

Handwriting Tips for Newton Power Users

Tips for optimal character recognition for Newton 2.0

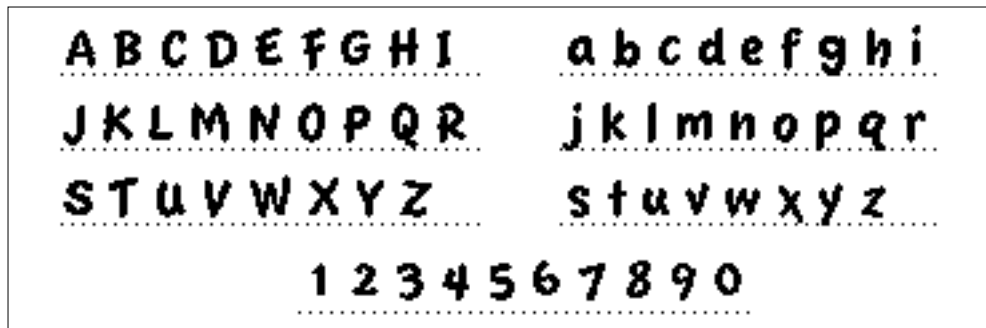
GENERAL TIPS

- Use the printed recognizer

If you can possibly write your characters printed and disconnected, do so. The "Printed, disconnected" recognizer is more accurate than the "Cursive" recognizer (also known as "Paragraph"). Moreover, the printed recognizer can recognize essentially all standard ASCII characters, whereas Paragraph is unable to recognize a few characters such as square brackets and underline.

- Write in mixed case, upper and lower. Do not write in ALL CAPS.
- Disconnected means that you **pick up** the pen in between letters. As long as you do that, it's okay if there is some overlap.
- Don't write at a strong slant.
- look at the "casual" font for clues

The Newton's new default font is a simulated handwriting font. As such, it can sometimes serve as a guide to what your printed characters should look like for best recognition.



HANDY AUTO EXPANSIONS

You can enter text much more efficiently if you make judicious use of the autoexpand feature. For instance, if you define the string "bul" to expand into "<return><opt-8><space>" (option-8 is the bullet character `·`), then you can write without stopping the text "groceries: bul eggs bul milk" and it will be recognized as:

groceries:

• eggs

• milk

To get to the user words and autoexpansions dictionary, first tap

the keyboard icon  at the bottom of the screen, then tap the

dictionary icon  on the bottom left corner of the onscreen

keyboard. (Another way to enter words into the autoexpansion dictionary is with Expansion.pkg by Catamount Software <<http://www.together.net/~hardy>>)

Here are some useful autoexpansions:

```
ret  -> <return>
bul  -> <return><opt-8><space>
ind  -> <return> followed by three spaces. (stands for
      "indent")
ind2 -> <return> followed by six spaces.
pp   -> <return><return><three spaces> (new paragraph)
sig  -> my multi-line signature, including returns
addr -> my full address
hdr  -> a letterhead (stands for "header")
```

Expansions can be used to enter words with accents or enter accented letters saving you the steps of opening the keyboard. You could write "Munich" and it would expand to "München" or you could write "M uu nich" and it would expand to "M ü nich" and you can remove the spaces. You must enter the phrases to expand as separate words so the Printed recognizer knows to expand them.

```
Munich -> München
garcon  -> garçon
ea      -> é
eg      -> è
eh      -> ê
uu      -> ü
aa      -> á
```

DISTINGUISH PROBLEM CHARACTERS

The "Printed" recognizer is extremely good at telling characters apart **if you give it enough to go on**. But sometimes a tiny change in the way you write can have a big impact on those last few errors by making it easier for the Newton to tell one of your characters from another.

In the past, some Newton users have used a program called "Graffiti" which requires that you change your entire alphabet to get good recognition. With the new printed recognizer this is not necessary, but for best results you may still want to tweak your writing style a bit.

Here are some suggested tweaks if you are having problems:


- letters

"I": Put a top and bottom cross-bar on it.

"i": Make SURE to put the dot over the "i". Also, if you miss the

i and dot something too far to the right or left of it you are almost *guaranteed* to get bad recognition. This is mostly a problem for people who write with a very strong slant, which is also not recommended.


"l": if you write it with a loop as if it were cursive, it will never get confused with "I", "1" or the vertical bar. Or if that's too cumbersome a change, try just putting a little horizontal tail at the bottom of your stroke, as if you were writing a very narrow capital L.


"u": put a little tail  on it to distinguish more from "v".

"zZ": the European way of drawing a z, upper or lower case, is to cross it in the middle with a little bar. Adopt this stylish habit yourself and it will never be confused with a "2".

- numbers

"1": if you put a little barb on the top you will never get an "l", "I" or "|".

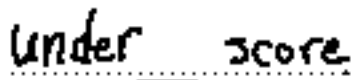
"0": Put a diagonal slash  through it to distinguish from the letter "O".

"2": A round loop  rather than a sharp corner before the last stroke can help distinguish from "Z".

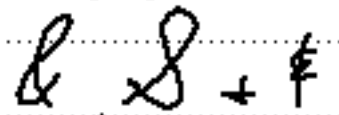
- symbols

"%" The one-stroke percent sign is often taken as a "2". Instead, use a two-stroke percent sign; lift the stylus before drawing the lower circle.

"_" exaggerate how low the underscore is relative to the text, or you'll get a hyphen instead.



"&" almost nobody knows how to draw this the way it looks, and if you do you might get a "G" anyway. So draw it like this instead:



By going to the Letter Shapes preference of the Cursive handwriting style you can see the letters drawn. If you draw your letters the same way the Letter Shapes draw the letters you will

achive surprurb sucess. To open letter shapes: tap on the recognizer popup, select Preferences, select the cursive handwriting style, tap options, select Letter Shapes, select the letter you want to see drawn, and tap twice on one of the shapes.

":" Make the dots little blobs rather than taps. Taps will get taken as commands to move the caret. Little round blobs will get passed to the recognition system.

;" same comments as for the colon.

Quotation marks: Since the recognizers are scale-independent, how can they tell the difference between a double quote and a very small "ll" or "("? Answer: they often can't, unless there are more letters to look at that establish the context. So if you want to draw a quote or double-quote all by itself, use the caret popup.


Examples of unambiguous text:

l|zZuI
0112
%d::;

Paragraph-specific tips:

If you choose to write in printed upper and lower case but use the Paragraph (cursive) recognizer (we don't recommend this), you may have a problem with letters turning into numbers. Some of the above suggestions will help with this problem, as will this additional suggestion:

"g": The descender should cross itself completely to avoid looking

like a "9". Like so: 

To speed the weeks of learning the Paragraph recognizer must go thru to learn your handwriting you can preset some of the letters for your style. This usually takes about 15 minutes, but can offer some dramatic improvements on your recognition. To preset the letter styles you need to tell Paragraph how you write your letters. Open letter shapes: tap on the recognizer popup, select

Preferences, select the cursive handwriting style, tap options, select Letter Shapes, select the letter you want to see drawn, and tap twice on one of the shapes. Below the shapes are 3 choices: Often, Rarely, and Never. Select a letter shape, watch how it is drawn, and change the setting to how often you think write the letter that way.

ALL CAPS

If you normally write using block printed letters, the "printed" recognizer can read this, but will interpret what you write as being all in capitals. If your capitals are larger than, but otherwise identical to, your small letters, use the "Cursive" recognizer and you will get the mixed-case results that you desire.