

Keeping it SMOL

From a simple character set to a universal linguistic space

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Further assistance

More about the publications with the suffix (JTH) in German (DE) and English (EN) is documented on the Internet at <http://github.com/scifiltr/>.

Prefix	Explanation
4E	Forever (Archive)
BB	Beige Book
CC	Carbon Copy (Artifact)
DIY	MathDIY Syntax
SF	Science-Fiction
SM	Smart Method (SMOL)
MT	MusicTypewriter
XL	Extralarge & Literary

Keeping it SMOL

From a simple character set to a universal linguistic space

- T2Hue (#hexvalue)
- NewMorse (dit, dah, doh)
- VisualBraille (9-dot)
- MusicTypewriter for Piano (consonantal)
- Binary Encoding (natural)
- QuantumScript (Bi-Binary Encoding)
- Numbr Kies (algebraic / numeric fractions)
- under construction: Collaborative Sign Language (CSL+)

1.0. TALK TO HUE

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

The abbreviation for 'talk to you' known as TTY from Short Message Services (SMS) becomes T2Hue. This SMOL version notes Basic Latin Alphabet and its character set in an individual color value by using #hexvalue.

2 Hue charset is created in vertical barcode. Because of the vertical arrangement, it is easier to derive a formation rule. The scalable vector glyphs are not compatible with a barcode reader or a font. Prefer own #hexvalue if you like. Pay attention to a formation rule that corresponds to the generally valid color space.

Use international flags as a technical terminus or as a dialectical Ideogrammar, which are not part of the colored barcode, yet. Such could highlight geocoding or serve as vowel indications.

Each hue represents as secure web fonts (#hexvalue) and scalable vector graphic (SVG). The user compose more without writing less. Colors and textures build a unique Mosaic. T2Hue transforms any text into painting or artwork – the really only Wordart!

If you had now enough multicolored cubes that form a stand-alone layout set for scrabble game or abacus you understand that language can also be learned through play. You can be artistically motivated to do this.

Law of arrangement starts with valid color space. For RGB we match Red:R, Lime:L, and Blue:B. From CMYK we match CyanBlue:C, Magenta:M, Yellow:Y and Black:K. Color value from RYB forms Red/Yellow to Orange:O, Yellow/Blue to Green:G and Red/Blue to Purple:P.

With the help of keys we derive the rest of the character set. The hexvalue #000000 (Black) for big letter K and hexvalue #FFFFFF (White) for small letter k are used as keys. The hexvalue #808080 (Grey) for # (Number Sign) is used as key. A preceded # with hexvalue for Letters A to J build Numbers 0 to 9.

The male ordinal indicator (black/white: #000000, #FFFFFF) used as ALT-key (^:ALT-J). The female ordinal indicator (white/black: #FFFFFF, #000000) used as ALT-SHIFT-key (^:ALT-H). The assignment of the ordinal indicators coincides with my initials. So that I can immortalize myself as the author of the work at any time.

The rest of the Basic Latin is a result of preceding keys as well as cloudiness and lightening. Example color mixing: Orange/Black = WoodBrown (Letter W), Red/White = Tomato (Letter T), Grey/White = Quicksilver (Letter Q) and so on. Pay attention to individual color combinations.

Any punctuation need preceded #hexvalue known as keys for equivalent keyboard level: SHIFT with digits and punctuation and ALT and ALT-SHIFT with letters expressed with its #hexvalues. They can be easily distinguished from letters, as they require more colors on the equivalent format (glyph) than with upper and lower case.

The color spectrum was designed as small and memorable as possible, so some punctuation and letters might have mixed or separated #hexvalues. Download a colored font that is created with SMOL runicons in Scalable Vector Graphic (SVG) under repository LEFT4E1 and folder [T2Hue on GitHub](#).

1.1. TALK TO HUE

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KEY	SHIFT	ALT	ALT SHIFT	T2Hue by #hexvalues				T2Hue by glyphs			
01	02	03	04	01	02	03	04	01	02	03	04
^	°	"	"	#808080, #fffffff #000000	#808080, #fffffff #000000	#000000, #fffffff, #808080, #00ffff, #00ffff, #0000ff #8a2be2	#fffffff, #000000, #808080, #8a2be2	Grey Zone	Shadow		
1	!	i	¬	#808080, #0000ff	#fffffff, #8a2be2	#000000, #fffffff, #808080, #8a2be2	#fffffff, #000000, #fffffff, #8a2be2				
2	"	"	"	#808080, #00ffff, #0000ff	#fffffff, #00ffff, #8a2be2	#000000, #fffffff, #808080, #00ffff, #00ffff, #0000ff #8a2be2	#fffffff, #000000, #fffffff, #8a2be2				
3	§	¶	#	#808080, #8b008b	#fffffff, #008b8b	#000000, #fffffff, #808080	#808080				Grey (Key)
4	\$	¢	£	#808080, #228b22	#fffffff, #2e8b57	#000000, #fffffff, #808080, #228b22	#fffffff, #000000, #fffffff, 2e8b57				
5	%	[fi	#808080, #b22222	#fffffff, #cd5c5c	#000000, #fffffff, #808080, #b22222	#fffffff, #000000, #fffffff, #cd5c5c				
6	&]	^	#808080, #008000	#fffffff, #adff2f	#000000, #fffffff, #808080, #008000	#fffffff, #000000, #fffffff, #adff2f				
7	/		\	#808080, #ffff00, #000000	#fffffff, #000000, #ffff00	#000000, #fffffff, #808080, #ffff00, #000000	#fffffff, #000000, #fffffff, #000000, #ffff00				
8	({	~	#808080, #cd5c5c, #ffd700	#fffffff, #ffd700, #cd5c5c	#000000, #fffffff, #808080, #cd5c5c	#fffffff, #000000, #fffffff, #ffd700, #cd5c5c				
9)	}	•	#808080, #ffd700, #4b0082	#fffffff, #4b0082, #ffd700	#000000, #fffffff, #808080, #ffd700, #4b0082	#fffffff, #000000, #fffffff, #4b0082, #ffd700				
0	=	≠	-	#808080, #00ffff	#fffffff, #7ffffd4	#000000, #fffffff, #808080, #00ffff	#fffffff, #000000, #fffffff, #7ffffd4				
ß	?	¿	-	#808080, #87ceeb	#808080, #4682b4	#000000, #fffffff, #808080, #87ceeb	#fffffff, #000000, #808080, #4682b4				
,	'	'	°	#808080, #32cd32	#808080, #00ff00	#000000, #fffffff, #808080, #32cd32	#808080, #000000				Shadow

1.2. TALK TO HUE

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KEY	SHIFT	ALT	ALT SHIFT	T2Hue by #hexvalues				T2Hue by glyphs			
				01	02	03	04	01	02	03	04
q	Q	«	»	#d3d3d3	#c0c0c0	#000000, #ffffff, #d3d3d3	#ffffff, #000000, #c0c0c0	QuickSilver	QuickSilverDark (Silver)		
w	W	Σ	„	#f5deb3	#a52a2a	#000000, #ffffff, #f5deb3	#ffffff, #000000, #a52a2a	WheatBrown (OrangeBlack-Light)	WoodBrown (OrangeBlack-Dark)		
e	E	€	%	#2e8b57	#228b22	#000000, #ffffff, #2e8b57	#ffffff, #000000, #228b22	Evergreen (SeaGreen)	Evergreen (ForrestGreen)		
r	R	®	,	#ff6347	#ff0000	#000000, #ffffff, #ff6347	#ffffff, #000000, #ff0000	RedOrange (Tomato)	Red		
t	T	+	‴	#d2b48c	#40e0d0	#000000, #ffffff, #d2b48c	#ffffff, #000000, #40e0d0	Tan (OrangeBlack-Medium)	Turquoise		
z	Z	Ω	ˇ	#008000, #ffff00	#ffff00, #008000	#000000, #ffffff, #008000, #ffff00	#ffffff, #000000, #ffff00, #008000	LemonTree (Green + Yellow)	LemonTree (Yellow + Green)		
u	U	---	Á	#da70d6, #0000ff	#ee82ee, #0000ff	#000000, #ffffff, #da70d6, #0000ff	#ffffff, #000000, #ee82ee, #0000ff	UltraViolettRed (DarkOrchid)	UltraViolett (DarkViolett)		
i	I	/	Û	#ffd700, #cd5c5c	#cd5c5c, #ffd700	#000000, #ffffff, #ffd700, #cd5c5c	#ffffff, #000000, #cd5c5c, #ffd700	Iridaceae Iris (Gold + IndianRed)	Iridaceae Iris (IndianRed + Gold)		
o	O	ø	Ø	#ff4500	#ffa500	#000000, #ffffff, #ff4500	#ffffff, #000000, #ffa500	OrangeRed	Orange		
p	P	π	Π	#dda0dd	#800080	#000000, #ffffff, #dda0dd	#ffffff, #000000, #800080	PurpleLight (Plum)	Purple		
ü	Ü	•	◦	#da70d6, #0000ff	#ee82ee, #0000ff	#ffffff, #000000, #ffffff, #4b0082, #ffd700	#808080, #000000				
+	*	±	apple	#808080, #ff95ca	#808080, #ff00ff	#000000, #ffffff, #808080, #ff95ca	#ffffff, #000000, #808080, ff00ff				

1.3. TALK TO HUE

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	T2Hue by #hexvalues				T2Hue by glyphs			
01	02	03	04	01	02	03	04	01	02	03	04
a	A	å	Å	#7ffd4	#00ffff	#000000, #ffffff, #7ffd4	#ffffff, #000000, #00ffff	Aquamarine	Aqua (Cyan)		
s	S	,	í	#87ceeb	#4682b4	#000000, #ffffff, #87ceeb	#ffffff, #000000, #4682b4	SkyBlue	SkyBlueDark (SteelBlue)		
d	D	ð	TM	#008b8b	#8b008b	#000000, #ffffff, #008b8b	#ffffff, #000000, #8b008b	DarkCyan	DarkMagenta (DarkPurple)		
f	F	f	í	#cd5c5c	#b22222	#000000, #ffffff, #cd5c5c	#ffffff, #000000, #b22222	FireBrickLight RedBrownLight	FireBrick (RedBrown)		
g	G	©	í	#adff2f	#008000	#000000, #ffffff, #adff2f	#ffffff, #000000, #008000	GreenYellow	Green		
h	H	a	ó	#000000, #ffff00	#ffff00, #000000	#ffffff, #000000	#ffffff, #000000, #ffff00, #000000	HoneyMoon	HoneyBee	ALT-SHIFT (key)	
j	J		í	#4b0082, #ffd700	#ffd700, #4b0082	#000000, #ffffff	#ffffff, #000000, #ffd700, #4b0082	Juno Iris (Indigo + Gold)	Juno Iris (Gold + Indigo)	ALT (key)	
k	K	Δ	^	#ffffff	#000000	#000000, #ffffff, #ffffff	#ffffff, #000000, #000000	White (Key)	Black (Key)	Zebra	Crossing
l	L	@	fl	#32cd32	#00ff00	#000000, #ffffff, #32cd32	#ffffff, #000000, #00ff00	LimeGreen	Lime		Grey Zone
ö	Ö	œ	Œ	#ff4500	#ffa500	#000000, #ffffff, #ff4500	#ffffff, #000000, #ffa500	OrangeRed	Orange		
ä	Ä	æ	Æ	#7ffd4	#00ffff	#000000, #ffffff, #7ffd4	#ffffff, #000000, #00ffff	Aquamarine	Aqua (Cyan)		
#	:	:	:	#808080	#808080, #191970	#000000, #ffffff, #808080, #191970	#ffffff, #000000, #808080, #191970	Grey (Key)			

1.4. TALK TO HUE

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	T2Hue by <u>#hexvalues</u>				T2Hue by <u>glyphs</u>			
01	02	03	04	01	02	03	04	01	02	03	04
<	>	≤	≥	#808080, #ff4500	#808080, #ffa500	#000000, #ffffff, #808080, #ff4500	#ffffff, #000000, #808080, #ffa500				
y	Y	¥	‡	#9acd32	#ffff00	#000000, #ffffff, #9acd32	#ffffff, #000000, #ffff00	YellowGreen	Yellow		
x	X	≈	Ù	#a52a2a, #9acd32	#9acd32, #a52a2a	#000000, #ffffff, #a52a2a, #9acd32	#ffffff, #000000, #9acd32, #a52a2a	OliveTree (WoodBrown + YellowGreen)	OliveTree (YellowGreen + WoodBrown)		
c	C	ç	Ç	#00ffff, #8a2be2	#00ffff, #0000ff	#000000, #ffffff, #00ffff, #8a2be2	#ffffff, #000000, #00ffff, #0000ff	Cyan BlueViolett	Cyan Blue		
v	V	√	◊	#da70d6	#ee82ee	#000000, #ffffff, #da70d6	#ffffff, #000000, #ee82ee	ViolettRed (Orchid)	Violett		
b	B	ƒ	<	#8a2be2	#0000ff	#000000, #ffffff, #8a2be2	#ffffff, #000000, #0000ff	BlueViolett	Blue		
n	N	~	>	#191970, #ff00ff	#191970, #ff4500	#000000, #ffffff, #191970, #ff00ff	#ffffff, #000000, #191970, #ff4500	NightshiftOff (MidnightBlue + Magenta)	NightshiftOn (MidnightBlue + OrangeRed)		
m	M	μ	~	#ff95ca	#ff00ff	#000000, #ffffff, #ff95ca	#ffffff, #000000, #ff00ff	MagentaLight (Pink)	Magenta		
,	;	∞	,	#808080, #ddaa0dd	#808080, #800080	#000000, #ffffff, #808080, #ddaa0dd	#ffffff, #000000, #808080, #800080				
:	...	÷	÷	#808080, #d3d3d3	#808080, c0c0c0	#000000, #ffffff, #808080, #d3d3d3	#ffffff, #000000, #808080, #c0c0c0				
-	-	—	—	#808080, #ff6347	#808080, #ff0000	#000000, #ffffff, #808080, #ff6347	#ffffff, #000000, #808080, #ff0000				

2.0.1. NewMorse

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

For the alphabetical arrangement we use lower (black dit, dah, doh) and upper cases (inverted lower cases). We follow the number of characters on a smart keyboard. There are up to 176 glyphs on 48 keys available. The traffic signs have versatile functions whereby NewMorse get a formal grammar and allows variant spelling.

Read the code from the left to right from column to column. The glyphs use squares (known as dot or dit) and vertical rectangles (known as dash or dah) mostly. Sometimes horizontal rectangles (known as doh with same length as dah) instead of dah to highlight a different layout without breaking the law of arrangement.

Gap between each letter is one dit long. Each graphic letter has maximal permissible four marks in two columns to distinguish them from punctuation (five marks) and grammatical exceptions that needs a preceded traffic signs. Letter-spacing is not needed, but you should press the spacebar to divide words and sentences.

In the lower case, we switch the black layout to an inverted glyph. The code makes no audible difference phonetically and in the law of arrangement of dit and dah or doh. We also avoid cultural differences, so there are no phonograms or vocal letters. We want to write in a consistent language, but keep our local dialects and mother pronunciation, even if we do not distinguish them in writing!

No num-lock keying: Gap between marks is one dit long, too. Letter-spacing or preceded traffic sign not needed. Each numerical letter has only five marks and three columns. So the difference between graphic and numerical letters is unmistakable.

First set of punctuation are triggered by holding the SHIFT-key and pressing the numeric 0, 1 to 3 and 5 to 9 on a QWERTZ-keyboard. Gaps and letter-spacing following the same rules. We make no international difference in the use of the quotes (SHIFT-2: „ and ALT-/ALT-SHIFT-Q: « / »). The Ampersand (&) not need a new layout because of the punctuation Plus (+). Plus is needed with Numerics and Ampersand with Letters. To get a mark for 'Promille' press ALT-SHIFT-E after typing the equivalent 'Percent'. These marks also differs in layout.

In v3 of NewMorse we have an accent Circumflex by redesigning certain traffic signs (variant spelling). But we don't use it as a phonogram. For accent acute (é) and grade (è) we use the same layout for lower case e. Sometimes we combine glyphs with preceded traffic signs (ALT: 6-dah and ALT-SHIFT: 9-dit) that I had invented to build currency sign (SHIFT-4: \$; ALT-E: € and so on) or special characters.

2.0.2. NewMorse

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

In the most cases we use the SHIFT and ALT keying to trigger hidden characters (glyphs) and also traffic signs. Please, don't confuse Traffic Signs with conventional keying. You just have to remember the keyboard layout (QWERTZ/Basic Latin) and what's behind the keys (SMOL runicons).

Second set of punctuation by pressing the SHIFT-key. For Question Mark (?) press SHIFT+β. For Apostrophe press SHIFT-#. For Masterspace (@) press ALT-L. and for Quotation Marks („“) press SHIFT-2 (quote, citation). The others are em-dash („), semicolon (;) and colon (:). There are no punctuation missing in NewMorse v3 never mind that traditional Morse has no sign for ° (degree) and ! (exclamation mark) or square and curly brackets.

Solving problems: Repeat the use of the Apostrophe to start and end the citation according to a quotation mark in English. But now, starting and ending or highlighting a term and sentence can work in a different way. To avoid a conflict, use the full reference strict that is attached on four pages as tableau.

The third set include comma (,), full stop (.) en-dash (-), minus (-) and hash (#). Gaps and letter-spacing following the same rules. The punctuation Plus (+) and Asterisk (*) and Ampersand (&) have no more different keying, but glyphs differs in layout.

The traditional Morse use specific Traffic Signs for transmitting and formatting a message. This rules and traditions deeply influenced the NewMorse by creating missing punctuations and aggregates. The punctuation + (plus) and * (asterisk), < (smaller) and > (greater) and other keys accomplish new tasks and allows more variant spelling. There are new Traffic signs besides old tasks that have been redefined by myself.

With a preceded Traffic Sign, example given: ALT (6-dah vs. Basic Latin: male gender) and ALT-SHIFT (9-dit vs. Basic Latin: female gender) we are able to write punctuations and glyphs which could never be represented in conventional Morse. Each gap between a dit, dah or doh is also one dit long. So there can be redundancies, but no conflicts once you understand the grammar of NewMorse taking into account the keyboard layout (QWERTZ/Basic Latin) and comparability (SMOL runicons). Further function keys are highlighted on the following tableau.

The NewMorse spectrum was designed as small and memorable as possible. You can choose between manual notation in NewMorse+ via HTML Entities or NewMorse (v3). The font can be downloaded based on SMOL runicons in Scalable Vector Graphic (SVG) under repository LEFT4E1 and folder [NewMorse/v3](#) on GitHub.

2.1. NewMorse

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	NewMorse+ by <u>html entities</u>	NewMorse (v3) by <u>glyphs</u>						
01	02	03	04	01	02	03	04	01	02	03	04
^	o	"	"	!! ∣	∣ ¦¦	.! .!	¡. ¡.				
1	!	i	-	¡ ¦∣	∣ ⋮∣	∣ ⋮∣	¯ :: ¯				
2	"	"	"	: ¦∣	.! .!	.! .!	¡. ¡.				
3	§	¶	#	¦ ¡∣	¡¡ :	⋱	∣: .! ∣				
4	\$	¢	£	:: ∣	∣: .!∣	∣: .!∣	∣: .!∣				
5	%	[fi	:: .	&vellipsis;!	_ ¡!	&vellipsis;&vellipsis;&vellipsis; ::.				
6	&]	^	∣ ::	¡¡ ˙	−. ¦¡	¡! ∣				
7	/		\	∣! :	!¡ ˙	..	!¡ ˙				
8	({	~	∣¦ :	∣¡ !	∣¡ !	&vellipsis;&vellipsis;&vellipsis; ∣¦:				
9)	}	•	¦ ¦˙	!¦ ¡	!¦ ¡	&vellipsis;&vellipsis; :				
0	=	#	-	∣¦ ¦	_&vellipsis; ∣	_&vellipsis; ∣	&vellipsis;&vellipsis;&vellipsis; ∣¦¦				
ß	?	¿	-	&vellipsis;¦ :	:¦ :	:¦ :	&vellipsis;&vellipsis; :				
-	'	'	°	.	.	¡¦ !	∣ ¦¦				

2.2. NewMorse

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	NewMorse+ by html entities				NewMorse (v3) by glyphs			
01	02	03	04	01	02	03	04	01	02	03	04
q	Q	«	»	¦¡	¦¡	.!	¡.	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
w	W	Σ	,	¡∣	¡∣	¦¦brvbar; ¡∣	.! .!	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
e	E	€	%	.	.	∣: .!∣ .	⋮! ⋮!	.	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
r	R	®	,	¡˙	¡˙	¦¦brvbar; ¡.	⋮⋮⋮ ¡.	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
t	T	†	'''	∣	∣	!¯	⋮⋮⋮ ¡. ¡.	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
z	Z	Ω	▼	¦:	¦:	¦¦brvbar; ¦:	⋮⋮⋮ ¦:	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
u	U	---	Á	:∣	:∣	¦¦brvbar; ¦∣ :˙	⋮⋮⋮ ¡	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
i	I	/	Û	:	:	∣⋮ ¯	⋮⋮⋮ :∣	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
o	O	Ø	Ø	¦∣	¦∣	¦∣	¦∣	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
p	P	π	Π	¡!	¡!	¦¦brvbar; ¡!	⋮⋮⋮ ¡!	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
ü	Ü	•	◦	:∣ _	:∣ _	¦¦brvbar; :∣_	∣ ¦¦	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼
+	*	±	apple	¡¡ ˙	−. ˙_	¡¡˙ ¯:: _	⋮⋮⋮ ¡¡˙	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼	⠼⠼⠼⠼

2.3. NewMorse

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	NewMorse+ by <u>html entities</u>				NewMorse (v3) by <u>glyphs</u>			
01	02	03	04	01	02	03	04	01	02	03	04
a	A	å	Å	¡	¡	¡	¡	;	■	;	■
s	S	,	í	:.	:.	¯!; ¡_	.:	;	■	■	■
d	D	ð	TM	!˙	!˙	¦¦ ¦	⋮⋮⋮	;	■	■	■■;
f	F	f	í	:!	:!	¦¦ ¦	¦∣	;	■	■	■■;
g	G	©	í	∣!	∣!	¦¦ ¦	.:	;	■	■	■■;
h	H	a	ó	::	::	¦¦ ¦	&velip;⋮⋮	;	■	■	■■■
j	J	o	í	¡¦	¡¦	&velip;⋮ ⋮	..	;	■	■	■■
k	K	Δ	^	!∣	!∣	¦¦ ¦	!! ∣	;	■	■	■■;
l	L	@	fl	¡:	¡:	¡ !!	&velip;⋮⋮	;	■	■	■■;
ö	Ö	œ	Œ	¦!	¦!	¦!	¦!	;	■	■	■■
ä	Ä	æ	Æ	¡¡	¡¡	¡¡	¡¡	;	■	■	■■
#	:	:	:	∣: .! ∣	¯! ¡_	¡. ¡.	¡ !!	■■	■	■■	■■■
								NUMBER SIGN	■■	■■■	■■■■

2.4. NewMorse

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	NewMorse+ by <u>html entities</u>				NewMorse (v3) by <u>glyphs</u>			
01	02	03	04	01	02	03	04	01	02	03	04
<	>	≤	≥	!! ∣	¡¡ ˙	¦¦ ¦	⋮⋮ ⋮	■■■	■■■	■■■■■	■■■■■
y	Y	¥	‡	!¦	!¦	∣: .!∣ !¦	!¦ ˙	■■	■■	■■■■■	■■■■■
x	X	≈	Ù	!¡	!¡	¦¦ ¦	⋮⋮⋮	■■	■■	■■■■■	■■■■■
c	C	ç	ç	!!	!!	!!	!!	■■	■■	■■	■■
v	V	✓	◊	:¡	:¡	⋮! _	∣: .! ∣	■■	■■	■■■■■	■■■■■
b	B	ƒ	<	!:	!:	¦¦ ¦	.! .!	■■	■■	■■■■■	■■■■■
n	N	~	>	!	!	¦¦ ¦	¡. ¡.	■	■■	■■■■■	■■■■■
m	M	μ	„	∣∣	∣∣	¦¦ ¦	⋮⋮ ⋮	■■	■■	■■■■■	■■■■■
,	;	∞	„	¯! ¡ _	!! !	:	⋮⋮ ⋮	■■	■■	■■■■■	■■■■■
.	:	...	÷	¡¡ ¡	¦∣ :˙	¡⋮	⋮⋮ ⋮	■■■	■■■	■■■■■	■■■■■
-	-	—	—	¯: :_	:¦ ¡	¯: :_	⋱	■■■■■	■■■■■	■■■■■	■■■■■

3.0.1. VisualBraille

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

The VisualBraille must read dot by dot through 3 columns and 3 rows: First column (**dot 1, 2, 3**), 2nd column (**dot 4, 5, 6**), 3rd column (**dot 7, 8, 9**). It is compatible with 6-dot-Braille what the graphic letters A to Z concerns, but not with a refreshable Braille display which has 8 dots in 4 rows (Apple Braille).

We can use lower and upper case away from SHIFT. My intention was to effect an economy in layout and sign replication. Now, in the use of the numerical letters we are flexible different from what we know from conventional Braille. Among other things, we are dealing with this in Group 5 (otherwise) or in Group 8.2 (rephrasing).

The *Basic Signs* can act as proxies to help us access and use the rest of the keyboard layout. Here, we learn from the experience in dealing with *Traffic Signs* in NewMorse (v3). Now *Basic Signs* were extended by five glyphs. Before we only knew the *Capital Sign* and the *Number Sign*. We keep the usual spelling and dot stamping in the color black very different to conventional Braille. However, it does not matter if you prefer capitalization with a preceded *Capital Sign*. With those *Traffic Signs* we are now able to display the remaining glyphs (hidden keys) and special characters with dots. For this we will alienate keys († dagger: ALT-T and ‡ double dagger: ALT-SHIFT-Y).

With 9-dot Braille we are now able to display the remaining glyphs (hidden keys). For these special characters a 3rd column is now required (**dot 7, 8, 9**).

Sometimes the rules for punctuation arrangement in VisualBraille differs from the conventional Braille. There is not a specific *Indicator Sign* essential for letter-spacing. But we can insert or highlight sentences, quotes and paragraphs with an empty rune stone (¶: ALT-3). For each graphic letter there are rules for alphabetical and punctuation arrangement differentiated into 8 groups.

1st group: **lower case a to j** – only two columns on two rows are occupied by dots. Third column and third row keep blank. What is common usage in 6-dot-Braille exempted from third column. Do not differentiate between lower and upper case! For upper case we use a preceded *Capital Sign*.

2nd group: **lower case k to t** – only dot 3 is added to group 1 (corresponds to letter a - j in lower case). Also, for upper case we use a preceded *Capital Sign*. Third column keep blank.

3.0.2. VisualBraille

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

3 rd group: **lower case u, v, x, y, z, ß (sz or ss)** – dot 3 and 6 are added to some letters of group 1 (corresponds to lower case a to e and I). There is no upper case for letter ß (sz) that can be used as an aggregate for lower case 'sz' or as an aggregate to make a double s or instead of repeating the lower case s of group 2. For letter ß (sz or ss) dot 6 is added to lower case s in group 2. But for a better understanding the alphabetical arrangement we should use group 1 in the most cases. Third column keep blank.

4 th group: **lower case w, aggregate oe (ö) and ue (ü)** Just dot 6 are added to some letters of group 1. Lower case w corresponds to key J. We use aggregates to avoid sign replication. The aggregates oe and ue corresponds to keying I and H. Third column keep blank.

5 th group: Otherwise from letter arrangement that corresponds usually to group 1 there is no letter equivalent to aggregate **ae – dot 3,4 and 5** built the letter. Third column keep blank. Quite new in VisualBraille is the **Accent Circumflex (dot 2, 4 and 8)** instead of traditional usage we will alienate the key (^). We don't use it as a french phonogram always, because we want to build missing links for n-tier Extensions (short messages) that I introduced in SMOL. With a **Reverse Accent Circumflex (dot 1, 5 and 7)** we could possibly display the missing links in SMOL. For Accent Circumflex there is no equivalent in 6-dot-Braille or 8-dot-Braille.

6 th group – punctuation: The following rules of arrangement **corresponds to lower case a to j in group 1. Placed dots move just one row lower**. Only first row and third column keep blank. But to make a punctuation we press the common keys sometimes in combination with SHIFT with few exceptions: Formerly for opening and ending quote we gave the alphabetical key H and key J a new interpretation, because of conflicts in the rules of punctuation arrangements in 6-dot-Braille. Now we can use the common keys properly. We don't make a difference of alternative quotations marks (<, >, «, ») that can be placed over multiple keyboard shortcuts (ALT-SHIFT + or <N>, ALT + <Q>, ALT-SHIFT + <Q>). We use the common keys to make inner quotes (see: group 8.1 domino). There is just one sign for opening and closing brackets and curly brackets. Also the key for plus (+) is needed to make an Ampersand (&) that can be placed over SHIFT + <6>. We display the same glyph for both over two keyboard shortcuts.

7 a. Numerical letters: We use the keys A to J of group 1 that corresponds to the rules of alphabetical arrangements in 6-dots-Braille. **Type the key A - J after the preceded Number Sign** (see: *Basic signs*).
b. Upper cases: **Type the key A - Z after the preceded Capital Sign** (see: *Basic Signs*) when you make upper cases. There is No *Capital Sign* needed at the beginning of a set after making a dot (see: group 6 – Punctuation).

3.0.3. VisualBraille

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

Group 8.0 – For the Numerics use the keys above from graphical pad. The difference between graphical and numerical letters in 6-dot-Braille and the Font VisualBraille is unmistakable. VisualBraille make capital letters infrequently. For VisualBraille we should prefer the new Numerics in a bisected Domino rune stone and lower case by avoiding sign replication.

Using VisualBraille also effects an economy in punctuation, sign replication and function of keys to make some additional characters that are completely missing in 6-dot-Braille. You will see the advantage in the corresponding letters and usual function of keys that changed and intend a double function. There are no other variant spelling and redundant glyph set. Use the Spacebar before putting the equal sign in a spreadsheet!

Group 8.1 – First column always keep blank. **Letter A and M move one column to the right to make the sign.** We move the *Hash Sign* (#) one column to the right to differentiate it with a preceded *Number Sign*. Use a preceded Masterspace (@) to mention somebody or to place an E-Mail.

Group 8.2 – We tackle the problem with double function of keys and missing signs for punctuation by rephrasing 6-dot-Braille. You remember that key for numeric 6 (&) triggers the glyph ‘plus’. Now just the sign + can be interpreted as an Ampersand (&). The en dashes are in clear contrast to an em dash.

If you will write in upper cases then use always a preceded *Capital Sign* else press SHIFT when it is appropriate to the glyph set in VisualBraille.

The 9-dot VisualBraille was not usual designed to build a bridge to the blind community. You can choose between Apple Braille (8-dot, technically-motivated) or VisualBraille (9-dot, playfully-motivated). You’ll see an alternative in oxo-coding instead of dot stamping in the tableau. The font can be downloaded based on SMOL runicons in Scalable Vector Graphic (SVG) under repository LEFT4E1 and folder [VisualBraille/v3 on GitHub](#).

3.1. VisualBraille

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	VisualBraille by glyphs	VisualBraille in oxo						
01	02	03	04	01	02	03	04	01	02	03	04
^	°	"	"	•• GROUP 5.	• GROUP 8.2	•• GROUP 8.1	••• GROUP 8.1	XOX OXO XXX	XXO XXX XXX	XXX OXX OOX	XXX XOX OOX
1	!	i	¬	• GROUP 8.0	•• GROUP 6	••• IDEOGRAMMAR	•••• IDEOGRAMMAR	XXX XOX XXX	XXX OOX OXX	XOX XXX XXX OOX XXO OXX	XOX XOX XOX XXX OOX OOO
2	"	"	"	• GROUP 8.0	•• GROUP 6	••• REPEAT SHIFT-2	••• REPEAT SHIFT-2	XXO XXX OXX	XXX OXX OOX	XXX XXX OXX XOX OOX OOX	XXX XXX OXX XOX OOX OOX
3	§	¶	#	•• GROUP 8.0	•• GROUP 8.1	PILCROW	••• NUMBER SIGN 2	XXO XOX OXX	XOO XXX XXX	XXX XXX XXX	XXO XXO XOO
4	\$	¢	£	••• GROUP 8.0	•••• IDEOGRAMMAR	•••• IDEOGRAMMAR	•••• IDEOGRAMMAR	OXO XXX OXO	XOX XXX XOX XOX XXX OXX OOX XXX	XOX OOX XOX XXX OOX XXX	XOX XXX OXX XOX XXX OXX OOX XOX OXX
5	%	[fi	•• GROUP 8.0	•• GROUP 8.2	••• GROUP 6	•••• ALT-SHIFT KEY+5	OXO XOX OXO	XXO OXX XOO	XOO XOX XOO	XXX OXO XXX XOX OXX OXO
6	&]	^	•• GROUP 8.0	••• GROUP 6	•• GROUP 6	•• GROUP 5	OXO XOX OXO	XOX OOO XOX	XOO XXO XOO	XOX OXO XXX
7	/		\	••• GROUP 8.0	••• GROUP 8.1	••• GROUP 8.1	•• GROUP 8.1	OXO OOO OXO	XXO XXX XOX	XOX XOX XOX	XOX XXX XXO
8	({	~	••• GROUP 8.0	••• GROUP 6	••• GROUP 6	•••• ALT-SHIFT KEY+8	OOO OXO OOO	XXX OOX OOX	XXX XOO XOO	XXX OOO XXX OXO OXX OOO
9)	}	•	•••• START SIGN 9-dot	•••• SAME AS SHIFT-8	•••• SAME AS ALT-SHIFT-8	•••• IDEOGRAMMAR	OOO OOO OOO	XXX OOX OOX	XXX XOO XOO	XXX XXX XXX OOX XOX XOX
0	=	≠	-	•••• START SIGN 6-dot	••• GROUP 8.1	•••• IDEOGRAMMAR	•••• ALT-SHIFT KEY+0	OOX OXX OOX	XXX XOO XXX	XOX XXX XXX XOO XXO XXX	XXX OOX XXX OOX OXX OOX
ß	?	¿	:	•• GROUP 3.	•• GROUP 6.	••• IDEOGRAMMAR	••• IDEOGRAMMAR	XOX OXX OOX	XXX OXX XOX	XOX XXX XXX OXX XXO XOX	XXX XXX XXX OOX XOX XOX
,	,	:	◦	•••• SAME AS E	•••• SAME AS E	•••• IDEOGRAMMAR	•••• SHIFT-^	OXO XOX XXX	OXX XOX XXX	XOX XXX XXX OXX XXO XXX or XXX	XXX XXX XXX

3.2. VisualBraille

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	VisualBraille by glyphs				VisualBraille in oxo			
01	02	03	04	01	02	03	04	01	02	03	04
q	Q	«	»	GROUP 2	GROUP 7b	ALT-^	ALT-SHIFT-^	OXX OOX OXX	XXX OOX XXX OOX XOX OXX	XXX OXX XXX OOX	XXX XOX XXX OOX
w	W	Σ	”	GROUP 4	GROUP 7b	IDEOGRAMMAR	GROUP 8.1	XOX OOX XOX	XXX XOX XXX OOX XOX XOX	XXX XOX XXX OOX	XXX OXX XXX OOX
e	E	€	%	GROUP 1	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	OXX XOX XXX	XXX OXX XXX XOX XOX XXX	XOX XXX OXX OOX XXO XXX	XXO XXX OXX XXX
r	R	®	,	GROUP 2	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	OXX OOX OXX	XXX OXX XXX OOX XOX OXX	XXX OXX XXX OOX	XXX OXX XXX OOX
t	T	+	---	GROUP 2	GROUP 7b	ALT-KEY	REPEAT SHIFT-2	XOX OOX OXX	XXX XOX XXX OOX XOX OXX	XXX XXX XXX XOX	XXX XXX OXX XOX
z	Z	Ω	ˇ	GROUP 3	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	OXX XOX OOX	XXX OXX XXX XOX XOX OOX	XXX OXX XXX XOX	XXX OXX XXX XOX
u	U	---	Á	GROUP 3	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	OXX XXX OOX	XXX OXX XXX XXX XOX OOX	XOX XXX XXX OOX	XXX OXX OXX XXX XXX XOX
i	I	/	Û	GROUP 1	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	XOX OOX XXX	XXX XOX XXX OXX XOX XXX	XXX XXO XXX XOX XOX OXX	XXX OXX XOX XXX XXX OXO
o	O	ø	Ø	GROUP 2	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	OXX XOX OXX	XXX OXX XXX XOX XOX OXX	XXX OXX XXX XOX XXO OXX	XXX OXX XXX XOX
p	P	π	Π	GROUP 2	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	OXX OOX OXX	XXX OOX XXX OXX XOX OXX	XXX OXX XXX XOX XXO OXX	XXX OXX XXX XOX
ü	Ü	•	◦	GROUP 4	GROUP 7b	IDEOGRAMMAR	GROUP 8.2	OXX OOX XOX	XXX OXX XXX OOX XOX XOX	XXX XXX XXX OOX XOX XOX	XXO XXX XXX
+	*	±	apple	GROUP 8.2	GROUP 6	IDEOGRAMMAR	IDEOGRAMMAR	XOX OOO XOX	XXX XOX XXX OXX XOX OXX	XOX XXO OOO XXX XOX OOO	XXX XOX XXX OOO OXX XOX

3.3. VisualBraille

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	VisualBraille by glyphs				VisualBraille in oxo			
01	02	03	04	01	02	03	04	01	02	03	04
a	A	å	Å	• GROUP 1	• GROUP 7b	••••• IDEOGRAMMAR	••••• IDEOGRAMMAR	OXX XXX XXX	XXX OXX XXX XXX XOX XXX	OXX XXO XXX XXX XXX XXX	XXX OXX XXO XXX XXX XXX XOX XXX XXX
s	S	,	í	•• GROUP 2	•• GROUP 7b	•• same as comma	••••• IDEOGRAMMAR	XOX OXX OXX	XXX XOX XXX OXX XOX OXX	XXX OXX XXX XXX XXX XXX	XXX XXO XOX XXX XOX XXX XOX XXX XXX
d	D	ð	TM	•• GROUP 1	•• GROUP 7b	••••• IDEOGRAMMAR	••••• IDEOGRAMMAR	OOX XOX XXX	XXX OOX XXX XOX XOX XXX	XOX OOX XOX XOX OOX XXX	XXX XOX OOX XXX OOX XXX XOX OXX OXX
f	F	f	í	•• GROUP 1	•• GROUP 7b	••••• IDEOGRAMMAR	••••• IDEOGRAMMAR	OOX OXX XXX	XXX OOX XXX OXX XOX XXX	XXX OOX XXX OXX XXO XXX	XXX XOX XXX XXX OXX OOX XOX XXX XXX
g	G	©	ì	•• GROUP 1	•• GROUP 7b	••••• IDEOGRAMMAR	••••• IDEOGRAMMAR	OOX OXX XXX	XXX OOX XXX OOX XOX XXX	XXX OOX XXX OOX XXO XXX	XXX XXO XXX XXX XOX OXX XOX XXX XXX
h	H	a	ó	•• GROUP 1	•• GROUP 7b	• CAPITAL SIGN	••••• IDEOGRAMMAR	OXX OXX XXX	XXX OXX XXX OOX XOX XXX	XXX XXX XOX XOX	XXX OXX XOX XXX XOX XXX XOX OXX XXX
j	J	o	í	•• GROUP 1	•• GROUP 7b	•• NUMBER SIGN	•• GROUP 8.2	XOX OOX XXX	XXX XOX XXX OOX XOX XXX	XOX XOX OOX	XXX XXX XOX XXX XOX
k	K	Δ	^	• GROUP 2	•• GROUP 7b	••••• IDEOGRAMMAR	••••• SHIFT-^	OXX XXX OXX	XXX OXX XXX XXX XOX OXX	XOX OOX XOX XOX OOX XXX	XXO XXX XXX
l	L	@	fl	• GROUP 2	•• GROUP 7b	•• GROUP 8.1	••••• IDEOGRAMMAR	OXX OXX OXX	XXX OXX XXX OXX XOX OXX	XOO XXX XOX	XXX OXX XXX OXX OXX OXX
ö	Ö	œ	Œ	•• GROUP 4	•• GROUP 7b	same keying	same keying	XOX OXX XOX	XXX XOX XXX OXX XOX XOX	XOX OXX XOX	XXX XOX XXX OXX XOX XOX
ä	Ä	æ	Æ	•• GROUP 5	•• GROUP 7b	same keying	same keying	XOX XOX OXX	XXX XOX XXX XOX XOX OXX	XOX XOX OXX	XXX XOX XXX XOX XOX OXX
#	;	:	:	••• GROUP 8.1	••••• <,> & ALT-^	••••• <,> & ALT-SHIFT-^	••••• ALT-SHIFT-#	XXO XXO XOO	XXX XXX XXX OXX XXX OOX	XXX XXX XXX XOX XXX OOX	XOX XXX XXX

3.4. VisualBraille

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	VisualBraille by glyphs				VisualBraille in oxo			
01	02	03	04	01	02	03	04	01	02	03	04
<	>	≤	≥	GROUP 8.1	GROUP 8.1	IDEOGRAMMAR	IDEOGRAMMAR	XXO XOX XXO	XOX XXO XOX	XXO XXX XOX XOO XXO XXX	XOX XXX XXO XOO XOX XXX
y	Y	¥	‡	GROUP 3	GROUP 7b	IDEOGRAMMAR	ALT-SHIFT KEY	Oox Xox Oox	XXX OOX XXX XOX XOX OOX	XOX XXX OOX XOX XXX XOX OOX XXX OOX	XXX XXX OXX
x	X	≈	Ù	GROUP 3	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	Oox XXX OOX	XXX OOX XXX XXX XOX OOX	XXX OOX XXX XXX XXO OOX	XXX OXX XXX XXX XXX OXX XOX OOX XXX
c	C	ç	ç	GROUP 1	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	Oox XXX XXX	XXX OOX XXX XXX XOX XXX	XXX OOX XXX XXX OXX XXX	XXX XXX OOX XXX XXX XXX OXX XOX XXX
v	V	√	◊	GROUP 3	GROUP 7b	GROUP 8.2	same as #	Oxx Oxx Oox	XXX OXX XXX OXX XOX OOX	Oxo Oxx Oox	XXO XXO XOO
b	B	ʃ	<	GROUP 1	GROUP 7b	IDEOGRAMMAR	ALT-^	Oxx Oxx XXX	XXX OXX XXX OXX XOX XXX	XXX OXX XXX OXX XXO XXX	XXX OXX OOX
n	N	~	>	GROUP 2	GROUP 7b	IDEOGRAMMAR	ALT-SHIFT-^	Oox Xox Oxx	XXX OOX XXX XOX XOX OXX	XXX OOX XXX XOX XXO OXX	XXX XOX OOX
m	M	μ	~	GROUP 2	GROUP 7b	IDEOGRAMMAR	IDEOGRAMMAR	Oox XXX Oxx	XXX OOX XXX XXX XOX OXX	XOX OOX XOX XOX OOX OXX	XXX OOX XXX XXX OXX OXX
,	;	∞	,	GROUP 6	GROUP 6	GROUP 8.2	IDEOGRAMMAR	XXX Oxx XXX	XXX Oxx XXX	XXX Oxo XXX	XXX Oxo XXX
.	:	...	÷	GROUP 6	GROUP 6	GROUP 8.2	reversed multiply	XXX Oox Xox	XXX Oox XXX	XXX Ooo XXX	Xox Oox Xox
-	-	-	-	GROUP 8.2	GROUP 8.2	IDEOGRAMMAR	GROUP 8.2	XXO XXX OOO	XXX XXX OOO	XXX XXO XXX XXX XXO OOO	Oxx Xox Xxo

4.0. MusicTypewriter (v3) for Piano

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

The piano has 88 keys thereof 52 are white. Each full octaves has 5 black and 7 white keys (c, d, e, f, g, a, h respectively b). The conventional Alphabet has 26 letters. We are using the first white 26 keys on a Piano for upper cases (A to Z) and the rest for lower cases (a to z). The black keys used for vowels (a, e, i, o and u). We are adding these vowels to each upper and lower cases. For flat notes (b) we put the vowels first, for sharp notes (#) we put vowels after. The black keys always representing a pair of consonant and vowels without making a difference between lower and upper cases. Instead of applying upper cases (A to Z) we can interpret them as start a word or as highlighting a sentence. Of course, we can use fractions for the timing, especially if we want to use one of the clefs as the first letter.

We are using PianoStandard (Consonantal) for playing text as notes. We are using PianoRegular (Tonal) for learning Piano Keying according to the Law of Octaves. With both the Music notation for now and then come together. MusicTypewriter does not differentiate between bass clef (B) and treble clef (C) in a usual way. MusicTypewriter intends to create a neutral notation for every instrument, without violating the chromatic scale and the law of octaves, but without having to use conventional sheet music and transposition software!

1st. For frequent syllables, literal characters (ae, oe, ue, ch, sch, st, sz or - ing and so on), numbers 0 to 9 and punctuation you should build chords manually. We are adopting the combination of A to Z and a to z with grammar keying and their note assignment: Capital-key (ordinal a=#f5:58), Num-key (ordinal o=#a5:62), ALT-key (dagger=#d7:79) and ALT-SHIFT-key (double dagger:=#d4:43). This arrangement is showing under PianoRegular (Tonal).

2nd. But we can form chords in other ways. For this we need five notes on four keys (1:a, #2:au, b2:ub, 3:b, 88:z), which are played less often anyway – known as sub-contra octave and five-line octave: 1:Capital, 88:Number, 3:SHIFT, #2:ALT (up), b2:ALT-SHIFT (down). As usual, we strike the notes of chords simultaneously or overlapping them. Chords with key 2 can be played one after the other, either upwards or downwards, in order to be able to distinguish them from other note pairings. This arrangement is showing under PianoStandard (Consonantal).

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Download Piano.ff (*.aiff): <http://theremin.music.uiowa.edu/MISpiano.html>. These freely available recordings have been used by countless musicians and in over 270 research papers. When making a donation, please write "Electronic Music Studios" in the comments field. **Instrument**: Piano | Model: Steinway & Sons model B. **Performer**: Evan Mazunik, **Date**: November 5 & 27, 2001 | **Location**: 2017 Voxman Music Building. **Technician**: Michael Cash. **Distance**: Left mic 8" above center bass strings | Right mic 8" above center treble strings. **Microphone**: Neumann KM 84 | Mixer: Mackie 1402-VLZ | **Recorder**: Panasonic SV-3800 DAT. **Format**: 16-bit, 44.1 kHz, stereo | **Comments**: stereo, non-anechoic recording.

The converted sound recordings (.ogg, .m4v, mp3) can be downloaded under repository LEFT4E1 and folder [MusicTypewriter/PianoUnmute](#) on GitHub. I am continuing my efforts mapping the consonantal arrangement on every instrument. I am willing to convert my individual lyrics with it.

4.1. MusicTypewriter (v3) for Piano

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

4.2. MusicTypewriter (v3) for Piano

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

4.3. MusicTypewriter (v3) for Piano

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	MusicTypewriter for PianoStandard (Consonantal)								MusicTypewriter for PianoRegular (Tonal)			
				01	02	03	04	01	02	03	04	01	02	03	04
a	A	å	Å	a 45	A 01	ai 46	au 02	f4 45	a0 01	#f4 46	#a0 02				
s	S	,	í	s 76	S 32	sa 77	es 31	c7 76	e3 32	#c7 77	be3 31				
d	D	ð	™	d 51	D 06	ud 50	de 07	b4 51	d1 06	bb4 50	#d1 07				
f	F	f	ï	f 54	F 09	fe 55	fi 10	d5 54	f1 09	#d5 55	#f1 10				
g	G	©	ì	g 56	G 11	eg 55	go 12	e5 56	g1 11	be5 55	#g1 12				
h	H	a	ó	h 57	H 13	hi 58	hu 14	f5 57	a1 13	#f5 58	#a1 14				
j	J	o	í	j 61	J 16	ju 62	ja 17	a5 61	c2 16	#a5 62	#c2 17				
k	K	Δ	^	k 63	K 18	uk 62	ke 19	b5 63	d2 18	bb5 62	#d2 19				
l	L	@	fl	l 64	L 20	ia 65	ei 19	c6 64	e2 20	#c6 65	be2 19				
ö	Ö	œ	Œ	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.				
ä	Ä	æ	Æ	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.				
#	;	'	'	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.				

4.4. MusicTypewriter (v3) for Piano

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

5.0.1. Binary Encoding

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

The binary code usual used for encoding data in mathematics and computer instructions. Logic gates (internal circuits) use values of 0 (electricity not flows) and 1 (electricity flows). Basic Latin charset is converted into binary code (known as base-2 that uses digits of 0 and 1).

One digit of hexadecimal need four digits of binary code (base-2). Base-2 can be converted into decimal system (base-10). Three binary digits represents an octal digit: binary 000 is octal digit 0. So binary code follows strict 8-bit string (2^3).

Did you know that binary code represents verbal and written Alphabet: One dit in NewMorse (v3) represents value 1, each dah has 2-bit length. A pause between NewMorse (v3) characters has 3-bit length. And one dot-stamping in VisualBraille represents value 1. Also o and x can representing one of both values.

Of course, equivalents can also be found on MusicTypewriter for drum sets (stick/cymbal: one dit; pedal/drum: two dit). But let us first learn the binary coding and notation before we apply it to the related language families of SMOL, where it is then visualized in the form of glyphs and made audible through keys.

Just like using the conventional QR code, which contains a grouping of binary ciphers. Each encoded message starts with value 0100 and ends with value 0000. Here we are dealing with an 8-bit sequence from Basic Latin standardized charset ISO-8859-1. There is no glyph there, however. But you can do without special signs (ordinal indicators or daggers) to make space for 4-bit-traffic signs.

Obviously, the symbol elements are squares, of which at least 21×21 and a maximum of 177×177 elements are in QR-Code. The edge zone (quite zone) should be at least four elements wide non-visible as white border around code zone. The squares placed in it mark the reading directions. But we read from right corner over left top then to left bottom.

The field needs at least three squares (7×7 elements) for direction by minimal format of 21×21 elements and jumps higher according to a low reliability level using up to 1000px:

<17 elements – 3 squares of format 7×7 elements
18 elements – 4 squares (+1 of format 4×4 elements)
135 elements – 9 squares (+5 of ...)
426 elements – 16 squares (+7 of ...)
859 elements – 25 squares (+9 of ...)
1466 elements – 36 squares (+11 of ...)
>2048 elements – 36 squares of format 4×4 elements

Note: The three main squares for direction have 7×7 elements each and mark the outer border (position markings on totally flat surfaces and fewer information, e.g. newspaper links). But the additional squares have 4×4 elements and must be centered to them whereby the last square placed at the bottom with four elements to the right and to the bottom line (alignment markings on uneven surfaces and complex information, e.g. packagings with follow-ups).

AIso T2Hue is an visual equivalent of QR-Code, here we are converting the text form contained in the picture into coded data using #hexvalues (decoding). Then, for the painted representation go line by line in a square field.

5.0.2. Binary Encoding

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

These formats corresponds to an equivalent QR-Code: 300dpi – 3,39 cm:400px (print) / 72dpi – 14,11cm:400px (monitor) / 8dpi – 127 cm:400px (individual). A maximum of 2048 keyboard characters based on ISO-8859-1 norm fit into such a code.

At least three squares consisting of 7x7 elements are using for orientation whereby the message zone requires one square distance to each position markings (not quite zone, that is a non-visible white border with 4 element to each site around these position markings). So the 8-bit-sequence follows an (automatic) line break. If the message has fewer characters than allowed, a uniform sequence is used to fill up to the end.

The recipient need assistance. After the appropriate character set has been determined, the following information is written into the bit sequence:

1. the identification number of the ISO-character set (0100),
2. the number of characters the text has,
3. the message text itself,
4. the end identifier (0000).

Break down the resulting bit sequence into 8-bit units – fill up with zero check bits at the end if necessary, e.g. rest sequence cannot be grouped into at least 4-bit (0000). Alternately, fill up to the data capacity of the QR-Code version with the 8-bit units 11101100 and 00010001.

Please note: The 8-bit sequence is shifted by the 4-bit identifiers (0100, 0000). So that an 8-bit-unit cannot be read as an 8-bit sequence. A QR-Code is arranged from right to left and line by line and behaves like serpentine.

My bi-binary **QuantumScript** read from left to right whereby the graphic representation was arranged in at least a group of 4-bit and then wrapped in 8-bit lines. Here, I was motivated more playfully. The arrangement in **QuantumScript** differs from a conventional QR-Code. If we switch to another language area **QuantumScript** only behaves in reverse (LATIN: LEFT TO RIGHT; ARABIC: RIGHT TO LEFT).

You could just as well create a combined picture puzzle or mosaic, whereby the start field, which specifies the reading directions, is represented by a QR code that contains the solution or a translation. Several messages can then be hidden on one surface.

The binary encoding (natural) and the bi-binary **QuantumScript** (value 0 and 1, regular: hexvalue #000000 and #FFFFFF or irregular: 2THue) was assimilated into [SMOL on GitHub](#). I am continuing my efforts mapping other alphabetical arrangements and syllable scripts for SMOL usage.

QuantumScript should not be read or be generated technically, yet. Developing a universal language matrix takes time. It is intended as a written language with a binary stealth cap and is just an individual hack that forms an own dialect in SMOL.

5.1. Binary Encoding

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Binary Encoding (natural)				Bi-Binary Encoding (QuantumScript)			
01	02	03	04	01	02	03	04	01	02	03	04
^	°	,	"	01011110	11000010	11100010	11100010				
1	!	i	¬	00110001	00100001	11000010	11000010				
2	"	"	"	00110010	00100010	11100010	11100010				
3	§	¶	#	00110011	11000010	11000010	00100011				
4	\$	¢	£	00110100	00100100	11000010	11000010				
5	%	[fi	00110101	00100101	01011011	11101111				
6	&]	^	00110110	00100110	01011101	01011110				
7	/		\	00110111	00101111	01111100	01011100				
8	({	~	00111000	00101000	01111011	11001011				
9)	}	•	00111001	00101001	01111101	11000010				
0	=	≠	-	00110000	00111101	11100010	11000010				
Þ	?	¿	·	11000011	00111111	11000010	11001011				
,	,	:	°	11000010	01100000	00100111	11001011				

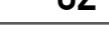
5.2. Binary Encoding

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Binary Encoding (natural)				Bi-Binary Encoding (QuantumScript)			
01	02	03	04	01	02	03	04	01	02	03	04
q	Q	«	»	01110001	01010001	11000010 10101011	11000010 10111011	■■	■■■■	■■■■■■	■■■■■■■■
w	W	Σ	„	01110111	01010111	11100010 10001000 10010001	11100010 10000000 10011110	■■■■	■■■■■■	■■■■■■■■	■■■■■■■■
e	E	€	%	01100101	01000101	11100010 10000010 10101100	11100010 10000000 10110000	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
r	R	®	,	01110010	01010010	11000010 10101110	11000010 10111000	■■■■	■■■■■■	■■■■■■■■	■■■■■■■■
t	T	†	”””	01110100	01010100	11100010 10000000 10100000	11001011 10011101	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
z	Z	Ω	ˇ	01111010	01011010	11001110 10101001	11001011 10000111	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
u	U	---	Á	01110101	01010101	11000010 10101000	11000011 10000001	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
i	I	/	Û	01101001	01001001	11100010 10000001 10000100	11000011 10011011	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
o	O	ø	Ø	01101111	01001111	11000011 10111000	11000011 10011000	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
p	P	π	Π	01110000	01010000	11001111 10000000	11100010 10001000 10001111	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
ü	Ü	•	°	11000011	11000011	11100010 10000000 10100010	11000010 10110000	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■
+	*	±	apple	00101011	00101010	11000010 10110001	11101111 10100011 10111111	■■■■■■	■■■■■■■■	■■■■■■■■	■■■■■■■■

5.3. Binary Encoding

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Binary Encoding (natural)				Bi-Binary Encoding (QuantumScript)			
01	02	03	04	01	02	03	04	01	02	03	04
a	A	å	Å	01100001	01000001	11000011	11000011				
s	S	,	Í	01110011	01010011	11100010	11000011				
d	D	ð	TM	01100100	01000100	11100010	11100010				
f	F	f	Ï	01100110	01000110	11000110	11000011				
g	G	©	Ì	01100111	01000111	11000010	11000011				
h	H	a	Ó	01101000	01001000	11000010	11000011				
j	J	o	I	01101010	01001010	11000010	11000100				
k	K	Δ	^	01101011	01001011	11100010	11001011				
l	L	@	fl	01101100	01001100	01000000	11101111				
ö	Ö	œ	Œ	11000011	11000011	11000101	11000101				
ä	Ä	æ	Æ	11000011	11000011	11000011	11000011				
#	,	,	,	00100011	00100111	11100010	11100010				

5.4. Binary Encoding

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Binary Encoding (natural)				Bi-Binary Encoding (QuantumScript)			
01	02	03	04	01	02	03	04	01	02	03	04
<	>	≤	≥	00111100	00111110	11100010 10001001 10100100	11100010 10001001 10100101	■■■■■	■■■■■	■■■■■	■■■■■
y	Y	¥	‡	01111001	01011001	11000010 10000000 10100101	11100010 10000000 10100001	■■■■■	■■■■■	■■■■■	■■■■■
x	X	≈	Ù	01111000	01011000	11100010 10001001 10001000	11000011 10001001 10011001	■■■■■	■■■■■	■■■■■	■■■■■
c	C	ç	Ç	01100011	01000011	11000011 10100111	11000011 10000111	■■■■■	■■■■■	■■■■■	■■■■■
v	V	√	◊	01110110	01010110	11100010 10001000 10011010	11100010 10010111 10001010	■■■■■	■■■■■	■■■■■	■■■■■
b	B	ƒ	⟨	01100010	01000010	11100010 10001000 10101011	11100010 10000000 10111001	■■■■■	■■■■■	■■■■■	■■■■■
n	N	~	⟩	01101110	01001110	01111110	11100010 10000000 10111010	■■■■■	■■■■■	■■■■■	■■■■■
m	M	μ	˘	01101101	01001101	11000010 10110101	11001011 10011000	■■■■■	■■■■■	■■■■■	■■■■■
,	;	∞	‘	00101100	00111011	11100010 10001000 10011110	11001011 10011011	■■■■■	■■■■■	■■■■■	■■■■■
:	...	÷	÷	00101110	00111010	11100010 10000000 10100110	11000011 10110111	■■■■■	■■■■■	■■■■■	■■■■■
-	-	-	-	00101101	01011111	11100010 10000000 10010011	11100010 10000000 10010100	■■■■■	■■■■■	■■■■■	■■■■■

6. Numbr Kies

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

The numeric-consonantal fractions of **Numbr Kies** are based on the chromatic-harmonic notation for pieces of music; the relationship with **MusicTypewriter** is obvious.

In contrast, it is easy to assign numbers 1 to 26 for lower cases a to z and upper case A to Z with 27 to 52. But we don't want to make it that easy, because after all, we are talking about a large number of keys (spelling: kies) and numbers (writing: numbrs), which should also include punctuation and vowel sounds by means of switching (SHIFT, ALT, ALT-SHIFT) that we get from Basic Latin charset.

The algebraic-alphabetical fractions of **Numbr Kies** are based on the **Basic Latin** (ISO-8859-1); whereby we assign a numerical value to each color mixture. A story in the colored alphabet system of **T2Hue** is written in a picture encoded in numbers, unlike in square glyphs, encoded number fields can also take other geometric shapes and freehand drawings (paint by numbers).

In the numeric-consonantal fraction of **Numbr Kies**, the number of colors stands for the counter of the fraction, it indicates the mixing ratio of the proportionate **#hexvalues**. The denominator (divisor) is a placeholder for a color name, which for the most part is not predefined. Ultimately, we are dealing with a written, rather than painted, notation of **T2Hue**. The fractions stand for a non-tonal series within a sequence with an indefinite number of terms that replace a written text.

6.1. Numbr Kies

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Numbr Kies (algebraic-alphabetical fractions)				Numbr Kies (numeric-consonantal fractions)							
				01	02	03	04	01	02	03	04				
01	02	03	04	“	”	„	“	a/24	f/58; a/24	b/38	a/48	2/24	2/3; 2/24	5/38	5/48
1	!	i	¬	¬	¬	¬	¬	a/62; b/3	f/58; a/62; b/3	g/46	d/5	2/88; 2/45	2/3; 2/88; 2/45	4/46	4/5
2	„	“	”	”	”	”	”	a/62; c/4	b/38; a/48	a/48	g/10	3/88; 3/47	3/38; 3/48	5/48	5/10
3	§	¶	#	#	#	#	#	a/62; d/6	f/58; a/62; d/6	d/53	a/12	2/88; 2/49	2/3; 2/88; 2/49	3/53	1/12
4	\$	¢	£	£	£	£	£	a/62; e/8	f/58; a/62; e/8	g/58	d/17	2/88; 2/51	2/3; 2/88; 2/51	4/58	4/17
5	%	[fi	fi	fi	fi	fi	a/62; f/9	f/58; a/62; f/9	a/60	g/22	2/88; 2/52	2/3; 2/88; 2/52	4/60	4/22
6	&]	^	^	^	^	^	a/62; g/11	f/58; a/62; g/11	d/65	a/24	2/88; 2/54	2/3; 2/88; 2/54	4/65	4/24
7	/		\	\	\	\	\	a/62; a/13	f/58; a/62; a/13	g/70	d/29	3/88; 3/56	3/3; 3/88; 3/56	5/70	5/29
8	({	~	~	~	~	~	a/62; b/15	f/58; a/62; b/15	a/72	g/34	3/88; 3/57	3/3; 3/88; 3/57	5/72	5/34
9)	}	•	•	•	•	•	a/62; c/16	f/58; a/62; c/16	d/77	a/36	3/88; 3/59	3/3; 3/88; 3/59	5/77	5/36
0	=	≠	-	-	-	-	-	a/62; a/1	f/58; a/62; a/1	g/82	d/41	2/88; 2/61	2/3; 2/88; 2/61	4/82	4/41
ß	?	¿	·	·	·	·	·	f/58; a/1	f/58; f/58; a/1	a/84	d/43; f/58; a/1	2/1; 2/45	2/3; 2/1; 2/45	4/84	4/1; 4/45; 4/2
,	,	,	°	°	°	°	°	f/58; b/3	f/58; f/58; b/3	c/77	d/43; f/58; b/3	2/1; 2/47	2/3; 2/1; 2/47	4/77	2/1; 2/47; 2/2

6.2. Numbr Kies

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Numbr Kies (algebraic-alphabetical fractions)				Numbr Kies (numeric-consonantal fractions)			
				01	02	03	04	01	02	03	04
q	Q	«	»	a/73	c/28	a/74	c/29	1/73	1/28	3/74	3/29
w	W	Σ	,	g/83	b/39	g/84	b/38	1/83	1/39	3/84	3/38
e	E	€	%	c/52	e/8	c/53	e/7	1/52	1/8	3/53	3/7
r	R	®	,	b/75	d/30	b/74	d/31	1/75	1/30	3/74	3/31
t	T	†	'''	d/78	f/33	d/79	f/34	1/78	1/33	3/79	3/34
z	Z	Ω	ˇ	c/88	e/44	d/79; c/88	e/43	2/88	2/44	4/2; 4/88	4/43
u	U	---	Á	e/80	g/35	e/79	g/36	2/80	2/35	4/79	4/36
i	I	/	Û	g/59	b/15	g/60	b/14	2/59	2/15	4/60	4/14
o	O	Ø	Ø	f/69	a/25	f/70	a/26	1/69	1/25	3/70	3/26
p	P	π	Π	g/71	b/27	g/72	b/26	1/71	1/27	3/72	3/26
ü	Ü	•	°	f/58; c/4	f/58; f/58; c/4	d/79; f/58; c/4	d/43; f/58; c/4	2/88; 2/49	2/3; 2/88; 2/49	5/2; 5/88; 5/49	2/88; 2/49; 2/2
+	*	±	apple	f/58; d/6	f/58; f/58; d/6	d/79; f/58; d/6	d/43; f/58; d/6	2/88; 2/51	2/3; 2/88; 2/51	4/2; 4/88; 4/51	4/88; 4/51; 4/2

6.3. Numbr Kies

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Numbr Kies (algebraic-alphabetical fractions)				Numbr Kies (numeric-consonantal fractions)			
				01	02	03	04	01	02	03	04
a	A	å	Å	f/45	a/1	f/46	a/2	1/45	1/1	3/46	3/2
s	S	,	í	c/76	e/32	c/77	e/31	1/76	1/32	3/77	3/31
d	D	ð	™	b/51	d/6	b/50	d/7	1/51	1/6	3/50	3/7
f	F	f	í	d/54	f/9	d/55	f/10	1/54	1/9	3/55	3/10
g	G	©	ì	e/56	g/11	e/55	g/12	1/56	1/11	3/55	3/12
h	H	a	ó	f/57	a/13	f/58	a/14	2/57	2/13	2/58	4/14
j	J	º	í	a/61	c/16	a/62	c/17	2/61	2/16	2/62	4/17
k	K	Δ	^	b/63	d/18	b/62	d/19	1/63	1/18	2/62	2/19
l	L	@	fl	c/64	e/20	c/65	e/19	1/64	1/20	3/65	3/19
ö	Ö	œ	Œ	f/58; e/8	f/58; f/58; e/8	d/79; f/58; e/8	d/43; f/58; e/8	1/88; 1/52	1/3; 1/88; 1/52	3/2; 3/88; 3/52	3/88; 3/52; 3/2
ä	Ä	æ	Æ	f/58; f/9	f/58; f/58; f/9	d/79; f/58; f/9	d/43; f/58; f/9	1/88; 1/54	1/3; 1/88; 1/54	3/2; 3/88; 3/54	3/88; 3/54; 3/2
#	,	,	,	a/12	c/77	c/77	d/43; a/12	1/12	2/77	4/77	4/12; 4/2

6.4. Numbr Kies

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

KEY	SHIFT	ALT	ALT SHIFT	Numbr Kies (algebraic-alphabetical fractions)				Numbr Kies (numeric-consonantal fractions)			
				01	02	03	04	01	02	03	04
<	>	≤	≥	f/58; g/11	f/58; f/58; g/11	d/79; f/58; g/11	d/43; f/58; g/11	2/88; 2/56	2/3; 2/88; 2/56	4/2; 4/88; 4/56	4/88; 4/56; 4/2
y	Y	¥	‡	b/87	d/42	b/86	d/43	1/87	1/42	3/86	3/43
x	X	≈	Ù	a/85	c/40	a/86	c/41	2/85	2/40	4/86	4/41
c	C	ç	Ç	a/49	c/4	a/50	c/5	2/49	2/4	4/50	4/5
v	V	√	◊	f/81	a/37	f/82	a/38	1/81	1/37	3/82	3/38
b	B	ʃ	⟨	g/47	b/3	g/48	b/2	1/47	1/3	3/48	3/2
n	N	~	⟩	e/68	g/23	e/67	g/24	2/68	2/23	4/67	4/24
m	M	μ	˘	d/66	f/21	d/67	f/22	1/66	1/21	3/67	3/22
,	;	∞	,	f/58; a/13	f/58; f/58; a/13	d/79; f/58; a/13	d/43; f/58; a/13	2/88; 2/57	2/3; 2/88; 2/57	4/2; 4/88; 4/57	4/88; 4/57; 4/2
.	:	...	÷	f/58; b/15	f/58; f/58; b/15	d/79; f/58; b/15	d/43; f/58; b/15	2/88; 2/59	2/3; 2/88; 2/59	4/2; 4/88; 4/59	4/88; 4/59; 4/3
-	—	—	—	f/58; c/16	f/58; f/58; c/16	d/79; f/58; c/16	d/43; f/58; c/16	2/88; 2/61	2/3; 2/88; 2/61	4/2; 4/88; 4/61	4/88; 4/61; 4/4

7. Collaborative Sign Language Family (CSL+) – under construction!

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).

The finger alphabet for hearing impaired people is an important aid as a supplement to the signs (gestures) and is used to spell unknown terms or names. However, conventional finger alphabets (ASL, BSL) are not suitable for longer conversations. Nevertheless, as a supplement to the SMOL Ideogrammar it is an important aid in communicating with SMOL beginners.

In contrast to conventional finger alphabet, the individual letters of the alphabet are indicated by different hand shapes of the same hand or both hands. Usually it is only used to spell abbreviations, short messages (SMS), foreign words (Wellish), dialects and proper names in SMOL and its alphabetical arrangements (NewMorse, VisualBraille).

As with deaf people, the finger alphabet is not the actual language, but the sign language. In SMOL, the finger alphabet is used as gesture language known as **Beyond Gestures**. It has its own Ideogrammar in which not only the sign words, but also the «How and Wow of facial expressions, mouth gestures, head posture and body language» play an essential role.

Also, hand shapes can point to body parts (m to mouth, e to eyes and ears, index finger to head for mind, t to head for think, s to close mouth for stop talking, s to open mouth for speak openly and so on). So-called finger phrases are called **Impossible Fingers** in SMOL. Preceded characters (male and female ordinal indicator, number and capital sign, single and double daggers) are also used here as it has already established itself in SMOL.

We want to use the finger alphabet with the back of the hand as well as with the palm of the hand, but also closed and spread fingers, stretched and curved fingers for spelling. As a result, this significantly expands the character set, then we are able to depict (to handset) all signs, letters and punctuation with the help of fingers. CSL+ uses the *direction of movement* and the *axis of rotation* by means of arrows to expand the grammar. At the same time, the use of both hands for the simplest letter in BSL is eliminated; instead, the use of both hands characterizes the representation of punctuation and vowel sounds.

Law of Arrangement of single hand: SMS thumb (1), index finger (2), mid finger (3), ring finger (4), baby finger (5). Except of the thumb each finger has three phalanx.

Each sign is a paired composition of palm with crooked and stretched phalanxes, so that the representation of the dominant and non-dominant hand are mirror-inverted. Although this is not always evident with ASL-based fonts.

Like spoken language, **Beyond Gestures** is an independent and full-fledged Collaborative Sign Language Family (CSL+) that can be used to express anything in finger phrases. The index finger can also used as moral or pointer finger or *Second Digit* (a dah with two dit length); the mid finger as *Medium Digit* (vertical ellipse with three dit length) and the baby finger as *One Digit* has one dit length.

It uses SMOL terms and idioms besides one-handed ASL. The following tableau illustrates the two-handed use of the finger alphabet (BSL) as an auxiliary tool, too.

7. Collaborative Sign Language Family (CSL+) – under construction!

Use SMOL runic+ without installing a LEFT4E font family. Use Ideogrammar and SVG at your discretion. Follow me on [GitHub](#).



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KEY	SHIFT	ALT	ALT SHIFT	ASL / BSL finger alphabet				CSL+ (Beyond Gestures/Impossible Fingers)			
				01	left-h	right-h	01	left-h	right-h	01	02
01	02	03	04							03	04
^	°	,	"		n.n.	n.n.	n.n.	n.n.			
1	!	i	¬			n.n.					
2	;"	"	"			n.n.					
3	§	¶	#			n.n.					
4	\$	¢	£			n.n.					
5	%	[fi			n.n.					
6	&]	^			n.n.					
7	/		\			n.n.					
8	({	~			n.n.					
9)	}	•			n.n.					
0	=	≠	-			n.n.					
ß	?	¿	·		n.n.	n.n.	n.n.	n.n.			
,	,	,	°		n.n.	n.n.	n.n.	n.n.			

7.2. Collaborative Sign Language Family (CSL+) – under construction!

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KEY	SHIFT	ALT	ALT SHIFT	ASL / BSL finger alphabet 01				CSL+ (Beyond Gestures/Impossible Fingers)			
01	02	03	04	left-h	right-h	left-h	right-h	01	02	03	04
q	Q	«	»		n.n.						
w	W	Σ	,		n.n.						
e	E	€	%		n.n.						
r	R	®	,		n.n.						
t	T	†	‴		n.n.						
z	Z	Ω	ˇ		n.n.						
u	U	---	Á		n.n.						
i	I	/	Û		n.n.						
o	O	ø	Ø		n.n.						
p	P	π	Π		n.n.						
ü	Ü	•	°	n.n.	n.n.	n.n.	n.n.				
+	*	±	apple logo	n.n.	n.n.	n.n.	n.n.				

7.3. Collaborative Sign Language Family (CSL+) – under construction!

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KEY	SHIFT	ALT	ALT SHIFT	ASL / BSL finger alphabet				CSL+ (Beyond Gestures/Impossible Fingers)			
01	02	03	04	left-h	right-h	left-h	right-h	01	02	03	04
a	A	å	Å		n.n.			n.n.			
s	S	,	í		n.n.			n.n.			
d	D	ð	™		n.n.			n.n.			
f	F	f	ï		n.n.			n.n.			
g	G	©	ì		n.n.			n.n.			
h	H	a	ó		n.n.			n.n.			
j	J	o	I		n.n.			n.n.			
k	K	Δ	^		n.n.			n.n.			
l	L	@	fl		n.n.			n.n.			
ö	Ö	œ	Œ	n.n.	n.n.	n.n.	n.n.	n.n.			
ä	Ä	æ	Æ	n.n.	n.n.	n.n.	n.n.	n.n.			
#	,	,	,	n.n.	n.n.	n.n.	n.n.	n.n.			

7.4. Collaborative Sign Language Family (CSL+) – under construction!

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