

Braille 2000, LLC

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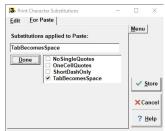
http://www.braille2000.com

On-the-fly Print Substitutions in V3

It is an unfortunate complexity that typography has many similar symbols, often without meaningful difference. As a transcriber, you will need to decide if those differences merit distinctive braille, or not. This issue arises most frequently over "directed vs. undirected quotes", "single quotes vs. apostrophes", "long dash vs. short dash", and "tabs vs. spaces". But there could be other notational decisions as well. And of course, automated print-to-braille translation is driven by the digital print character codes—if they are weird, the braille will likely be weird too.

So that you can handle print distinctions, when they matter to the transcription, Braille2000 does its best to generate braille that exactly "follows print", and that includes, for example, different braille for short vs. long dashes as well as for directed vs. undirected quotes. When the distinctions do not matter, the situation is handled by substitutions to change the exact into something inexact but "friendly": you could do Find and Replace in Word; you could do Find and Replace in Braille2000; or you can have Braille2000 adjust the print as the document is loaded. This latter approach is called Substitutions.

Substitutions apply to the importation of print material. In Braille2000 this is done by: Paste, Open Source File, and Import



... Print. For Paste operations, Substitutions can be selected via right-click to the Paste button and selecting Set Substitutions. The box to the left pops up. Where you see "Done" it initially shows "Change". Click Change to get the choices for substitutions units. Checkmark the ones you want to apply to the incoming print text. Click Store to record your settings; they are persistent and will apply to all subsequent Paste operations.

When you use Open or Import operations, Braille2000 will ask you to specify the braille code to use and also what substitutions to use. You will see a box like this (to the right).

Click the Change button and you will see a list of available substitution units, like in the box on the left.

Unseen is a unit of "Standard" substitutions that always apply. The standard substitutions do not change the nature of the print (not in ways likely to change the braille) but do handle the redundancies in the Unicode specification, e.g., variations of quotes and dashes of the same kind.



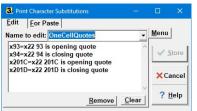
What happens if I don't use Substitutions?

When you use substitutions for your incoming print text, Braille2000 also applies the Standard substitutions. Whereas Standard substitutions do not change the print semantics, the other substitutions (and those you may construct for yourself) do change the print semantics... that's why you use them... to render the print into a slightly different notation... to get better braille.

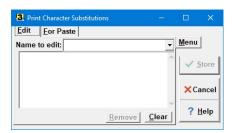
V3 comes with four substitutions units predefined (those enumerated in the boxes already shown). The next section explains how you can edit those definitions to get custom behaviors as well as author your own substitutions. If necessary, you can also edit the Standard substitutions (although needing to do that is unlikely). And you can share your substitutions units with others (they are all defined in one file that you can distribute if you wish).

Adjust Substitutions

When you click Adjust and Substitutions, you see this box (right). It has two tabs, Edit and For Paste. (For Paste was presented above.) When you click the downarrow button, you see a list of already-defined substitution units. If you do that and



select "OneCellQuotes", you will get this box (left). When you change "Name to edit" the box shows you the text definition of that unit. In the unit shown, the definition includes four



substitutions that operate simultaneously. The interpretation of this particular unit is "each character x93 (old style opening directed quote) gets replaced by x22 (undirected/straight quote) and each character x94 (old style closing directed quote) also gets replaced by x22 and each character x201C (Unicode opening directed quote) also gets replaced by x22 and

each character x201D (Unicode closing directed quote) also gets replaced by x22.

The syntax for each line is "character code" = "one to nine character codes" "commentary". The commentary part begins with the first space, so you need to write the first parts without spaces. Because substitutions are most often used to handle special symbols you can't type, character codes are given numerically, as u number (decimal value) or x number (hexadecimal value). Thus, the first line in the box above would work the same if written "u147=u34 anything you want to say".

If we look at "Tab Becomes Space" we see this specification (right). The tab character is x09 (or u9) and a space is x20 (or u32).

x09=x20 tab becomes space

How do I figure out numerical character codes?

Braille2000 contains a Unicode input tool that can give you numerical character codes for thousands of Unicode characters. You can view a multi-panel grid of characters by clicking Insert and Unicode Character. (The main purpose of this feature is to let you insert math symbols... you can browse the character grid (hover the mouse pointer over a character of interest, its numerical codes will show in the lower left.)) Although you can use this feature to get numerical codes, there is a more direct tool for composing substitution directive that is presented below.

Editing and composing substitution units

You can compose and name your own substitution units. If you define a new unit, its name will show in the dialog boxes for selecting substitution units (one or more) to be active for Paste and for Open and Import (two separate settings). You adjust substitution units via Adjust Substitutions. You then get this dialog box.

You can type into the "Name to edit" box as well manipulate statements in the large edit box to define what your substitutions are to do. Input aids are available via the Menu button (or by right-click on the edit box). In the image, Menu has been clicked to expose the menu choices where you see:

Copy from

This option inserts into the edit box the statements from another unit.

Insert reference to

This option inserts into the edit box a reference to another unit (+unit-name).

Insert x code

This option inserts into the edit box the character number (x-format) for a print symbol selected from the character grid. Insert u code

This option inserts into the edit box the character number (u-format) for a print symbol selected from the character grid.

Statement syntax

Each statement line in a substitution unit must be one of three kinds.

Name to edit:

Copy from
Insert reference to Insert x code
Insert u code

Remove Clear

Help

Edit For Paste

A replacement directive: code=codes comment
where code is a single (u or x) character number code, and
where codes is one to nine adjacent codes, and
where comment is any text beginning with a space
An include-by-reference directive: +name
where name is the name of a single substitutions unit
A comment or blank line: a line that is blank or text beginning with!
Statement lines of these kinds can occur in any order in any quantity.

Standard unit

When any substitution is applied to print input, the "Standard" unit is automatically applied first. It is designed to normalize the use of equivalent print symbols. If you wish, you can view and edit the Standard substitution unit. It is not shown in the names list. To view or edit it, you have to type "Standard" into the "Name to edit" box.

%-directive

You can activate one or more substitutions units by inserting the %subst= directive into your print document. After the equals sign, list the name or names of the substitution units that should be active, separated by commas. Do not allow spaces in the list (%-directives cannot contain spaces; a space terminates the directive).

For example, if you had a document with the following prose:

%subst=ShortDashOnly

Jane hesitated a moment—she was afraid everyone would laugh.

This line and all that follows it (until another %subst= directive, if any) would have long dashes (em-dash) replaced with short dashes (en-dash) with braille translation done on the adjusted prose, yielding, for this example:

```
Notice the short dash, highlighted.
```

Remember that %-directives operate within Clipboard text (of all kinds) and in imported files (including types .txt, .rtf, and .docx) when you use Import or Open Source File. Thus, (a) %subst= is an alternative technique for setting Paste substitutions (presented earlier), and (b) is a file-based automation technique when using Open Source File or Import ... Print.

Note that the names of built-in substitution units were designed for clarity of purpose, not brevity. Using Adjust Substitutions (described above), you can create equivalent or customized substitution units with much shorter names, and thus perhaps easier to use with %subst=.

The inside scoop

Substitution unit definitions are stored in a special text file. The name of the file is "Substitutions.ini". It can be edited with (say) Notepad or Wordpad or Word but for most changes you should use Adjust Substitutions as described above. It is located in your personal support-file area known as "AppData". (AppData is a sybling to Documents and Desktop; Windows shows you Documents and Desktop but hides AppData; go figure.) Substitutions.ini is usually located in C:\Users\login-name\AppData\Roaming\Br\2000. In a typical Windows configuration, this location is hidden until you unhide it: on Windows 10, launch File Explorer, then show the "View" ribbon (click on "View"), then click "Options" (opens the "Folder Options" window), click the "View" tab, select "Show hidden files, folders, and drives", click OK.

Substitutions.ini does not exist until you have stored one or more customized substitution units (using Adjust Substitutions). If, for example, you define a unit called "Mine" and put in it copies of the directives from "TabBecomesSpace" and "ShortDashOnly", then Substitutions.ini would contain this text:

```
[Mine]
x09=x20 tab (x09) becomes space
x97=x2013 97 is a long dash
x2014=x2013 2014 is a long dash
```

The name of the substitutions unit is enclosed in square brackets, followed by one or more lines of definition. The file can contain the definitions of many units, listed unit by unit, in no particular order. If you choose to make extensive use of the substitutions feature, you might want to adjust Substitutions. In using a regular text editor. Remember that Substitution unit names cannot contain spaces nor symbols other than letters and numbers (no punction, no special symbols). If you do adjust the file using other tools, close and re-launch Braille2000 to have it load your revisions.