

A GUIDE TO BRAILLE PRODUCTION AT SCHOOLS

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What would a school (or indeed any other entity) need to produce quality Braille? While the answer seems fairly straight-forward, it is not enough to have a trained operator with a Braille embosser available. That is only part of the solution.

The brailing process that can be divided into 3 distinctive parts: data-capturing and translation; proofreading and corrections; and production (embossing and binding).

1. DATA CAPTURING

This entails the retyping or scanning of the source document, or the reformatting of an existing electronic file, so as to end up with a Word file (***.doc). Using the Duxbury Braille Translator (DBT for Win software - version 11.1 now available), the file is translated into Braille.

This translated file (***.brf) is sent to a Braille embosser where a Braille proof copy is produced.

2. PROOFREADING

At Braille Services and Pioneer Printers the Braille proof copy is read by a team of two people: the blind person reads the Braille while a sighted person follows the print. Any discrepancies between the Braille and print, mistakes (misspelled words, wrong lay-out, etc.) and other changes are rectified by the data typist on the ***.doc file and then retranslated into Braille. A second (and/or third) proof is done and the file is now ready for embossing.

3. PRODUCTION

This entails the embossing of the file on a Braille embosser, the separation of the fan-fold embossed sheets in the right order, and the binding/finishing of the book or pamphlet.

3.1 Text Embossers

There are a number of Braille embosser models from various manufacturers available. The most popular ones in South Africa are from ETC (Enabling Technologies Company) in the USA, Index from Sweden and Braillo from Norway. These companies produce very reliable machines that have been used extensively in South Africa.

When choosing an embosser try to steer away from flat-sheet machines as paper feed problems are bound to occur and can be very frustrating. Rather go for a tractor-type feeder with sprocket holes where no paper miss feeds can occur. The worst that can happen is “top-of-form” trouble and this is usually due to excessive paper dust on the sensor. Simply wipe clean and you are good to go!

The most popular continuous sheet embossers are from **Enabling Technologies Company’s Bookmaker and Express range**. They have been around for more than 20 years and are still being manufactured today. Expect to pay around R100 000 for the middle-of-the-range Express 100 (100 cps [characters per second]).

Another very popular embosser is **Braillo Norway’s 200**. Double the speed of the Express at 200 cps, it is an extremely reliable machine for high output at around 600 pages per hour. Unfortunately it is also fairly expensive – the last price quoted to me was around R600 000.

3.2 Graphic Embossers

The previous generation **Tiger Pros** were excellent graphics machines, but it certainly is not a suitable Braille text printer by any stretch of the imagination. This is due to its dot size and shape and the fact that it is a single-side embosser. Unfortunately it was actively marketed as a one-size-fits-all by the South African agent and a number of schools are now stuck with a machine that they cannot use effectively. The samples handed out were reproduced on such a machine and clearly shows the versatility of this type of embosser.

A second generation **Tiger** is now available: while the manufacturer addressed the dot shape it is now also a double-sided embosser. Personally I have no experience

on them but spoke to Schalk Hugo last week - Pioneer Printers ordered the top-of-the-range model and it should arrive shortly. Expect to pay between R120 000 and R220 000.

ETC is launching a more affordable graphics embosser in the next few months called the **Phoenix**. With 25 dots per inch the graphics should be up there with the best, and at around \$5 000 (+-R40 000) you get a proper double-sided text printer with real graphics capabilities. I've requested more information on the machine and the accompanying software and anticipate feedback from the factory shortly.

3.3 Binding

Previously book signatures were cotton-sewn, went through a hot glue process and were completed with a plastic or material spine cover. Unfortunately this process requires special book-binding skills, is time consuming and very expensive.

The use of hot-glue only was also actively promoted by some vendors. This is a poor option as you must take great care not to squash the Braille in the binding process, the book is very difficult to keep open and the glue tends to crack after extensive use.

There are a number of other commercial binders available on the market. Smaller documents can be stapled in the top left-hand corner while larger documents can be bound by **combo plastic**, **double wire o-ring** or **continuous spiral**. Your local stationary supplier will be able to assist. Prices start at around a few thousand rand for the basic hand operated machines up to R25 000 for the semi-automatic ones that you will find in use at Braille Services and Pioneer Printers. These binders are durable, easy to operate and the spine elements are relatively cheap.

4. PAPER

Although internationally 150-160gsm embosser paper is used, in South Africa we settled on **Camelot Cartridge 135gsm as standard Braille stock** during the middle 1980s. It is 18% lighter and nearly 25% cheaper than 160 gram paper and has enough body to satisfactorily hold the embossed Braille dot.

Reels from SAPPI's Enstra mill in Springs, Gauteng, are converted to continuous fan-fold with 1 000 sheets per box. South African suppliers include Pioneer Printers

in the Western Cape, Sensory Solutions, NCTec, and SA National Council for the Blind and Braille Services. It can also be purchased from various overseas embosser suppliers.

For book covers any board over 160gsm can be used – we use 160-240 gsm Tokai and 310 gsm Sinar board. Prices range from R1, 50 - R3, 50 per cover.

For Braille labels on the cover we use imported 160gsm A4 size self-adhesive label paper. The Braille name is written directly on the label with a Perkins brailier, cut out and stuck on to the cover. Price is R1, 50 per sheet.

For print labels any standard A4 sheet labels can be used, available from your local stationary supplier. There are many different shapes and sizes available.

5. SERVICE AND MAINTENANCE

The regular servicing of an embosser according to the manufacturer's instructions is of critical importance. At Braille Services we still use an Express 150 on a daily basis – bought in 1995! It has been serviced regularly (25 boxes: blow out dust; 50 boxes: blow out dust, check solenoid washers and lubricate; 75 boxes: replace all washers; retune and lubricate solenoids) and only a small number of parts (especially the die-bars) and some electronic boards needed replacement. Granted – it is time consuming and can only be done by a trained technician, but at R150 000, I'll rather spent time on regular servicing and maintenance than on fundraising to replace poorly maintained equipment.

Some schools run their embossers until something break before they even consider spending money on maintenance. I do not know what the reason for this is: why don't they take ownership and responsibility for their equipment? Should you spend the same amount of money on a new car surely you will see to it that it is regularly serviced and well maintained? We need to take the same responsibility for our equipment.

6. TRAINING AND SUPPORT

South Africa has an unfortunate history of vendors that have a tendency to be prescriptive to both user and government departments regarding adaptive equipment

and their intended use, while no or very little training and product follow-up take place after the initial sale. We now have many schools and institutions with old, unserviceable or poorly utilized equipment worth many thousands of Rands.

This is a problem we must address – schools must know what is available, what their intended uses are, and have to insist on proper training and product support. We have received numerous calls from institutions requesting training and while it is our policy to assist in whatever manner possible, it is certainly not my responsibility to explain the “top-of-form” procedure to the operator of a brand new embosser!

We must also understand that product support and upgrading of programme software is an on-going process and we should budget for this on a yearly basis – if Braille is our business we must keep up with international developments and products.

Braille Services Manual – In an effort to assist our data typists and proofreaders we compiled a short manual on some in-house rules and lay-out methods for Duxbury 10.7. Please note that this does not replace any other manual or rule book, but is intended to serve as a quick reference guide to our staff. As soon as Duxbury 11.1 is introduced we'll adapt the manual and you are more than welcome to contact us for a free copy.

7. CONCLUSION

Braille is a non-negotiable right of blind people. Factors making Braille production a complicated, lengthy and costly process include the following:

- The commercial production of Braille requires highly skilled, specialized staff operating hugely expensive equipment. But dedication, a good knowledge of the relevant software and accurate work is enough to ensure the successful production of quality Braille in a school environment and this can be done by any committed teacher.
- It takes time to train staff to reach productive levels – and then it takes an extraordinary effort to retain them! We must put our case clearly to the

Department that these are scarce-skilled people and we need to strengthen their knowledge through accredited programmes and financial incentives.

- Proofreading is time consuming, but of critical importance if quality Braille is to be produced for our learners. While it is standard practice at bigger production units to proofread text twice, it might be sufficient to proofread once only when preparing certain straight-forward work. But we cannot skip proofreading – it is your final opportunity to ensure quality work.
- Equipment used to produce Braille, especially Braille embossers, are extremely expensive. Great care should be exercised during the procurement process that suitable equipment is purchased.
- Upkeep and servicing of these machines are critical. Embossers work hard – stick to regular cleaning, minor and major service intervals.
- Software licenses for the Braille translation program and word processors are also very costly. Still we must update these on a regular basis to produce quality Braille in the correct code.

8. CONCLUSION

I wish to thank the organizers of this conference for providing me with the opportunity to share a few ideas around Braille production and the need to procure the right equipment and the importance of suitably trained staff to effectively produce quality Braille to learners in the school environment.

CONTACT DETAILS

The following is a compilation of some Braille and assistive device vendors. Please note that Blind SA does not promote any of these companies or organizations, but simply aim to raise awareness to the vast range of products and services that are available.

Duxbury Braille Translation software can be bought through any of the SA embosser suppliers, or directly from their USA office (support@duxsys.com).

The South African agents for ETC embossers are Radioland t/a Boland Electronics - Mr. Alex Munro tel. 023 347-1175 and NCTec - contact Mr. Neville Clarence 012 346-6061 or www.nctec.co.za. You can also visit ETC at www.brailler.com or contact their international product manager, Mr. Greg Schenk, at greg@brailler.com)

Braillo Norway: Contact Sensory Solutions - Mr. Anthony Dodds 012 664-7704 for more information on their product range. Go to www.SensorySolutions.co.za for this and other assistive devices or contact Braillo's international product manager, Mr. David Merriman at merriman@braillo.com or visit www.braillo.com

Braille paper: Contact Pioneer Printers (Mr. Schalk Hugo 023 3426-312/3 or schalk@pioneerprinters.org.za), Sensory Solutions, NCTec or SA National Council for the Blind (Landi Stuart at 012 452-3811 or landi@sancb.org.za) for a price; Braille Services charge R320 per box VAT in (Contact Mr. Philip Jordaan 011 839-1793 or philip@blindsa.org.za).

Low Vision equipment: Contact SA National Council for the Blind 012 452-3811, Sensory Solutions - Mr. Anthony Dodds 012 664-7704 or NCTec - Mr. Neville Clarence 011 346-6061 for more information.