

Tamaziyt – Tamazeq keyboard layouts (version 1.22)

User Guide



A Yablīt Laboratories Project



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Choosing a keyboard layout

The Berber keyboard layouts are absolutely free to download and use. You can distribute them, and even modify them, as long as you attribute them to their creator, Paul Anderson.

The "Berber-centric" keyboard layout

This layout (Tamazight-LFA/FLA/LFQ/FLQ/LFQE/FLQE/LFQZ/FLQZ) was designed specifically for rapid typing of Berber language variants, with the ability to mix in occasional words from other languages. It is available in several variants, for example French AZERTY and US QWERTY, which match the physical keyboards in countries in which there is a significant Berber-speaking population. Download the variant which matches the symbols printed on your physical keyboard most closely.

US users with old-style physical keyboards might lack an AltGr key and need to use Ctrl+Alt instead, or access letters using deadkeys. They would also lack an ⇐ key and need to use Ctrl+Alt or deadkey instead to access these symbols.

Instructions in this manual are given explicitly only for the French AZERTY variant, as this is the type of physical keyboard found in North Africa (often with key tops labelled also for Arabic). Other variants have the same capabilities for Berber, but the positions of letters and punctuation have been adjusted to match the printed key tops of the physical keyboards, especially if commonly used for text or if used for typing web addresses. For diagrams of these other layouts, users will need to refer to the akufi.org site or to the short guides in the download packages.

This layout is available for Windows, and a Linux implementation is planned. A programmers' version of the Berber-centric layouts is also planned, so that technical symbols can be touch-typed.

The "Everyday" (Berber/French bilingual) layout

This layout (Tamazight-LF/FL) is only available on Windows and for French AZERTY physical keyboards. It was designed for people who often type in French and don't want to keep changing keyboard layout, and for people who want to be able to type Berber without changing key positions much from what they are used to. It offers the same facilities as the Berber-centric layout.

Keyboard layouts all come in two main forms – Latin script, switching to Tifinagh script on Caps Lock, and Tifinagh script, switching to Latin script on Caps Lock. You use both forms in the almost same way, but there are some small differences because the secondary (Caps Lock) mode is adjusted to be intuitive for users who use mainly the primary (default) mode, and because of technical limitations. Download the keyboard form that defaults to the script used in your locality or that you prefer.

For users who need to type Tuareg on older versions of Windows with poor support for advanced font features, there are temporary versions of all the French AZERTY layouts (with '_' in the name) that have extra features for typing Tifinagh biconsonants, leaning letters, and

precomposed Tifinagh letters with diacritics explicitly, instead of letting the font render them automatically.

The "Français+" layout

This layout is for use with shared computers, for example in Internet cafés. It avoids confusing users expecting a normal French keyboard because it has no secondary (Caps Lock) mode, and does not disturb the normal French AZERTY key positions. It duplicates the French layout and extends it with almost all of the functions from the Berber-centric/Everyday layouts, including Tifinagh by a different mechanism. Français+ is described in its own chapter.

Locales and autocorrection

For the moment, all variants of the keyboard layouts activate themselves automatically for the French locale when installed – even e.g. QWERTY. This will change in future when operating systems support Berber locales.

Users can however activate any layout for any locale manually after installation. So for example you could set the same Berber keyboard layout for both Berber and Spanish locales, and then switch between locales to type Spanish with Spanish quote marks and spellchecking, and Berber with Berber quote marks and spellchecking, with same layout.

French features such as œ are designed to be typed on non-French locales without French language autocorrection. “” also can be typed without autocorrection, so you can use your choice of either French guillemets or “” –style quotes for Berber under the French locale, without changing the autocorrection settings for French.

Installation and activation on Windows

- Download and unzip your chosen package.
- In the unzipped folder you will find a short .pdf guide to get you started.
- Go into the subfolder, called 'ber<keyboard code>', e.g. 'berlfa'. Click on the installation script setup.exe to install the keyboard layout.
- The layout should activate itself automatically for the French locale. To verify this, go to the Windows configuration panel 'Region and Language' (Win 7) / 'Regional and Language Options' (XP), Keyboards and Languages (Win 7) / Languages (XP) tab. On XP you probably want to select “Install files for complex script”, so that advanced font features work, especially for Tifinagh. Click the Change Keyboards (Win 7) / Details (XP) button. If your layout is not already active for the French language, add it. The layout will be called "Tamazight-<keyboard code>", e.g. Tamazight-LFA (Tamazight, Latin-Tifinagh, AZERTY).
- Click Language Bar (it is a tab on Win 7, and found under Preferences on XP), and activate the language bar on the desktop. This will allow you to switch languages and keyboard layouts easily. Under 'Advanced Key Settings' (Win 7) / 'Key Settings' (XP) you can also control which key shortcuts cycle through the languages or keyboard layouts. On Windows 7 you can also define shortcuts here to jump to particular languages or layouts.

- Some applications you have installed on your computer may have defined keyboard shortcuts triggered with the AltGr key. If they interfere with typing Berber, you will have to disable or redefine the shortcuts.
- Choose the French language using the left of the language bar that appears on the desktop, and then choose your Tamazight layout using the right of the bar. You will need to do this each time after you open an application if you have a different language or layout set to be default.
- When typing Tifinagh on Windows XP, make sure you have installed and selected a suitable Unicode font (e.g. Hapax Berbère) containing Tifinagh letters, otherwise you will see only empty squares or ??. The same applies for typing Latin letters with accents/diacritics (installing the Doulos SIL or Gentium SIL font is recommended).

Installation has been tested on Windows XP and Windows 7, and is reported to work on Vista. It is likely to work similarly on other Windows versions.

To uninstall, use the Windows configuration panel to remove the keyboard layout from the French locale. Then click on the package's installation script, setup.exe, again. You will be prompted whether you want to repair or remove the installed layout. Click 'remove'.

For Windows XP, experts only: *On Windows XP, the uninstallation process is sometimes incomplete, which may cause a problem later if you want to install a new version of the layout you removed. You would need to remove the old layout completely from \WINDOWS\system32 and the Windows registry.*

After using the process above with setup.exe to uninstall, delete the .dll (called ber.dll where * corresponds to the layout you removed) from \WINDOWS\system32 if it is still there.*

Then run regedit, and search using the name of the .dll you deleted, e.g. berfla.dll. The string will be found in several places, but the relevant key will be something like My Computer\HKEY_LOCAL_MACHINE\System\ControlSet001\Control\Keyboard Layouts\[a numeric key like 00000424 for the specific keyboard layout]

Delete this numeric key. Re-installation of the same layout, or installation of a later version of it, should now work.

Compatibility with other Berber keyboard layouts available

The layouts have features to make them easy to use for people who are used to other keyboard layouts such as the INALCO/“Unicber” and “anasunic” layouts for Kabyle:

- The './blue deadkey can be used not only to obtain letters with a dot below such as ḍ ṛ ṣ ṭ ṣ, but also ċ and ġ.
- ȳ can be obtained by './blue deadkey then 'q', 'y' or 'v'.
- ε can be obtained by './blue deadkey then 'w'.

The layouts are compatible with the IRCAM Tifinagh keyboard in the positions of the Tifinagh letters. The only differences are that the labialization marker ʙ has moved to shift + w, and the layout versions defaulting to Latin have small adjustments to be intuitive to people typing mainly Latin script: shift + g gives ʒ instead of ʒʙ.

Layout diagram for Latin script

Berber-centric layout

E a ə o ^		1 &	2 ~	3 " ' ~	4 ' ,	5 (_ : ~	-	+ _	* _	%	@ £	)	= < >	← Backspace		
Tab	A/E ä		Z z	E e	R r	T t	Y y	U u	I i	O/E ö	P p	[{	] }	~	Enter	
Caps Lock ↑		Q q	S s	D d	F f	G g	H h	J j	K k	L l	M m	Y y	N n			
Shift ↑	> <	W w	X x	C c	V v	B b	N ñ	? ¿	; ;	/ /	! !	Shift ↑				
Ctrl	Win Key	Alt	nbsp										Alt Gr	Win Key	Menu	Ctrl

Everyday (Berber/French bilingual) layout

2 ■ ■		1 &&'	2 é ~ ~	3 " " " #	4 ' ' {	5 - - [	6 - - £	7 - - è €	8 - - _ \	9 a ç \$ ^	0 o à @) °]	+ = №	← Backspace			
Tab ↔		A Ä Å Z		E Ě Ě R		T T Y		U		I O Œ P		\$ € Σ		Enter ↵		
Caps Lock ↑		Q Ğ S	D Đ d		F Đ đ		G Ğ ğ		H Ğ ħ		J Ğ ĵ		K Ğ ĵ L ! M % Y Γ * N °			
Shift ↑		> <	W ° w	X ß β		C Š c		V é		B ß b		N Ğ ě		? & ; < / > - i ! \$ - \$ Shift ↑		
Ctrl		Win Key	Alt	nnbsp nbsp								Alt Gr		Win Key	Menu	Ctrl

- Caps Lock switches between Latin and Tifinagh.
- Red symbols indicate special control characters, or “dead keys” for diacritics, or the important combining diacritics. Brown shows less important combining diacritics.
- Symbols/letters on the bottom right of a key are accessed by pressing the key in conjunction with AltGr (rightAlt, or ctrl+leftAlt). Symbols are shown in blue.
- The coloured squares are special deadkeys, which do more than add a diacritic. They will be referred to by their colours.
- Spirants can be marked by using the _ deadkey (which is also the green deadkey), e.g. _ deadkey then shift+d → D.
- The green deadkey then the unshifted 'y' key gives the degree symbol. Green then 'w' gives a standalone ring above, which is better than the degree symbol to achieve the modifier ring for labialization recommended by Chaker. Green then shift+'w' gives a combining ring above.
- The red '-' to the left of Shift is a non-breaking hyphen, for writing hyphenated words in Berber so that the words are never split at the end of a line. It is not a minus sign.
- The dash with " over it on the 5 key is a quotation dash (Unicode 'horizontal bar'), for use with quoted speech.

- Green then the unshifted '.' key gives the Catalan interpunct. Precomposed l and L with interpunct can be typed with the extended features – see later.
- Typing " and ' should suffice using a good text editor with autocorrection. Explicit curly quotes can be typed with green then the 3 key, and green then shift+3 key. Explicit guillemets or curly single quotes may be needed with some applications or non-French locales – see 'Exotica' for one way to enter these. Nnbsp is the narrow non-breaking space needed when typing out French punctuation marks explicitly. Nnbsp is often used for the same purpose.
- All major letters and symbols from the French AZERTY layout are present.

Extended features

These are present on both Berber-centric and everyday layouts, and are obtained with a deadkey, AltGr+x, indicated with a pink square. The extended features include scientific symbols, which are listed in a separate section.

																	← Backspace
Tab ↔	Q	W	E	R	T	Y	U	I	O	P							Enter ↵
Caps Lock ⬆	Q	S	D	F	G	H	J	K	L	M							
Shift ⬆		W	X	C	V	B	N										Shift ⬆
Ctrl	Win Key	Alt								Alt Gr	Win Key	Menu	Ctrl				

- AltGr+x then the '?' key with and without shift gives Unicode Latin capital/small letter glottal stop. AltGr+x then ' gives Unicode caseless 'Latin letter glottal stop'.
- AltGr+x then '(' / ')' gives Unicode modifier letter left/right half ring.
- AltGr+x then the 'e' key with and without shift gives Unicode 'modifier letter reversed glottal stop' and 'modifier letter small reversed glottal stop', respectively.
- AltGr+x then the 9 key (shifted for Berber-centric, unshifted for Everyday) gives Unicode 'combining double inverted breve' – a tie above two letters to join them.
- AltGr+x then : gives Unicode 'combining macron'.

Writing Northern Berber in Latin script

Normal orthography

To see all the letters and diacritics on a version of Windows older than Windows 7, you are likely to need a quality Unicode font such as Doulos SIL or Gentium SIL (freely downloadable from SIL).

ḍ ṛ ṣ ṭ ṣ ← AltGr + d, r, s, t, z (or the '.' deadkey then d,r,s,t,z - slower)

A capital letter with a dot below can be obtained by typing either shift + AltGr + d,r,s,t,z (intuitive, but awkward to type), or by typing the '.' deadkey then shift + d,r,s,t,z

ȳ ← ù key on French AZERTY

Ȳ ← Shift + ù on Berber-centric layout only. Blue key then shift + ù.

If the non-standard capital form Γ is needed for calligraphy, type the green key then shift + ù.

ε ← \$ key on French AZERTY

Ɛ ← Shift + \$ on Berber-centric layout only. Blue deadkey then shift + \$.

For labialization, type AltGr+w after a letter to get ^w

For the simplest, most intuitive typing style:

ḥ ← AltGr + h (or the '.' deadkey then h)

The capital letter is shift+AltGr+h (intuitive but awkward), or '.' deadkey (which is also the blue deadkey) then shift+h

For fast ergonomic typing with no crossing of the hands, on Berber-centric layout only, use:

ḥ ←)

If it is absolutely necessary to distinguish spirant b ('v' sound) from b when writing Berber language variants such as Kabyle, the 'v' sound can be written as 'ḥ' using AltGr + b. This preserves pan-Berber orthography – the spelling of the word still looks similar everywhere (i.e. with ḥ or b). The capital, Ḅ, is '_' deadkey (same as green deadkey) then shift + b. However, if the 'v' sound is in a word borrowed from a non-Berber language, I suggest writing it as 'v', since as a non-Berber word it would probably never be pronounced 'b' anywhere - even in other Berber zones that don't use spirants for Berber words.

The Moroccan convention is to write cc, jj for č, ğ (could also be written as tc/dj). For Algerian convention:

č ← AltGr+c

The capital letter is shift+AltGr+c (intuitive but awkward), or the '¨' deadkey (the '¨' deadkey of French AZERTY on the Everyday layout, and the key to the left of backspace on the Berber-centric layout) then shift+c.

ǧ ← AltGr+g (or the '¨' deadkey then g)

The capital letter is shift+AltGr+g (intuitive but awkward), or the '¨' deadkey then shift+g.

To type the '-' in a construction such as Kabyle 'iman-is' so that it is not split at the end of a line, use the '-' marked in red on the layout diagrams. It is a non-breaking hyphen. On the 'everyday' layout, if you are more used to the Berber-centric layout you can write '-' by typing the blue deadkey (the same as the '¨' deadkey) then !.

Some writers use â/Â for ε/Ε. â/Â can be typed with the red ^ deadkey (this is AltGr + ² on the Berber-centric layout) then a/A.

Writing more phonetically

Some writers of language variants like Rifian mark some spirants. Spirants might also be written in general non-linguistic texts to show dialogue more phonetically. They might also be written to show pronunciation in dictionaries.

Spirants are typed with the “_” deadkey (which is also the green deadkey) then the letter, to obtain e.g. tdbk. “_” deadkey then g gives g. To obtain a true g with line below, type g then AltGr+m.

To obtain d, type “_” deadkey then d for spirant d, then shift+1 (Berber-centric) or shift+ (Everyday) to add a dot below. AltGr+d then AltGr+m will do the same but stack the diacritics in the reverse order.

A cosmetic workaround, if a font does not render the above well, is to type the green deadkey then “f/F”, then shift+1 (Berber-centric) or shift+ (Everyday) to add a dot below, which gives d/D.

Alternatively, to show spirants in dialogue, digraphs such as th, dh, kh (amekh), gh (gh^wma) and dh can be used instead. Bh or v can be used for spirant b. I prefer bh because it shows that the v is not lexical, just a local spirant pronunciation.

For linguistic transcription, see the appropriate chapter.

Obsolete methods supported

For writing dialogue more phonetically, or for explaining pronunciation to those familiar with older writing conventions, many methods are supported that are obsolete for normal text.

Ț ț can be obtained by pressing AltGr + unshifted 5 key then T/t, or by the extended features – AltGr + x then T/t.

For z with cedilla there are three possibilities. You can type AltGr + unshifted 5 key then z/Z to get a similar-looking substitute letter. Or type AltGr + unshifted 5 key then 2 (as it looks like z) to get a different substitute letter. The best method, if your font supports it, is to type

a true z with cedilla – type the z then add the cedilla to it by typing the green deadkey then shift + 5, or shift + AltGr + 5.

For the labialization marker °, there are several possibilities:

Typing the green deadkey then w after a letter gives ° (ring next to the letter) for labialization – this is the best option in Unicode. Another possibility is a combining ring on top of a letter - type the letter then add the ring by pressing the green deadkey followed by shift + w, or by typing shift + AltGr + w.

To use the old method, the degree symbol, type the green deadkey then unshifted).

To obtain the Greek forms of the capital and small gamma, type the green deadkey then the %/ù positions of the French AZERTY keyboard.

To obtain the older capital form of ε (Σ instead of Ε), type the green deadkey then shift + \$.

Writing Tuareg in Latin script

Layout diagram for Tifinagh script

Berber-centric layout

^ a	/	(~)	" "	'	(	-	+ _	* _	%	@ £	)	=	←			
o	1&	2~	3"	4'	5	6-	7€ \	8 _	9\$ ^	0 @	^ °	[No]	Backspace			
Tab	(~)	米	<	Q	E	6E	{ }	!	--	3	█	·	Enter			
	°	米	÷	O	+X	ΣΠ	°	·	Σ	~	^ °	{ }	█ #			
Caps Lock	↑	°	°	E	TIF	(X)(X)	^	Σ	(K)	(H)	·	°				
	°	°	°	ΛV	Η	X	°	I	R	H	·	°				
Shift	>	°	°	°	°	°	°	°	°	°	°	°	Shift			
↑	<	°	°	°	°	°	°	°	°	°	°	°	↑			
Ctrl	Win Key	Alt	nnbsp										Alt Gr	Win Key	Menu	Ctrl
			nnbsp													

Everyday (Berber/French bilingual) layout

(~)	1	2	3"	4'	5	6-	7-	8-	9	0	+	←
2	&&	~	"	{	(	-	€	-	^	°	=	Backspace
Tab	(~)	米	<	Q	E	6E	!	--	3	█	·	Enter
	°	米	°	O	+X	ΣΠ	°	·	Σ	~	^	←
Caps Lock	↑	°	°	E	TIF	(X)(X)	^	Σ	(K)	(H)	·	
	°	°	°	ΛV	Η	X	°	I	R	H	·	
Shift	>	°	°	°	°	°	°	°	°	°	°	Shift
↑	<	°	°	°	°	°	°	°	°	°	°	↑
Ctrl	Win Key	Alt										

- Caps Lock switches between Latin and Tifinagh.
- Red symbols indicate special control characters, or the important combining diacritics. Brown shows less important combining diacritics.
- For letters in brackets (), the first version is available on the Tifinagh-Latin keyboard variant, and the second version on the Latin-Tifinagh variant. With the Latin-Tifinagh variant, because of technical restrictions, you need to add the diacritics or modifier letters explicitly to the base letter afterwards for ⵔⵓⵎⵉ, and ⵓ swaps position with ⵓ.
- Letters in curly brackets {} are available only with the temporary 'FL*_LF*_ ' versions of layouts, intended for older systems with poor font support.
- I suggest typing Tifinagh with equivalent punctuation, spelling and gemination/tension conventions to Latin script, to share accumulated experience. (The approximation of foreign words in Tifinagh is likely often to differ from Latin convention, however, because of the Latin script's rich diacritics – unless digraphs are used for both scripts).

Writing Northern Berber in Tifinagh script

In general to type letters such as ḍ you use shift in the same way AltGr is used for Latin script.

Switching between Latin and Tifinagh mode is easy and allows typing of titles in Tifinagh and body text in Latin script, for example.

If using Windows XP you will need to select a suitable Tifinagh font such as Hapax Berbère or one of several downloadable from IRCAM in Morocco, otherwise you will see only squares or ? symbols instead of the Tifinagh.

Note that if you want to type anything other than Moroccan Berber you may want a suitable font that shows Tifinagh appropriate for your region. (Without such a font you may still be able to obtain some or all of your specific letters by using extended features explained below).

Users can type Tifinagh in two styles:

- Using the same keys for Latin and for Tifinagh (symmetric). Note however that not all letters are typed exactly symmetrically. P, v, and o are letters not usually found in Northern Berber, and you need to type shift+p, v, o to give the equivalent Tifinagh.
- IRCAM-style.

IRCAM keyboard style

Users familiar with the IRCAM keyboard will find that the same keys work here, with two exceptions. The first is that the labialization mark ʷ (ʷ) typed by itself is found on shift+w, which is intuitive. The second is that because of technical limitations, ǧʷ (gʷ) and ǧʷ (kʷ) are found on shift+g and shift+k respectively only on the keyboard version that defaults to Tifinagh mode (i.e. the Tifinagh/Latin version, not Latin/Tifinagh).

I have extended the IRCAM style for Algerian convention. ǧ is on shift+j, a position intuitive for Tifinagh. On the Latin-Tifinagh variant, it is also on shift+g, to be intuitive for people who usually type in Latin script.

č (č) is on shift+c.

Writing more phonetically

Spirants can be written by typing the green deadkey then t/d/b/k/g or D (for ḍ). They could also theoretically be written e.g. as ʈ then combining line below (shift+m).

Obsolete methods supported

Some fonts specifically for Tifinagh have a letter for ʈ/ts in the Unicode Private Use Area, which can be typed with AltGr+x then shift+t.

Forcing the display of an alternative form of a letter

If the font you are using shows the default, IRCAM form of the letter h (Φ), and you want the Algerian (Berber Academy) form (Ø), but have a strong need to stay with that particular font, you can force the keyboard to produce the Berber academy letter by pressing AltGr+x then the unshifted number key 0. This results in non-ideal Unicode encoding, but may sometimes be unavoidable.

If you prefer other Algerian letter forms - which do not exist as separate code points in Unicode - you would normally use an Algerian-specific Unicode font. As a last resort, some fonts might have Algerian letter forms in their Unicode Private Use Area, and you could then use the functions of your text editor to insert these special characters into your text.

Writing Tuareg in Tifinagh script

Scientific symbols

$\mu \leftarrow \text{AltGr} + x \text{ then } m$

$^1 \leftarrow \text{AltGr} + x \text{ then } 1 \text{ key (unshifted)}$

$^2 \leftarrow \text{AltGr} + x \text{ then } 2 \text{ key (unshifted)}$

$^3 \leftarrow \text{AltGr} + x \text{ then } 3 \text{ key (unshifted)}$

$\infty \leftarrow \text{AltGr} + x \text{ then } 8 \text{ key (unshifted)}$

$\times \leftarrow \text{AltGr} + x \text{ then } *$

$\div \leftarrow \text{AltGr} + x \text{ then } /$

$\pm \leftarrow \text{AltGr} + x \text{ then } +$

$\leq \leftarrow \text{AltGr} + x \text{ then } <$

$\geq \leftarrow \text{AltGr} + x \text{ then } >$

$\approx \leftarrow \text{AltGr} + x \text{ then } =$

$\pi \leftarrow \text{AltGr} + x \text{ then } p$

$\neg \leftarrow \text{AltGr} + x \text{ then } -$

Exotica

Français+ (internet café) keyboard layout