

SSMN (Spatialization Symbolic Music Notation)

Version 01 — Font & Glyph Description

Introduction

CREATING GRAPHIC SYMBOLS















In accordance with the SSMN Spatial Taxonomy requirements, a basic set of symbols was researched and designed with the primary criteria requiring clarity, legibility and rapid recognition. Equally, the choice between symbolic or descriptive designs becomes particularly relevant. Thus, the SSMN Symbol Set synthesizes both approaches. Depending on the requirements of a musical composition, spatialization information can be very complex; configurations consisting of simultaneous trajectories with varied types and durations require transmitting elaborate I/O data that must be readily understood and communicated to all in the chain from creator to performer to sound engineer. Communication between the target users is simplified with SSMN: the symbols could be common to various types of outputs (score, cue sheet, sound design, video editors) and the associated rendering parameters can be freely edited in available and future tools. They can also be used in remastering situations, preparation of audio tracks for video games, 3D cinema, surround radio broadcasting, theater productions, choreography and installations.
















THE SYMBOL SET















The SSMN Symbol set and subsets are organized so as to be easily inserted in a GUI. In order to facilitate the use of the SSMN symbols and their introduction into the musical score five categories of symbols related to the following aspects are initially defined:















- Physical performance space characteristics (geometrical form, size, reverberance, inside/outside)
- Initial physical placements of performers, microphones, loud speakers and objects
- Localization and quality of sound sources (acoustic and projected audio)
- Trajectories and/or displacement of sound sources, microphones, loud speakers, and objects whether individually, in groups or more complex configurations (sound clouds, planes, surfaces)
- Inter-application communication possibilities and protocols (OSC, MIDI) as well as integration with external programming environments.




Table of SSMN 01 font basic symbols (glyphs)

Group	Name [Glyph N ^a] Unicode & keyboard equivalent	Symbol	Description
Icon	SSMN Logo [Glyph] U+006D = m		> the original SSMN logo.
	Cube [Glyph 23] U+0038 = 8		> the size and volume properties of the performance space, real or virtual, e.g. common concert situation.
	Hemisphere [Glyph 10] U+0028 = (	> the size and volume properties of a semi-spherical space real, or virtual.
	Cathedral [Glyph 11] U+0029 =)		> the size and volume with vertices of a church-type performance space.
	Space [Glyph 12] U+002A = *		> unusual performance spaces.
Spatialization Mode 2D/3D	Spat2D [Glyph 14] U+002D = -		> the 2D surround projected mode to be applied.
	Spat3D [Glyph 13] U+0030		> the 3D surround projected mode to be applied.
Room Quality	Reverb [Glyph 22] U+0037 = 7		> acoustical quality of space, interaction source–room enveloppement.
External	Outside [Glyph 24] U+0039 = 9		> the location as being outside the primary performance space when placed before subsidiary symbols.
Performer Position	perf_fix [Glyph 54] U+0063 = c		> the position of the performer.
	perf_line [Glyph 73] U+0076 = v		> the displacement from a start point to an end point, in a straight line.
	perf_arc [Glyph 53] U+0062 = b		> the displacement from a start point to an end point, in a arc.
	perf_palin [Glyph 45] U+0056 = V		> the back & forth displacement (horizontal or vertical) of a performer.
	perf_rotate [Glyph 65] U+006E = n		> a rotation of a performer.

	perf_free [Glyph 28] U+0042 = B		> freedom of movement of the performer.
	perf_other [Glyph 29] U+0042 = C		> movements depending on particularities of actual space and scenic devices, e.g. obstacles, stairways, ramps, etc.
Microphone Position	mic_fix [Glyph 70] U+0073 = s		> the placement of microphones; can be equally nominally assigned to a given instrument or performer, ex. ('flute_mic' 'perf2_mic').
	mic_pendular [Glyph 75] U+0078 = x		> the placement and motion factor of suspended microphones.
	mic_choreo [Glyph 77] U+007A = z		> human driven microphone movements.
	mic_other [Glyph 57] U+0066 = f		> mechanic driven microphone movements (equally unusual configurations).
Loudspeaker Position	ls_fix [Glyph 52] U+0061 = a		> the position of the loudspeaker
	ls_line [Glyph 58] U+0067 = g		> the displacement from a start point to an end point, in a straight line.
	ls_arc [Glyph 59] U+0068 = h		> the displacement from a start point to an end point, in a arc.
	ls_up [Glyph 63] U+006C = l		> the upwards movement from a minimum to maximum.
	ls_down [Glyph 62] U+006B = k		> the downwards movement from a minimum to maximum level.
	ls_palin [Glyph 61] U+006A = j		> the back & forth displacement (horizontal or vertical) of a loudspeaker,.
	ls_pendular [Glyph 47] U+0058 = X		> the pendular swing of a loudspeaker, (manual or mechanical).
	ls_choreo [Glyph 49] U+005A = Z		> human driven loudspeaker movements.
	ls_other [Glyph 55] U+0064 = d		> mechanic driven loudspeaker movements (equally unusual configurations).

	Helical_Spring [Glyph 71] U+0074 = t		> the trajectory rotating from a start angle to an end angle with a center point moving in a constant and linear fashion (fixed helix).
	Helical_to_fro [Glyph 43] U+0054 = T		> the trajectory rotating from a start angle to an end angle with a center point moving in a constant and linear fashion (fixed helix) and returning to the point of origin.
	Spiral [Glyph 76] U+0079 = y		> the trajectory with a fixed center point, rotating outwards from an inner start angle to an outer end angle. Reverse is equally applicable
	Spiral_to_fro [Glyph 48] U+0059 = Y		> the trajectory with a fixed center point, rotating outwards from an inner start angle to an outer end angle and returning to the point of origin. Inner to outward is equally applicable.
Curve	Bezier [Glyph 72] U+0075 = u		> the curve trajectory between a start point and an end point.
	Bezier_to_fro [Glyph 44] U+0055 = U		> the curve trajectory between a start point and an end point and returning to the point of origin.
	Bezier_spline [Glyph 66] U+006F = o		> the curve trajectory with multiple breakpoints between a start point and an end point.
	Bezier_spline_to_fro [Glyph 38] U+004F = O		> the curve trajectory with multiple breakpoints between a start point and an end point returning to the start point.
	Beziergon [Glyph 67] U+0070 = p		> the closed curve trajectory with multiple breakpoints between a start point and an end point.
	Beziergon_to_fro [Glyph 39] U+0050 = P		> the closed curve trajectory with multiple breakpoints between a start point and an end point returning to the start point.
	Bernoulli8 [Glyph 60] U+0069 = i		> the Bernoulli 8 trajectory rotating from a start angle to an end angle around two fixed center points.
	Bernoulli8_to_fro [Glyph 35] U+0049 = I		> the Bernoulli 8 trajectory rotating from a start angle to an end angle around two fixed center points and returning to the point of origin.
Modifiers	Mod_sin [Glyph 5] U+0021 = !		> a periodic sinnusoidal fluctuation of an associated trajectory.
	mod_tri [Glyph 26] U+0040 = @		> a periodic triangular fluctuation of an associated trajectory.

	mod_sqr [Glyph 7] U+0024 = \$		> a periodic square wave fluctuation of an associated trajectory.
	mod_saw [Glyph 6] U+0023 = #		> a periodic saw tooth fluctuation of an associated trajectory.
	mod_rand [Glyph 8] U+0025 = %		> a random fluctuation of an associated trajectory.
Spatial relationship	Scale [Glyph 50] U+005E = ^		> the intensity ration of source input to output and its evolution.
	Doppler [Glyph 9] U+0026 = &		> the Doppler effect on an overall time/area
Stop/End markers	spat_end [Glyph 17] U+0032 = 2		> the termination of the action of a previous symbol.
	mod_end [Glyph 18] U+0033 = 3		> the termination of the action of a modifier.
	spat_mod_end [Glyph 19] U+0034 = 4		> the termination of the action of a previous symbol and its modifier.
	traj_pause [Glyph 20] U+0035 = 5		> the pause fonction for a trajectory activity.
	Traj_pause_end [Glyph 21] U+0036 = 6		> the resume fonction after the pause fonction.
Other symbols	Clef [Glyph 16] U+0031 = 1		> the SSMN clef for SSMN dedicated staff.
	Cloud [Glyph 37] U+004B = K		> a cloud/granular-type of spatialization
	Planes [Glyph 36] U+004A = J		> 2D/3D position of surround planes.
	OSC [Glyph 25] U+003D = =		> the OSC message at the given destination.

	Algo [Glyph 13] U+002B = +		> the command path (link) to external algorithms
unassigned	Notes [Glyph 81] U+E945		> notation displacement
	Object [Glyph 80] U+E92B		> objects displacement

Font information (source: Font Book)

PostScript name SSMN01Regular
 Full name SSMN 01
 Family SSMN 01
 Style Regular
 Kind PostScript Type1
 Version Version 1.007;Fontself Maker 3.5.4
 Location /Users/emile_ellberger/Library/Fonts/SSMN01(2).otf
 Unique name 1.007;SSMN01Regular
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 Description The SSMN Font is an output of the Sound Spatialization Music Notation research project (2010-2020) at the Institute for Computer Music and Sound Technology (ICST), Zurich, Switzerland. Symbols are created to allow composers to visually represent sound spatialization movement parameters.
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SSMN Glyphs in MuseScoreSSMN3

