Greek Polytonic Plus ver. 2

N. B.: All characters listed with `AltGr` can also be entered with `Ctrl`-`Alt`.[†] `AltGr` is the right `Alt` key. Mac users, see page 4.

General

These keystrokes are not obvious to users of non-Greek hardware (they are from the standard Greek Monotonic layout):

Q/q	= ·/;	[Greek colon and question mark]
H/h	= Η/η	
U/u	= Θ/θ	
J/j	= Ξ/ξ	
W/w	= Σ/ς	[final sigma]
V/v	= Ω/ω	
Y/y	= Υ/υ	

> Ver. 2 adds Keyman's on-screen keyboard feature (`Alt`-`⇧`-`K`).

Precomposed accents, breathings, and macrons (deadkeys)

Include `⇧` as needed:

<	rough breathing	[also with rho]
>	smooth breaking	[also with Rho/rho]
`	grave accent	
'	acute accent	[apostrophe]
;	tonos accent	[see note on page 3]
~/^	circumflex accent	[use either key]
:	dieresis	[colon]
/	macron[‡]	
?	breve[‡]	
`AltGr`-ι	iota subscript	[use `⌥`- ι on Mac]

Diacritics and iota subscript combinations can be entered in any order. (New in v. 2; iota subscript had to come last in v. 1). To get a standalone diacritic (for instance, in documentation), type `Spacebar` after the deadkey.

Combining Diacritics

It is normally best to use precomposed forms in Greek (see page 3 for more). However, the diacritics listed opposite can be entered as combining characters by typing `AltGr` before the key. There are also a few diacritics that exist only in combining form for Greek:

`AltGr`-.	= ◌̣	[combining underdot]
`⇧`-`AltGr`-~	= ◌͂	[combining Greek perispomeni]
`⇧`-`AltGr`-ι	= ◌ͅ	[combining Greek ypogegrammeni]
`⇧`-`AltGr`-_	= ◌̓	[combining Greek coronis]

Other Greek Symbols

These are all typed with `AltGr` (use `⇧` for capital):

`AltGr`-4	= 𐅻	[drachma sign]
`AltGr`-7	= Ϗ/ϗ	[Kai/kai ligature]
`AltGr`-9	= ͵α	[lower number sign]
`AltGr`-0	= α′	[upper number sign]
`AltGr`-J/j	= J/j	[Yot/yot]
`AltGr`-Z/z	= Ϟ/ϟ	[Koppa/koppa numeric]
`AltGr`-r	= ϼ	[rho with stroke]

Coptic letters (see note on page 4)

`AltGr`-D/d	= Ⲧ/ⲧ	
`AltGr`-F/f	= Ϥ/ϥ	
`AltGr`-G/g	= Ⳉ/ⳉ	
`AltGr`-H/h	= Ϩ/ϩ	
`AltGr`-X/x	= Ⳃ/ⳃ	
`AltGr`-K/k	= Ⳕ/ⳕ	
`AltGr`-O/o	= Ⳝ/ⳝ	

> For all characters in this column, hold down `AltGr` (with `⇧` if needed) but don't type the hyphen. On Mac OS, use the *right* `⌥` key.

[†] Enable this feature in Keyman's Configuration dialog if you need to use it.

[‡] Not available with breathings and accents; see discussion on page 3.

Archaic Letters and Ancient Symbols

⎣\⎦ is a deadkey for all the archaic letters; see note below about the first five. Include ⎣⇧⎦ as needed:

⎣\⎦-P/p	= ⅄/⅄	
⎣\⎦-Q/q	= Ϙ/ϙ	[alphabetic Koppa/koppa]
⎣\⎦-T/t	= Ϛ/ϛ	[Stigma/stigma]
⎣\⎦-W/w	= Ϝ/ϝ	[Digamma/digamma]
⎣\⎦-C/c	= Ϲ/ϲ	[lunate Sigma/sigma]
⎣\⎦-!/1	= Ͻ/ͻ	[reversed lunate Sigma/sigma]
⎣\⎦-@/2	= Ͼ/ͼ	[dotted lunate Sigma/sigma]
⎣\⎦-#/3	= Ͽ/ͽ	[reversed dotted lunate Sigma/sigma]
⎣\⎦-S/s	= Ϻ/ϻ	[San/san]
⎣\⎦-H/h	= Ͱ/ͱ	[Heta/heta]
⎣\⎦-M/m	= Ͳ/ͳ	[archaic Sampi/sampi]
⎣\⎦-V/v	= Ͷ/ͷ	[Pamphylian Digamma/digamma]
⎣\⎦-O/o	= Ϸ/ϸ	[Sho/sho]

Editorial and Publishing Symbols

Include ⎣⇧⎦ as needed:

⎣AltGr⎦-5	= †	
⎣AltGr⎦-%	= ‡	[= † with ⎣⇧⎦]
⎣AltGr⎦-8	= ※	
⎣AltGr⎦-*	= ⁂	[= ※ with ⎣⇧⎦]
⎣AltGr⎦-b	= •	
⎣AltGr⎦-m	= —	[m-dash]
⎣AltGr⎦-n	= –	[n-dash]
⎣AltGr⎦-s	= §	
⎣AltGr⎦-(	= ⟨	
⎣AltGr⎦-)	= ⟩	
⎣AltGr⎦-((	«	[to get double angle bracket,
⎣AltGr⎦-))	»	type single bracket twice]
[[= ⟦		[no need for modifier key with ⟦ / ⟧]
]] = ⟧		
⎣AltGr⎦-[	= ‹	[guillemets]
⎣AltGr⎦-]	= ›	
⎣AltGr⎦-{	= «	
⎣AltGr⎦-}	= »	

Tʜɪꜱ ᴋᴇʏʙᴏᴀʀᴅ ᴘʀᴏᴠɪᴅᴇꜱ complete coverage of the Greek and Coptic block of Unicode (U+0370–03FF), except that a few symbols meant for mathematical or technical use are not included since they should not be employed in running Greek text. For example, U+03D0 ϐ ɢʀᴇᴇᴋ ʙᴇᴛᴀ ꜱʏᴍʙᴏʟ has a 'curly' shape. If you want this form outside a mathematical context, use the regular text beta (U+03B2) and find a font that includes the curly shape either by default or though OpenType features such as stylistic sets or character variants. The keyboard also enables entry via deadkeys of the many precomposed combinations of base letters with accents, breathings, and/or iota subscript included in the Greek Extended block (U+1F00–1FFF).

The original design of this keyboard used ⎣AltGr⎦ (or its equivalent ⎣Ctrl⎦-⎣Alt⎦) for any character that could not be entered by typing a single alphabetic key or with a deadkey for accents or breathings. But there were not enough ⎣AltGr⎦ combinations to cover the many additional archaic letters in this update. We therefore defined a new deadkey, the backslash ⎣\⎦, and implemented it for all the archaic letters and lunate sigma symbols. The first five archaic letters (sampi–lunate sigma) can also be accused with ⎣AltGr⎦ for the convenience of users who are accustomed to the original arrangement.

Editorial and publishing symbols are not specific to Greek but are included for the convenience of scholars and editors.

Note: the first two pages can be printed back to back and used as a 'cheat sheet' when entering text with this keyboard. At the end of this document there are also large keyboard charts that you can view or print, with separate versions for Windows and Mac OS.

Below is some additional information about combining diacritics and other issues involved with Greek text.

Design of This Keyboard

For regular alphabetic characters, this keyboard follows the layout used in Greek typewriters, which was carried over into the Greek layouts (both modern and polytonic) supplied with Windows and Mac OS. Those who have used such Greek keyboards (or may wish to do so in the future) will find the arrangement of this keyboard useful. We felt it best to follow an existing standard rather than create a new, more 'phonetic' layout. There are only a few key assignments that users of non-Greek hardware will need to learn.

This design works best with U. S. physical keyboards. If your hardware is different, Greek Polytonic Plus may still be used, but you will have to make some adjustments. For instance, on a French keyboard ⒵ and ⒲ are switched relative to a U. S. keyboard. So you need to press ⒲ to get zeta, which is mapped to the position of ⒵ on U. S. hardware.

The practice of typing accents and breathings before a vowel also goes back to the days of typewriters and is still found in much software (e.g., in Word for Windows **é** is produced with ⒸⓉⓇⓁ-ʹ-Ⓔ or on Mac OS with ⌥-Ⓔ). Entering combining characters (see below) after the base helps keep the distinction between two kinds of marks clear for users. Other keyboards are available in which all marks are typed after the base for those who prefer that system.

The circumflex may be entered with either the tilde ⒯ or the caret ⒧. The latter is often used for the circumflex in modern language keyboards, so users may be accustomed to it (and it looks vaguely like the Porson-style circumflex ō̃); those who think of a Greek circumflex as tilde-shaped may want to use the former. The caret deadkey was present in v. 1 of this keyboard but not well documented. Note that what you see in your document depends on the font in use, since font designers make their own decisions about the Greek circumflex shape.

Since Unicode provides a separate codepoint for the final sigma ς, we consider it better to enter this manually (mapped to ⒲) instead of relying on automatic replacement of sigma in word-final position; this is consistent with the Greek keyboards supplied with Windows and Mac OS as well as with the recommendation in The Unicode Standard.

The archaic letters and ancient symbols are needed only by specialists in epigraphy. We added them to fulfill the original purpose of this keyboard — to cover all Unicode characters encoded for ancient Greek.

Tonos vs Acute Accent (Oxia)

Unicode has separate codepoints for vowels with the accent (*tonos*) used in monotonic Greek and for those with the acute accent. The two are officially equivalent, although the *tonos* is often shown with a steeper slope than the traditional acute (*oxia*): ά vs ά. Polytonic text should be entered with the acute (apostrophe dead key), while the *tonos* is found on the semicolon dead key.

Iota Subscript vs Adscript

Unicode defines the uppercase version of combinations such as ᾳ as adscripts, as they are typically presented, but some fonts provide these as subscripts. What you see will depend on the font in use: e.g., ᾎι (SBL Greek) but ᾼ (Times New Roman) for the same Unicode value.

For Mac OS Users

The deadkeys work the same as in the Windows version. Use the *right* Option key ⌥ for the characters that are mapped to ⒜ⓁⓉⒼⓇ on Windows (including iota subscript).

If you are in the habit of using standard Mac Option combinations such as ⌥-Ⓞ for ø or ⌥-Ⓢ for ß, you can still do so with the left Option key while using Polytonic Greek Plus.

Usage Notes

An application may change the font. For instance, if you are using the Brill Typeface and enter a drachma sign (⒜ⓁⓉⒼⓇ-④) which is not found in Brill, MS Word will locate a font with this character (Calibri on my system). Going forward everything you type will be in Calibri until you change the font back manually — a nuisance, but . . . .

More about Combining Diacritics

Unicode includes a very large number of precomposed combinations of Greek vowels plus breathings, accents, and iota subscript. These are entered with the deadkeys listed in the lefthand column on the first page of this file, typed *before* the base letter. It is normally best to use the precomposed combinations because they are well supported in fonts and software.

Unicode also provides combining diacritics, marks that combine with any base letter. Ideally, one could use either the precomposed combinations or combining diacritics. For a long time support for combining marks was limited; it has gotten better, but the precomposed characters are still more reliable and available in many more fonts.

You can employ combining marks when there is no precomposed character available. Here are three such situations.

- Unicode offers precomposed vowel plus macron and breve combinations for the plain vowels α, ι, and υ (ᾱ, ῑ, ῡ) but makes no provision for such vowels with breathings and/or accents. In reference books or textbooks where it is desired to indicate vowel length, it will be necessary to use combining diacritics. This can be done *provided that* the font in use is designed for this (many Greek Unicode fonts are not) and that the word processor or page composition software supports combining marks.

The text below was entered in Microsoft Word with combining marks using the SBL Greek font: ᾱ̓ ᾱ́ ᾱ̆ ῑ̆ ᾿Ᾱ .

Type the base letter, then the combining macron followed by the other diacritics as needed using outside-in order; e.g., enter a breathing before an accent. (Some fonts might allow a different order.) Remember that all combining marks are entered with the AltGr key and come *after* the base.

- Inscriptions written outside Attica may contains combinations such as ε̃ and õ. Use the combining tilde for these. SBL Greek does not work for these, but Noto Serif, Brill and others do.
- Underdots often mark doubtful readings: α̣ β̣ η̣ θ̣, and the combining underdot must be used in such cases.
- The coronis, used to show crasis (e.g., καὶ ἄν→κἀν), is sometimes printed with a smooth breathing. However, Unicode provides distinct codepoints for this mark. This keyboard supports only the combining version (U+0343) since the spacing version (U+1FBD) is hardly ever used.

Coptic Letters

Coptic letters are included for compatibility with earlier versions of this keyboard. Since Coptic has now been disunified from Greek, users should seek out fonts and keyboards that fully support the Coptic block.

Change Log: version 2, released November 2024

- Renamed Greek Polytonic Plus.
- Changed source file from ANSI to UTF-8 encoding.
- Removed code that allowed AltGr characters to be entered with Ctrl+Alt, which enables the Option key to work properly on Mac (use Configuration option for this on Windows).
- Incorporated many archaic letters and symbols added to Unicode since the release of the original keyboard, all entered with the new deadkey \ .
- Added combining coronis, U+0343, on ⇧ - AltGr - _ (underscore).
- Combinations of breathing, accent and iota subscript can now be entered in any order.

- For ano teleia (Greek colon), replaced U+0387 with U+00B7 MIDDLE DOT, which the Unicode chart says is preferred.
- Replaced East Asian brackets (double-width) with non-East Asian equivalents.
- Corrected Upsilon-breve (previous version produced Ῡ not Ῠ when ? - Y was typed).
- Added on-screen keyboard.
- Created keyboard charts in PNG form with separate Windows and Mac versions.
- Created Mac OS, Linux and web versions.
- Expanded and improved this documentation.

Keyboard Charts

On the following pages are three charts, with separate versions for Windows and Mac OS:

- regular and shift states, full size
- AltGr and shift-AltGr (Option and shift-Option for Mac), full size
- both charts reduced to fit on one page

Use whichever meets your needs best.

The same full size charts are available in Keyman's Configuration (open Configuration, choose Greek Polytonic Plus, then click on the Help button at the left of the dialog); however, you cannot print them out individually.

Greek Polytonic Plus

1. Regular and Shift states

Deadkeys in red on yellow background. See documentation for complete list of characters and keystrokes.
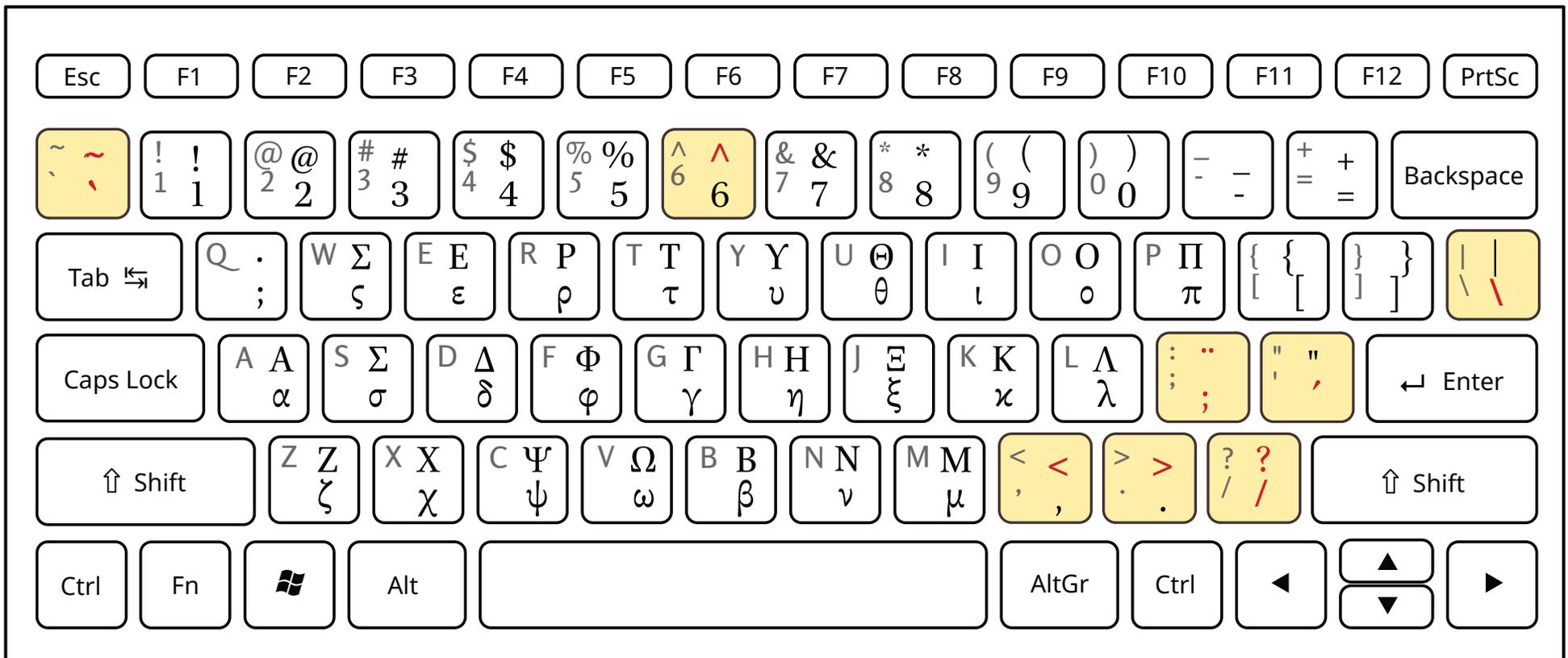
Combinations of diacritics and iota subscript can be entered in any order *before* the base character.

Greek Polytonic Plus

2. AltGr and Shift-AltGr states

If your keyboard has only one Alt key, enable
"Simulate AltGr with Ctrl+Alt" in Keyman configuration.

Use precomposed combinations rather than combining marks in blue unless
there is a specific need to do so. See discussion in the documentation.

Greek Polytonic Plus
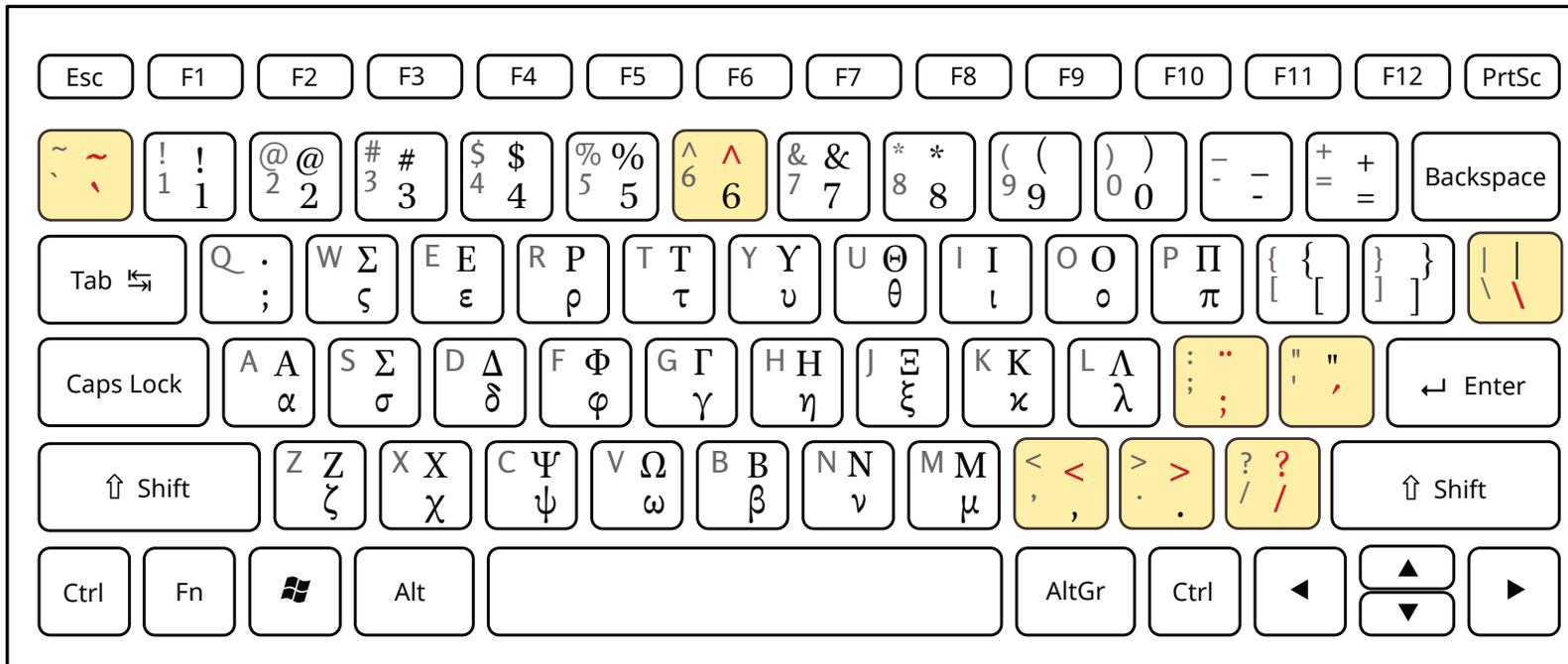
1. Regular and Shift states

Deadkeys in red on yellow background.

See documentation for full list of characters and keystrokes.

Combinations of diacritics and iota subscript can be entered in any order *before* the base character.

2. AltGr and Shift-AltGr states

If your keyboard has only one Alt key, enable "Simulate AltGr with Ctrl+Alt" in Keyman configuration.

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Greek Polytonic Plus

1. Regular and Shift states

Deadkeys in red on yellow background. See documen-
tation for complete list of characters and keystrokes.

| Esc | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | |

| ~ ` / ~ ` | ! 1 / ! 1 | @ 2 / @ 2 | # 3 / # 3 | $ 4 / $ 4 | % 5 / % 5 | ^ 6 / ^ 6 | & 7 / & 7 | * 8 / * 8 | (9 / (9 |) 0 /) 0 | _ - / _ - | + = / + = | Delete |

| Tab ⇤⇥ | Q . ; | W Σ ς | E Ε ε | R Ρ ρ | T Τ τ | Y Υ υ | U Θ θ | I Ι ι | O Ο ο | P Π π | { [/ { [| }] / }] | \| \ / \| \ |

| Caps Lock | A Α α | S Σ σ | D Δ δ | F Φ φ | G Γ γ | H Η η | J Ξ ξ | K Κ κ | L Λ λ | : ; / ¨ ; | " ' / „ ‚ | ↵ Enter |

| ⇧ Shift | Z Ζ ζ | X Χ χ | C Ψ ψ | V Ω ω | B Β β | N Ν ν | M Μ μ | < , / < , | > . / > . | ? / / ? / | Return |

| Fn 🌐 | ^ Control | ⌥ Option | ⌘ Command | | ⌘ Command | ⌥ Option | ◀ | ▲ ▼ | ▶ |
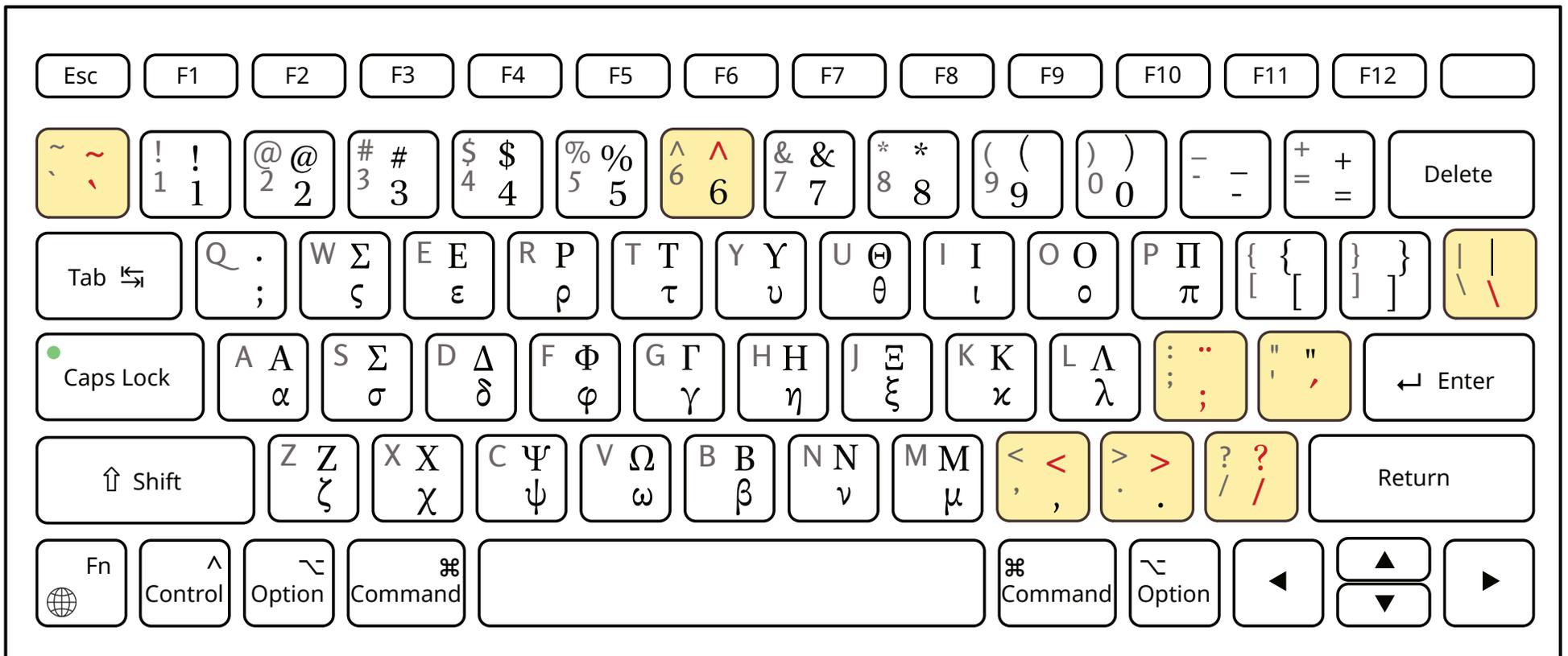
Combinations of diacritics and iota subscript can
be entered in any order *before* the base character.

Greek Polytonic Plus

2. Option and Shift-Option states
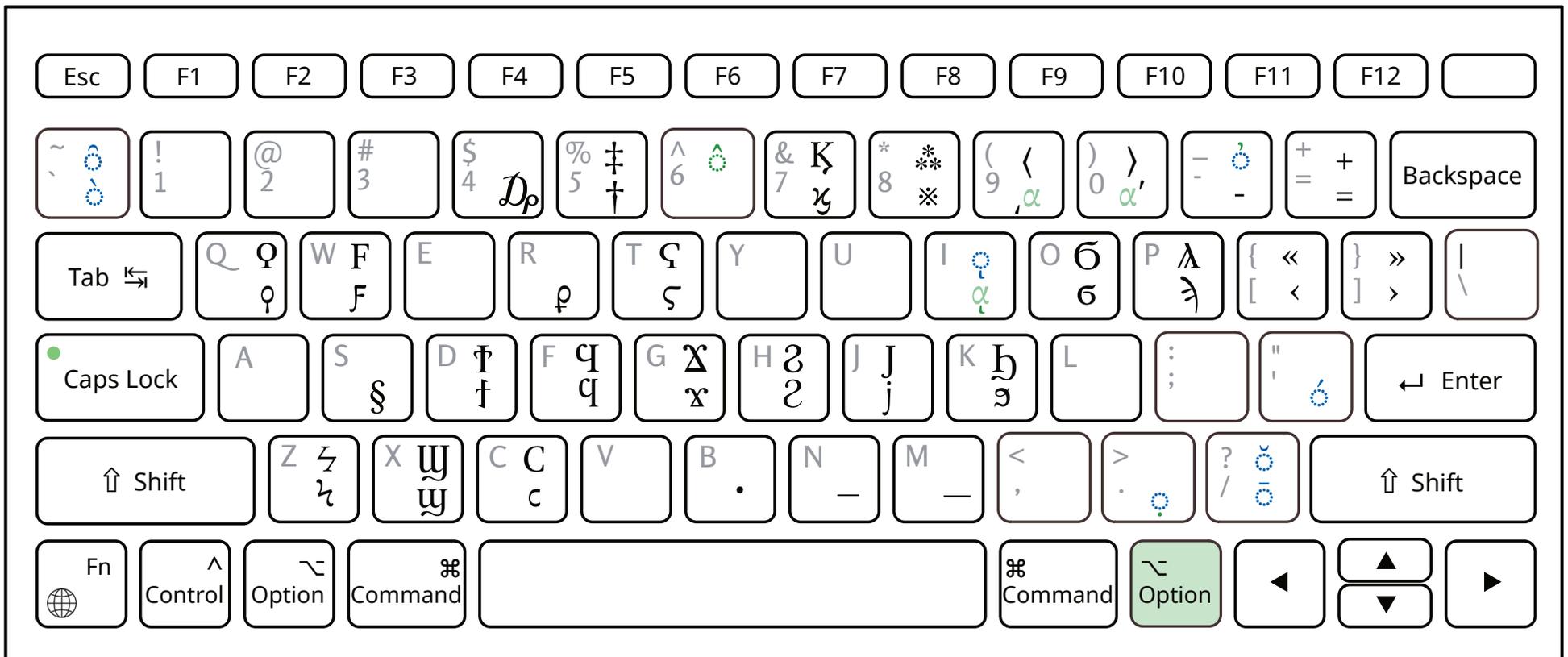
Use the *right* Option key for these characters.

Use precomposed combinations rather than combining marks in blue unless
there is a specific need to do so. See discussion in the documentation.

Greek Polytonic Plus
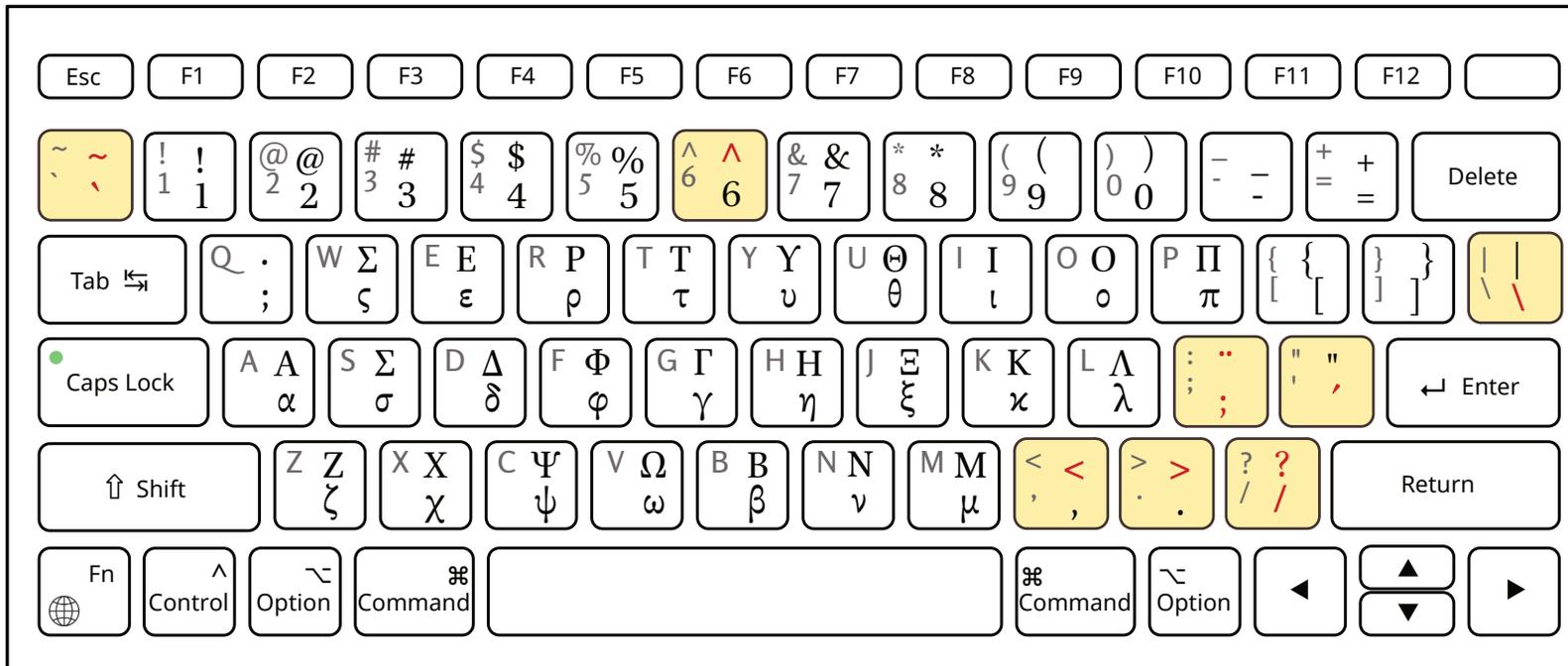
1. Regular and Shift states

Deadkeys are in red on yellow background.

See documentation for full list of characters and keystrokes.

Combinations of diacritics and iota subscript can be entered in any order *before* the base character.

2. Option and Shift-Option states

Use the *right* Option key for these characters.

Use precomposed combinations rather than combining marks in blue unless there is a specific need to do so.