1. Introduction

Often the humble Macintosh and other O/S such as Linux are forgotten about when macron issues arise and when macron software and fonts are created. The Hawaiians have their own keyboard in MacOSX 10 as a default International keyboard on the MacOSX 10.2 installation CD-Rom.

While I think it worth while to pursue Apple Corporation for an International option Maori keyboard I do not think Māori have the numbers to justify it although Apple may see it as an opportunity to attract non Mac users.

This paper attempts to be an information paper for non technical Macintosh users who use Maori language on the Macintosh.

2. What is a Maori Font

A Māori font is an ordinary font except it has the ability to display a macron. A Māori font replaces two dots/umlaut with a macron symbol.

A Māori font can correctly display all English characters, thus it can be used for both Māori and English.

3. What is a Maori keyboard

A keyboard driver is a small piece of software (sometimes only a few k in size) that reconfigures what characters are displayed when certain keystroke sequences are entered on a keyboard. Keyboard driver is the correct technical term for this software but is often referred to as a keyboard macron.

Māori language keyboard drivers do not effect typing any English alphabet characters as they usually require a key such as the ` key to be pushed before the desired vowel.

Once a Māori font is installed on a computer the easiest way to type the macron symbol is with the use of a keyboard driver.

4. How to create macrons on the Macintosh

There are two different options you can create macrons on the Macintosh depending of which system you have.

Option 1. Install a Maori keyboard and Maori fonts. Details of where to obtain this software is in section 9 below.

Option 2: Use your default keyboard and use a key in different combinations of numbers as well as install a Māori font.

For example Hold the option button down and then the u button and then the a for an à press the a button.

A full list of combinations is in the next two sections.

The only problem with this method is you will need to memorise a number of different key combinations which can be frustrating if you forget a combination while typing a large document. For most people this method is impractical.

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5. Creating Umlaut macrons with key combinations

This section can only be guaranteed for Mac OS 9 and OS X 10. The information may or may not be relevant for earlier versions.

To create a macron you will need to hold the Option button down and while still holding the Option button down press the button U, let go and quickly type a vowel that you would like to appear as a umlaut macron. I

To create a capital vowel you will need to follow the steps above but hold the Shift key down while you are pressing the vowel – as you would normally to create a capital letter.

<table>
<thead>
<tr>
<th>Key strokes</th>
<th>Character</th>
<th>Keystroke</th>
<th>Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option + U+a</td>
<td>å</td>
<td>Option + U+Shift+a</td>
<td>A</td>
</tr>
<tr>
<td>Option + U+e</td>
<td>ĕ</td>
<td>Option + U+Shift+e</td>
<td>Ė</td>
</tr>
<tr>
<td>Option + U+i</td>
<td>ĭ</td>
<td>Option + U+Shift+i</td>
<td>Į</td>
</tr>
<tr>
<td>Option + U+o</td>
<td>ķ</td>
<td>Option + U+Shift+o</td>
<td>Ö</td>
</tr>
<tr>
<td>Option + U+u</td>
<td>ū</td>
<td>Option + U+Shift+u</td>
<td>Ū</td>
</tr>
</tbody>
</table>

6. Create Unicode Macrons with the default Unicode Hex keyboard

Use this option if you have Mac OSX 9 - 10.1. Unicode macrons in Mac OSX 10.2 is in the next section although you can still use this section for OSX 10.2.

This method can be very confusing if you do not know the hex values and again it can be frustrating if you are typing large documents. This method will also only work in applications that support Unicode.

Ensure the Unicode Hex Input keyboard is selected (see section 6 for details of adding new keyboard). Hold the Option button down while typing the hex number that is equivalent to your desired macron. For example to create a Unicode macron e (ē) hold the option button down and type 0133 then let go of the Option button.

The full list of macron characters and their hex value is below.

<table>
<thead>
<tr>
<th>Key strokes</th>
<th>Character</th>
<th>Keystrokes</th>
<th>Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option+0101</td>
<td>ā</td>
<td>Option+0100</td>
<td>Ā</td>
</tr>
<tr>
<td>Option+0113</td>
<td>ē</td>
<td>Option+0112</td>
<td>Ė</td>
</tr>
<tr>
<td>Option+0128</td>
<td>ĭ</td>
<td>Option+012A</td>
<td>Į</td>
</tr>
<tr>
<td>Option+0140</td>
<td>ķ</td>
<td>Option+014C</td>
<td>Ō</td>
</tr>
<tr>
<td>Option+016B</td>
<td>ū</td>
<td>Option+016A</td>
<td>Ū</td>
</tr>
</tbody>
</table>
7. Creating Unicode Macron for OSX 10.2 and higher

Max OSX 10.2 and higher is much more user friendly regarding special characters such as macrons. One option is the “Character Palette” accessible as a keyboard (see managing multiple keyboards- section 9 for details of how to access). To activate the “Character Palette” choose “Show Character Palette” from the drop down menu of keyboard options.

More comprehensive details for Mac OSX 10.2 will be provided at a later date.

8. Managing multiple keyboards

Macintosh allows you to have a number of different keyboard that you can switch between as you need them. To install multiple keyboards follow these steps:

1. Click the apple Icon in the top left hand corner.
2. Select System Preferences
3. Under the Personal section choose International.
4. Click the Keyboard Menu tab and check the keyboards you want activated.
5. Quit

Once you have the desired keyboards selected you will probably want to switch between them. To do this follow these steps:

1. On the upper right portion of the screen, click on the Australian flag (or other) icon.
2. Select a keyboard from the drop down menu.
3. The keyboard will be switched and an appropriate font will be selected.

The icon will change when you change keyboard. If you are unsure what keyboard you have open click the icon again and read the keyboard name.

To switch between keyboards or back to the default keyboard follow the instructions above.

9. Maori Software for the Macintosh

This list below is intended to be a comprehensive list of free Maori software for the Macintosh. If you know of other software please email me for inclusion.

A. Fonts

- *PalatinoMaori, TimesMaori, HelveticaMaori*. can be downloaded from [http://www.maorispellchecker.net.nz](http://www.maorispellchecker.net.nz). These files are compressed with “Stuff It” and form the majority of free Maori Macintosh fonts on the web.
- An Hawaiian font *hikakuhiwae (Courier)* can be downloaded from [http://www.olelo.hawaii.edu/](http://www.olelo.hawaii.edu/). Although it is Hawaiian it does display macrons.
B. Maori Keyboard

Aotearoa keyboard. Developed by Mark Laws http://kel.otago.ac.nz/maaka/. The software can be downloaded from http://www.maorispellchecker.net.nz. The software has not been updated therefore only good with older systems.

10. Feedback

Any feedback is welcome as are suggestions of Mac Maori software that have not been included here.

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