BANA Positions on
Computer Braille Code and Braille ASCII

A Position Statement of
the Braille Authority of North America

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Computer Braille Code

Background:

The Computer Braille Code (CBC) was developed by BANA in the 1980s to address the need for precise representations of symbols used in computer programming that could not be represented in existing codes without creating conflicts and ambiguity. CBC used different braille symbols for numbers, punctuation, and other indicators from those used in literary braille. As electronic addresses and filenames came into everyday use, braille users from all walks of life needed to be familiar with CBC in order to read and write these items. With the adoption of Unified English Braille (UEB), the issues that brought about the original need for CBC have been eliminated. All of the symbols and modes represented in CBC can be unambiguously represented in UEB.

BANA's Position on Computer Braille Code:

- CBC is not listed among the "official codes" for use in the United States or Canada.

- It is a mature code that does not require more development. It will not be updated any further, but the code document will

remain on the BANA web site in the Archives area for reference. CBC is not taught in courses for transcribers or teachers.

- The braille version of the code document is transcribed in English Braille American Edition (pre-UEB) and will not be updated.

- CBC is no longer used in general braille transcriptions for electronic addresses, filenames, screen shots, etc.

- Specific information about how to transcribe computer-related material in UEB is given in The Rules of Unified English Braille §10.12.3 and in Unified English Braille Guidelines for Technical Material §17.

Braille ASCII

Background:

Although CBC uses braille ASCII as its basis, the two are not one and the same. Braille ASCII is a means for representing six- and eight-dot braille in a digital format. Six-dot braille is represented with a subset of the ASCII (American Standard Code for Information Interchange) character set which uses 64 of the printable ASCII characters to represent all possible dot combinations in six-dot braille. Eight-dot braille can represent all 256 characters of the ASCII character set (although there has never been a standard for doing this).

Six-dot Braille ASCII:

Braille embossers and refreshable braille devices receive their input in six- or eight-dot braille ASCII. Braille translation software can import and export six-dot braille ASCII format. Human braille transcribers sometimes use this format to enter braille directly into a document. It is also used by anyone wishing to display simulated braille in a document or on a web page.

Knowledge and documentation about braille ASCII remain essential, and the best documentation of six-dot braille ASCII is found in the article "Braille ASCII" referenced at the end of this document.

<u>Eight-dot Braille ASCII</u>:

Refreshable braille devices often provide a method, within real-time contracted braille translation, of expanding a single word to display it in uncontracted six- or eight-dot braille. This is useful for clarification of spelling or for editing purposes. Sometimes menu interfaces are also displayed in braille ASCII, and edit fields such as passwords are sometimes required to be typed using braille ASCII. This was a necessary feature to clarify ambiguities in pre-UEB braille. Now, in a UEB context, it can create confusion. When a word is expanded to uncontracted eight-dot braille, all adjoining numbers, punctuation, and other non-alphabetic symbols change to their ASCII representations.

<u>BANA's Position on Braille ASCII:</u>

- To avoid a counterproductive requirement for braille users to be familiar with alternate braille symbols, developers of software for refreshable braille devices should discontinue the use of braille ASCII (sometimes referenced as computer braille) as the default for user interfaces, edit fields, or expanded words *when a UEB translation table is invoked*.

- When words are expanded for editing within UEB, they should be represented in uncontracted braille, retaining the punctuation, capitalization, and other symbols used in contracted braille.

- If use of braille contractions in the presentation of and input for dialog boxes and other user interfaces presents an undue challenge for software development, these interfaces can be read and given input without ambiguity using uncontracted UEB.

- An option to change the user interface to eight-dot braille ASCII should be available to meet the needs of braille users who utilize this method.

Further Information

- The Rules of Unified English Braille and the Unified English Braille Guidelines for Technical Material are available at www.iceb.org.

- Article on "Braille ASCII":
  https://en.wikipedia.org/wiki/Braille_ASCII

- Article on "Early History of Braille Translators and Embossers":
  http://www.duxburysystems.com/bthist.asp

For further information about the Braille Authority of North America, visit www.brailleauthority.org.