

# IPA Unicode 6.2 (ver 1.4) KMN

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## **Technical Support**

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## **Keyboard Layout**

The keyboard layout is described in terms of an IPA chart rather than a keyboard. This is because many base characters are typed as a sequence of a letter followed by one of <, >, = or | which are characters used to change a base character to another base character. Diacritics are typed as sequences of an appropriate key. **Blue denotes non-IPA sanctioned phonetic symbols (they may be used by other traditions such as Americanist, Chinese or Russian).** **Red denotes characters which are not in Unicode (they are in SIL's corporate PUA and will not likely be found in any other font).**

## Consonants

	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p p			t t		ʈ t<	c c	k k	q q		ʔ ʔ=
	b b			d d		ɖ d<	ɟ j=	g g<	ɢ ɢ=		
Nasal	m m	ɱ m>		n n		ɳ n<	ɲ n=	ŋ n>	ɴ ɴ=		
Trill	ʙ ʙ=			r r					ʀ ʀ=		
Tap or Flap		ⱱ v<		ɾ r>		ɽ r<					
Fricative	ɸ f=	f f	θ t=	s s	ʃ s=	ʂ s<	ç c=	x x	χ x=	ħ h>	h h
	β b=	v v	ð d=	z z	ʒ z=	ʐ z<	ʝ j<	ɣ g=	ʁ R>	ʕ ʕ<	ɦ h<
Lateral Fricative				ɬ l=							
				ɮ l>							
Approximant		ʋ v=		ɹ r=		ɻ R<	j j	ɰ w>			
Lateral Approximant				ɭ l		ɻ l<	ʎ L<	ʟ L=			

Where symbols appear in pairs, the bottom one represents a voiced consonant. Shaded areas denote articulations judged impossible.

## Other Consonants

Clicks		Voiced implosives	
◌̤	p= Bilabial	ɓ	b> Bilabial
◌̥	!< Dental	ɗ	d> Dental/alveolar
◌̧	! (Post)alveolar	ɟ	j> Palatal
◌̨	! = Palatoalveolar	ɠ	g> Velar
◌̩	! > Alveolar lateral	ɢ	G> Uvular

## Other Symbols

ʌ	w=	ʋ labial-velar fricative	ɕ	c<	vd alveolo-palatal fricative
ʷ	w	Vd labial-velar approximant	ʑ	z>	Vd alveolo-palatal fricative
ɥ	Y< or h=	Vd labial-palatal approximant	ɭ	L>	Vd alveolar lateral flap
ʜ	H=	Vl epiglottal fricative	ɦ	H>	Simultaneous ʃ and x
ʕ	Q<	Vd epiglottal fricative			
ʔ	Q=	Vd epiglottal plosive			

## Vowels

	Front		Central		Back	
	Unrounded	Rounded	Unrounded	Rounded	Unrounded	Rounded
Close	i i	y y	ɨ I=	ɯ U=	ɯ u=	u u
Near-close	ɪ i=	ʏ y=				ʊ u<
Close-mid	e e	ø o>	ɘ E=	ɵ O=	ɤ O>	o o
Mid			ə e=			
Open-mid	ɛ e<	œ E<	ɜ e>	ɞ O<	ʌ u>	ɔ o<
Near-open	æ a<		ɶ a>			
Open	a a	ɶ E>			ɑ a=	ɔ o=

## Suprasegmentals

ˈ	}	Primary stress
ˌ	}}}	Secondary stress
eː	:	Long
eˑ	::	Half long
eːː	:::	Extra long
ẽ	***	Extra short
ˌ	.<	Minor (foot) group
ˌˌ	. =	Major (intonation) group
.	.	Syllable break
˘	#=	Linking (absence of a break)

## Other (non-IPA) Vowels

æ A>	α a	open central unrounded vowel
ɪ i	Α A	open central unrounded
ɪ I>	ɿ z	unrounded alveolar apical
ɨ I<	ʐ Z	unrounded retroflex apical
ɥ U>	ʏ Y	rounded alveolar apical
ɯ u	ʘ Y	rounded retroflex apical
ɛ E		
ɐ e		

## Other (non-IPA) Symbols

ɕ c>	ɕ>	vl palatal implosive
ɖ d	ɖ	alveolo-palatal vd plosive
ɧ h	ɧ	vd pharyngeal nasal
ɥ k>	ɥ>	vl velar implosive
ɭ l	ɭ	front-palatal vd lateral approximant
ɹ n	ɹ	front-palatal vd nasal
ɸ p>	ɸ>	vl bilabial implosive
ɣ q>	ɣ>	vl uvular implosive
ɟ s=	ɟ=	vl retroflex postalveolar fricative
ɸ t>	ɸ>	vl dental or alveolar implosive
ɬ t	ɬ	front-palatal vl plosive
ɽ T	ɽ	dental click
ʋ w<	ʋ<	bilabial flap
ʒ z=	ʒ=	vd retroflex postalveolar fricative
+ +=		
∅ 0=		Empty set
◌ 0>		Diacritic 'holder'

## Tone and Word accents

Level <sup>1</sup>			Contour <sup>2</sup>		
ɿ #4	é @4	Extra high	ɿ #04	ě @13	Rising
ɿ #3	é @3	High	ɿ #40	ê @31	Falling
ɿ #2	ē @2	Mid	ɿ #24	ě @23	High rising
ɿ #1	è @1	Low	ɿ #12	ě @12	Low rising
ɿ #0	è @0	Extra low	ɿ #141	ě @131	Rising-falling
	ɸ #<	Downstep		è @21	Low falling
	ɸ #>	Upstep		ê @32	High falling
	! ! ^	Africanist downstep		ě @313	Falling-rising
	i #!	Africanist upstep (raised)		↗ #>>	Global rise
	i ##!	Africanist upstep (lowered)		↘ #<<	Global fall

## Tone numbers and pitch contours (non-IPA)

---	##1 ##2 ##3 ##4 ##5 ##6	Level pitch contours from 1 to 9 <sup>3</sup>
	##7 ##8 ##9	
3	3^ (0-9)	superscript number
-	-^	superscript hyphen

<sup>1</sup> Use “&” for Left-stem level tones, e.g. “&0” becomes A712 (ɿ).

<sup>2</sup> Glides to and from any level (e.g. “#32” becomes ɿ) and any sequence of any two glides (e.g. “#314” becomes ɿ).

<sup>3</sup> These require the use of Charis SIL (<http://scripts.sil.org/CharisSIL>) or Doulos SIL (<http://scripts.sil.org/DoulosSIL>) version 4.1 or greater. They will turn into contours if used in Graphite applications.

## Diacritics & Suprasegmentals

$k^h$	$h^{\wedge}$	Aspirated
$t^w$	$w^{\wedge}$	Labialised
$t^j$	$j^{\wedge}$	Palatalised
$l^v$	$g^{\wedge}$	Velarised
$t^{\text{̥}}$	$? <^{\wedge}$	Pharyngealised
$^nk$	$n^{\wedge}$	Pre/post nasalised
$t^l$	$l^{\wedge}$	Lateral release
$ɲ_j$	symbol followed by $^{\wedge}$ e.g. $n^{\wedge}$	Other superscripts are available <sup>4</sup>
$k^c$	[ [ ]	Light aspiration
$e^{\text{̣}}$	[ [ [ ]	Rhoticity
$t^{\text{̚}}$	] ] ]	Ejective
$t^{\text{̚}}$	] ] ] ]	No audible release
$b^c$	] ] ] ] ]	Weak aspiration
$ḷ$	\$	Syllabic
$ᵛ$	\$\$	Non-syllabic
$ᵛ$	\$\$\$	Creaky voiced
$ạ$	symbol followed by \$\$\$\$ e.g. $ạ$$$$$	Retroflex hooks <sup>5</sup>
$ᵰ$	%	Voiceless
$ᵱ$	%%	Voiced
$ᵲ$	%%%	Breathy voiced
$ᵷ$	symbol followed by %%% e.g. $bᵷ%%%$	Palatal hooks <sup>6</sup>
$ᵸ$	@	Voiceless (diacritics are sometimes placed above a symbol with a descender)
$ᵹ$	@@	Syllabic (diacritics are sometimes placed above a symbol with a descender)

$t̪$	{	Dental
$t̺$	{{	Apical
$t̻$	{{{	Laminal
$t̼$	{{{{	Linguolabial
$t̽$	{{{{{	Closer variety / Fricative
$ẽ$	~	Nasalised
$ɫ$	l~~	Velarized or pharyngealized <sup>7</sup>
$ẽ$	*	Centralised
$ẽ̆$	**	Mid centralised
$ẽ̇$	***	Extra short
$ẽ̈$	****	Palatalization/Centralization
$ṁ$	*****	
$k̟p$	#&	Double articulation / affricate <sup>8</sup>
$ts̠$	@&	Double articulation / affricate <sup>9</sup>
$u̠$	+	Advanced
$i̠$	-	Retracted
$e̠$	++	Raised
$e̡$	--	Lowered
$ẹ$	+++	+ATR
$e̤$	----	-ATR
$e̥$	++++	More rounded
$e̦$	-----	Less rounded
$ɔ̜$	-----	open vowel
$p̚$	}}}	Fortis
$p̚$	}}}}}	Lenis
$\rightarrow$	=>	Becomes, is realized as
$\sigma$	S>	Syllable
$\text{̚}$	=<	Combining Grapheme Joiner

<sup>4</sup> The following characters can be superscripted: 0123456789 + - = ( ) ? b β c c̣ d ḍ f φ g g̣ y h fi ḥ j j̣ k l ḷ Ḷ Ḷ ṃ ṇ ṇ ṇ η N p r ṛ ṛ ṣ ṣ ṭ θ v u w uq x u z ẓ ẓ a e æ æ̣ a ẹ ạ ẹ ẹ ọ œ̣ œ̣ ị ị ị ọ ọ c̣ ọ g̣ ỵ λ̣ ụ ụ ụ ụ ỵ ỵ

<sup>5</sup> Retroflex hooks may be added to: a ạ ḍ ẹ ẹ ẹ ạ ị ọ j̣ ụ ẓ (ạ, ạ, ḍ, ẹ, ẹ, ạ, ị, ọ, j̣, ụ, ẓ)

<sup>6</sup> Palatal hooks may be added to: b d f g k l m n p r s j v x z (ḅ ḍ f̣ g̣ ḳ ḷ ṃ ṇ p̣ ṛ ṣ j̣ ṿ x̣ ẓ)

<sup>7</sup> Available for b, d, f, t, m, n, p, r, s, t and z.

<sup>8</sup> Typed between the characters. Thus k#&p.

<sup>9</sup> Typed between the characters. Thus t@&s.

## Appendix: IPA number chart

Green denotes IPA characters unsupported by this keyboard.

Alph sorting key	Glyph	Key-strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
1.	a	a	304	0061	Lowercase A	open front unrounded vowel
2.	ɐ	a>	324	0250	Turned A	near-open central vowel
3.	ɑ	a=	305	0251	Script A	open back unrounded vowel
4.	ɒ	o=	313	0252	Turned Script A	open back rounded vowel
5.	æ	a<	325	00E6	Ash; Lowercase A-E ligature	near-open front unrounded vowel
6.	A	A	701	0041	Upper-case A	A
7.	b	b	102	0062	Lowercase B	vd bilabial plosive
8.	ɸ	b>	160	0253	Hooktop B	vd bilabial implosive
9.	B	B=	121	0299	Small Capital B	vd bilabial trill
10.	β	b=	127	03B2	Beta	vd bilabial fricative
11.	B	B	702	0042	Upper-case B	B
12.	c	c	107	0063	Lowercase C	vl palatal plosive
13.	ɸ	c>	163	0188	Hooktop C	vl palatal implosive ( <i>withdrawn, 1993</i> )
14.	č		299	010D	C wedge	vl postalveolar affricate ( <i>not IPA usage</i> )
15.	ç	c=	138	00E7	C Cedilla	vl palatal fricative
16.	ç	c<	182	0255	Curly-tail C	vl alveolo-palatal fricative
17.	Ĉ		202	0297	Stretched C	postalveolar click ( <i>superseded by 178, 1989</i> )
18.	C	C	624 (=703)	0043	Upper-case C	Creak
19.	C	C	703 (use 624)	0043	Upper-case C	C (Creak)
20.	d	d	104	0064	Lowercase D	vd dental or alveolar plosive
21.	ɖ	d>	162	0257	Hooktop D	vd dental or alveolar implosive
22.	ɖ̥	d<	106	0256	Right-tail D	vd retroflex plosive

Alph sorting key	Glyph	Key-strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
23.	ɔ̣	d>\$\$\$\$	219	1D91	Hooktop right-tail D	vd retroflex implosive ( <i>not explicitly IPA approved</i> )
24.	ɖ		212	02A3	D-Z ligature	vd alveolar affricate ( <i>superseded by 104 + 133</i> )
25.	ɖ͡ʒ		214	02A4	D-Ezh ligature	vd postalveolar affricate ( <i>superseded by 104 + 135</i> )
26.	ɖ͡ʒ͡		216	02A5	D-Curly-tail-Z ligature	vd alveolo-palatal affricate ( <i>superseded by 104 + 183</i> )
27.	ð	d=	131	00F0	Eth	vd dental fricative
28.	D	D	704	0044	Upper-case D	D
29.	e	e	302	0065	Lowercase E	close-mid front unrounded vowel
30.	ᵻ	e=^	218	1D4A	Superscript schwa	mid central vowel release
31.	ə	e=	322	0259	Schwa	mid central vowel
32.	ə̣		327	025A	Right-hook schwa	R-coloured mid central vowel ( <i>Equivalent to 322 + 419</i> )
33.	ɐ̤	Ǝ=	397	0258	Reversed E	close-mid central unrounded vowel
34.	ɛ	e<	303	025B	Epsilon	open-mid front unrounded vowel
35.	ɛ̤	e	396	029A	Closed epsilon	open-mid central rounded vowel ( <i>superseded by 395, 1996</i> )
36.	ɛ̥	e>	326	025C	Reversed epsilon	open-mid central unrounded vowel
37.	ɛ̤̥	O<	395	025E	Closed reversed epsilon	open-mid central rounded vowel
38.	E	Ǝ	705	0045	Upper-case E	E
39.	f	ƒ	128	0066	Lowercase F	vl labiodental fricative
40.	f̥͡		602	02A9	F-Eng ligature	Velopharyngeal fricative
41.	F	F̥	622 (=706)	0046	Upper-case F	Falsetto
42.	F	F̥	706 (use 622)	0046	Upper-case F	F (Falsetto)
43.	g	g<	110	0261	Opentail G	vd velar plosive ( <i>equivalent to 210</i> )
44.	ɡ̣	g>	166	0260	Hooktop G	vd velar implosive
45.	g	g	210	0067	Looptail G	vd velar plosive ( <i>equivalent to 110</i> )
46.	G	G=	112	0262	Small Capital G	vd uvular plosive
47.	ɡ̣̥	G>	168	029B	Hooktop Small Capital G	vd uvular implosive
48.	G	G	707	0047	Upper-case G	G

Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
49.	ɣ	g=	141	0263	Gamma	vd velar fricative
50.	ɣ̣	g=^	422	02E0	Superscript Gamma	velarized
51.	ɤ	O>	315	0264	Ram's Horns	close-mid back unrounded vowel
52.	h	h	146	0068	Lowercase H	vl glottal fricative
53.	ḥ	h^	404 (=671)	02B0	Superscript H	aspirated
54.	ḥ	h^	671 (use 404)	02B0	Left-sided superscript H	Pre-aspiration
55.	ħ	h>	144	0127	Crossed H	vl pharyngeal fricative
56.	ɦ	h<	147	0266	Hooktop H	vd glottal fricative
57.	ɦ̥	H>	175	0267	Hooked Heng	simultaneous vl postalveolar and velar fricative
58.	ɥ	Y< or h=	171	0265	Turned H	vd labial-palatal approximant
59.	ʜ	H=	173	029C	Small Capital H	vl epiglottal fricative
60.	Ɑ	H	708	0048	Upper-case H	H
61.	i	i	301	0069	Lowercase I	close front unrounded vowel
62.	ɪ		394	0131	Undotted I	<i>Not IPA usage</i>
63.	ɪ̄	I=	317	0268	Barred I	close central unrounded vowel
64.	ɪ̯	i	399	0269	Iota	near-close near-front unrounded vowel <i>(superseded by 319, 1989)</i>
65.	ɪ̇	i=	319	026A	Small Capital I	near-close near-front unrounded vowel
66.	Ɱ	Ɱ	709	0049	Upper-case I	I
67.	j	j	153	006A	Lowercase J	vd palatal approximant
68.	j̣	j^	421	02B2	Superscript J	palatalized
69.	ɟ	j<	139	029D	Curly-tail J	vd palatal fricative
70.	ɟ̣		298	01F0	J wedge	vd postalveolar affricate <i>(not IPA usage)</i>
71.	ɟ̥	j=	108	025F	Barred Dotless J	vd palatal plosive
72.	ɟ̥̄	j>	164	0284	Hooktop Barred Dotless J	vd palatal implosive
73.	Ɐ	Ɐ	626 (=710)	004A	Upper-case J	Jaw

Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
74.	J	Ɑ	710 (use 626)	004A	Upper-case J	J (Jaw)
75.	k	Ɑ	109	006B	Lowercase K	ɸ velar plosive
76.	ƙ	Ɑ>	165	0199	Hooktop K	ɸ velar implosive ( <i>withdrawn, 1993</i> )
77.	Ꝕ		291	029E	Turned K	<i>Withdrawn, 1979</i>
78.	K	Ɱ	711	004B	Upper-case K	K
79.	l	Ɐ	155	006C	Lowercase L	ɸ dental or alveolar lateral approximant
80.	ˀ	Ɐ^	426	02E1	Superscript L	lateral release
81.	ɮ	Ɐ~	209	026B	L with tilde	ɸ velarized dental or alveolar lateral approximant
82.	ɮ	Ɐ=	148	026C	Belted L	ɸ dental or alveolar lateral fricative
83.	ɮ	Ɐ<	156	026D	Right-tail L	ɸ retroflex lateral approximant
84.	Ƙ	Ɱ=	158	029F	Small Capital L	ɸ velar lateral approximant
85.	ɮ	Ɐ>	149	026E	L-Ezh ligature	ɸ dental or alveolar lateral fricative
86.	ɮ		603	02AA	L-S ligature	Lateralized [s]
87.	ɮ		604	02AB	L-Z ligature	Lateralized [z]
88.	λ		295	03BB	Lambda	ɸ dental or alveolar lateral fricative ( <i>Not IPA usage</i> )
89.	λ		294	019B	Barred lambda	ɸ dental or alveolar lateral affricate ( <i>Not IPA usage</i> )
90.	L	Ɱ	625 (=712)	004C	Upper-case L	Larynx
91.	L	Ɱ	712 (use 625)	004C	Upper-case L	L (Larynx)
92.	m	ⱱ	114	006D	Lowercase M	ɸ bilabial nasal
93.	ɱ	ⱱ>	115	0271	Left-tail M (at right)	ɸ labiodental nasal
94.	ɯ	ⱱ=	316	026F	Turned M	close back unrounded vowel
95.	ɱ	ⱱ>	154	0270	Turned M, Right Leg	ɸ velar approximant
96.	M	Ɱ	713	004D	Upper-case M	M
97.	n	Ɱ	116	006E	Lowercase N	ɸ dental or alveolar nasal
98.	ˀ	Ɱ^	425	207F	Superscript N	nasal release



Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
99.	ŋ		293	019E	N, right leg	syllabic nasal ( <i>withdrawn, 1976</i> )
100.	ɲ	n=	118	0272	Left-tail N (at left)	vd palatal nasal
101.	ŋ	n>	119	014B	Eng	vd velar nasal
102.	ɳ	n<	117	0273	Right-tail N	vd retroflex nasal
103.	ɴ	N=	120	0274	Small Capital N	vd uvular nasal
104.	ɴ	ɴ	714	004E	Upper-case N	ɴ
105.	ɔ	o	307	006F	Lowercase O	close-mid back rounded vowel
106.	ɔ̥	p=	176	0298	Bull's Eye	bilabial click
107.	ɵ	O=	323	0275	Barred O	close-mid central rounded vowel
108.	ø	o>	310	00F8	Slashed O	close-mid front rounded vowel
109.	œ	E<	311	0153	Lowercase O-E ligature	open-mid front rounded vowel
110.	Ɔ	E>	312	0276	Small Capital O-E ligature	open front rounded vowel
111.	Ɔ		627	0152	Upper-case O-E ligature	Oesophageal speech
112.	ɔ̞	o<	306	0254	Open O	open-mid back rounded vowel
113.	ɯ	u	398	0277	Closed omega	near-close near-back rounded vowel ( <i>superceded by 321, 1989</i> )
114.	Ɔ	O	715	004F	Upper-case O	Ɔ
115.	p	p	101	0070	Lowercase P	vi bilabial plosive
116.	ɸ	p>	159	01A5	Hooktop p	vi bilabial implosive ( <i>withdrawn, 1993</i> )
117.	Ɔ	P	716	0050	Upper-case P	Ɔ
118.	ɸ	f=	126	0278	Phi	vi bilabial fricative
119.	q	q	111	0071	Lowercase Q	vi uvular plosive
120.	ɢ	q>	167	02A0	Hooktop q	vi uvular implosive ( <i>withdrawn, 1993</i> )
121.	Ɔ	Q	717	0051	Upper-case Q	Ɔ
122.	r	r	122	0072	Lowercase R	vd dental or alveolar trill
123.	ɾ	r>	124	027E	Fish-hook R	vd dental or alveolar tap
124.	ɽ		206	027C	Long-leg r	<i>Withdrawn, 1989</i>

Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
125.	ɺ	ɺ>	181	027A	Turned Long-leg R	vd alveolar lateral flap
126.	ɺ̥	ɺ<	125	027D	Right-tail R	vd retroflex flap
127.	ɺ̥	ɺ=	151	0279	Turned R	vd dental or alveolar approximant
128.	ɺ̥̥	R<	152	027B	Turned R, Right Tail	vd retroflex approximant
129.	ʀ	R=	123	0280	Small Capital R	vd uvular trill
130.	R	R	718	0052	Upper-case R	R
131.	ʁ	R>	143	0281	Inverted Small Capital R	vd uvular fricative
132.	ʁ̥	R>^	676	02B6	Superscript inverted small capital R	Uvularized
133.	s	s	132	0073	Lowercase S	vl alveolar fricative
134.	s̥	s^	207	02E2	Superscript S	<i>Withdrawn, 1989</i>
135.	ʂ		297	0161	S wedge	vl postalveolar fricative ( <i>not IPA usage</i> )
136.	ʂ̥	s<	136	0282	Right-Tail S (at left)	vl retroflex fricative
137.	S	S	719	0053	Upper-case S	S
138.	ʃ	s=	134	0283	Esh	vl postalveolar fricative
139.	ʃ̥		204	0286	Curly-tail esh	<i>Withdrawn, 1989</i>
140.	t	t	103	0074	Lowercase T	vl dental or alveolar plosive
141.	t̥	t>	161	01AD	Hooktop T	vl dental or alveolar implosive ( <i>withdrawn, 1993</i> )
142.	t̥̥		208	01AB	Left-hook T	palatalized vl dental or alveolar plosive ( <i>withdrawn, 1989</i> )
143.	t̥̥	t<	105	0288	Right-tail T	vl retroflex plosive
144.	ts		211	02A6	T-S ligature	vl dental or alveolar affricate ( <i>superceded by 103 + 132</i> )
145.	tʃ		213	02A7	T-Esh ligature	vl postalveolar affricate ( <i>superceded by 103 + 134</i> )
146.	tʃ̥		215	02A8	T-Curly-tail-C ligature	vl alveolo-palatal affricate ( <i>superceded by 103 + 182</i> )
147.	ɾ	T	201	0287	Turned T	dental click ( <i>superceded by 177, 1989</i> )
148.	T	T	720	0054	Upper-case T	T
149.	θ	t=	130	03B8	Theta	vl dental fricative
150.	θ̥	t=^	217	1DBF	Superscript theta	vl dental fricative release

Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
151.	Θ		628	0398	Upper-case Greek Theta	Protruded-tongue voice
152.	u	u	308	0075	Lowercase U	close back rounded vowel
153.	ʉ	ʉ=	318	0289	Barred U	close central rounded vowel
154.	ɯ	u<	321	028A	Upsilon	near-close near-back rounded vowel
155.	U	ʊ	721	0055	Upper-case U	U
156.	v	ʋ	129	0076	Lowercase V	vd labiodental fricative
157.	ʋ̹	ʋ<	184	2C71		labiodental flap
158.	ʋ̥	ʋ=	150	028B	Cursive V	vd labiodental approximant
159.	ʋ̥̥̥	ʋ=^	673	1DB9	Superscript cursive V	Labiodentalized
160.	ʌ	u>	314	028C	Turned V	open-mid back unrounded vowel
161.	ʌ̥	ʌ	621 (=722)	0056	Upper-case V	Voice
162.	ʌ̥̥̥	ʌ	722 (use 621)	0056	Upper-case V	V (Voice)
163.	w	w	170	0077	Lowercase W	vd labial-velar approximant
164.	w̥	w^	420	02B7	Superscript W	labialized
165.	ʍ	w=	169	028D	Turned W	ʋl labial-velar fricative
166.	W	ʍ	623 (=723)	0057	Upper-case W	Whisper
167.	W̥	ʍ	723 (use 623)	0057	Upper-case W	W (Whisper)
168.	x	x	140	0078	Lowercase X	ʋl velar fricative
169.	x̥	x^	292	02E3	Superscript X	ʋl velar fricative release
170.	χ	x=	142	03C7	Chi	ʋl uvular fricative
171.	X	χ	724	0058	Upper-case X	X
172.	y	y	309	0079	Lowercase Y	close front rounded vowel
173.	y̥	y^	496	02B8	Superscript Y	high-front rounding / palatalized ( <i>not IPA usage</i> )
174.	ɥ	ɥ<	157	028E	Turned Y	vd palatal lateral approximant
175.	Y	ʏ=	320	028F	Small Capital Y	near-close near-front rounded vowel

Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
176.	Y	Y	725	0059	Upper-case Y	Y
177.	z	z	133	007A	Lowercase Z	vd alveolar fricative
178.	Ẓ		296	017E	Z wedge	vd postalveolar fricative ( <i>not IPA usage</i> )
179.	ʒ	z>	183	0291	Curly-tail Z	vd alveolo-palatal fricative
180.	ʐ	z<	137	0290	Right-tail Z	vd retroflex fricative
181.	ʒ	z=	135	0292	Ezh; Tailed Z	vd postalveolar fricative
182.	ʒ		205	0293	Curly-tail ezh	<i>Withdrawn, 1989</i>
183.	Z	Z	726	005A	Upper-case Z	Z
184.	ʔ	?=	113	0294	Glottal Stop	glottal plosive
185.	ʕ	?<	145	0295	Reversed Glottal Stop	vd pharyngeal fricative or approximant
186.	ʔ̤	Q=	172	02A1	Barred Glottal Stop	epiglottal plosive
187.	ʕ̤	Q<	174	02A2	Barred Reversed Glottal Stop	vd epiglottal fricative or approximant
188.	ǀ	!<	177	01C0	Pipe	dental click
189.	ǃ	!	178	01C3	Exclamation Point	(post)alveolar click
190.	ǀ̤	!=	179	01C2	Double-barred Pipe	palatoalveolar click
191.	ǁ	!>	180	01C1	Double Vertical Line	alveolar lateral click
192.	ǃ̤		203	0296	Inverted glottal stop	alveolar lateral click ( <i>superseded by 180, 1989</i> )
193.	ǂ		290	01BB	Barred two	<i>Withdrawn, 1976</i>
194.	’	] ]	401	02BC	Apostrophe	ejective
195.	◌̚	%	402a	0325	Under-ring	voiceless
196.	◌̛	@	402b	030A	Over-ring	voiceless (use if character has descender)
197.	◌̜	%%	403 (=663, 664)	032C	Subscript Wedge	voiced
198.	◌̝	%%%	405	0324	Subscript Umlaut	breathy voiced
199.	◌̞	\$\$\$	406	0330	Subscript Tilde	creaky voiced
200.	◌̟	{{{{	407	033C	Subscript Seagull	linguolabial
201.	◌̠	{	408	032A	Subscript Bridge	dental

Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
202.	◌̤	{ {	409	033A	Inverted Subscript Bridge	apical
203.	◌̥	{ { {	410	033B	Subscript Square	laminal
204.	◌̦	+ + + + +	411	0339	Subscript Right Half-ring	more rounded
205.	◌̧	—	412	031C	Subscript Left Half-ring	less rounded
206.	◌̨	+	413	031F	Subscript Plus	advanced
207.	◌̩	—	414	0320	Under-bar	retracted
208.	◌̪	*	415	0308	Umlaut	centralized
209.	◌̫	**	416	033D	Over-cross	mid-centralized
210.	◌̬	+++	417	0318	Advancing Sign	advanced tongue root
211.	◌̭	—	418	0319	Retracting Sign	retracted tongue root
212.	◌̮	[ [ [	419	02DE	Right Hook	rhoticity
213.	◌̯	? < ^	423	02E4	Superscript reversed glottal stop	pharyngealized
214.	◌̰	~	424	0303	Superscript Tilde	nasalized
215.	◌̱	] ] ]	427	031A	Corner	no audible release
216.	◌̲		428	0334	Superimposed tilde	Velarized or pharyngealized (use precomposed characters)
217.	◌̳	++	429	031D	Raising Sign	raised
218.	◌̴	—	430	031E	Lowering Sign	lowered
219.	◌̵	\$	431	0329	Syllabicity Mark	syllabic
220.	◌̶	\$ \$	432	032F	Subscript Arch	non-syllabic
221.	◌̷	# &	433	0361	Top Tie Bar	affricate or double articulation
222.	◌̸	@ &	433	035C	Bottom Tie Bar	affricate or double articulation
223.	◌̹		489	0322	Subscript right hook	Rhoticity ( <i>Superseded by 419, 1989</i> )
224.	◌̺		490	?	Open corner	Release / burst ( <i>not IPA usage</i> )
225.	◌̻	,	491	002C	Comma	pause ( <i>not IPA usage</i> )
226.	◌̼	] ] ] ]	492	02BB	Reversed apostrophe	weak aspiration ( <i>withdrawn, 1979</i> )
227.	◌̽	* * * *	493	0307	Over-dot	palatalization/centralization ( <i>withdrawn, 1979</i> )

Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
228.	-		494	02D7	Minus sign	retracted variety (backed) (use 414 or 418, 1989)
229.	+		495	02D6	Plus sign	advanced variety (fronted) (use 413 or 417, 1989)
230.	◌̣	{ { { { {	497	0323	Under-dot	closer variety / fricative (use 429, 1989)
231.	◌̣̥		498	0321	Subscript left hook	palatalized (superseded by 421, 1989)
232.	◌̣̥̥̥		499	032B	Subscript W	labialized (superseded by 420, 1989)
233.	ˈ	}	501	02C8	Vertical Stroke (Superior)	primary stress
234.	ˌ	}}	502	02CC	Vertical Stroke (Inferior)	secondary stress
235.	:	:	503	02D0	Length Mark	length mark
236.	ˑ	::	504	02D1	Half-length Mark	half-length
237.	◌̆	***	505	0306	Breve	extra-short
238.	◌̇	·	506 (631, 632, 633)	002E	Period	syllable break
239.		.<	507	007C	Vertical Line	minor (foot) group
240.		.=	508	2016	Double vertical line (thick)	major (intonation) group
241.	˘	#=	509	203F	Bottom Tie Bar	linking (absence of a break)
242.	↗	#>>	510	2197	Upward Diagonal Arrow	global rise
243.	↘	#<<	511	2198	Downward Diagonal Arrow	global fall
244.	◌̊	@4	512	030B	Double Acute Accent (over)	extra high level
245.	◌̋	@3	513	0301	Acute Accent (over)	high level
246.	◌̄	@2	514	0304	Macron	mid level
247.	◌̀	@1	515	0300	Grave Accent (over)	low level
248.	◌̎	@0	516	030F	Double Grave Accent (over)	extra low level
249.	◌̵	#<	517	A71C	Down Arrow	downstep
250.	◌̶	#>	518	A71B	Up Arrow	upstep
251.	◌̸	#4	519	02E5	Extra-high Tone Bar	extra high level
252.	◌̹	#3	520	02E6	High Tone Bar	high level

Alph sorting key	Glyph	Key-strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
253.	┆	#2	521	02E7	Mid Tone Bar	mid level
254.	┆	#1	522	02E8	Low Tone Bar	low level
255.	┆	#0	523	02E9	Extra-low Tone Bar	extra low level
256.	◌̣	@13	524	030C	Wedge	rising contour
257.	◌̂	@31	525	0302	Circumflex	falling contour
258.	◌̄̎	@23	526	1DC4	Macron plus acute accent	high rising contour
259.	◌̣̄̎	@12	527	1DC5	Grave accent plus macron	low rising contour
260.	◌̣̄̎̂	@131	528	1DC8	Grave plus acute plus grave accent	rising-falling contour
261.	˧	#04	529	02E9 02E5	Rising tone letter	rising contour
262.	˨	#40	530	02E5 02E9	Falling tone letter	falling contour
263.	˧̎	#24	531	02E7 02E5	High-rising tone letter	high rising contour
264.	˧̣̎	#12	532	02E9 02E7	Low-rising tone letter	low rising contour
265.	˧̣̎̂	#141	533	02E8 02E5 02E8	Rising-falling tone letter	rising-falling contour
266.	◌̆		595	0311	Superscript arch	long falling tone / advanced / palatal ( <i>not IPA usage</i> )
267.	◌̣̎		596	02C7	Wedge; háček	falling-rising tone ( <i>usage redefined, 1989. See 524</i> )
268.	◌̂̎		597	02C6	Circumflex	rising-falling tone ( <i>usage redefined, 1989. See 525</i> )
269.	◌̣̣̎		598	0316 / 02CE	Subscript grave accent	low falling tone ( <i>superseded (1989)</i> )
270.	◌̣̣̎̎		599	0317 / 02CF	Subscript acute accent	low rising tone ( <i>superseded, 1989</i> )
271.	◌̚̚		601	02AD	Double bridge	Bidental percussive
272.	◌̚		611	274D	Balloon	Unidentified segment(s)
273.	*		612	002A	Asterisk	Placeholder symbol
274.	(.)		631 (use 506)	002E	Bracketed single period	Short pause
275.	(..)		632 (use 506)	002E 002E	Bracketed double period	Medium-length pause
276.	(...)		633 (use 506)	002E 002E 002E	Bracketed triple period	Long pause
277.			634	1D191	Forte	Loud speech

Alph sorting key	Glyph	Key-strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
278.			635		Fortissimo	Louder speech
279.			636		Piano	Quiet speech
280.			637	1D18F	Pianissimo	Quieter speech
281.			638		Allegro	Fast speech
282.			639		Lento	Slow speech
283.	1	1	640	0031	Numeral one	Slight degree
284.	2	2	641	0032	Numeral two	Moderate degree
285.	3	3	642	0033	Numeral three	Extreme degree
286.	̚		651	0346	Superscript bridge	Dentolabial
287.	̚̚		652	034D	Subscript double arrow	Labial spreading
288.	̚̚̚		653	032A 0346	Superscript+subscript bridge	Bidental articulation
289.	̄̚̚̚		654	034A	Superscript slashed tilde	Denasal
290.	̆̚̚̚		655	034B	Superscript dotted tilde	Nasal escape
291.	̈̚̚̚		656	034C	Superscript double tilde	Velopharyngeal friction
292.	̊̚̚̚		657	0348	Subscript double syllabicity mark	Stronger articulation
293.	̋̚̚̚		658	0349	Subscript corner	Weaker articulation
294.	\		659	005C	Backslash	Reiterated articulation
295.	̌̚̚̚		660	034E	Subscript upward arrow-head	Whistled articulation
296.	↓		661	2193	Down full arrow	Ingressive air flow
297.	↑		662	2191	Up full arrow	Egressive air flow
298.	̍̚̚̚		663 (use 403)	02EC	Left-sited subscript wedge	Pre-voicing
299.	̎̚̚̚		664 (=403)	02EC	Right-sited subscript wedge	Post-voicing
300.			665		Bracketed subscript wedge	Partial voicing
301.			666		Left-bracketed subscript wedge	Initial partial voicing
302.			667		Right-bracketed subscript wedge	Final partial voicing
303.			668		Bracketed under-ring	Partial devoicing



Alph sorting key	Glyph	Key- strokes	IPA No.	USV	Symbol Name	IPA Phonetic Description
304.			669		Left-bracketed under-ring	Initial partial devoicing
305.			670		Right-bracketed under-ring	Final partial devoicing
306.	!!		672	01C3 01C3	Right-sited double exclamation point	Ventricular
307.	→		674	0362	Subscript right arrow	Slurred articulation
308.	=		675	0347	Subscript equals sign	Alveolarized
309.			677		Superscript double-barred H	Faucalized
310.			678		Superscript O-E ligature	Labialized: Open-rounded
311.	!		679	01C3	Right-sited exclamation point	Harsh
312.	=		680	033F	Superscript equals sign	Unaspirated
313.	↘		681	0354	Subscript left pointer	Laterally offset to the right
314.	↙		682	0355	Subscript right pointer	Laterally offset to the left
315.	˘		683 (=406)	0330	Right-sited subscript tilde	Creaky
316.	[	[	901	005B	Left Square Bracket	begin phonetic transcription
317.	]	]	902	005D	Right Square Bracket	end phonetic transcription
318.	/	/	903	002F	Forward Slash	begin/end phonemic transcription
319.	(	(	906	0028	Left parenthesis	indistinguishable utterance (begin)
320.	)	)	907	0029	Right parenthesis	indistinguishable utterance (end)
321.	((	((	908	0028 0028	Left double parenthesis	Sound obscured (begin)
322.	))	))	909	0029 0029	Right double parenthesis	Sound obscured (end)
323.	{		910	007B	Left brace	Begin prosodic notation
324.	}		911	007D	Right brace	End prosodic notation