

## Scotian Consonant Phonemes

-Palatalized	Glottal	Velar	Palatal	Alveopalatal	Alveolar	Dental	Labiodental	Labial
Stop		/k/ x /g/ ʌ				/t/ ɟ /d/ ɖ		/p/ ɸ /b/ ɓ
Nasal						/n/ ɲ		/m/ v
Lateral						/l/ ɮ		
Tap					/ɾ/ ɽ /r/ ɹ			
Fricative	/h/ ɦ			/ʃ/ ʒ ɟ /ʒ/ ʒ	/s/ ɰ /z/ ʒ	/θ/ ɸ /ð/ ɖ	/f/ ɸ /v/ ɓ	
Approximant		/w/ ʋ	/j/ ɹ					

+Palatalized								
Stop		/kʲ/ x̣				/tʲ/ ɟʲ /dʲ/ ɖʲ		/pʲ/ ɸʲ /bʲ/ ɓʲ
Nasal			/ɲʲ/ ɹ̣					/mʲ/ ṿ
Fricative			/ç/ ʝ	/ʃʲ/ ʒ̣	/sʲ/ ɰ̣ /zʲ/ ʒ̣	/θʲ/ ɸ̣ /ðʲ/ ɖ̣	/fʲ/ ɸ̣ /vʲ/ ɓ̣	

### Allophones of Non-Palatalized Phonemes

Phoneme	Allophone	
x ɸ	/k t p/	[kʰ tʰ pʰ]
		Pre-vocalic voiceless stops are lightly aspirated in Scotian, most noticeably in tonic initial syllables; least so in atonic interior syllables. When these stops are palatalized or part of a complex onset, ie C+stop(+C), or stop+C, aspiration is suppressed.
x	/k/	[x]
		Word-final k is [x] following a vowel. As coda in other syllables k is less stable. In native words, coda k is [x] before a central/oral onset stop, but before nasal, lateral and other consonant onsets, or when k precedes a coda consonant, pronunciation varies between /k/ and [x], even with the same speaker. Geminated k is always /k.k/ however.
ɹ	/r/	[h, ɦ]
		The phoneme is a voiced alveolar tap (trilled /r/ in some regions), which weakens to voiceless [h] when word-initial or geminated. In coda position r usually mutates to w, but where it does not mutate it is a lightly pharyngealized [ɦ] before a pause or before another consonant, including word-initial consonants. Before a word-initial vowel, unmutated final r acts as onset and is phonemic /r/. The approximants *[ɹ] and *[ɹ̣] are not phonemes or allophones in any variety of Scotian.
ɲ	/n/	[ŋ], Ø
		Following a non-palatalized vowel, dental n becomes velar [ŋ] before k/[x], g and w. Following a palatalized vowel, coda n loses consonantal value (see vowel nasalization).
ɮ	/l/	[lʰ]
		l is lightly pharyngealized by adjacent pharyngealized velar vowels.
v	/m/	Ø
		Following a palatalized vowel, coda m loses consonantal value (see vowel nasalization).

### Allophones of Palatalized Phonemes

Phoneme	Allophone	
x̣ ɸ̣	/kʲ ɸʲ/	[ç]
		Both phonemes share this allophone (which is also the phonemic value of palatalized h). ɸʲ is [ç] adjacent to high vowels, while kʲ is [ç] in the same environments where k is [x].
ɟʲ ɖʲ	/tʲ dʲ/	[tʃ ɖʒ]
		Adjacent to ɹ/i, palatalized dental stops become alveopalatal affricates.
ɹ̣	/ɲʲ/	[j]
		The phoneme ɹ̣ is palatal in primary articulation (palatalized dental */nʲ/ no longer occurs in Scotian), as is its allophone in interior onset position, a nasalized glide. Word-initial palatalized n (uncommon in native words) varies between /ɲʲ/ and [j] depending on rate of speech.
ṿ	/mʲ/	[m̃]
		In coda position, mʲ is realized as a nasalized velar glide, the only palatalized sound in Scotian that is not physically palatalized, affricated or palatal in articulation.

### Other Sounds

ɸ ɖ	[θ+ ð+]	Non-palatalized θ/ð may become interdental, θ+/ð+. These are variant pronunciations not allophones.
.	[ʔ]-	The glottal stop functions as a liaison device in Scotian and is not a phoneme or an allophone of another consonant (see vowel sandhi).

### 1. Modern Scotian Vowel System

		pharyngealized		pharyngealized	
palatalized	/i/	/i̠/	/u/	/u̠/	approximant
	/ɪ/	/ɪ̠/	/ʊ/	/ʊ̠/	
palatalized	/e/	/e̠/	/o/	/o̠/	
	/ɛ/	/a/	/ɔ/	/ɒ/	
dropped	/æ/		velar		

Palatalized vowels are nasalized by a following syllable-final ɹ or v. Inverse rounding has never existed in Scotian and is usually replaced with pharyngealization in borrowings, eg Attic Αἴγυπτος [ájgyptos] "Egypt" > Scotian Ἀἰῆ [éːʝ]. The pharyngealized velar approximants /u̠/ and /ʊ̠/ are now marginal. In tonic syllables, vowels are semi-long and normally accompanied by a change in pitch.

### 2. Vowels in Scotian Orthography

		pharyngealized		pharyngealized	
palatalized	ì	ì̠	ù	ù̠	approximant
	ɪ	ɪ̠	ʊ	ʊ̠	
palatalized	é	é̠	ó	ó̠	
	ə	ɛ	o	ɒ	
dropped	ɹ		velar		

Vowel palatalization is marked with an overdot in most syllables (see Table 3 and notes at bottom for exceptions). Pharyngealization is shown in separate letters, as is jaw drop.

### 3. Vowels in Atonic Ultimas

		pharyngealized		pharyngealized	
palatalized	ə		o		approximant
	↑		↑		
palatalized	•	ɛ		ɒ	
dropped			velar		

These letters represent the four Scotian vowels found in open atonic ultimas. Word-finally (or when closed by ɔ), they mark penultimate stress unless another syllable is accented in writing. All four are palatalized, but they are not dotted in modern spelling as contrasts in vowel palatalization no longer occur here (for more overdot conventions, see below). Modern Scotian also raises ə and o in this environment to [i] and [u], respectively. All other word-final vowel letters (including i and ù) mark ultimate stress unless another syllable is accented in writing.

### 4. Vowels in Syllables Marked for Stress

		pharyngealized		pharyngealized	
palatalized	ì	ì̠	ù	ù̠	approximant
	í	í̠	ú	ú̠	
palatalized	é	é̠	ó	ó̠	
	é̇	é̠̇	ó̇	ó̠̇	
dropped	í̇		velar		

Non-canonical lexical stress is marked in writing with an accent over the nucleus of the tonic syllable. The left accent marks both stress and palatalization, replacing the overdot. The right accent is written over non-palatalized vowels. A few canonically-stressed syllables also carry written accents. Although redundant for stress, canonical accents serve to distinguish non-palatalized vowels in monosyllables and ultimas from the undotted palatalized vowels at left (compare é̇ɹ [haˈja] *my/your/etc region* to é̇ɹ [ˈha.jə] *the region*).

## Dotless Palatalized Vowels in Modern Orthography

#### A. Undotted in ultimas only:

- Per Table 3, stressless final é̇ ò ù [i̠ u̠ a], or these followed by final ɔ, are written **ə ɛ ɒ ɹ**. Dotless spellings are used whether the vowel ending is epenthetic (ə̇ɹɹ [ˈandri], ɔ̇ɹ [ˈɪbdu]); an imperative marker (ə̇ɹɹ [ˈstɔjə]); represents an article (ə̇ɹɹ [ˈfratu], ɛ̇ɹɹ [ˈfratə], ɹ̇ɹɹ [ˈfratɔ]); or is simply part of the word (ə̇v̇ [ˈuṁu], ɔ̇ɹɹ [ˈestru]), ə̇é [ˈesi] \*, ɛ̇ɹɹ [ˈgastə]. Stressless monosyllables containing these four sounds follow the same convention: **ɛ̇** [kʰə], **ə̇** [i]. All other dotless vowel letters (ɪ ɹ ɹ ɹ) are non-palatalized and stressed when word-final: ɹ [ˈi], ɹ̇ɹ [vɛˈtɔ], ɹɹ [ˈɹɹ] (but see the next three rules for exceptions in the case of dotless u, where it is palatalized [u] not [ʊ]).
- Pronominal final ù (< ɹ [iʊ]) is written **ɹ**: ɹ̇v̇ɹ [anɔˈṁu] (< ɹ̇v̇v̇ɹ\*), ɹ̇v̇v̇v̇ [dɹɹˈṫu] (< ɹ̇v̇v̇v̇v̇\*), ɹ̇v̇v̇ [θɛˈju] (< ɹ̇v̇v̇v̇v̇v̇\*).
- Final ù as a marker of the perfect supine (which also follows a palatalized consonant or yodh) is written **ɹ**: ɹ̇v̇v̇v̇ [fwrˈżu], ɹ̇v̇v̇v̇ [mojˈju], ɹ̇v̇v̇v̇ [kapˈṫu].
- Final ù in indicative consonant-stem verbs is written **ɹ**: ɹ̇v̇ [du], ɹ̇v̇ [kru], ɹ̇v̇ [ʃu].

\* but words like **ə̇é**, **ə̇v̇v̇v̇** cannot be pronounced \*[ˈi.vi], \*[ˈtra.ji] because Scotian does not allow palatalized consonant/yodh + [i] sequences. The only possible pronunciations here are [ɹˈv̇ɛ], [traˈjɛ], with phonemic /ɛ/ and ultimate stress.

#### B. Undotted everywhere:

##### 1) Two palatalized vowels in hiatus:

- the sequence é̇i [i.ə] is written **ɛ̇i** (\*[i̠.a, i̠.ə] do not occur; [i.a] is written ɛ̇i) -- the sequence é̇ù [u.ə] is written **ɛ̇u** (\*[u̠.a, u̠.ə] do not occur; [u.a] is written ɛ̇u)
  - the sequence é̇ə [e.ə] is written **ə̇ə** (\*[ɛ̠.a, ɛ̠.ə] do not occur; [e.a] is written ɛ̇ə) -- the sequence é̇ó [o.ə] is written **ə̇o** (\*[ɔ̠.a, ɔ̠.ə] do not occur; [o.a] is written ɛ̇o)
- and so on. Marking nasality overrides dot conventions however. A sequence like [o.ɹ] (two palatalized sounds) is written ɹ̇o/ɹ̇v̇o, where only an overdot can prevent the reading [ɔ̠.ɹ̇v̇o.ɹ̇m].

##### 2) A high palatalized vowel followed by a glide:

- The sequence li [li] is written **li** (\*[li̠] does not occur). -- The sequence lù [lɹ] (uncommon in Scotian) is written **li** (\*[lɹ̇] does not occur).
- The sequence ɹi [ɹi] is written **ɹi** (\*[ɹi̠] does not occur). -- The sequence ɹù [ɹw] is written **ɹu** (\*[ɹẇ] does not occur).
- The sequence ɹi̠ [ɹi̠] is written **ɹi̠** (\*[ɹi̠̠] does not occur). -- The sequence ɹi̠ɹ [ɹi̠ɹ] (uncommon in Scotian) is written **ɹi̠** (\*[ɹi̠̠] does not occur).
- The sequence ɹi̠ɹ̇ [ɹi̠ɹ̇] is written **ɹi̠** (\*[ɹi̠̠] does not occur). -- The sequence ɹi̠ɹ̇v̇ [ɹi̠ɹ̇v̇] is written **ɹi̠** (\*[ɹi̠̠] does not occur).

Regardless of dot conventions, all vowels in non-canonical tonic syllables require the appropriate accent mark.

Order	Frontedness	Phoneme	Mutated Coda	Allophones <sup>1</sup>	Palatalized Phoneme	Palatalized Mutation	Palatalized Allophones <sup>1</sup>	Scotian Name	English Name <sup>2</sup>
1	Glottal	ɾ /h/			ɾ̺ /ç/			ɹɪɾ /hawt/	hawt
2	Velar	x /k/		[kʰ] [x]	x̺ /kʲ/		[ç]	ɹɛx /kaf/	kappa
3		ʌ /g/	ʌ /w/		--	--	ɪ /j/	·vɛʌ /gam:/	gamma
4		ʋ /w/			--	--	ɪ /j/	ʋɛʋ /waw/	waw
5		ɳ /ʁ/			ɳ̺ /ʁʲ/			ɹɪɳ /ʁst/	ust
6		ʉ /ʊ/			ʉ̺ /ʊʲ/			ɹɛʉ /ʊ'jat/	uyat
7		ɸ /ɒ/			ɸ̺ /ɒʲ/			ʋɛvɸ /o'mew/	omega
8		o /ɔ/			o̺ /ɔʲ/			xivo /ɔmix/	omicron
9		Palatal	ɪ /j/			--	--	ɪ /j/	ɹoɪ /joð/
10	ɪ̺ /jʲ/				ɪ̺ /iʲ/			vɪ /im/	im
11	ɪ̺ /iʲ/				ɪ̺ /iʲ/			ɹoɪ̺ /ɹjɔt/	iota
12	ɛ̺ /aʲ/				ɛ̺ /əʲ/			ɹɪɛ̺ /awf/	alpha
13	ɛ̺ /ɛʲ/				ɛ̺ /eʲ/			xɪɛ̺ /ejx/	epsilon
14	ɹ̺ /æʲ/				--	--		ɹɹ̺ /æð/	aedh
15	Alveopalatal	ɹ̺̺ /ʃ/			ɹ̺̺ /ʃʲ/		[ç]	ɹɪɹ̺̺ /ʃɪn/	shin
16		ɹ̺̺ /ʒ/	ʋ /w/		--	--	ɪ /j/	ʋɛɹ̺̺ /ʒew/	zhew
17	Alveolar	ɹ̺ /r/	ʋ /w/	[h] [ħ]	--	--	ɪ /j/	ʋoɹ̺ /rɔw/	rho
18		ɹ̺̺ /rʲ/			--	--	ɪ /j/	ɹɹ̺̺ /həjʃ/	raysh
19		ɹ̺̺ /sʲ/			ɹ̺̺ /sʲ/			vɛʌɹ̺̺ /sɛ'gə/	sigma
20		ɹ̺̺ /zʲ/			ɹ̺̺ /zʲ/			ðɛɹ̺̺ /zɛd/	zeta
21	Dental	ɹ̺̺ /t/		[tʰ]	ɹ̺̺ /tʲ/		[tʃ]	ɹoʋɹ̺̺ /tawθ/	tau
22		ð̺̺ /dʲ/			ð̺̺ /dʲ/		[dʒ]	ɹɪð̺̺ /dɛwt/	delta
23		ɹ̺̺ /n/		[ŋ]	ɹ̺̺ /nʲ/		[ɲ]	ɹɪʋɹ̺̺ /nuwn/	nu
24		ɹ̺̺ /l/	ʋ /w/	[lʰ]	--	--	ɪ /j/	əðɹ̺̺ /'labdi/	lambda
25		θ̺̺ /θʲ/			θ̺̺ /θʲ/			ɹɪθ̺̺ /θejt/	theta
26		ð̺̺ /ðʲ/			ð̺̺ /ðʲ/			ɹɪð̺̺ /ðajn/	dhayn
27	Labiodental	ɹ̺̺ /f/			ɹ̺̺ /fʲ/			ɹɪɹ̺̺ /fɔð/	fadh
28		ɹ̺̺ /v/			ɹ̺̺ /vʲ/			ɹɪɹ̺̺ /vejf/	veyf
29	Labial	ɹ̺̺ /p/		[pʰ]	ɹ̺̺ /pʲ/			ɹɪɹ̺̺ /pejʃ/	pi
30		ɹ̺̺ /b/			ɹ̺̺ /bʲ/			θɛɹ̺̺ /bəjθ/	beta
31		ɹ̺̺ /m/			ɹ̺̺ /mʲ/		[m̥]	vɪəv̺̺ /mejm/	mu

<sup>1</sup> See Consonant Inventory for details.

<sup>2</sup> English uses Greek names for all Scotian letters that have a counterpart, or near-counterpart, in the Greek alphabet. The remaining English names are transliterations from Scotian, themselves from Semitic in many cases.

<sup>3</sup> Word-final shin is written ɹ̺̺.

#### EXTRALITERALS

1	◌̣	Marks glottal liaison ([ʔ]-) before initial vowel	ɹɪɹ̺̺̣ ɹɪv	low dot
2	◌̣◌̣	Marks gemination of preceding consonant or long quantity of preceding vowel *	ɹɪð̺̺̣ ɹɪv	middle dot
	◌̣◌̣	Replaces initial homorganic C or V across word boundaries **		

#### NON-ROMAN PUNCTUATION

1	◌̣◌̣	Scotian comma	(-vɔx) ɹɪvɪɹ̺̺̣ ɹɪv	high dot
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#### MODIFIERS

1	◌̣̣	Marks palatalization	ɹɪɹ̺̺̣̣ ɹɪv	overdot
2	◌̣̣̣	Marks palatalization under ascending letter	ɹɪv̺̺̣̣ ɹɪv	underdot
3	◌̣̣̣̣	Marks non-canonical stress	ɹɪv̺̺̣̣̣̣ ɹɪv	right accent
4	◌̣̣̣̣̣	Marks non-canonical stress over palatalized vowel	ɹɪv̺̺̣̣̣̣̣ ɹɪv	left accent

\* Because vowel quantity is phonemic only across word boundaries in modern Scotian, interior vowel + middle dot sequences are not usually seen. One exception is in linguistic works, where a middle dot may be used to mark the schwa off-glide that, with many speakers, has replaced long vowel quantity in tonic syllables. This sound (◌̣̣̣) is not represented in standard orthography.

\*\* A pause in speech suppresses an initial middle dot in writing. Following any punctuation mark, homorganic initial letters are written in full (as they are when accented, or when ɹ̺̺ / v nasalizes either homorganic vowel). Similarly, the low dot is not written after punctuation marks since no glottal liaison occurs following a pause.

Scotian is written from right to left, with characters oriented so the left hand pulls the pen in making horizontal strokes. Any rightward strokes are simultaneously pulled downwards, or are rounded transitions or flourishes.

#### Character Origin

ɾ = mirrored Roman h	ɿ = inverted Roman r
x < Greek X but not always aspirated	ɿ = mirrored Roman r
Λ < Greek Γ rotated 90° clockwise	ϸ < Greek lunate sigma c
υ < Scotian u	ϣ < mirrored Greek ζ but simple fricative
ɴ < Scotian u	ɿ < mirrored Roman t
u = mirrored Roman u	δ < mirrored Greek δ
ϣ < right half of Greek ω	ɿ < initial stroke of Greek N
o = Greek o	ϣ < Greek Λ rotated 90° clockwise
l < Scotian l	ø < Greek Θ
ɿ < Scotian l	ɑ < mirrored Roman D
l = Greek l	ɿ < mirrored Roman p
ɸ = mirrored Roman a	ε < mirrored Greek B
ə = mirrored Roman e	ɿ < Roman p
ɾ = mirrored Greek η	ɿ < lower half of Greek B
z = mirrored Roman s but alveopalatal	v < middle strokes of Greek M
z = mirrored Roman z but alveopalatal	ɿ < Scotian z

Italics: Delta, theta and dhayn / δ ə ɑ usually take different shapes when italicized. ʒ ə ɑ are representative of most typefaces.

#### Character Height

4 ascenders: ɾ ɿ l δ  
 1 semi-ascender: ɿ  
 4 descenders: ɾ ɿ ϣ ɿ  
 1 semi-descender: ϣ  
all others x-height  
 -- 4 shorter than Roman: x ʌ ϣ ɿ (vs. k g l b)  
 -- 3 longer than Roman: ɾ ɿ ɿ (vs. æ w n)

#### Character Width

3 narrow: ɿ ɿ ɿ (+ extraliterals . · )  
 6 semi-narrow: ɿ ɿ ϣ ɿ ɿ ɿ  
all others standard width range  
 -- 6 narrower than Roman: ɿ ɿ ɿ ɿ ɿ ɿ (vs. w j/y s n p m)  
 -- 3 wider than Roman: x ϣ (vs. k l f)

#### Characters beginning on left

3: z ϣ ϣ

#### Characters beginning at middle top

2: o ə (alternatively ə may begin at middle left)

#### Standard Transliterations from Ancient Greek:

<u>Attic</u>	>	<u>Scotian</u>
ζ /zd/	>	ɿ /z/
η /ɛ:/	>	ə /ɛ/ or ɾ /æ/; -ə [ɛ:] if not assimilated
θ /tʰ/	>	ə /θ/ before C; ɾɿ [tʰ] before V
ξ /ks/	>	ɿ [ks], = [kə.s-] when word-initial
ρ /r/, r/	>	ɿ /r/ when initial; ɿ /r/ [h] [h̥] ∅ elsewhere
υ /y, y:/	>	ɿ /ɿ/ or i /i/
φ /pʰ/	>	ɿ /f/ before C; ɾɿ [pʰ] before V
χ /kʰ/	>	x /x/ or [k] before C; ɾx [kʰ] before V
ψ /ps/	>	ɿ [ps], = [pə.s-] when word-initial
ω /ɔ:/	>	o /ɔ/ or u /ɔ/; ·o [ɔ:] if not assimilated

#### Two-stroke Characters

5: x ɸ ɿ ɑ ɿ

#### Underdotted Characters (ascenders)

3: ɿ ɿ ɿ (all other palatalized letters are overdotted)

#### Digraphs

8: Nasalized vowels

Scotian  
Range: ED00 – ED8F

	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-A	-B	-C	-D	-E	-F
ED0-	ŋ	χ	Λ	ʉ	ɴ	ʊ	ɥ	o	l	ɹ	ɪ	ɛ	ə	ɹ	z	ɜ
ED1-	ɫ	ɾ	ʘ	ɸ	ɟ	ɔ̃	ɹ	ɹ	ə	ɹ	ɸ	ɛ	ɹ	ɹ	v	ɹ
ED2-	ŋ	χ	Λ	ʉ	ɴ	ʊ	ɥ	o	l	ɹ	ɪ	ɛ	ə	ɹ	z	ɜ
ED3-	ɫ	ɾ	ʘ	ɸ	ɟ	ɔ̃	ɹ	ɹ	ə	ɹ	ɸ	ɛ	ɹ	ɹ	v	ɹ
ED4-					ɴ	ʊ	ɥ	o		ɹ	ɪ	ɛ	ə	ɹ		
ED5-					ɴ	ʊ	ɥ	o		ɹ	ɪ	ɛ	ə	ɹ		
ED6-	.	·	..	?	half space				ɸ	ɸ	ɸ	ɸ	#	∞	∅	∅
ED7-	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
ED8-	◌̇	◌̈	◌̉	◌̊	◌̋	◌̌	◌̍	◌̎	◌̏	◌̐	◌̑	◌̒	◌̓	◌̔	◌̕	◌̖

## Scotian Alphabet

ED00	ɾ	SCOTIAN LETTER HAWT
ED01	χ	SCOTIAN LETTER KAPPA
ED02	ʌ	SCOTIAN LETTER GAMMA
ED03	ɹ	SCOTIAN LETTER WAW
ED04	ɴ	SCOTIAN LETTER UST
ED05	ɯ	SCOTIAN LETTER UYAT
ED06	μ	SCOTIAN LETTER OMEGA
ED07	ο	SCOTIAN LETTER OMICRON
ED08	ɹ	SCOTIAN LETTER YODH
ED09	ɹ	SCOTIAN LETTER IM
ED0A	ɹ	SCOTIAN LETTER IOTA
ED0B	ʁ	SCOTIAN LETTER ALPHA
ED0C	ϑ	SCOTIAN LETTER EPSILON
ED0D	ɾ	SCOTIAN LETTER AEDH
ED0E	ʀ	SCOTIAN LETTER SHIN
ED0F	ϑ	SCOTIAN LETTER ZHEW
ED10	ɹ	SCOTIAN LETTER RHO
ED11	ɹ	SCOTIAN LETTER RAYSH
ED12	ϑ	SCOTIAN LETTER SIGMA
ED13	ϑ	SCOTIAN LETTER ZETA
ED14	ɹ	SCOTIAN LETTER TAU
ED15	ϑ	SCOTIAN LETTER DELTA
ED16	ɹ	SCOTIAN LETTER NU
ED17	ϑ	SCOTIAN LETTER LAMBDA
ED18	ϑ	SCOTIAN LETTER THETA
ED19	ϑ	SCOTIAN LETTER DHAYN
ED1A	ϑ	SCOTIAN LETTER FADH
ED1B	ϑ	SCOTIAN LETTER VEYF
ED1C	ϑ	SCOTIAN LETTER PI
ED1D	ϑ	SCOTIAN LETTER BETA
ED1E	ϑ	SCOTIAN LETTER MU
ED1F	ϑ	SCOTIAN FINAL SHIN

• word-final form of ED0E

## Dotted Scotian Letters

ED20	ɾ̇	PALATALIZED SCOTIAN HAWT
ED21	χ̇	PALATALIZED SCOTIAN KAPPA
ED22	ʌ̇	<not used in Scotian>
ED23	ɹ̇	<sample glyph>
ED24	ɴ̇	PALATALIZED SCOTIAN UST
ED25	ɯ̇	PALATALIZED SCOTIAN UYAT
ED26	μ̇	PALATALIZED SCOTIAN OMEGA
ED27	ο̇	PALATALIZED SCOTIAN OMICRON
ED28	ɹ̇	<sample glyph>
ED29	ɹ̇	PALATALIZED SCOTIAN IM
ED2A	ɹ̇	PALATALIZED SCOTIAN IOTA
ED2B	ʁ̇	PALATALIZED SCOTIAN ALPHA
ED2C	ϑ̇	PALATALIZED SCOTIAN EPSILON
ED2D	ɾ̇	<sample glyph>
ED2E	ʀ̇	PALATALIZED SCOTIAN SHIN
ED2F	ϑ̇	<not used in Scotian>
ED30	ɹ̇	<not used in Scotian>
ED31	ɹ̇	<not used in Scotian>
ED32	ϑ̇	PALATALIZED SCOTIAN SIGMA
ED33	ϑ̇	PALATALIZED SCOTIAN ZETA
ED34	ɹ̇	PALATALIZED SCOTIAN TAU
ED35	ϑ̇	PALATALIZED SCOTIAN DELTA
ED36	ɹ̇	PALATALIZED SCOTIAN NU
ED37	ϑ̇	<not used in Scotian>
ED38	ϑ̇	PALATALIZED SCOTIAN THETA
ED39	ϑ̇	PALATALIZED SCOTIAN DHAYN
ED3A	ϑ̇	PALATALIZED SCOTIAN FADH
ED3B	ϑ̇	PALATALIZED SCOTIAN VEYF
ED3C	ϑ̇	PALATALIZED SCOTIAN PI
ED3D	ϑ̇	PALATALIZED SCOTIAN BETA
ED3E	ϑ̇	PALATALIZED SCOTIAN MU
ED3F	ϑ̇	PALATALIZED SCOTIAN FINAL SHIN

• word-final form of ED2E

**Accented Scotian Letters**

ED40	<reserved>
ED41	<reserved>
ED42	<reserved>
ED43	<reserved>
ED44	ń SCOTIAN UST WITH RIGHT ACCENT
ED45	ú SCOTIAN UYAT WITH RIGHT ACCENT
ED46	ů SCOTIAN OMEGA WITH RIGHT ACCENT
ED47	ó SCOTIAN OMICRON WITH RIGHT ACCENT
ED48	<reserved>
ED49	í SCOTIAN IM WITH RIGHT ACCENT
ED4A	í SCOTIAN IOTA WITH RIGHT ACCENT
ED4B	ǎ SCOTIAN ALPHA WITH RIGHT ACCENT
ED4C	é SCOTIAN EPSILON WITH RIGHT ACCENT
ED4D	ř SCOTIAN AEDH WITH RIGHT ACCENT
ED4E	<reserved>
ED4F	<reserved>

**Scotian Extraliterals**

ED60	· SCOTIAN MIDDLE DOT
◌◌	• marks gemination of preceding consonant, formerly long quantity of preceding vowel
◌◌	• across word boundaries, marks gemination or long vowel quantity and replaces word-initial letter

**Scotian Punctuation**

ED61	· SCOTIAN HIGH DOT
◌◌	• word-finally = comma
◌◌	• word-initially may mark noun as proper
ED62	.. SCOTIAN SEMICOLON
ED63	‡ SCOTIAN QUESTION MARK
ED64	◌◌ HALF-SPACE
ED65-7	<reserved>

**Accented Scotian Letters (continued)**

ED50	<reserved>
ED51	<reserved>
ED52	<reserved>
ED53	<reserved>
ED54	̀ń SCOTIAN UST WITH LEFT ACCENT
ED55	̀ú SCOTIAN UYAT WITH LEFT ACCENT
ED56	̀ů SCOTIAN OMEGA WITH LEFT ACCENT
ED57	̀ó SCOTIAN OMICRON WITH LEFT ACCENT
ED58	<reserved>
ED59	̀í SCOTIAN IM WITH LEFT ACCENT
ED5A	̀í SCOTIAN IOTA WITH LEFT ACCENT
ED5B	̀ǎ SCOTIAN ALPHA WITH LEFT ACCENT
ED5C	̀é SCOTIAN EPSILON WITH LEFT ACCENT
ED5D	̀ř <sample glyph>
ED5E	<reserved>
ED5F	<reserved>

**Symbols**

ED68-E	MISCELLANEOUS SYMBOLS
ED6F	⋈ SCOTIAN CURRENCY SYMBOL (UE / Unit of Exchange)

**Numerals**

ED70-9	SCOTIAN DIGITS 0 - 9
ED7A-F	OLD SCOTIAN BASE-16 DIGITS 10 - 15

**Scotian Modifiers**

ED80	◌◌ SCOTIAN OVERDOT
	• marks palatalization
ED81	<reserved>
ED82	◌◌ SCOTIAN UNDERDOT
	• marks palatalization under ascenders
ED83-F	<reserved>

## Automated Collation

1	ŕ	ed00	35	ḥ	ed5b	69	ȳ	ed3c
2	ŕ̇	ed20	36	ə	ed0c	70	ɖ	ed1d
3	χ	ed01	37	ə̇	ed2c	71	ɖ̇	ed3d
4	ẏ	ed21	38	é	ed4c	72	v	ed1e
5	ʌ	ed02	39	è	ed5c	73	ṽ	ed3e
6	ʊ	ed03	40	ŕ	ed0d		◌̇	ed60
7	ɴ	ed04	41	ŕ́	ed4d			Collated by preceding character's
8	ṅ	ed24	42	z	ed0e			codepoint. Word-initial ed60
9	ṅ́	ed44	43	ƶ	ed1f			and 002e (.) are not used in
10	ṅ̀	ed54	44	ž	ed2e			collation.
11	ʉ	ed05	45	ž̇	ed3f			
12	ÿ	ed25	46	ż	ed0f			
13	ú	ed45	47	ɹ	ed10			
14	ù	ed55	48	ɽ	ed11			
15	μ	ed06	49	ƿ	ed12			
16	ρ̇	ed26	50	ı̇	ed32			
17	ρ́	ed46	51	Ϛ	ed13			
18	ρ̀	ed56	52	ϛ̇	ed33			
19	o	ed07	53	ɿ	ed14			
20	ò	ed27	54	ɿ̇	ed34			
21	ó	ed47	55	ø	ed15			
22	ò	ed57	56	ø̇	ed35			
23	l	ed08	57	l̇	ed16			
24	ɹ	ed09	58	ı̇	ed36			
25	ı̇	ed29	59	ɹ̇	ed17			
26	ı́	ed49	60	ø	ed18			
27	ı̀	ed59	61	ə̇	ed38			
28	ı	ed0a	62	ɹ̇	ed19			
29	ı̇	ed2a	63	ɹ̇	ed39			
30	ı́	ed4a	64	ɿ	ed1a			
31	ı̀	ed5a	65	ı̇	ed3a			
32	ɶ	ed0b	66	ε	ed1b			
33	ḥ	ed2b	67	é̇	ed3b			
34	ḥ́	ed4b	68	ɿ	ed1c			

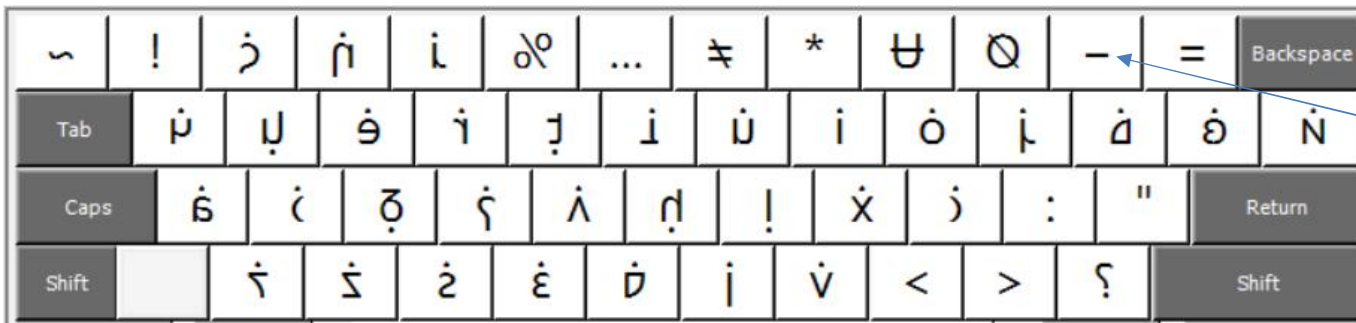
### Not used in Scotian

ʌ ed22  
 ẏ ed2f  
 ı̇ ed30  
 ı̇ ed31  
 ı̇ ed37

### Not used anywhere

(sample glyphs)  
 ı̇ ed23  
 ı̇ ed28  
 ı̇ ed2d  
 ı̇ ed5d



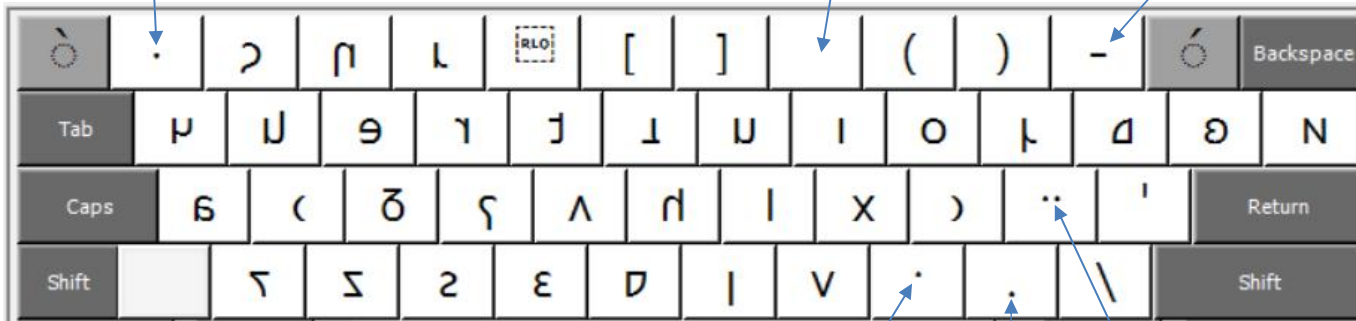


dash

gemination/long quantity/initial repeat

half space

hyphen



comma

period; glottal liaison

semicolon

ACUTE deadkey +

vowel = accented vowel

space = ˘

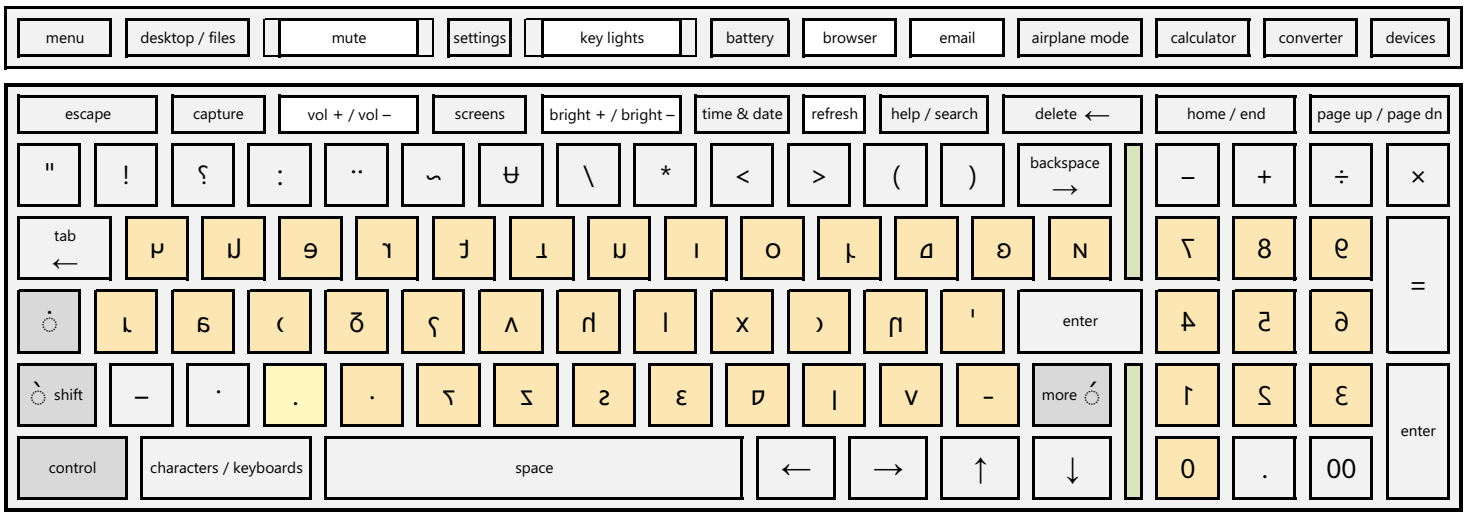
acute in isolation = 00b4

GRAVE deadkey +

vowel = accented vowel

space = ˘

grave in isolation = 0060



**Key Types**

- Toggle Keys:** Keys with labels divided by a slash (eg "desktop / files") have two functions each. Press the left side for one function and the right side for the other.
- White Keys:** These keys are white for quick identification in dim light and are stacked by similarity in function (mute~sound; key lights~screen brightness; webpage/mailbox~refresh).
- Orange-Tinted Keys:** These are letter, extraliteral and numeral keys (the low dot also functions as a punctuation mark; its key is light orange). Keys display other characters when **shift** or **more** deadkey is pressed.
- Dark Silver Keys:** These are deadkeys (see following).

**Deadkeys**

Press a deadkey once (no need to hold down), then press second key as appropriate for: A dotted letter or base-16 numeral (◌̇ deadkey, which is caps lock key in other keyboard layouts); a left-accented letter, shift character or superscript numeral (**shift** deadkey); a control command (**control** deadkey); a right-accented letter, more character or subscript numeral (**more** deadkey). Deadkeys are so named because pressing them has no effect until a second key is pressed. If a deadkey is pressed in error, press **escape** before the next character to break any deadkey sequence.

-- You can also hold down the ◌̇ deadkey and then press other keys in succession to produce a series of dotted letters or base-16 numerals.

**Key Illumination**

- White: When **key lights** key is pressed, key labels illuminate in white for visibility in the dark (on white keys, key light illumination is blue). Otherwise characters are displayed in black.
- Green: Whether key lights are on or off, key labels illuminate in GREEN when: Volume is muted (**mute** text); computer is running on battery power (**battery** text); browser/email/calculator/converter is open (respective text); airplane mode is on (**airplane mode** text); a device is connected (**devices** text); caps lock is on (**CL** text, if present). After pressing a deadkey, the deadkey label illuminates in green until the target key (or **escape**) is pressed. If more than one keyboard layout is installed, the name of the active keyboard also lights up in green underneath **characters/keyboards** label if it is not the default system layout. Lastly, whenever reverse text direction is enabled (RTL in LTR keyboard layouts, LTR in RTL layouts – see Miscellaneous Function 3 below), the respective ← → key illuminates in green.
- Red: When battery charge is low or internet connection is lost, key labels for **battery** (if on battery power), **browser** (if open) and **email** (if open) change from green to RED (additionally, when internet connection is lost or otherwise not available, the vertical green signal-speed and signal-strength bars de-illuminate). When a character on the keyboard is not supported by the font in use, that character also lights up in red.

**Miscellaneous Functions**

- Press the **control** deadkey twice in succession to open the Control Command menu. This menu lists key mapping for all control commands and allows editing.
- To produce a superscript or subscript letter, press **control** deadkey then the respective ↑ or ↓ key, then the letter. This also works for numerals, but using different shift states as described above is faster. To produce a super-/subscript base-16 numeral (10-15), press **shift** or **more** followed by ◌̇ deadkey, then 0-5 key.
- In a RTL script such as Scotian, you can embed LTR text anywhere within a cell or line of text by pressing **control** deadkey then → key at the point you want LTR text to begin. Text will then proceed in LTR direction (regardless of script, character orientation, font or line alignment) until **control** + ← key is pressed to resume RTL direction. These arrow key sequences work identically in LTR keyboard layouts.
- Pressing either side of the **characters/keyboards** key also opens a **Font** submenu so other fonts can be selected more easily than using the application's menu. If no application is open, the Font submenu will show only system fonts.
- In non-roman keyboard layouts, pressing either side of the **characters/keyboards** key twice in succession displays roman characters (including @) so email/website addresses can be typed quickly.
- Keyboard automatically produces >/> (final shin) when a space or punctuation mark is typed after z/ž (non-final shin). You can also press **shift** before z to produce ž, and press **more** before z to produce ž̇.
- Keyboard automatically produces ... (ellipsis) when three consecutive periods (low dots) are typed instead of **more** + low dot key.
- Pressing **shift** before the dash key produces a space before and after the dash to minimize keystrokes.
- If two identical alphabetic characters are typed in succession or with a space between them, keyboard will automatically replace the second with with · (middle dot) according to spellcheck rules.
- If two non-identical vowel letters are typed with a space between them, keyboard will automatically add . (low dot) before the second according to spellcheck rules.

**Operating System**

The illuminated multiscript Clean<sup>®</sup> keyboard (shown above in Scotian layout) is standard on machines running Clean OS<sup>®</sup>, but can be mapped to include the functions of any key unique to Windows, Linux or Mac keyboards when paired to machines running those operating systems.

4096 em square	character width	/16	total width	/16	kerning, % total width
ı	1600.00	100.00	2224.00	139.00	28.06%
x	1776.00	111.00	1888.00	118.00	5.93%
Λ	1856.00	116.00	1952.00	122.00	4.92%
ı	1600.00	100.00	2224.00	139.00	28.06%
N	1728.00	108.00	2400.00	150.00	28.00%
u	1600.00	100.00	2224.00	139.00	28.06%
μ	1600.00	100.00	2128.00	133.00	24.81%
o	1984.00	124.00	2368.00	148.00	16.22%
ı	320.00	20.00	992.00	62.00	67.74%
ı	1440.00	90.00	1632.00	102.00	11.76%
ı	320.00	20.00	992.00	62.00	67.74%
6	1600.00	100.00	2080.00	130.00	23.08%
ə	1760.00	110.00	2144.00	134.00	17.91%
ı	1600.00	100.00	2224.00	139.00	28.06%
z	1312.00	82.00	1760.00	110.00	25.45%
Σ	1568.00	98.00	1760.00	110.00	10.91%
L	1056.00	66.00	1456.00	91.00	27.47%
ı	1056.00	66.00	1456.00	91.00	27.47%
ç	896.00	56.00	1368.00	85.50	34.50%
ç	1568.00	98.00	1760.00	110.00	10.91%
j	1152.00	72.00	1536.00	96.00	25.00%
ö	1808.00	113.00	2192.00	137.00	17.52%
ı	320.00	20.00	992.00	62.00	67.74%
ç	896.00	56.00	1368.00	85.50	34.50%
ø	1856.00	116.00	2336.00	146.00	20.55%
d	1600.00	100.00	2160.00	135.00	25.93%
ç	1408.00	88.00	1760.00	110.00	20.00%
ε	1344.00	84.00	1784.00	111.50	24.66%
ı	1120.00	70.00	1504.00	94.00	25.53%
ø	1600.00	100.00	2160.00	135.00	25.93%
v	1856.00	116.00	1952.00	122.00	4.92%
ç	1600.00	100.00	1920.00	120.00	16.67%
average	1400.00	87.50	1834.25	114.64	25.81%

space 1120.00 70.00

	/16	/16		/16	/16
win ascent	4096.00	256.00	kerning from:		
ascender	2752.00	172.00	full vertical stroke	336.00	21.00
x height (body)	2048.00	128.00	3/4 vertical stroke	288.00	18.00
rounding above/below body	48.00	3.00	< 3/4 vertical stroke	224.00	14.00
descender	-704.00	44.00	rounded stroke	192.00	12.00
win descent	-1024.00	64.00	horizontal stroke	48-96	3-6
total line span	5120.00	320.00	angled stroke	64.00	4.00
line gap	0				
ascender or descender length past body	704.00	44.00			
ascender or descender span	2752.00	172.00			
ascender to descender span	3456.00	216.00			
ascender-descender span to total line span	67.50%				
body to total win span	40.00%				
ascender or descender to total win span	53.75%				
span outside body to body height	34.38%				
vertical stroke weight	320.00	20.00			
horizontal stroke weight	280.00	17.50			
ratio horizontal to vertical weight	87.50%				
	(7/8)				
dot diameter	448.00	28.00			
top of dot height	2976.00	186.00			
distance bottom of dot to body	480.00	30.00			
distance to rounded body	432.00	27.00			
accent span, x axis	896.00	56.00			
accent span, y axis	768.00	48.00			
top of accent height	3296.00	206.00			
distance bottom of accent to body	480.00	30.00			
distance to rounded body	432.00	27.00			





i'treɟ d-ɪstu bɪ sew, kʰ-i'sakru nɔ'maw. kʰə vɛ̃ ɟijaw, kʰ-i'jat vɔ'tʰaw, bɪ 'ʔɔrat kʰo'ɪ bɪ se'law. hɔ'diə lɛɟ da:-t'tʰɛɟ hɔ'dij, ɪs lɛɟ pɔɔstə dɪvɪ'diɛɟ kʰo'ɪ, dæ lɛɟ dɛ'ved, pɔɔstɛɟ. ɪs ɛɟ uw ligə lɪ tʰɛ'dad, s'ɛd ɛɟ livvə sɪ mə'lad. um'ɯ sɪ'da sə jɪ'daw dɪ ɟijə wɪ dɪnə wɪ vɪrə. a'mɛn.

(iɔɯl əoɟ ɸeɯgəɯ nɔɟ  
ɔ̃|ɪɟ|ɛ ɟɯgɯgɯ  
ɪə·ɟɪ)ɯ ɸnəgəɯgəɯ  
(ɛ)ɱɛɔ̃ |oɟɪɛɔ̃ ɸeɯgəɯgəɯ ɟɯgəɯgəɯ  
ɛɔ̃ɔ̃ɛv ɟgəɸeɯɟɪ  
ɱəɪoɟ-ɛɱɛɔ̃ <nɔɟɟɯ-ɟɯgɯgəɯ

.ɟɯgəɯgəɯgəɯ ɟeɯɸeɯɟɪ "ɟɯgəɯ ɟɯgɯgəɯgəɯgəɯgəɯ ɟgəɯgəɯ ɟɯgəɯgəɯ"

.|õə)əɟɪ ɱɛɔ̃ɛɯ "ɛɪ·voɟiɔ̃ɔ̃ɔ̃ɔ̃ɔ̃ oɔ̃ɱɔ̃ ɛɪ"

"Я буду господином мира", сказал Наполеон.