brailler that is heavily used, a more frequent service is required.
- Examples of products available on the market
  - Live product search in the EASTIN website https://www.eastin.eu/en/searches/products/list?iso=221330

Source

This Fact Sheet was compiled in 2021 by an international team of experts, to provide the initial knowledge base for a project ("An online system to assist the selection of assistive product") supported by the World Health Organization in 2020-2021 within the GATE Initiative (Global collaboration on Assistive Product). Fact Sheets were compiled for each of the 50 types of products included in the WHO APL (Assistive Product Priority List).

The team was composed of Renzo Andrich (Italy, group leader), Natasha Layton (Australia), Stefan von Prondzinski (Italy), Jerry Weisman (USA), Silvana Contepomi (Argentina) and Hasan Minto (Pakistan).

The project led to a prototype online tool called ASPREX (ASsistive PRoduct EXplorer). At the end of the project, it was transferred to a WHO collaborating center (the Global Disability Hub in the UK), in view of possible future developments.