# **Unicode Technical Note 59 - Representing Tifinagh in Unicode**

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Further information, corrections, and additions on script use, as well as information on language usage is most welcome.

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## Introduction

Tifinagh is encoded in the U+2D30..U+2D7F block of Unicode. The encoding in the Tifinagh block is based on the modern alphabet called Neo-Tifinagh. It also includes characters for modern attested Tuareg.

This document gives some guidance on the encoding of *modern orthographies* using the Tifinagh script (no attempt is made to document all the variants used in ancient Tifinagh orthographies). Since the script is used for a number of orthographies covering different languages, the development of this document is ongoing. In terms of the Unicode standard, this document is purely informative since it is concerned with issues not covered by that standard.

This document also gives guidance on font development for the different *modern* orthographies and languages.

## The Unicode Model

#### **Basic Consonants**

The basic consonants are relatively obvious and can be discovered by viewing the Unicode charts.

In some fonts the characters do not rest on a baseline. They could be described as centered. For example, the design of these characters  $\Theta :: : *$  is more consistent with the traditional handwritten Tifinagh styles.

Neo-Tifinagh fonts generally have a distinct baseline:  $\Theta$ 

#### Vowels

Vowels are not as clearly defined. Four vowels have been encoded for Neo-Tifinagh. However, different traditional Tifinagh orthographies may demonstrate vowels using combining marks in different ways. These vowels are primarily used as an aid in learning to read. Several competing systems (L2/04-142 (pages 6, 7, & 30)) have been advocated:

#### SIL-Niger

Vowels						
Tfng	÷	Ÿ	4	ĝ	<b>?</b>	â
USV	2D30 + 0302	2D30 + 0306	2D62 + 0323	2D62 + 0302	2D53 + 0302	2D67 + 0302

#### **APT**

Vowels						
Tfng	•	<	4		9	II
USV	2D30	2D66	2D62	2D67	2D53	2D67

#### Hawad

Vowels					
Tfng	Ϋ́	Ÿ	Χ	Σ	Σ
USV	2D5D 0307	2D5D 0308	2D5D	2D49 0307	2D49 0308

The combining marks required for these three systems would be:

- 0302 COMBINING CIRCUMFLEX ACCENT
- 0306 COMBINING BREVE
- 0307 COMBINING DOT ABOVE
- 0308 COMBINING DIAERESIS
- 0323 COMBINING DOT BELOW

There is some indication in the Unicode Standard (chapter 19) that the following two combining marks may also be used:

- 0304 COMBINING MACRON
- 0309 COMBINING HOOK ABOVE

#### **Punctuation**

Western-style punctuation signs are used in Tifinagh. These include: . , : ;  $?!() \ll$  , " ...

Modern usage separates words by a space.

A few languages use a special separator mark which has been encoded in the Tifinagh block. That character is U+2D70 ( $\mathcal{J}$ ) The languages using the separator mark will be indicated in the section on that language. Otherwise, punctuation is not listed in each section.

#### **Digits**

There is no common way to write numbers using Tifinagh script. The IRCAM Tifinagh uses the usual Western-style digits.

#### Variant Glyphs

This chart includes a sampling of some of the possible glyph variants in current use. It does not demonstrate all of the possible historical glyph variants. In addition, because of the issues relating to Writing Direction, there are variants which are mirrored or turned for right to left text or even for vertical text. The default directional variants are included below under Directional Glyphs. In general, when a variant is used for a glyph, the same principle would apply for similar glyphs. For example, if a round glyph with a horizontal bar has a square variant, then another round glyph with a vertical bar would likely be square.

Because these glyphs are taken from various fonts, the height of a particular glyph should not be considered significant.

	2D3	2D4	2D5	2D6	2D7
0	<b>o • •</b> ya	<b>① Ⅲ Ⅲ</b> yah or Tuareg yab	‡†‡≠ Tuareg yagn	ΔΥ yav	J tazarast
1	⊖⊟∃ yab	<b>Ø</b> Berber yah	<b>!</b> Tuareg yang	∐ yaw	
2	⊕ ⊞ yabh	<b>:</b> ≣ Tuareg yah	<b>3</b> yap	yay ∐∏∏ 5 <del>7</del> S ∧I ∩I	
3	X X yag	<b>人</b> yahh	<b>%:: 9</b> yu or Tuareg yaw	<b>Ж % ₩ X</b> yaz	
4					

	2D3	2D4	2D5	2D6	2D7
	X & Y U ∀ ス yaghh	<mark>ተ</mark>	O □ yar	<b>ГГ</b> Tawellemet yaz	
5	X Berber yaj	<b>X</b> yakh	Q O yarr	¥¥ yazz	
6	<b>'l' .l.</b> yaj	:: Tuareg yakh	<b>屮</b> yagh	< ye	
7	<b>∧</b> ∩ yad	<b>Z</b> yaq	<b>:</b> ≡ Tuareg yagh	II yo	
8	V U yadh	···     Tuareg yaq	<b>∷</b> Ayer yagh or Adrar yaj		
9	E E € yadd	<b>ξ</b> Σξ yi	<b>⊙ ⊡</b> yas		
Α	E E yaddh	I yazh	Ø O # yass		
В	<b>⇔</b> ÷ yey	፲ ፲ ፲ Ahaggar yazh	<b>C C </b>		
С	HⅡIH yaf	# Tuareg yazh	++ yat		
D	<b>K</b> yak	<mark>И II II</mark> yal	X yath		
Е	: 1  1  1  1  Tuareg yak	СС Ц yam	<b>€ ढ</b> ⊥ yach		
F	<b>⊻</b> yakhh	 yan	<b>E €</b> F <b></b> ∃	u o tamatart	<u>्</u> … joiner

#### **Bi- Tri-consonants**

Bi-consonants are additional letterforms used in the Tifinagh script, particularly for Tuareg, to represent a consonant cluster—a sequence of two consonants without an intervening vowel. These bi-consonants, sometimes also referred to as bigraphs, are not directly encoded as single characters in the Unicode Standard. Instead, they are represented as a sequence of the two consonant letters, separated either by U+200D ZERO WIDTH JOINER or by U+2D7F TIFINAGH CONSONANT JOINER.

When a bi-consonant is considered obligatory in text, it is represented by the two consonant letters, with U+2D7F TIFINAGH CONSONANT JOINER inserted between them. This use of U+2D7F is comparable in function to the use of U+0652 ARABIC SUKUN to indicate the absence of a vowel after a consonant in the Arabic script. However, instead of appearing as a visible mark in the text, U+2D7F TIFINAGH CONSONANT JOINER indicates the presence of a bi-consonant, which should then be rendered with a preformed glyph for the sequence. U+200D ZERO WIDTH JOINER should be used when the bi-consonant is not considered obligatory.

Some of the bi-consonants have ascenders. These should ascend above the normal height of the Tifinagh consonants.

Although rare, tri-consonants do exist. This document will use the term bi-consonant even when it may be a tri-consonant.

This chart does not demonstrate all of the possible historical glyph variants. It should be noted that if the base glyph is a variant, that will affect the variant for the bi-consonant. For example, if a language uses a square variant of O (O), then the bi-consonant should also be square (O+ instead of O+). This document does not include an exhaustive list of the glyph variants for the base characters used in the bi-consonants below.

Although this chart demonstrates the use of U+2D7F TIFINAGH CONSONANT JOINER, fonts could support both U+2D7F (obligatory bi-consonants) and U+200D (optional bi-consonants).

1 /bt/ 2D31 2D5C $\Theta$ ++ + → $\Theta$ + $\Theta$ 2 /g't/ 2D33 2D5C $X$ ++ + → $X$ +  3 /g't/ 2D34 2D5C $X$ ++ + → $X$ +  4 /gt/ 2D36 2D5C $Y$ ++ + → $Y$ + $Y$ +  5a /ft/ 2D3C 2D5C $Y$ ++ + → $Y$ +  5b $Y$ ++ + → $Y$ +  5c $Y$ ++ + → $Y$ +  5c $Y$ ++ + → $Y$ +  5d $Y$ ++ + → $Y$ +  6 /bt/ 2D40 2D5C $Y$ ++ + → $Y$ +  6 /bt/ 2D40 2D5C $Y$ ++ + → $Y$ +  6 /bt/ 2D40 2D5C $Y$ ++ + → $Y$ +  6 /bt/ 2D40 2D5C $Y$ ++ + → $Y$ +  6 /bt/ 2D40 2D5C	USV	2D7F between characters	<b>→</b>	Glyph (2D7F)
3 /g't/ 2D34 2D5C	1 /bt/ 2D31 2D5C	θ ++ +	$\rightarrow$	<del>O+</del> ⊕
4 /gt/ 2D36 2D5C	2 /g't/ 2D33 2D5C	X ++ +	$\rightarrow$	×
5a /ft/ 2D3C 2D5C	3 /g't/ 2D34 2D5C	X ++ +	$\rightarrow$	<b>⊻</b> +
5b	4 /gt/ 2D36 2D5C	T ++ +	$\rightarrow$	ΨΨ
5c I ++ + $\rightarrow$ I+ E  5d H ++ + $\rightarrow$ K  6 /bt/ 2D40 2D5C $\bigcirc$ ++ + $\rightarrow$ $\bigcirc$ +	5a /ft/ 2D3C 2D5C	Н ++ +	$\rightarrow$	ж
5d $\vdots + \dots + + \longrightarrow \vdots$ 6 /bt/ 2D40 2D5C $0 + \dots + + \longrightarrow 0+$	5b	][ ++ +	<b>→</b>	JC, J&
6 /bt/ 2D40 2D5C	5c	I ++ +	$\rightarrow$	ΡΞ
	5d	H + <u></u> + +	$\rightarrow$	¥
	6 /bt/ 2D40 2D5C	Φ ++ +	$\rightarrow$	Φ+
7 /yt/ 2D49 2D5C	7 /yt/ 2D49 2D5C	ξ + <u></u> + +	$\rightarrow$	ξ,
8 /zt/ 2D4B 2D5C	8 /zt/ 2D4B 2D5C	X ++ +	$\rightarrow$	⊁
9 /zt/ 2D4C 2D5C # ++ + → # # #+	9 /zt/ 2D4C 2D5C	# ++ +	$\rightarrow$	###
10 /lk/ 2D4D 2D3E	10 /lk/ 2D4D 2D3E	И ++ :	$\rightarrow$	Ϊ
11 /lt/ 2D4D 2D5C $\text{M} + \dots + + \rightarrow \text{HIII} + \text{M} + \text{X}$	11 /lt/ 2D4D 2D5C	И ++ +	$\rightarrow$	₩   -   -   -   -   -   -   -   -   -
12 /mb/ 2D4E 2D40 $\Box$ + $\Box$ + $\Box$ → $\Box$ $\Box$ $\Box$	12 /mb/ 2D4E 2D40	C ++ Φ	$\rightarrow$	<b>©</b> ⊖
13 /ms/ 2D4E 2D59 $\Box$ ++ $\odot$	13 /ms/ 2D4E 2D59	□ + <sub></sub> + ⊙	$\rightarrow$	0
14 /mt/ 2D4E 2D5C	14 /mt/ 2D4E 2D5C	C ++ +	$\rightarrow$	₽₽₽₽
15 /nb/ 2D4F 2D31 $I + + \Theta$ $\rightarrow$ $\Theta$	15 /nb/ 2D4F 2D31	I ++ Θ	$\rightarrow$	Р
16 /ng/ 2D4F 2D34	16 /ng/ 2D4F 2D34	I ++ X	$\rightarrow$	<b>x</b> x
17 /nġ/ 2D4F 2D36	17 /nġ/ 2D4F 2D36	I ++ T	$\rightarrow$	T 7 .II.
18 /nd/ 2D4F 2D37 $I + \dots + \Lambda$ $\rightarrow$ $\uparrow \times$	18 /nd/ 2D4F 2D37	Ι ++ Λ	$\rightarrow$	<b>^</b> X
19 /nd/ 2D4F 2D38 $I + V \rightarrow V$	19 /nd/ 2D4F 2D38	I ++ V	<b>→</b>	<b>∀ ∀</b>
20 /nd/ 2D4F 2D39	20 /nd/ 2D4F 2D39	I ++ E	$\rightarrow$	Ĕω

USV	2D7F between characters	→	Glyph (2D7F)
21 /nf/ 2D4F 2D3C	I ++ H	$\rightarrow$	HHII
22 /nft/ 2D4F 2D3C 2D5C	I ++ H +++	→	Ж
23 /nk/ 2D4F 2D3E	I ++ :·	$\rightarrow$	ĴΪ
24 /nb/ 2D4F 2D40	Ι ++ Φ	$\rightarrow$	Φ
25 /nj/ 2D4F 2D4C	l + <u></u> + #	$\rightarrow$	##
26 /nɣ/ 2D4F 2D57	I ++ :	$\rightarrow$	1.
27 /ns/ 2D4F 2D59	I ++ ⊙	$\rightarrow$	<b>⊕</b> ⊕
28 /nš/ 2D4F 2D5B	I ++ C	$\rightarrow$	€
29 /nt/ 2D4F 2D5C	I + <u></u> + +	$\rightarrow$	T⊬⊦
30 /nč/ 2D4F 2D5E	l ++ €	$\rightarrow$	ಅ
31 /nz/ 2D4F 2D63	Ι + <u></u> + Ж	$\rightarrow$	$\forall$
32 /nz/ 2D4F 2D64	1 ++ 1	$\rightarrow$	_
33 /wt/ 2D53 2D5C	° ++ +	$\rightarrow$	<del>*</del>
34 /rb/ 2D54 2D31	Ο ++ Θ	$\rightarrow$	0
35 /rj/ 2D54 2D36	O ++ T	$\rightarrow$	#
36 /rd/ 2D54 2D37	Ο ++ Λ	$\rightarrow$	(E)
37 /rk/ 2D54 2D3D	O ++ K	$\rightarrow$	Θ
38 /rk/ 2D54 2D3E	O ++:·	$\rightarrow$	ÖÖ
39 /rn/ 2D54 2D4F	O ++ I	→	ďφ
40 /rs/ 2D54 2D59	0 ++ 0	$\rightarrow$	0

USV	2D7F between characters	→	Glyph (2D7F)
41a /rt/ 2D54 2D5C	0 +++	$\rightarrow$	O+
41b	□ ++ +	$\rightarrow$	Ħ
42 /gt/ 2D56 2D5C	ᆛ + <u></u> + +	$\rightarrow$	Ŧ
43 /sk/ 2D59 2D3E	⊙ ++ :	$\rightarrow$	Ö
44 /sn/ 2D59 2D4F	⊙ + <u></u> + I	<b>→</b>	Φ
45a /st/ 2D59 2D5C	O ++ +	$\rightarrow$	⊙+ ⊕ ⊕ ⊕
45b	⊡ ++ +	<b>→</b>	<b>⊡</b> +
46a /šk/ 2D5B 2D3E	¢ ++ :•	<b>→</b>	Ċ ¢
46b	8 ++ :	→	<b>\$ \$</b>
47 /šn/ 2D5B 2D4F	C ++ I	<b>→</b>	Ç
48a /št/ 2D5B 2D5C	C ++ +	<b>→</b>	<b>&amp; &amp; &amp;</b>
48b	Ľ + <u></u> + †	<b>→</b>	₽
49 /ts/ 2D5C 2D59	+ ++ 0	<b>→</b>	Ł
50 /wt/ 2D61 2D5C	∐ ++ +	$\rightarrow$	<del>+</del>
51 /yt/ 2D62 2D5C	5 ++ +	$\rightarrow$	\$
52 /zt/ 2D63 2D5C	¥ ++ +	$\rightarrow$	*
53 /zt/ 2D65 2D5C	¥ + <u></u> + +	$\rightarrow$	Ħ

This should not be considered an exhaustive list of all bi-consonants used for Tifinagh, nor are the shapes of the bi-consonants necessarily definitive. There are a wide range of glyph variants. Many of the variants are regional or personal preference.

Bi-consonants are only included in each language section when there are known variants.

#### **Contextual Shaping**

Contextual shaping should be implemented when the design of U+2D4D TIFINAGH LETTER YAL and U+2D4F TIFINAGH LETTER YAN are simply vertical strokes.

Contextual Shaping						
11	+	II	+	II	$\rightarrow$	<sup>  </sup>    or   \\
2D4D		2D4D		2D4D		
11	+	I	+	II	$\rightarrow$	<sup> </sup>    or   \
2D4D		2D4F		2D4D		
1	+	II	+	1	<b>→</b>	1 <sup>11</sup> 1 or 1\1
2D4F		2D4D		2D4F		
1	+	I	+	ſ	$\rightarrow$	1 <sup>1</sup> 1 or 1\1
2D4F		2D4F		2D4F		

Contextual shaping will only be included in each language section when there is known shaping.

#### **Writing Direction**

In early inscriptions, Tifinagh was written horizontally from left to right, from right to left, vertically (bottom to top, top to bottom) or even in boustrophedon. However, the most frequently used directionality in the modern-day Tifinagh script is horizontal from left to right.

Given that left-to-right directionality seems to be the most widely used one in the Maghreb and in Niger, the strong directionality of Tifinagh is defined to be left-to-right. When needed, it is possible to explicitly declare a right-to-left directionality. The glyphs will then have to be mirrored, according to the rules in effect for the specified variant. If the glyphs are to be mirrored, then this must be implemented in the font.

The following text demonstrates Tifinagh left-to-right behaviour:

$$0$$
I+++ $0$ : $\|$ I :  $0$  + $\|$ II+  $\mathbb{L} \le$  (Senatet tsokalén wr teğğehnet émi.)

Using the same text, right-to-left behaviour is demonstrated using U+202E RIGHT-TO-LEFT OVERRIDE:

The following text demonstrates both Tifinagh directional behaviours using the U+202E RIGHT-TO-LEFT OVERRIDE and U+202C POP DIRECTIONAL FORMATTING:

$$0|+++0:||^{1}:0+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{2}|+||^{$$

Each glyph would be designed for the left to right behavior as well as another glyph for the right to left behavior. These could be called yadd-tfng and yadd-tfng.rtl.

These would then need to be added to a GSUB lookup for substitution:

That lookup would then be used in the rtla feature in GSUB.

It is beyond the scope of this document to give more detailed information about OpenType support for Tifinagh.

#### **Directional Glyphs**

The script can be written horizontally from left-to-right, from right-to-left, vertically (bottom-to-top, top-to-bottom) or even in boustrophedon, circular, or spiral. Because the script can be written in multiple directions, the glyphs must be mirrored for right-to-left text, turned anti-clockwise 90° for bottom-to-top text, or turned clockwise 90° for top-to-bottom text. Below is a sampling of some of the different shapes required for differing directions. Some glyphs, like a circle, could look the same in any direction. However, unless the glyphs are monoline, there will be slight variations in the glyph design. Where there are glyph variants, the number of glyphs required for different directions will increase exponentially.

For vertical writing, the glyphs should be designed on a center baseline. A Shifinagh Handbook (page 3) indicates that when writing top to bottom "You write away from yourself. Do not imagine a base line for the letters, but a centre line." It is difficult to know where punctuation should be positioned in vertical writing, since the majority of vertical writing were ancient rock inscriptions.

	<b>→</b>	<b>←</b>	1	1	
2D30	0	o	o	0	
2D31	Θ	Θ	Φ	Φ	
2D32	Ф	<b>⊕</b>	<b>⊕</b>	Φ	
2D33	X	X	×	$\rtimes$	
2D34	X	X	×	×	
2D35	X	X	M	$\bowtie$	
2D36	T	T	<b>⊢</b>	≓	
2D37	٨	٨	<	>	
2D38	٧	V	>	<	
2D39	E	3	ш	ш	

	<b>→</b>	<b>←</b>	1	1
2D3A	3	Е	т	ш
2D3B	<u>o</u>	<u>o</u>	oļo	oļo
2D3C	Н	н	片	片
2D3D	K	R	K	×
2D3E	<b>:</b>	:	<b></b>	•.•
2D3F	K	Я	$\bowtie$	K
2D40	Φ	Φ	Θ	θ
2D41	Ø	Ø	Ø	Ø
2D42	i	:	••••	
2D43	Κ	λ	~	>
2D44	Н	Н	-C	3-
2D45	X	X	×	×
2D46	::	::	::	::
2D47	Z	7	Ы	N
2D48		•••	:	:
2D49	\$	3	W	M
2D4A	I	I	н	н
2D4B	χ	χ	$\times$	×
2D4C	#	#	#	#
2D4D	И	N	Z	Z
2D4E	С	3	П	П
2D4F	I	I	_	_

	<b>→</b>	←	1	1
2D50	<b>‡</b>	‡	#	#
2D51	!	!		
2D52	6	2	10	0/
2D53	0	0	00	00
2D54	0	0	0	0
2D55	Q	Q	Q	Q
2D56	Y	Y	<b>3</b> -	-C
2D57	:	:	•••	•••
2D58	×	×	×	×
2D59	0	0	0	0
2D5A	Ø	Ø	Ø	Q
2D5B	C	ື	ဗ	ဓ
2D5C	+	+	+	+
2D5D	X	Χ	×	×
2D5E	€	<b>3</b>	<b>&amp;</b>	ക
2D5F	E	∄	±Ι	( <del>T</del> )
2D60	Δ	Δ	◁	$\triangleright$
2D61	Ц	Ц	⊐	⊏
2D62	5	7	<b>N</b>	M
2D63	Ж	Ж	×	×
2D64	1	1	<b>_</b>	7
2D65	*	*	ж	ж
2D66	<	>	٧	٨
2D67			1	1

# **Resources**

It is important to realize that a keyboard only outputs codepoints. A font will support codepoints; but a font may also include variant glyphs for specific languages. A carefully chosen keyboard *and* font are both required in order to display the correct behavior for a particular language.

## Keyboarding

The only standard keyboard known at the moment is the Moroccan standard keyboard for Neo-Tiginagh. A keyboard based on the Moroccan standard keyboard is supported in Microsoft Windows.

Keyman is a cross-platform keyboarding application. Four keyboards are available for the Tifinagh script:

- Tifinagh (Basic) Basic [tzm]
- Tifinagh (Full) Basic [tzm, thz, tda, thv, kab, mzb, shi, shy, rif, tmh, zen, zgh]
- · Tawallammat Tifinagh (SIL) [ttq, tzm]
- Tuareg Tifinagh [taq, thv]

lexilogos.com input

Neo-Tifinagh Character Picker

Tifinagh Character Picker

#### **Fonts**

These fonts provide support for some or all of the Tifinagh block.

- · Noto Sans Tifinagh
- Akatab currently only covers part of the Tifinagh block for Tamahaq, Tamashek, and Tawallammat languages
- Tagmukay only covers part of the Tifinagh block for the Tawallammat Tamajaq language
- Catrinity
- IRCAM Tifinagh fonts supports Neo-Tifinagh
- Hapax font set
- MPH 2B Damase
- DejaVu

# **Languages Using Neo-Tifinagh script**

#### Central Atlas Tamazight, Standard Moroccan Tamazight

Source: Tifinaghe-IRCAM, Omniglot, Tamazight: Neo-Tifinagh orthography notes, and Souad Sahraoui (pages 307-308)

Language tags: tzm-Tfng, zgh

Opentype language system tag: BBR

SLDR: zgh

Keyman keyboard: Tifinagh (Basic) Basic [tzm]

Keyman keyboard: Tifinagh (Full) Basic [tzm, thz, tda, thv, kab, mzb, shi, shy, rif, tmh, zen, zgh]

Characters									
Tfng	0	Θ	X	٨	Е	<u> </u>	н	K	Φ
USV	2D30	2D31	2D33	2D37	2D39	2D3B	2D3C	2D3D	2D40
Latn	/a/	/b/	/g/	/d/	/ḍ/	/e/	/f/	/k/	/h/
Tfng	٨	Н	X	Z	٤	I	И	С	I
USV	2D43	2D44	2D45	2D47	2D49	2D4A	2D4D	2D4E	2D4F
Latn	/ḥ/	/ε/	/x/	/q/	/i/	/j/	/I/	/m/	/n/
Tfng	0	0	Q	Y	0	Ø	C	+	E
USV	2D53	2D54	2D55	2D56	2D59	2D5A	2D5B	2D5C	2D5F
Latn	/u/	/r/	/ŗ/	/ɣ/	/s/	/ș/	/c/	/t/	/ţ/
Tfng	Ц	5	Ж	*	u				
USV	2D61	2D62	2D63	2D65	2D6F				
Latn	/w/	/y/	/z/	/ẓ/	/w/				

#### **Known glyph variants**

The Unicode chart glyphs are based on Neo-Tifinagh shapes; thus, no glyph variants are required.

#### **Bi-consonants**

Bi-consonants are not "required" in Neo-Tifinagh. If a font supports bi-consonants, the two consonants separated by the ZWJ should thus form a bi-consonant. If a font does not support bi-consonants, they should simply appear as separate consonants.

#### **Contextual Shaping**

Neo-Tifinagh does not use contextual shaping for the "I" and "n". This is because the glyphs are distinguishable from each other when side by side.

#### Collation

# Kabyle, Amazigh, Taqbaylit

Source: Omniglot and SNIMA 2004

Language tag: kab-Tfng

Opentype language system tag: BBR

Characters									
Tfng	0	θ	X	X	٨	Е	응	н	K
USV	2D30	2D31	2D33	2D35	2D37	2D39	2D3B	2D3C	2D3D
Latn	/a/	/b/	/g/	/ǧ/	/d/	/ḍ/	/e/	/f/	/k/
Tfng	Ø	٨	Н	X	Z	٤	I	И	Е
USV	2D41	2D43	2D44	2D45	2D47	2D49	2D4A	2D4D	2D4E
Latn	/h/	/ḥ/	/ε/	/x/	/q/	/i/	/j/	/l/	/m/
Tfng	I	0	0	Q	Y	0	Ø	C	+
USV	2D4F	2D53	2D54	2D55	2D56	2D59	2D5A	2D5B	2D5C
Latn	/n/	/u/	/r/	/ŗ/	/ɣ/	/s/	/ș/	/c/	/t/
Tfng	€	E	Ц	5	Ж	*	и		
USV	2D5E	2D5F	2D61	2D62	2D63	2D65	2D6F		
Latn	/č/	/ţ/	/w/	/y/	/z/	/ <u>z</u> /	/ <b>w</b> /		

#### **Known glyph variants**

A variant of U+2D4d is used: |

#### **Bi-consonants**

Bi-consonants are not "required" in Neo-Tifinagh. If a font supports bi-consonants, the two consonants separated by the ZWJ should thus form a bi-consonant. If a font does not support bi-consonants, they should simply appear as separate consonants.

#### Collation

# **Languages Using Traditional Tifinagh script**

#### Chenoua, Tacenwit

Source: Savage, 2003 pages 2-3

This source lists a set of characters that are used in a Algerian school text book entitled "Adlis" printed in 1988 (pages 12,13). It is unknown how widely used this book (or the characters) are actually used.

# Language tag: cnu-Tfng

Characters									
Tfng	•	•	X	X	٨	Е	÷	30	K
USV	2D30	2D30 0302	2D33	2D35	2D37	2D39	2D3B	2D3C	2D3D
Latn	/a/	/ε/	/g/	/ğ/	/d/	/ḍ/	/c/	/f/	/k/
Tfng	Φ	٨	Ж	Z	Σ	I	11	С	1
USV	2D40	2D43	2D45	2D47	2D49	2D4A	2D4D	2D4E	2D4F
Latn	/b/	/ḥ/	/x/	/q/	/i/	/j/	/l/	/m/	/n/
Tfng	:	0	0	C	+	E	Ш	П	ж
USV	2D53	2D54	2D59	2D5B	2D5C	2D5F	2D61	2D62	2D63
Latn	/u/	/r/	/s/	/c/	/t/	/ţ/	/w/	/y/	/z/

# **Glyph variants**

usv				
2D30	o	>	•	
2D3B	<u>o</u>	>	÷	
2D3C	н	>	30	
2D49	٤	>	Σ	
2D4D	И	>	II	
2D53	0	>	:	
2D5B	C	>	c	
2D5C	+	>	+	
2D62	5	>	П	

# Ghomara, Shilha

Source: Omniglot

Language tag: gho-Tfng

Opentype language system tag: BBR

Characters									
Tfng	0	θ	X	٨	Е	Н	K	Φ	Χ
USV	2D30	2D31	2D33	2D37	2D39	203C	2D3D	2D40	2D43
Latn	/a/	/b/	/g/	/d/	/ḍ/	/f/	/k/	/h/	/ḥ/
Tfng	Н	Х	Z	٤	I	И	Е	I	0
USV	2D44	2D45	2D47	2D49	204A	2D4D	2D4E	2D4F	2D53
Latn	/ε/	/x/	/q/	/i/	/ž/	/1/	/m/	/n/	/u/
Tfng	0	Q	Y	0	Q	C	+	E	Ш
USV	2D54	2D55	2D56	2D59	205A	2D5B	2D5C	2D5F	2D61
Latn	/r/	/ŗ/	/ɣ/	/s/	/ș/	/š/	/t/	/ţ/	/w/
Tfng	5	Ж	*	u					
USV	2D62	2D63	2D65	2D6F					
Latn	/y/	/z/	/ <u>z</u> /	/ <b>w</b> /					

#### **Known glyph variants**

A variant of U+2D4d is used: |

#### **Bi-consonants**

Unknown.

#### Collation

#### **Tumzabt**

Source: Savage, 2003 pages 2-3

This source lists a set of characters that are used in a Algerian school text book entitled "Adlis" printed in 1988 (pages 12,13). It is unknown how widely used this book (or the characters) are actually used.

#### Language tag: mzb-Tfng

Characters									
Tfng	•	•	X	X	٨	Е	÷	30	K
USV	2D30	2D30 0302	2D33	2D35	2D37	2D39	2D3B	2D3C	2D3D
Latn	/a/	/ε/	/g/	/ǧ/	/d/	/ḍ/	/c/	/f/	/k/
Tfng	Φ	٨	Ж	Z	Σ	I	11	С	1
USV	2D40	2D43	2D45	2D47	2D49	2D4A	2D4D	2D4E	2D4F
Latn	/b/	/ḥ/	/x/	/q/	/i/	/j/	/l/	/m/	/n/
Tfng	:	0	0	C	+	E	Ц	П	ж
USV	2D53	2D54	2D59	2D5B	2D5C	2D5F	2D61	2D62	2D63
Latn	/u/	/r/	/s/	/c/	/t/	/ţ/	/w/	/y/	/z/

# **Glyph variants**

usv				
2D30	o	>	•	
2D3B	<u>o</u>	>	÷	
2D3C	н	>	30	
2D49	٤	>	Σ	
2D4D	И	>	II	
2D53	0	>	:	
2D5B	C	>	c	
2D5C	+	>	+	
2D62	5	>	П	

# Tarifit, Riffian

Source: Omniglot and Tarifit New Testament

Language tag: rif-Tfng

Opentype language system tag: BBR

Characters									
Tfng	o	θ	X	٨	Е	응	н	K	Φ
USV	2D30	2D31	2D33	2D37	2D39	2D3B	2D3C	2D3D	2D40
Latn	/a/	/b/	/g/	/d/	/ḍ/	/ə/	f	k	/h/
Tfng	٨	Н	X	Z	٤	I	И	Е	1
USV	2D43	2D44	2D45	2D47	2D49	2D4A	2D4D	2D4E	2D4F
Latn	/ḥ/	/ε/	/x/	/q/	/i/	/j/	/1/	/m/	/n/
Tfng	0	0	Q	Y	0	Ø	C	+	€
USV	2D53	2D54	2D55	2D56	2D59	2D5A	2D5B	2D5C	2D5E
Latn	/u/	/r/	/ŗ/	/ɣ/	/s/	/ș/	/c/	/t/	/č/
Tfng	E	Ш	5	Ж	*	u			
USV	2D5F	2D61	2D62	2D63	2D65	2D6F			
Latn	/ţ/	/w/	/y/	/z/	/ <u>z</u> /	/w/			

#### Collation

#### **Glyph variants and Bi-consonants**

Unknown.

Sample graphic

John 1:1-4 (Tarifit (rif) New Testament).

#### **Tachelhit**

Source: shi (SLDR)

Language tag: shi

Opentype language system tag: BBR

Characters									
Tfng	0	θ	X	٨	Е	<u> </u>	Н	K	Φ
USV	2D30	2D31	2D33	2D37	2D39	2D3B	2D3C	2D3D	2D40
Tfng	٨	Н	X	Z	٤	I	И	С	I
USV	2D43	2D44	2D45	2D47	2D49	2D4A	2D4D	2D4E	2D4F
Tfng	0	0	Q	Y	0	Ø	C	+	E
USV	2D53	2D54	2D55	2D56	2D59	2D5A	2D5B	2D5C	2D5F
Tfng	Ц	5	Ж	*	u				
USV	2D61	2D62	2D63	2D65	2D6F				

#### **Glyph variants and Bi-consonants**

Unknown.

#### Collation

# **Tachawit, Tacawit**

Source: Savage, 2003 pages 2-3

This source lists a set of characters that are used in a Algerian school text book entitled "Adlis" printed in 1988 (pages 12,13). It is unknown how widely used this book (or the characters) are actually used.

Language tag: shy-Tfng

Characters									
Tfng	•	<b>?</b>	X	X	٨	Е	÷	30	K
USV	2D30	2D30 0302	2D33	2D35	2D37	2D39	2D3B	2D3C	2D3D
Latn	/a/	/ε/	/g/	/ǧ/	/d/	/ḍ/	/c/	/f/	/k/
Tfng	Φ	٨	Ж	Z	Σ	I	11	С	1
USV	2D40	2D43	2D45	2D47	2D49	2D4A	2D4D	2D4E	2D4F
Latn	/b/	/ḥ/	/x/	/q/	/i/	/j/	/l/	/m/	/n/
Tfng	:	0	0	C	+	E	Ц	П	Ж
USV	2D53	2D54	2D59	2D5B	2D5C	2D5F	2D61	2D62	2D63
Latn	/u/	/r/	/s/	/c/	/t/	/ţ/	/w/	/y/	/z/

# **Glyph variants**

USV			
2D30	o	>	•
2D3B	<u>o</u>	>	•
2D3C	н	>	JC
2D49	٤	>	Σ
2D4D	И	>	II .
2D53	0	>	:
2D5B	C	>	E
2D5C	+	>	+
2D62	5	>	П

# Siwi

Source: Omniglot

Language tag: siz-Tfng

Opentype language system tag: BBR

Characters									
Tfng	0	θ	X	T	٨	Е	<u>0</u>	Н	K
USV	2D30	2D31	2D33	2D36	2D37	2D39	2D3B	2D3C	2D3D
Latn	/a/	/b/	/g/	/j/	/d/	/ḍ/	/ə/	/f/	/k/
Tfng	Φ	٨	Н	X	Z	٤	И	С	ı
USV	2D40	2D43	2D44	2D45	2D47	2D49	2D4D	2D4E	2D4F
Latn	/h/	/ḥ/	/'/	/x/	/q/	/i/	/I/	/m/	/n/
Tfng	0	0	Q	Y	0	Ø	C	+	€
USV	2D53	2D54	2D55	2D56	2D59	2D5A	2D5B	2D5C	2D5E
Latn	/u/	/r/	/ŗ/	/ǧ/	/s/	/ș/	/š/	/t/	/č/
Tfng	E	Ш	5	ж	*	ш			
USV	2D5F	2D61	2D62	2D63	2D65	2D6F			
Latn	/ţ/	/w/	/y/	/z/	/ <u>z</u> /	/w/			

Other characters			
Tfng	٥ξ	00	00
USV	2D30 2D49	2D30 2D53	2D54 2D54
Latin	/ai/ /e/	/au/ /o/	/rr/

#### **Glyph variants and Bi-consonants**

Unknown.

#### Collation

# **Tamasheq**

Source: Omniglot

Language tag: taq-Tfng

Opentype language system tag: TAQ (preferred) or TMH

Characters									
Tfng	0	Θ	X	T	٨	Е	н	<b>:</b>	ŧ
USV	2D30	2D31	2D34	2D36	2D37	2D39	2D3C	2D3E	2D42
Latn	/a/	/b/	/g/	/j/	/d/	/ḍ/	/f/	/k/	/h/
Tfng	٨	Н	::	•••	٤	χ	#	И	С
USV	2D43	2D44	2D46	2D48	2D49	2D4B	2D4C	2D4D	2D4E
Latn	/ḥ/	/ε/	/x/	/q/	/i/	/ž/	/ẓ/	/l/	/m/
Tfng	1	!	0	0	:	0	Ø	C	+
USV	2D4F	2D51	2D53	2D54	2D57	2D59	2D5A	2D5B	2D5C
	ZD4F	2031	2000	200.	2007	2009	ZDJA	2000	2000
Latn	/n/	/ŋ/	/o/ / u/	/r/	/ɣ/	/s/	/\$/	/š/	/t/
Latn			/o//						
	/n/	/ŋ/	/o/ / u/	/r/	/ɣ/	/s/			

# **Glyph variants and Bi-consonants**

Unknown.

#### Collation

# Tamasheq (Mali)

Source: Savage, 2000 (pages 145-147, 154)

Language tag: taq-Tfng-ML

Opentype language system tag: TAQ (preferred) or TMH

Characters									
Tfng	•	Θ	ï	Λ	Е	I	>	i	::
USV	2D30	2D31	2D36	2D37	2D39	2D3C	2D3E	2D42	2D46
Latn	/a/	/b/	/g/	/d/	/ḍ/	/f/	/k/	/h/	/x/
Tfng	•••	٤	X	#	II	С	ı	:	0
USV	2D48	2D49	2D4B	2D4C	2D4D	2D4E	2D4F	2D53	2D54
Latn	/q/	/y/	/ž/	/ <u>z</u> /	/l/	/m/	/n/	/w/	/r/
Tfng	i	æ	0	#	8	+	F	*	Π
USV	2D57	2D58	2D59	2D5A	2D5B	2D5C	2D5F	2D63	unencoded?
Latn	/ɣ/	/j̃/	/s/	/ș/	/š/	/t/	/ţ/	/z/	/ <u> </u> /

# **Glyph variants**

Cijpii taitaite				
USV				
2D30	0	>	•	
2D3C	н	>	I	
2D4D	И	>	II	
2D5C	+	>	+	
2D5A	Ø	>	#	
2D5F	E	>	F	
2D63	ж	>	*	

#### **Bi-Consonants**

USV	2D7F between characters	→	Glyph
2D4F 2D37	I ++	$\rightarrow$	×
2D59 2D4F	⊙ + <sub></sub> + I	$\rightarrow$	Ф
2D4F 2D5C	l ++ +	$\rightarrow$	T
2D4F 2D3E	++ >	$\rightarrow$	<b>‡</b>
2D4F 2D3C	l ++ ][	$\rightarrow$	I
2D54 2D5C	0 + +	$\rightarrow$	$\oplus$
2D59 2D5C	O + + +	$\rightarrow$	<b>⊕</b>
2D49 2D5C		$\rightarrow$	

USV	2D7F between characters	→	Glyph
	ξ + <sub></sub> + +		ξ,
2D4D 2D5C	+ _ + +	$\rightarrow$	#
2D53 2D5C	: + +	$\rightarrow$	<del>;</del>
2D4C 2D5C	# ++ +	$\rightarrow$	Ħ
2D4E 2D5C	C ++ +	$\rightarrow$	C <sub>+</sub>
2D3C 2D5C	][ ++ +	<b>→</b>	Ŧ

# **Contextual Shaping**

Contextual Shaping						
II	+	11	+	II	$\rightarrow$	II <sup>II</sup> II
2D4D		2D4D		2D4D		
II	+	I	+	II	$\rightarrow$	¹
2D4D		2D4F		2D4D		
1	+	II	+	1	$\rightarrow$	1111
2D4F		2D4D		2D4F		
1	+	1	+	1	$\rightarrow$	111
2D4F		2D4F		2D4F		

#### Collation

# Tuareg (Azawagh dialect of Niger-Mali), Tagdal

Source: L2/04-142 (pages 8 & 31)

#### Language tag: tda-Tfng

Characters									
Tfng	•	ï	Е	30	>	Φ	i	::	
USV	2D30	2D36	2D39	2D3C	2D3E	2D40	2D42	2D46	2D48
Latn	/a/	/g/	/d/	/f/	/k/	/b/	/h/	/q/	/x/
Tfng	#	11	С	1	:	0	i	0	C
USV	2D4C	2D4D	2D4E	2D4F	2D53	2D54	2D57	2D59	2D5B
Latn	/j/	/l/	/m/	/n/	/w/	/r/	/ɣ/	/s/	/š/
Tfng	+	4	*	1					
USV	2D5C	2D62	2D63	2D64					
Latn	/t/	/y/	/z/	/ <u>z</u> /					/

# **Glyph variants**

USV			
2D30	o	>	•
2D3C	н	>	30
2D4D	И	>	II
2D53	0	>	:

#### **Bi-consonants**

Unknown.

#### Collation

# Tahaggart Tamahaq, Tamahaq (Tuareg)

Source: Alphabet Chart (personal files)

Language tag: thv-Tfng

Opentype language system tag: THV (preferred) or TMH

Keyman keyboard: Tuareg Tifinagh [taq, thv]

Font: Akatab

Characters									
Tfng	•	Θ	8	ï	Λ	Е	30	÷	į
USV	2D30	2D31	2D34	2D36	2D37	2D39	2D3C	2D3E	2D42
Latn	/a/	/b/	/g/	/ǧ/	/d/	ģ	/f/	/k/	/h/
Tfng									

Characters									
	::	•••	٤	X	#	II	С	1	‡
USV	2D46	2D48	2D49	2D4B	2D4C	2D4D	2D4E	2D4F	2D50
Latn	/x/	/q/	/ɣ/	/j/	/ <u>z</u> /	/d/	/m/	/n/	/ŋ/
Tfng	:	0	:	0	c	+	E	*	
USV	2D53	2D54	2D57	2D59	2D5B	2D5C	2D5F	2D63	
Latn	/u/	/r/	/ɣ/	/s/	/š/	/t/	/ţ/	/z/	

# **Glyph variants**

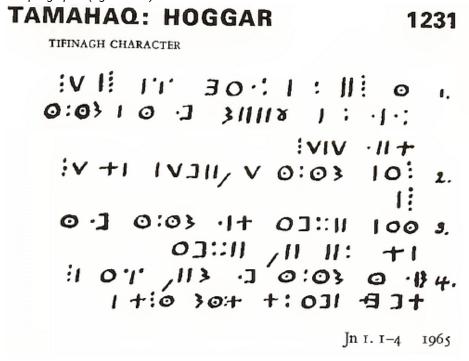
USV				
2D30	0	>	•	
2D34	X	>	X	
2D3C	н	>	30	
2D4B	χ	>	X	
2D4D	И	>	II	
2D50	<b>‡</b>	>	<b>†</b>	
2D53	0	>	:	
2D5B	C	>	c	
2D63	Ж	>	*	

#### **Bi-consonants**

Unknown.

#### Collation

Sample graphic (right-to-left)



Mark 1:1-4 (UBS).

# Tayart Tamajeq, Tuareg (Aïr dialect of Niger)

Source: Omniglot and L2/04-142 (pages 8 & 31)

Language tag: thz-Tfng

Opentype language system tag: THZ (preferred) or TMH

The order of these characters is based on Unicode codepoints, not on the order listed in the sources. The two sources have an inconsistent character set. This is a combination of the two.

Characters									
Tfng	0	X	T	٨	Е	<u>o</u>	Н	<b>:</b>	Φ
USV	2D30	2D33	2D36	2D37	2D39	203B	2D3C	2D3E	2D40
Latn	/a/	/g/	/ǧ/	/d/	/ḍ/	/ə/	/f/	/k/	/b/
Tfng	į	::	•••	٤	#	И	Г	1	!
USV	2D42	2D46	2D48	2D49	2D4C	2D4D	2D4E	2D4F	2D51
Latn	/h/	/x/	/q/	/i/	/j/	/I/	/m/	/n/	/ŋ/
Tfng	0	0	Q	÷	0	Ø	C	+	E
USV	2D53	2D54	2D55	2D57	2D59	2D5A	2D5B	2D5C	2D5F
Latn	/w/ / u/	/r/	/r̄/	/ɣ/	/s/	/ <b>\$</b> /	/š/	/t/	/ţ/
Tfng	5	1\X	*	<		J			
USV	2D62		2D65	2D66	2D67	2D70			

Characters						
		2D63 / 2D64				
Latn	/y/	/z/	/ <u>z</u> /	/e/	/o/	

It is unclear if this is meant to be a required bi-consonant.

Other "letters"	
Tfng	+ <b>G</b>
USV	2D5C 2D5B
Latn	č

#### **Punctuation**

All punctuation required for Neo-Tifinagh is also required for thz. In addition, the separator mark is used:  $U+2D70 \mathcal{J}$ .

## **Glyph variants**

o	>	•
н	>	H
И	>	11
0	>	:
C	>	ç
	>	

#### **Bi-consonants**

Unknown.

#### Collation

Sample graphic

# TAMAHAQ: AÏR

1230

TIFINAGH CHARACTER

John 1:1-4 (UBS).

#### **Tawallammat Tamajaq**

Source: Abdoussamed, and characters which are included in Tagmukay font and the keyboard below.

Language tag: ttq-Tfng, tmh-Tfng (macrolanguage)

Opentype language system tag: TTQ (preferred) or TMH

Keyman keyboard: Tawallammat Tifinagh (SIL) [ttq, tzm]

Font: Tagmukay

Characters									
Tfng	•	T	Е	H	<b>:</b>	Φ	:	::	•••
USV	2D30	2D36	2D39	2D3C	2D3E	2D40	2D42	2D46	2D48
Latn	/a/	/g/	/d/	/f/	/k/	/b/	/h/	/q/	/x/
Tfng	ξ	#	II	Г	I	ļ.	:	0	÷
USV	2D49	2D4C	2D4D	2D4E	2D4F	2D51	2D53	2D54	2D57
Latn	/i/ / y/	/j/	/1/	/m/	/n/	/ŋ/	/w/	/r/	/c/
Tfng	0	¢	+	4	Ж	1			
USV	2D59	2D5B	2D5C	2D62	2D63	2D64	2D67		
Latn	/s/	/š/	/t/	/y/	/z/	/z/	/o/		

#### **Vowels**

SIL and APT have differing orthographies for the same language

SIL

See sample images at bottom of this section.

Vowels	
Tfng	

Vowels						
	÷	Ÿ	4	Ĝ	?	÷
USV	2D30 + 0302	2D30 + 0306	2D62 + 0323	2D62 + 0302	2D53 + 0302	2D67 + 0302
Latn	/α/	/ə/	/i/	/e/	/u/	/o/

#### APT

Vowels						
Tfng	•	<	4		9	II
USV	2D30	2D66	2D62	2D67	2D53	not encoded?
Latn	/a/	/ə/	/i/	/e/	/u/	/o/

#### **Punctuation**

All punctuation required for Neo-Tifinagh is also required for ttq. In addition, the separator mark is used:  $U+2D70 \int$ .

# **Glyph variants**

USV			
2D30	o	>	
2D3C	н	>	H
2D4D	И	>	II
2D53	0	>	:
2D5B	C	>	Ç
2D63	ж	>	Ж

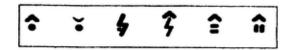
**Tri- Bi-Consonants** 

USV	2D7F between characters	<b>→</b>	Glyph
2D3C 2D5C	H ++ +	$\rightarrow$	X
2D4D 2D5C	ll ++ +	$\rightarrow$	X
2D4E 2D40	Г ++ Ф	$\rightarrow$	$\Theta$
2D4E 2D59	□ ++ ⊙	$\rightarrow$	0
2D4E 2D5C	C ++ +	$\rightarrow$	Œ
2D4F 2D36	l ++ T	$\rightarrow$	II
2D4F 2D39	I ++ E	$\rightarrow$	ш
2D4F 2D3C	++ 片	$\rightarrow$	IC
2D4F 2D3C 2D5C	++ 片 ++ +	$\rightarrow$	ж
2D4F 2D3E	l ++ :	$\rightarrow$	#
2D4F 2D4C	l ++ #	$\rightarrow$	# (#*)
2D4F 2D57	l ++ :	$\rightarrow$	Т.
2D4F 2D59	l ++ ⊙	$\rightarrow$	<b>©</b>
2D4F 2D5C	l ++ +	$\rightarrow$	ŀ
2D4F 2D64	1 + + 1	$\rightarrow$	ے
2D54 2D5C	O ++ +	$\rightarrow$	<b>⊕</b>
2D59 2D5C	⊙ ++ +	$\rightarrow$	•
2D5B 2D5C	¢ ++ +	$\rightarrow$	E

#### **Contextual Shaping**

Contextual Shaping						
I	+	II	+	II	$\rightarrow$	\\
2D4D		2D4D		2D4D		
II	+	I	+	II	$\rightarrow$	IIVII
2D4D		2D4F		2D4D		
1	+	II	+	1	$\rightarrow$	1//\1
2D4F		2D4D		2D4F		
1	+	I	+	I	$\rightarrow$	I\I
2D4F		2D4F		2D4F		

Sample graphic (Reading Book)



Lisons le təmajəq en shifinagh vocalisé (1997).

Sample graphic

Ahol y ayaywan fəl atayalla (2005), p. 15.

# Other languages with little or no information

These language are reported to have used or are using Tifinagh script. However, no further information is available.

#### **Awjilah**

Language tag: auj - Tfng

#### **Ghadamès**

Language tag: gha-Tfng

#### **Taznatit**

Language tag: grr-Tfng

#### Nafusi (Zuwara dialect)

Source: Omniglot

Language tag: jbn-Tfng

Omniglot indicates this language can be written with Tifinagh, but no further information is given.

#### Numidian

Language tag: nxm-Tfng

#### **Tetserret**

Language tag: tez-Tfng

#### Zenaga

Language tag: zen-Tfng

# **Other Berber languages**

These are Berber languages which do not appear to have ever used the Tifinagh script:

- Judeo-Berber [jbe]
- Tagargrent, Ouargli [oua]
- Sened [sds]
- Senhaja Berber [sjs]
- · Sawknah [swn]
- Tidikelt Tamazight [tia]
- Temacine Tamazight [tjo]

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[rif] (تاریفیت / ΔΥΣ+ / Tarifit / +οΟΣΗΣ+) [rif]

Omniglot - Shilha (Tašəlḥiyt / +οCNλΣΣ+) [gho]

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