**Azhagi Hebrew/Yiddish Keyboard Layout** {Draft version: 2017/06/27}

*Azhagi is very easy to learn, use and demonstrate, but difficult to explain in text, which is why this document is so long. I’m sorry about that.  
Please read the Azhagi Introduction document first. That explains the basics. I am trying to make the various layouts as consistent as possible, so that users can switch languages easily.  
This Hebrew keyboard mapping is a first draft. It is rough and ready. If you find any bugs, please say so.   
It is also experimental: if any design decisions are wrong, they can be changed. Comments and suggestions would be gratefully received. Alec McAllister, t.a.mcallister@leeds.ac.uk*

This keyboard layout can type all the Hebrew/Yiddish characters and niqqud, Masoretic and cantillation marks specified in Unicode ranges "U0590 Hebrew" and "UFB00 Alphabetic Presentation Forms". If any other characters are needed, I will try to add them.

**Design Principles**

* Characters and signs are mapped according to what they LOOK like, not what they sound like.
* No changes are made unless the user presses the Compose key, which is currently # . Unless that key is pressed IMMEDIATELY afterwards, the user gets exactly what is typed, without alteration.

**Why we need an Azhagi keyboard for Hebrew**

Microsoft's default Windows keyboard layout for Hebrew is based on (and nearly identical to) the Israel national standard layout, which is an uneasy compromise between several competing technical demands, some of which are no longer necessary.

The Windows/Israel layout is based on the US layout, but then displaces certain very common characters, such as the full stop. This causes confusion.

The US and UK keyboards are similar, but put several commonly used characters (mainly punctuation, @ " ~ etc) on different keys, and of course the US layout lacks the £ symbol entirely. These differences cause further confusion in the UK.

The Windows/Israel layout also uses a strange combination of Caps Lock and Shift to type niqqudot, which causes yet more confusion.

This Azhagi layout is for UK users. It keeps all the punctuation symbols on their normal UK keys, so that users can type the characters that they see painted on those keys.

To achieve this, this Azhagi layout displaces the final forms of certain characters to the Shifted version of their normal forms. For example, the Hebrew Tsadi is on the key painted **M** on the US and UK keyboards; this Azhagi layout places final Tsadi is on **Shift-M**.

The standard Hebrew keyboard includes Latin letters (capitals only) to enable the typing of URLs, email addresses, etc. There is no need for this in Azhagi: the user can simply switch to the Latin layout, then back again.

Similarly, I have mapped the Hebrew right chevron > to the > key on the QWERTY keyboard, because it looks the same, even though the normal Hebrew and Arabic keyboards reverse the character pairs < >, ( ) , { } etc. They map the keys according to **function** (e.g. open chevrons, open brackets, etc), whereas I map according to **appearance** (i.e. rightward-pointing chevron, bracket bulging to the right, etc).

All other Hebrew **characters** (not the points) are in the same locations as they have on the standard Israel Hebrew keyboard.

**Typing Niqqudot etc**

The Windows Hebrew keyboard requires the use of both Caps Lock and Shift to type niqqud marks. This technique is clumsy to use and technically very odd. It seems to be a "work-around", a way to get around decades-old technical difficulties that no longer apply. It also arranges the niqqud marks in an arbitrary order.

Instead, I represent each mark as a sequence of dots and/or lines, exactly as in writing.

For example, to type **Rafe[[1]](#footnote-1)**, type the base character, then underscore, then the Compose key, which is **#**, e.g.:  
The **a** key alone produces **ש**The sequence **a\_#** produces **שֿ**

Pressing the **#** key **once** puts a mark **above** or **within** the base character;  
pressing it **twice** puts the mark **below** the base character:  
The sequence **a\_##** produces שַ

Similarly, to type the two vertical dots of **Qatan** and **Sheva**, type a semicolon, then Compose once or twice.  
**a** produces **ש  
a:#** produces **ש֔  
a:##** produces **שְ**

Use the fullstop key for "normal" dots, such as **Hiriq**:  
The **p** key alone produces **פ**The sequence **p.##** produces **פִ**

**Tsere[[2]](#footnote-2)** consists of two dots, so we use two fullstops:  
The **s** key alone produces **ד**The sequence **s..##** produces **דֵ**

Some marks can be typed in several different ways, depending on how you like to think of them. For example, any of these sequences produces the ***accent*** **Segol**:  
ש**..**#**.**# or ש**...**# or ש**^**# produces **ש֒**

Similarly, you can type the ***point* Segol** by either of these shortcuts:  
ש**V**# or ש**..**##**.**## produces שֶ

You can type marks that consist of two elements (e.g.) by using any combination of the shortcuts that type those elements separately. For example: to type **Hataf Segol**, type a semicolon, followed by anything that can produce the ***point* Segol**:  
ש**:**##**V**## or ש**:V**## or ש**:**##**..**##**.**## produces שֱ

I suggest using the simplest and most obvious shortcut in every case (e.g. V, T, ^, etc) but I have programmed the others to work, just in case.

**Oddities**

g produces ע  
G produces ﬠ . This uses the modified form of ﬠ , with the tail moved up to allow space for marks below it.[[3]](#footnote-3)  
g\_## produces עַ  
G\_## produces ﬠַ

There are too many dots to put them all on keys painted with dots, so I had to make arbitrary decisions.

**Dagesh** is on the @ key, because it looks like something in the middle of something else.

The Puncta Extraordinaria **Upper** and **Lower dot** are typed with \*# and \*## respectively, because \* looks like a dot, but not an ordinary one.

**Sin dot** and **Shin dot** are on ¬ and ! respectively. Those keys don't look like dots, but at least ¬ is to the left and ! is to its right.

**Holam** and **Holam Haser for Vav** are on the / and \ keys, respectively … because they had to go somewhere.[[4]](#footnote-4)

Some characters (e.g. שּ) have precomposed forms including marks. Others do not, and the marks are separate. The latter are shown in red here.

Where ש arbitrarily represents the base character:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Name** | **Unicode Number** | **Shortcut** | **Example** | **Result** |
| **Dots** |  |  |  |  |  |
|  | **Dagesh/Mapiq**, dot within | 05BC | **@** | ש**@**# | שּ |
|  | **Shin dot** | 05C1 | **!** | ש**!**# | שׁ |
|  | **Sin dot** | 05C2 | **¬** | ש**¬**# | שׂ |
|  | **Holam** | 05B9 | **/** | ש**/**# | ש**ֹ** |
|  | **Holam Hase for Vav** | 05BA | **\** | ש**\**# | וֹ |
|  | **Hiriq, dot below** | 05B4 | **.** | ש**.**## | שִ |
|  | **Tsere**, two dots below (horizontal) | 05B5 | **..** | ש**..**## | שֵ |
|  | ***accent*** **Segol**, three dots above | 0592 | **^ .. . ...** | ש**^**# ש**..**#**.**# ש**...**# | ש֒ |
|  | ***point*** **Segol**, three dots below | 05B6 | **V .. .** | ש**V**# ש**..**##**.**## | שֶ |
|  |  |  |  |  |  |
|  | **ordinary colon** |  | **:** | : | : |
|  | **Zaqef Qatan** | 0594 | ש**:**# | ש֔ |
|  | **Zaqef Gadol** | 0595 | **: |** | ש**:**#**|**# | ש֕ |
|  | **Sof Pasuq** | 05C3 | **:`** | **:`**# | ׃ |
|  | **Sheva**, two dots below (vertical) | 05B0 | **:** | ש**:**## | שְ |
|  | **Hataf Segol** | 05B1 | **: V :V : .. .** | ש**:**##**V**## ש**:V**## ש**:**##**..**##**.**## | שֱ |
|  | **Qubuts**, three dots below (diagonal) | 05BB | **\** | ש**\**## | שֻ |
|  | **Upper Dot** | 05C4 | **\*** | ש**\***# | שׄ |
|  | **Lower Dot** | 05C5 | ש**\***## | שׅ |
|  |  |  |  |  |  |
| **Lines** |  |  |  |  |  |
|  | **Maqaf** | 05BE | **- (hyphen)** | **-**# | ־ |
|  | **Rafe**, line above | 05BF | **\_ (low line)** | ש**\_**# | שֿ |
|  | **Patah**, line below | 05B7 | ש**\_**## | שַ |
|  |  |  |  |  |  |
|  | **Paseq** | 05C0 | **|** |  | ׀ |
|  | **Meteg**, line below (vertical) | 05BD | ש**|**## | שֽ |
|  | **Qamats** | 05B8 | **T | \_ |\_ \_ | \_|** | ש**T**## ש**|**##**\_**## ש**|\_**## ש**\_**##**|**## ש**\_|**## | שׇ |
|  | **Qamats Qatan** | 05C7 | **T ` \_ | ` | \_ `** | ש**T**##**`**# ש**\_**##**|**##**`**# ש**|**##**\_**##**`**# | שׇ |
|  | **Hataf Qamats** | 05B3 | **: T : \_ | : | \_ :\_| :|\_** | ש**:**##**T**## ש**:**##**\_**##**|**## ש**:**##**|**##**\_**## ש**:\_|**## ש**:|\_**## | שֳ |
|  |  |  |  |  |  |
|  | **Iluy** | 05AC | **]** | ש**]**# | ש֬ |
|  | **Munah** | 05A3 | ש**]**## | ש֣ |
|  |  |  |  |  |  |
|  | **Etnahta** | 0591 | **^** | ש**^**## | ש֑ |
|  | **Atnah Hafukh** | 05A2 | **%** | ש%## | ש֢ |
|  | **Ole** | 05AB | **<** | ש**<**# | ש֫ |
|  | **Yetiv** | 059A | ש**<**## | ש֤ |
|  | **Mahapakh** | 05A4 | **< `** | ש**<**##**`**# | ש֚ |
|  | **Shalshelet** | 0593 | **£** | ש**£**# | ש֓ |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Curved** |  |  |  |  |  |
|  | **Masora Circle** | 05AF | **0** | ש**0**# | ש֯ |
|  | **Varika** | FB1E | **(** | ש**(**# | שﬞ |
|  | **Yerah Ben Yomo** | 05AA | ש**(**## | ש֪ |
|  | **Zarqa[[5]](#footnote-5)** | 0598 | **~** | ש**~**# | ש֘ |
|  | **Zinor** | 05AE | **~ `** | ש**~**#**`**# | ש֮ |
|  | **Darga** | 05A7 | **S** | שS## | ש֧ |
|  | **Qadma** | 05A8 | **}** | ש**}**# | ש֨ |
|  | **Pashta** | 0599 | ש**}**#**`**# | ש֙ |
|  | **Merkha** | 05A5 | ש**}**## | ש֥ |
|  | **Merkha Kefula** | 05A6 | ש**}**##**}**## ש**}}**## | ש֦ |
|  | **Geresh** | 059C | **{** | ש**{**# | ש֜ |
|  | **Geresh Muqdam** | 059D | ש**{**#**`**# | ש֝ |
|  | **Tipeha** | 0596 | ש**{**## | ש֖ |
|  | **Dehi** | 05AD | ש**{**##**`**# | ש֭ |
|  | **Gershayim** | 059E | ש**{**#**{**# ש**{{**# | ש֞ |
|  | **Tevir** | 059B | **$** | ש**$**## | ש֛ |
|  |  |  |  |  |  |
| **Other** |  |  |  |  |  |
|  | **Telisha Qetana** | 05A9 | **Q** | שQ# | ש֩ |
|  | **Telisha Gedola[[6]](#footnote-6)** | 05A0 | **W** | שW# | ש֠ |
|  | **Qarney Para** | 059F | **Q&W** | שQ&W# | ש֟ |
|  | **Pazer** | 05A1 | **Y** | ש**Y**# | ש֡ |
|  | **Revia** | 0597 | **[** | ש**[**# | ש֗ |
|  | **Alternative Plus Sign** | FB29 | **+** | +**`**# | ﬩ |
|  | **Presentation/Wide Forms** |  | **`**# | א**`**# | ﬡ |
|  | **נ reversed** | 05C6 |  | נ**=**# | ׆ |
|  | **Ligature Yod Yod Patah** | FB1F | יי**\_##** יי#**\_##** י**&**י**#\_##** | | ײַ |
|  | **Ligature Alef Lamed** | FB4F | א**&**ל**#** | | ﭏ |
|  | **Ligature Double Vav** | 05F0 | וו#ו**&**ו# | | װ |
|  | **Ligature Double Yod** | 05F2 | יי# י&י# | | ײ |
|  | **Ligature Vav Yod** | 05F1 | (Typing order:)  וי#ו**&**י# | | ױ |
|  | ***Punctuation* Geresh** | 05F3 | '# | | ׳ |
|  | ***Punctuation* Gershayim** | 05F4 | "# (Double quotation mark) '#'# (Two single quotation marks) | | ״ |

1. All names are spelled according to the Unicode standard, however irritating that may be to scholars. [↑](#footnote-ref-1)
2. *Would it help or hinder to use Shift-2, the double quotation marks, for Tsere?* [↑](#footnote-ref-2)
3. Some fonts (e.g. SBL Hebrew) emphasize the difference between these two characters more than others (e.g. Times New Roman). [↑](#footnote-ref-3)
4. *If you can think of a better location, please let me know.* [↑](#footnote-ref-4)
5. I know, I know! Blame the Unicode specifications, not me. [↑](#footnote-ref-5)
6. Q look like Telisha Qatana. W looks nothing like Telisha Gedola, but is next to Q, so they can be remembered as a pair. Telisha Gedola resembles P and could be mapped to the P key, but that would produce in intermediate ף, which might be confusing. [↑](#footnote-ref-6)