

SMuFL

Standard Music Font Layout

Version 0.4 (2013-05-20)

Acknowledgements

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This document also currently reproduces some glyphs from the Unicode 6.2 code chart for the Musical Symbols range (<http://www.unicode.org/charts/PDF/U1D100.pdf>). These glyphs are the copyright of their respective copyright holders, listed on the Unicode Consortium web site here:

<http://www.unicode.org/charts/fonts.html>

Version history

Version 0.1 (2013-01-31)

- Initial version.

Version 0.2 (2013-02-08)

- Added **Tick barline** (U+E036).
- Changed names of time signature, tuplet and figured bass digit glyphs to ensure that they are unique.
- Add upside-down and reversed G, F and C clefs for canzicrans and inverted canons (U+E074–U+E078).
- Added **Time signature +** (U+E08C) and **Time signature fraction slash** (U+E08D) glyphs.
- Added **Black diamond notehead** (U+E0BC), **White diamond notehead** (U+E0BD), **Half-filled diamond notehead** (U+E0BE), **Black circled notehead** (U+E0BF), **White circled notehead** (U+E0C0) glyphs.
- Added 256th and 512th note glyphs (U+E110–U+E113).
- All symbols shown on combining stems now also exist as separate symbols.
- Added reversed sharp, natural, double flat and inverted flat and double flat glyphs (U+E172–U+E176) for canzicrans and inverted canons.
- Added trill wiggle segment (U+E214), glissando wiggle segment (U+E226) and arpeggiato wiggle segment (U+E47D) glyphs.
- Added string **Half-harmonic** (U+E2A3), **Overpressure down bow** (U+E2A9) and **Overpressure up bow** (U+E2AA) glyphs.
- Added **Breath mark** (U+E2D0) glyph.
- Added angled beater pictograms for xylophone, timpani and yarn beaters.
- Added alternative glyph for **Half-open** (U+E445), per Weinberg.
- Added **Scrape from rim to center** (U+E46A) and **Scrape around rim** (U+E46B) glyphs.
- Added **Start of stimme** (U+E4B2) glyph.
- Added colon for tuplet ratios (U+E502).
- Added stem down versions of mensural notes (U+E575 etc.), and signum congruentia and custos glyphs.
- Added three additional mensuration signs (U+E5B3, U+E5B7, U+E5BA).
- Added Riemann function symbols glyphs (U+E630–U+E652).

Version 0.3 (2013-03-11):

- Moved combining flags glyphs U+E14A and U+E14B to U+E14E and U+E14F to accommodate glyphs for 256th note stem up (U+E14A), 256th note stem down (U+E14B), 512th note stem up (U+E14C) and 512th note stem down (U+E14D).

Version 0.4 (2013-05-16):

- Added range for Arel-Ezgi-Uzdilek (AEU) accidentals for Turkish maqam music (U+E660–U+E667).
- Added equals sign (U+E08E) and open time signature (U+E08F) glyphs.

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About SMuFL

A brief history of music fonts

Computer software has been displaying musical symbols of various kinds since the 1960s, but the first font for musical symbols did not arrive until 1985, when Cleo Huggins designed Sonata for Adobe.¹

Sonata mapped the musical symbols onto keys on the standard QWERTY keyboard, using some simple mnemonics (the treble G clef, for example, was mapped onto the **&** key, and the sharp sign onto **#**). Most music fonts developed since then, including Steve Peha's Petrucci (the first music font for Finale, dating from 1988²) and Jonathan Finn's Opus (the first music font for Sibelius, dating from 1993), have followed Sonata's layout.

However, since Sonata includes fewer than 200 glyphs, and even conventional music notation³ requires many more symbols than that, individual vendors have devised their own mappings for glyphs beyond Sonata's initial set.

By 2013, for example, the Opus font family that is still Sibelius's default font set contains no fewer than 18 fonts with more than 600 glyphs between them.

In 1998, Perry Roland of the University of Virginia drafted a proposal for a new range of musical symbols to be incorporated into the Unicode Standard⁴. This range of 220 glyphs was duly accepted into the Unicode Standard, and those symbols are found at code points U+1D100–U+1D1FF⁵. However, its repertoire of 220 symbols does not extend dramatically beyond the scope of the original 1985 version of Sonata, though it does add symbols for mensural and Gregorian notation.

To date the only commercially available music font that uses the Unicode mapping is Adobe Sonata Std, and its repertoire is incomplete.

How SMuFL is organized

The aim of the Standard Music Font Layout (SMuFL) is to provide the basis for music font mapping for the age of Unicode and OpenType fonts.

SMuFL uses the standard Private Use Area in the Basic Multilingual Plane (starting at code point U+E000), and currently includes 800 glyphs. SMuFL is a superset of the Unicode Musical Symbols range, and it is recommended that common glyphs are included both at code points in SMuFL and in the Unicode Musical Symbols range. In

¹ See <http://www.identifont.com/show?12A>

² See <http://blog.finalemusic.com/post/2010/02/18/Meet-Steve-Peha-creator-of-Petrucci-Finales-first-music-font.aspx>

³ A term coined by [Donald Byrd](http://www.lib.virginia.edu/artsandmedia/dmmc/Music/UnicodeMusic/), Senior Scientist and Adjunct Associate Professor of Informatics at Indiana University.

⁴ See <http://www.lib.virginia.edu/artsandmedia/dmmc/Music/UnicodeMusic/>

⁵ See <http://www.unicode.org/charts/PDF/U1D100.pdf>

the tables of glyphs in this document, where glyphs are shared between SMuFL and the Unicode Musical Symbols range, the Unicode Musical Symbols code point is shown below the glyph description.

The groupings of glyphs within SMuFL are based on the groupings defined by Perry Roland in the Unicode Musical Symbols range, but with finer granularity. There are 57 groups of glyphs, proceeding roughly in order from least to most idiomatic, i.e. specific to particular instruments, types of music, or historical periods. The grouping has no significance other than acting as an attempt to provide an overview of the included glyphs.

Room for future expansion has been left in each group, with a minimum of 8 unused code points between groups in this initial version. Where a group already contains a larger number of glyphs, more room for future expansion has been left.

Implementations

To date the only implementation of SMuFL is in Bravura, an OpenType font released under the SIL Open Font License that can be downloaded from <http://www.smufl.org/fonts>

The example glyphs in this document are all taken from Bravura.

Sources for symbols

In addition to surveying the music fonts supplied with Sibelius and Finale, the following texts were consulted as sources for musical symbols:

- Balestrieri, Donald. *Registers of the Standard Stradella Keyboard*. USA: Accord Magazine, 1979.⁶
- Draugsvoll, Geir & Højsgaard, Erik (translated Borregaard, Andreas). *Handbook on Accordion Notation*. Copenhagen: The Royal Danish Academy of Music in Copenhagen, 2001.⁷
- Gould, Elaine. *Behind Bars*. London: Faber Music, 2011.
- McCarty, Frank. *Notational Standards for Percussion: A Report on the Ghent Conference* (from *The Instrumentalist*, xxix). Northfield, IL: The Instrumentalist Publishing Co., 1975.
- Roland, Perry. *Proposal for Encoding Western Music Symbols in ISO/IEC 10646*. Virginia: University of Virginia, 1998.
- Salzedo, Carlos. *Modern Study of the Harp*. London: G. Schirmer, 1921.

⁶ See <http://www.accordions.com/articles/stradella.aspx>

⁷ See http://www.rednoteensemble.com/Calls_for_Scores_files/Handbook%20on%20Accordion%20Notation.pdf

- Stone, Kurt. *Music Notation in the Twentieth Century: A Practical Guidebook*. New York: W.W. Norton, 1980.
- Weinberg, Norman. *Guide to Standardized Drumset Notation*. Lawton: Percussive Arts Society, Inc., 1998.
- "Ornaments", Grove Music Online, ed. L. Macy (accessed January 24 2013)
- *AGEHR Handbell and Handchime Notation Booklet*, 8th ed. Dayton: Lorenz, 2010.⁸

Missing symbols?

If you know of any commonly used symbols that are not included in SMuFL, please contact Daniel Spreadbury (d.spreadbury@steinberg.de) with details.

License

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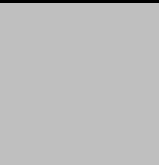
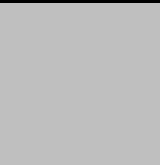
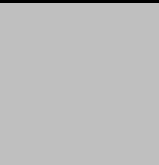
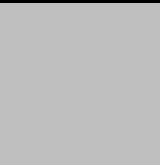
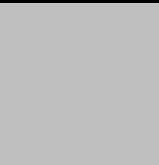

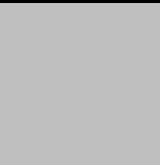









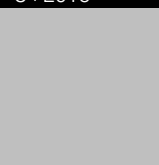
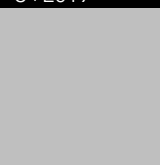
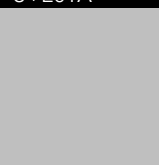
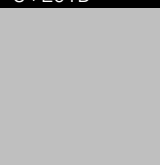
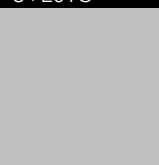
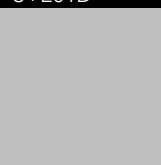
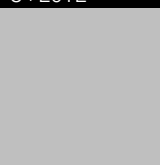
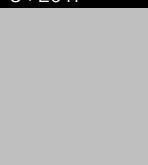
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⁸ A summary of the main notations prescribed in this book can be found at <http://www.handbellworld.com/music/HandbellNotation.cfm>

Staff brackets (U+E000–U+E01F)

U+E000	U+E001	U+E002	U+E003	U+E004	U+E005	U+E006	U+E007
							
Brace <i>Also U+1D114</i>	Reversed Brace	Bracket <i>Also U+1D115</i>	Bracket top	Bracket bottom	Reversed bracket top	Reversed bracket bottom	System divider
U+E008	U+E009	U+E00A	U+E00B	U+E00C	U+E00D	U+E00E	U+E00F
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E010	U+E011	U+E012	U+E013	U+E014	U+E015	U+E016	U+E017
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E018	U+E019	U+E01A	U+E01B	U+E01C	U+E01D	U+E01E	U+E01F
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

The brace glyph (U+E000) should be scaled vertically in a scoring application to the appropriate height of the two or more staves it encompasses.

U+E002 (i.e. U+1D115) is a complete bracket of a fixed height useful for displaying brackets in text-based documents or applications.

To display a bracket of variable height in a scoring application, use U+E003 and U+E004 as the top and bottom terminals of a bracket drawn using a stroked line or filled rectangle of the appropriate width.









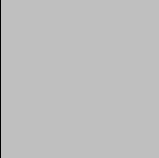
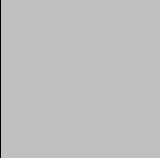





Staves (U+E020–U+E02F)

U+E020	U+E021	U+E022	U+E023	U+E024	U+E025	U+E026	U+E027
—	=	≡	≡≡	≡≡≡	≡≡≡≡		
1-line staff <i>Also U+1D116</i>	2-line staff <i>Also U+1D117</i>	3-line staff <i>Also U+1D118</i>	4-line staff <i>Also U+1D119</i>	5-line staff <i>Also U+1D11A</i>	6-line staff <i>Also U+1D11B</i>	<i>Unused</i>	<i>Unused</i>
U+E028	U+E029	U+E02A	U+E02B	U+E02C	U+E02D	U+E02E	U+E02F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring programs should draw their own staff lines using primitives, not use the glyphs in this range.

Barlines (U+E030–U+E03F)

U+E030	U+E031	U+E032	U+E033	U+E034	U+E035	U+E036	U+E037
							
Single barline <i>Also U+1D100</i>	Double barline <i>Also U+1D101</i>	Final barline <i>Also U+1D102</i>	Reverse final barline <i>Also U+1D103</i>	Dashed barline <i>Also U+1D104</i>	Short barline <i>Also U+1D105</i>	Tick barline	<i>Unused</i>
U+E038	U+E039	U+E03A	U+E03B	U+E03C	U+E03D	U+E03E	U+E03F
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring programs should draw their own barlines using primitives, not use the glyphs in this range.

Repeats (U+E040–U+E05F)


























U+E040	U+E041	U+E042	U+E043	U+E044	U+E045	U+E046	U+E047
Left repeat sign <i>Also U+1D106</i>	Right repeat sign <i>Also U+1D107</i>	Repeat dots <i>Also U+1D108</i>	Dal segno <i>Also U+1D109</i>	Da capo <i>Also U+1D10A</i>	Segno <i>Also U+1D10B</i>	Coda <i>Also U+1D10C</i>	Segno (serpent)
U+E048	U+E049	U+E04A	U+E04B	U+E04C	U+E04D	U+E04E	U+E04F
Segno (serpent with vertical lines)	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E050	U+E051	U+E052	U+E053	U+E054	U+E055	U+E056	U+E057
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E058	U+E059	U+E05A	U+E05B	U+E05C	U+E05D	U+E05E	U+E05F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring programs should draw their own repeat barlines using primitives to draw the thick and thin lines and U+E042 to draw the dots, not use the precomposed glyphs U+E040 or U+E041.

U+E043 and U+E044 are provided for compatibility with the Unicode Musical Symbols range. Scoring applications should allow the user to specify the appearance of the *da capo* and *dal segno* instructions using any regular text font.

Clefs (U+E060–U+E07F)

U+E060	U+E061	U+E062	U+E063	U+E064	U+E065	U+E066	U+E067
							
G clef <i>Also U+1D11E</i>	G clef ottava bassa <i>Also U+1D120</i>	G clef ottava alta <i>Also U+1D11F</i>	G clef quindicesima alta	G clef ottava bassa (old style)	C clef <i>Also U+1D121</i>	F clef <i>Also U+1D122</i>	F clef ottava bassa <i>Also U+1D124</i>
U+E068	U+E069	U+E06A	U+E06B	U+E06C	U+E06D	U+E06E	U+E06F
							
F clef ottava alta <i>Also U+1D123</i>	F clef quindicesima alta	Percussion clef 1 <i>Also U+1D125</i>	Percussion clef 2 <i>Also U+1D126</i>	6-string tab clef	6-string tab clef (tall)	4-string tab clef	4-string tab clef (tall)
U+E070	U+E071	U+E072	U+E073	U+E074	U+E075	U+E076	U+E077
							
Triangular C clef	Triangular F clef	C clef to F clef	F clef to C clef	Reversed G clef	Upside-down G clef	Reversed C clef	Reversed F clef
U+E078	U+E079	U+E07A	U+E07B	U+E07C	U+E07D	U+E07E	U+E07F
							
Upside-down F clef	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring applications may choose to create *ottava alta* and *ottava bassa* versions of the G clef and F clef by combining U+E060 and U+E066 with U+E1F0 (8) and U+E1F4 (15).

The basic G clef, F clef and C clef symbols can be positioned at different vertical positions relative to the staff as required (e.g. the C clef can be positioned to create an alto or tenor clef).

Time signatures (U+E080–U+E09F)

U+E080	U+E081	U+E082	U+E083	U+E084	U+E085	U+E086	U+E087
0	1	2	3	4	5	6	7
Time signature 0	Time signature 1	Time signature 2	Time signature 3	Time signature 4	Time signature 5	Time signature 6	Time signature 7

U+E088	U+E089	U+E08A	U+E08B	U+E08C	U+E08D	U+E08E	U+E08F
8	9	¢	¢	+	/	=	X
Time signature 8	Time signature 9	Common time Also U+1D134	Cut time Also U+1D135	Time signature +	Time signature fraction slash	Time signature equals	Open time signature

U+E090	U+E091	U+E092	U+E093	U+E094	U+E095	U+E096	U+E097
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

U+E078	U+E079	U+E07A	U+E07B	U+E07C	U+E07D	U+E07E	U+E07F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

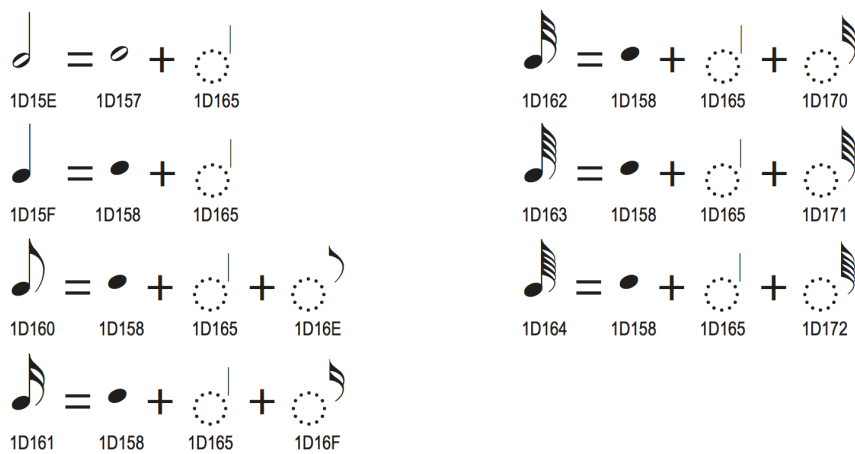
Noteheads (U+E0A0–U+E0CF)

U+E0A0	U+E0A1	U+E0A2	U+E0A3	U+E0A4	U+E0A5	U+E0A6	U+E0A7
×	+	⊗	⊘	◻	■	△	▲
X notehead <i>Also U+1D143</i>	Plus notehead <i>Also U+1D144</i>	Circle X notehead <i>Also U+1D145</i>	Void notehead with X	Square notehead white <i>Also U+1D146</i>	Square notehead black <i>Also U+1D147</i>	Triangle notehead up white <i>Also U+1D148</i>	Triangle notehead up black <i>Also U+1D149</i>
U+E0A8	U+E0A9	U+E0AA	U+E0AB	U+E0AC	U+E0AD	U+E0AE	U+E0AF
▵	▴	▶	▷	▾	▿	▹	▸
Triangle notehead left white <i>Also U+1D14A</i>	Triangle notehead left black <i>Also U+1D14B</i>	Triangle notehead right white <i>Also U+1D14C</i>	Triangle notehead right black <i>Also U+1D14D</i>	Triangle notehead down white <i>Also U+1D14E</i>	Triangle notehead down black <i>Also U+1D14F</i>	Triangle notehead up right white <i>Also U+1D150</i>	Triangle notehead up right black <i>Also U+1D151</i>
U+E0B0	U+E0B1	U+E0B2	U+E0B3	U+E0B4	U+E0B5	U+E0B6	U+E0B7
☾	☾	▽	▼	()	◌	●	
Moon notehead white <i>Also U+1D152</i>	Moon notehead black <i>Also U+1D153</i>	Triangle-round notehead down white <i>Also U+1D154</i>	Triangle-round notehead down black <i>Also U+1D155</i>	Parenthesis notehead <i>Also U+1D156</i>	Void notehead <i>Also U+1D157</i>	Black notehead <i>Also U+1D158</i>	Null notehead <i>Also U+1D159</i>
U+E0B8	U+E0B9	U+E0BA	U+E0BB	U+E0BC	U+E0BD	U+E0BE	U+E0BF
◌	◌	◌	◌	◆	◆	◆	●
Slashed black notehead (bottom left to top right)	Slashed black notehead (top left to bottom right)	Slashed white notehead (bottom left to top right)	Slashed white notehead (top left to bottom right)	Black diamond notehead	White diamond notehead	Half-filled diamond notehead	Black circled notehead
U+E0C0	U+E0C1	U+E0C2	U+E0C3	U+E0C4	U+E0C5	U+E0C6	U+E0C7
◌							
White circled notehead	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

U+E0C8	U+E0C9	U+E0CA	U+E0CB	U+E0CC	U+E0CD	U+E0CE	U+E0CF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

These noteheads should be combined with stems and flags as necessary to create complete notes. In text-based applications, per the Unicode Musical Symbols documentation:






Scoring applications should draw stems using primitives, rather than using U+E120 (i.e. U+1D165 as shown in the above image⁹), so that they can be drawn to the correct length.

See *also* the implementation notes for flags (U+E140–U+E15F).

⁹ From Chapter 15 “Symbols”, *The Unicode Standard, Version 6.2*. Ed. Julie D. Allen et al. Mountain View; The Unicode Consortium, 2012.










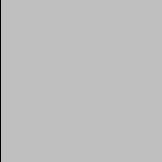
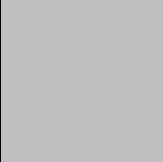


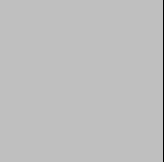
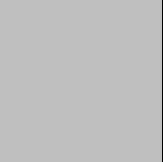

Slash noteheads (U+E0D0–U+E0DF)

U+E0D0	U+E0D1	U+E0D2	U+E0D3	U+E0D4	U+E0D5	U+E0D6	U+E0D7
							
Slash with vertical ends	Slash with horizontal ends Also U+1D10D	White slash	Large white diamond	Small slash with vertical ends	Large X notehead	Unused	Unused
U+E0D8	U+E0D9	U+E0DA	U+E0DB	U+E0DC	U+E0DD	U+E0DE	U+E0DF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

See the implementation notes for noteheads (U+E0A0–U+E0CF).





Round and square noteheads (U+E0E0–U+E0EF)

U+E0E0	U+E0E1	U+E0E2	U+E0E3	U+E0E4	U+E0E5	U+E0E6	U+E0E7
							
Large round black notehead	Large round white notehead	Large round white notehead with dot	Round black notehead	Round white notehead	Round white notehead with dot	Large square black notehead	Large square white notehead
U+E0E8	U+E0E9	U+E0EA	U+E0EB	U+E0EC	U+E0ED	U+E0EE	U+E0EF
							
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

See the implementation notes for noteheads (U+E0A0–U+E0CF).

Note clusters (U+E0F0–U+E0FF)






















U+E0F0	U+E0F1	U+E0F2	U+E0F3	U+E0F4	U+E0F5	U+E0F6	U+E0F7
							
Cluster notehead white (square) Also U+1D15A	Cluster notehead black (square) Also U+1D15B	Cluster notehead white (round)	Cluster notehead black (round)	Unused	Unused	Unused	Unused
U+E0F8	U+E0F9	U+E0FA	U+E0FB	U+E0FC	U+E0FD	U+E0FE	U+E0FF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

Scoring applications should draw clusters directly using primitives rather than using these glyphs, so that the clusters can be drawn spanning the correct interval.

See also the implementation notes for noteheads (U+E0A0–U+E0CF).

Notes (U+E100–U+E11F)










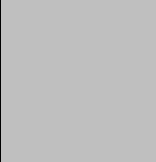
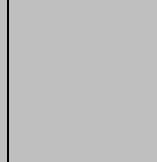


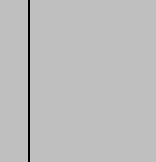


U+E100	U+E101	U+E102	U+E103	U+E104	U+E105	U+E106	U+E107
							
Double whole note (breve) Also U+1D15C	Whole note (semibreve) Also U+1D15D	Half note (minim) stem up Also U+1D15E	Half note (minim) stem down	Quarter note (crotchet) stem up Also U+1D15F	Quarter note (crotchet) stem down	Eighth note (quaver) stem up Also U+1D160	Eighth note (quaver) stem down
U+E108	U+E109	U+E10A	U+E10B	U+E10C	U+E10D	U+E10E	U+E10F
							
16th note stem up Also U+1D161	16th note stem down	32nd note stem up Also U+1D162	32nd note stem down	64th note stem up Also U+1D163	64th note stem down	128th note stem up Also U+1D164	128th note stem down
U+E110	U+E111	U+E112	U+E113	U+E114	U+E115	U+E116	U+E117
							
256th note stem up	256th note stem down	512th note stem up	512th note stem down	Augmentation dot Also U+1D16D	Unused	Unused	Unused
U+E118	U+E119	U+E11A	U+E11B	U+E11C	U+E11D	U+E11E	U+E11F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

Scoring applications may use U+E100 and U+E101 directly (since these notes never have stems), but all other notes should be drawn by combining notehead glyphs — namely U+E0B6 for quarter notes (crotchets) and shorter notes, and U+E0B5 for half notes (minims) — with stems drawn using primitives.

The precomposed note glyphs between U+E102 and U+E10F should be used for displaying metronome marks and simple metric modulations (e.g. $\text{♩} = \text{♪}$). More complex metric modulations and *l'istesso tempo* directions should be drawn without using precomposed glyphs.

Stems (U+E120–U+E12F)

U+E120	U+E121	U+E122	U+E123	U+E124	U+E125	U+E126	U+E127
							
Stem <i>Also U+1D165</i>	Sprechgesang stem <i>Also U+1D166</i>	Swished stem	Penderecki unmeasured tremolo stem	Sul ponticello (bow behind bridge) stem	Bow on bridge stem	Bow on tailpiece stem	Buzz roll stem
U+E128	U+E129	U+E12A	U+E12B	U+E12C	U+E12D	U+E12E	U+E12F
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

The glyphs shown here may be combined with noteheads (U+E0A0–U+E0CF) to produce precomposed glyphs with a fixed stem length.

Scoring applications should produce this effect by imposing the required symbol on a stem drawn using a primitive line, rather than using these precomposed stem glyphs:

- Sprechgesang (U+E2E6)
- Swish (U+E5D1)
- Penderecki unmeasured tremolo (U+E137)
- Sul ponticello (U+E2A6)
- Bow on bridge (U+E2A7)
- Bow on tailpiece (U+E2A8)
- Buzz roll (U+E136)

Tremolos (U+E130–U+E13F)

































U+E130	U+E131	U+E132	U+E133	U+E134	U+E135	U+E136	U+E137
Combining tremolo 1 <i>Also U+1D167</i>	Combining tremolo 2 <i>Also U+1D168</i>	Combining tremolo 3 <i>Also U+1D169</i>	Fingered tremolo 1 <i>Also U+1D16A</i>	Fingered tremolo 2 <i>Also U+1D16B</i>	Fingered tremolo 3 <i>Also U+1D16C</i>	Buzz roll	Penderecki unmeasured tremolo
U+E138	U+E139	U+E13A	U+E13B	U+E13C	U+E13D	U+E13E	U+E13F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring applications may simply use multiple instances of U+E130 imposed on note stems to draw one-note tremolos with different numbers of slashes.

The fingered tremolo glyphs (U+E133–U+E135) are for two-note tremolos. Scoring applications should draw two-note tremolos using the same primitives used for drawing beams, rather than using these glyphs.
























Flags (U+E140–U+E15F)

U+E140	U+E141	U+E142	U+E143	U+E144	U+E145	U+E146	U+E147
							
Combining flag 1 (8th) above <i>Also U+1D16E</i>	Combining flag 1 (8th) below	Combining flag 2 (16th) above <i>Also U+1D16F</i>	Combining flag 2 (16th) below	Combining flag 3 (32nd) above <i>Also U+1D170</i>	Combining flag 3 (32nd) below	Combining flag 4 (64th) above <i>Also U+1D171</i>	Combining flag 4 (64th) below
U+E148	U+E149	U+E14A	U+E14B	U+E14C	U+E14D	U+E14E	U+E14F
							
Combining flag 5 (128th) above <i>Also U+1D172</i>	Combining flag 5 (128th) below	Combining flag 6 (256th) above	Combining flag 6 (256th) below	Combining flag 7 (512th) above	Combining flag 7 (512th) below	Internal combining flag above	Internal combining flag below
U+E150	U+E151	U+E152	U+E153	U+E154	U+E155	U+E156	U+E157
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E158	U+E159	U+E15A	U+E15B	U+E15C	U+E15D	U+E15E	U+E15F
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring applications may create groups of flags for notes shorter than 16th notes (semiquavers) by combining U+E142 with the required number of U+E14A for stem up notes, or U+E143 with the required number of U+E14B for stem down notes, stacking U+E14A above or U+E14B below respectively, ensuring even spacing.











Accidentals (U+E160–U+E17F)

U+E160	U+E161	U+E162	U+E163	U+E164	U+E165	U+E166	U+E167
							
Flat <i>Also U+0266D</i>	Natural <i>Also U+0266E</i>	Sharp <i>Also U+0266F</i>	Double sharp <i>Also U+1D12A</i>	Double flat <i>Also U+1D12B</i>	Quarter flat <i>Also U+1D12C</i>	Three-quarters flat <i>Also U+1D12D</i>	Quarter sharp <i>Also U+1D12E</i>
U+E168	U+E169	U+E16A	U+E16B	U+E16C	U+E16D	U+E16E	U+E16F
							
Quarter flat <i>Also U+1D12F</i>	Three-quarters sharp <i>Also U+1D130</i>	Quarter flat <i>Also U+1D131</i>	Quarter sharp <i>Also U+1D132</i>	Quarter flat <i>Also U+1D133</i>	Reversed flat (quarter flat)	Reversed flat and flat (three-quarters flat)	Filled reversed flat (quarter flat)
U+E170	U+E171	U+E172	U+E173	U+E174	U+E175	U+E176	U+E177
							
Half sharp (quarter sharp)	One and a half sharps (three- quarters sharp)	Reversed sharp	Reversed natural	Reversed double flat	Inverted flat	Inverted double flat	<i>Unused</i>
U+E178	U+E179	U+E17A	U+E17B	U+E17C	U+E17D	U+E17E	U+E17F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>














Articulation (U+E180–U+E19F)

U+E180	U+E181	U+E182	U+E183	U+E184	U+E185	U+E186	U+E187
>	•	—	!	!	^	v	^
Accent <i>Also U+1D17B</i>	Staccato <i>Also U+1D17C</i>	Tenuto <i>Also U+1D17D</i>	Staccatissimo above <i>Also U+1D17E</i>	Staccatissimo below	Marcato above <i>Also U+1D17F</i>	Marcato below	Marcato-staccato above <i>Also U+1D180</i>
U+E188	U+E189	U+E18A	U+E18B	U+E18C	U+E18D	U+E18E	U+E18F
•	>	>	•	•	•	•	•
Marcato-staccato below	Accent-staccato above <i>Also U+1D181</i>	Accent-staccato below	Louré (tenuto- staccato) above <i>Also U+1D182</i>	Louré (tenuto- staccato) below	Stress above	Stress below	Unstress above
U+E190	U+E191	U+E192	U+E193	U+E194	U+E195	U+E196	U+E197
•	•	•					
Unstress below	Laissez vibrer (l.v.) above	Laissez vibrer (l.v.) below	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E198	U+E199	U+E19A	U+E19B	U+E19C	U+E19D	U+E19E	U+E19F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Holds and pauses (U+E1A0–U+E1BF)

U+E1A0	U+E1A1	U+E1A2	U+E1A3	U+E1A4	U+E1A5	U+E1A6	U+E1A7
							
Fermata above <i>Also U+1D110</i>	Fermata below <i>Also U+1D111</i>	Short fermata above	Short fermata below	Long fermata above	Long fermata below	Breath mark <i>Also U+1D112</i>	Caesura <i>Also U+1D113</i>
U+E1A8	U+E1A9	U+E1AA	U+E1AB	U+E1AC	U+E1AD	U+E1AE	U+E1AF
							
Thick caesura	Breath mark (Salzedo)	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E1B0	U+E1B1	U+E1B2	U+E1B3	U+E1B4	U+E1B5	U+E1B6	U+E1B7
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E1B8	U+E1B9	U+E1BA	U+E1BB	U+E1BC	U+E1BD	U+E1BE	U+E1BF
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Rests (U+E1C0–U+E1DF)

U+E1C0	U+E1C1	U+E1C2	U+E1C3	U+E1C4	U+E1C5	U+E1C6	U+E1C7
							
Longa rest	Double whole (breve) rest Also U+1D13A	Whole (semibreve) rest Also U+1D13B	Half (minim) rest Also U+1D13C	Quarter (crotchet) rest Also U+1D13D	Eighth (quaver) rest Also U+1D13E	16th (semiquaver) rest Also U+1D13F	32nd (demisemi-quaver) rest Also U+1D140
U+E1C8	U+E1C9	U+E1CA	U+E1CB	U+E1CC	U+E1CD	U+E1CE	U+E1CF
							
64th (hemidemi-semiquaver) rest Also U+1D141	128th rest Also U+1D142	256th rest	512th rest	Multiple measure rest Also U+1D129	Unused	Unused	Unused
U+E1D0	U+E1D1	U+E1D2	U+E1D3	U+E1D4	U+E1D5	U+E1D6	U+E1D7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E1D8	U+E1D9	U+E1DA	U+E1DB	U+E1DC	U+E1DD	U+E1DE	U+E1DF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

Scoring applications should draw multiple measure rests using primitives to provide variable width and line thickness rather than using U+E1CC.

“Old style” multiple measure rests can be created by laying out U+E1C0 (four bars), U+E1C1 (two bars) and U+E1C2 (one bar) next to each other.

Bar repeats (U+E1E0–U+E1EF)

U+E1E0	U+E1E1	U+E1E2	U+E1E3	U+E1E4	U+E1E5	U+E1E6	U+E1E7
⌘	⌘⌘	⌘⌘⌘⌘					
Repeat last bar Also U+1D10E	Repeat last two bars Also U+1D10F	Repeat last four bars	Unused	Unused	Unused	Unused	Unused
U+E1E8	U+E1E9	U+E1EA	U+E1EB	U+E1EC	U+E1ED	U+E1EE	U+E1EF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Octaves (U+E1F0–U+E1FF)

U+E1F0	U+E1F1	U+E1F2	U+E1F3	U+E1F4	U+E1F5	U+E1F6	U+E1F7
8	8^{va}	8^{vb}	8^{ba}	15	15^{ma}	15^{mb}	
Ottava	Ottava alta Also U+1D136	Ottava bassa Also U+1D137	Ottava bassa (ba)	Quindicesima	Quindicesima alta Also U+1D138	Quindicesima bassa Also U+1D139	Unused
U+E1F8	U+E1F9	U+E1FA	U+E1FB	U+E1FC	U+E1FD	U+E1FE	U+E1FF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

See the implementation notes for clefs (U+E060–U+E07F).

Dynamics (U+E200–U+E20F)









































U+E200	U+E201	U+E202	U+E203	U+E204	U+E205	U+E206	U+E207
<i>p</i>	<i>m</i>	<i>f</i>	<i>r</i>	<i>s</i>	<i>z</i>	<i>n</i>	<i><</i>
Piano Also U+1D18F	Mezzo Also U+1D190	Forte Also U+1D191	Rinforzando Also U+1D18C	Subito Also U+1D18D	Z Also U+1D18E	Niente	Crescendo Also U+1D192
U+E208	U+E209	U+E20A	U+E20B	U+E20C	U+E20D	U+E20E	U+E20F
<i>></i>							
Diminuendo Also U+1D193	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

Scoring applications should draw *crescendo* and *diminuendo* hairpins using primitives rather than U+E207 and U+E208 in order to provide variable width, line thickness, angle and aperture.

Ligatures could be defined for common combinations of dynamics, such as ***mp***. Special attention should be paid to kerning pairs for these glyphs.

Ornaments (U+E210–U+E26F)

U+E210	U+E211	U+E212	U+E213	U+E214	U+E215	U+E216	U+E217
							
Slashed grace note <i>Also U+1D194</i>	Grace note <i>Also U+1D195</i>	Grace note slash	Trill <i>Also U+1D196</i>	Trill wiggle segment	Turn <i>Also U+1D197</i>	Inverted turn <i>Also U+1D198</i>	Turn with slash <i>Also U+1D199</i>
U+E218	U+E219	U+E21A	U+E21B	U+E21C	U+E21D	U+E21E	U+E21F
							
Turn up <i>Also U+1D19A</i>	Ornament stroke 1 <i>Also U+1D19B</i>	Ornament stroke 2 <i>Also U+1D19C</i>	Ornament stroke 3 <i>Also U+1D19D</i>	Ornament stroke 4 <i>Also U+1D19E</i>	Ornament stroke 5 <i>Also U+1D19F</i>	Ornament stroke 6 <i>Also U+1D1A0</i>	Ornament stroke 7 <i>Also U+1D1A1</i>
U+E220	U+E221	U+E222	U+E223	U+E224	U+E225	U+E226	U+E227
							
Ornament stroke 8 <i>Also U+1D1A2</i>	Ornament stroke 9 <i>Also U+1D1A3</i>	Ornament stroke 10 <i>Also U+1D1A4</i>	Ornament stroke 11 <i>Also U+1D1A5</i>	Glissando up <i>Also U+1D1B1</i>	Glissando down <i>Also U+1D1B2</i>	Glissando wiggle segment	Tremblement simple
U+E228	U+E229	U+E22A	U+E22B	U+E22C	U+E22D	U+E22E	U+E22F
							
Double cadence	Double cadence-mordent	Cadence	Cadence	Cadence	Cadence	Cadence	Pincé (battement)
U+E230	U+E231	U+E232	U+E233	U+E234	U+E235	U+E236	U+E237
							
Tremblement simple	Cadence	Cadence	Tremblement	Mordent	Port de voix (simple)	Coulé (coulement)	Pincé (d'Anglebert)

Ornaments (U+E210–U+E26F)















U+E238	U+E239	U+E23A	U+E23B	U+E23C	U+E23D	U+E23E	U+E23F
⸮	⸮	⸮	⸮	⸮	⸮	⸮	⸮
Cheute et pincé	Accent (J.S. Bach)	Port de voix double	Port de voix	Port de voix	Forefall (Purcell)	Backfall (Purcell)	Shake
U+E240	U+E241	U+E242	U+E243	U+E244	U+E245	U+E246	U+E247
⸮	⸮	⸮	⸮	⸮	⸮	⸮	⸮
Shake	Plain note and shake	Tremblement et pincé	Pincé (Rameau)	Pincé et port de voix	Battement	Vertical line	Shake (Muffat)
U+E248	U+E249	U+E24A	U+E24B	U+E24C	U+E24D	U+E24E	U+E24F
⸮	⸮	⸮	⸮	⸮	⸮	⸮	⸮
Shake (Muffat)	Shake (Muffat)	Coulé montant	Coulé descendant	Cadence (J.S. Bach)	Cadence (C.P.E. Bach)	Double cadence	Trémblement appuyé
U+E250	U+E251	U+E252	U+E253	U+E254	U+E255	U+E256	U+E257
⸮	⸮	⸮	⸮	⸮	⸮	⸮	⸮
Double cadence coupée	Tour de chant	Balkan	Balkan	Port de voix doublé	Port de voix doublé	Shake	Shake
U+E258	U+E259	U+E25A	U+E25B	U+E25C	U+E25D	U+E25E	U+E25F
⸮	⸮	⸮					
Quilisma 3	Quilisma 4	Oriscus	Unused	Unused	Unused	Unused	Unused

U+E260	U+E261	U+E262	U+E263	U+E264	U+E265	U+E266	U+E267
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

U+E268	U+E269	U+E26A	U+E26B	U+E26C	U+E26D	U+E26E	U+E26F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

There is little agreement over the meaning, or indeed the naming, of ornaments beyond those that have survived into modern usage (trill, turn, mordent). When designing the Unicode Musical Symbols range, Perry Roland elected to develop a scheme for creating complex ornaments using a series of glyphs rather than defining precomposed glyphs for every ornament, as shown below:¹⁰















	1D19C STROKE-2 + 1D19D STROKE-3
	1D19C STROKE-2 + 1D1A0 STROKE-6 + 1D19D STROKE-3
	1D1A0 STROKE-6 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D19D STROKE-3
	1D19C STROKE-2 + 1D19C STROKE-2 + 1D1A0 STROKE-6 + 1D19D STROKE-3
	1D19C STROKE-2 + 1D19C STROKE-2 + 1D1A3 STROKE-9
	1D1A1 STROKE-7 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D19D STROKE-3
	1D1A2 STROKE-8 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D19D STROKE-3
	1D19C STROKE-2 + 1D19C STROKE-2 + 1D19D STROKE-3 + 1D19F STROKE-5
	1D1A1 STROKE-7 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D1A0 STROKE-6 + 1D19D STROKE-3
	1D1A1 STROKE-7 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D19D STROKE-3 + 1D19F STROKE-5
	1D1A2 STROKE-8 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D1A0 STROKE-6 + 1D19D STROKE-3
	1D19B STROKE-1 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D19D STROKE-3
	1D19B STROKE-1 + 1D19C STROKE-2 + 1D19C STROKE-2 + 1D19D STROKE-3 + 1D19E STROKE-4
	1D19C STROKE-2 + 1D19D STROKE-3 + 1D19E STROKE-4

¹⁰ *Ibid.*, Allen, page 539.

















Scoring applications should draw grace notes in the same way as they draw regular notes, rather than using the precomposed glyphs (U+E210 and U+E211).

Likewise, scoring applications should draw *glissandi* using multiple instances of a wiggly line segment (e.g. U+E21A), not the precomposed glyphs, to provide variable length and angle.












Brass techniques (U+E270–U+E28F)

U+E270	U+E271	U+E272	U+E273	U+E274	U+E275	U+E276	U+E277
							
Scoop	Doit <i>Also U+1D185</i>	Rip (fall) <i>Also U+1D186</i>	Plop	Flip <i>Also U+1D187</i>	Smear <i>Also U+1D188</i>	Bend <i>Also U+1D189</i>	Muted (closed)
U+E278	U+E279	U+E27A	U+E27B	U+E27C	U+E27D	U+E27E	U+E27F
							
Half-muted (half-closed)	Open	Harmon mute, closed	Harmon mute, stem-cup half-closed, left	Harmon mute, stem-cup half-closed, right	Harmon mute, stem-cup open	<i>Unused</i>	<i>Unused</i>
U+E280	U+E281	U+E282	U+E283	U+E284	U+E285	U+E286	U+E287
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E288	U+E289	U+E28A	U+E28B	U+E28C	U+E28D	U+E28E	U+E28F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Wind techniques (U+E290–U+E29F)

U+E290	U+E291	U+E292	U+E293	U+E294	U+E295	U+E296	U+E297
							
Double-tongue above <i>Also U+1D18A</i>	Double-tongue below	Triple-tongue above <i>Also U+1D18B</i>	Triple-tongue below	Closed hole	Half-closed hole	Half-closed hole 2	Open hole
U+E298	U+E299	U+E29A	U+E29B	U+E29C	U+E29D	U+E29E	U+E29F
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

String techniques (U+E2A0–U+E2BF)

U+E2A0	U+E2A1	U+E2A2	U+E2A3	U+E2A4	U+E2A5	U+E2A6	U+E2A7
							
Down bow <i>Also U+1D1AA</i>	Up bow <i>Also U+1D1AB</i>	Harmonic <i>Also U+1D1AC</i>	Half-harmonic	Mute on	Mute off	Bow behind bridge (sul ponticello)	Bow on top of bridge
U+E2A8	U+E2A9	U+E2AA	U+E2AB	U+E2AC	U+E2AD	U+E2AE	U+E2AF
							
Bow on tailpiece	Overpressure, down bow	Overpressure, up bow	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E2B0	U+E2B1	U+E2B2	U+E2B3	U+E2B4	U+E2B5	U+E2B6	U+E2B7
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E2B8	U+E2B9	U+E2BA	U+E2BB	U+E2BC	U+E2BD	U+E2BE	U+E2BF
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring applications should not use the precomposed glyphs that include stems (U+E2A5–U+E2A7) but instead draw the stems using primitives and impose the symbols upon them to ensure optimal positioning.

Plucked techniques (U+E2C0–U+E2DF)

U+E2C0	U+E2C1	U+E2C2	U+E2C3	U+E2C4	U+E2C5	U+E2C6	U+E2C7
♩	♪	♫	⤴	⤵	〰	⤶	⤷
Snap pizzicato above Also U+1D1AD	Snap pizzicato below	Buzz pizzicato	Arpeggiato up Also U+1D183	Arpeggiato down Also U+1D184	Arpeggiato wiggle segment	With fingernails Also U+1D1B3	Fingernail flick
U+E2C8	U+E2C9	U+E2CA	U+E2CB	U+E2CC	U+E2CD	U+E2CE	U+E2CF
⦿	⦿						
Damp Also U+1D1B4	Damp all Also U+1D1B5	Unused	Unused	Unused	Unused	Unused	Unused
U+E2D0	U+E2D1	U+E2D2	U+E2D3	U+E2D4	U+E2D5	U+E2D6	U+E2D7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E2D8	U+E2D9	U+E2DA	U+E2DB	U+E2DC	U+E2DD	U+E2DE	U+E2DF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused






Implementation notes

Scoring applications should draw arpeggiato markings using multiple instances of a wiggly line segment glyph rather than the precomposed glyphs (U+E2C3 and U+E2C4) to allow variable length.
















Vocal techniques (U+E2E0–U+E2FF)

U+E2E0	U+E2E1	U+E2E2	U+E2E3	U+E2E4	U+E2E5	U+E2E6	U+E2E7
✓	—	=	▢	▢	▢	×	
Breath mark	Mouth closed	Mouth slightly open	Mouth open	Mouth wide open	Mouth pursed	Sprechgesang	Unused
U+E2E8	U+E2E9	U+E2EA	U+E2EB	U+E2EC	U+E2ED	U+E2EE	U+E2EF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E2F0	U+E2F1	U+E2F2	U+E2F3	U+E2F4	U+E2F5	U+E2F6	U+E2F7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E2F8	U+E2F9	U+E2FA	U+E2FB	U+E2FC	U+E2FD	U+E2FE	U+E2FF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Keyboard techniques (U+E300–U+E31F)

U+E300	U+E301	U+E302	U+E303	U+E304	U+E305	U+E306	U+E307
					U	∩	V
Pedal mark <i>Also U+1D1AE</i>	Pedal P	Pedal up mark <i>Also U+1D1AF</i>	Half-pedal mark <i>Also U+1D180</i>	Pedal up notch	Pedal heel 1	Pedal heel 2	Pedal toe 1
U+E308	U+E309	U+E30A	U+E30B	U+E30C	U+E30D	U+E30E	U+E30F
Λ							
Pedal toe 2	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E310	U+E311	U+E312	U+E313	U+E314	U+E315	U+E316	U+E317
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E318	U+E319	U+E31A	U+E31B	U+E31C	U+E31D	U+E31E	U+E31F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Harp techniques (U+E320–U+E33F)






U+E320	U+E321	U+E322	U+E323	U+E324	U+E325	U+E326	U+E327
							
Harp pedal raised (flat)	Harp pedal centered (natural)	Harp pedal lowered (sharp)	Harp pedal divider	Slide with suppleness (Salzedo)	Oboic flux (Salzedo)	Thunder effect (Salzedo)	Whistling sounds (Salzedo)
U+E328	U+E329	U+E32A	U+E32B	U+E32C	U+E32D	U+E32E	U+E32F
							
Metallic sounds (Salzedo)	Tam-tam sounds (Salzedo)	Play at upper end of strings (Salzedo)	Timpanic sounds (Salzedo)	Muffle totally (Salzedo)	Fluidic sounds, left hand (Salzedo)	Fluidic sounds, right hand (Salzedo)	Unused
U+E310	U+E311	U+E312	U+E313	U+E314	U+E315	U+E316	U+E317
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E318	U+E319	U+E31A	U+E31B	U+E31C	U+E31D	U+E31E	U+E31F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes




U+E32D and U+E32E are similar in function to noteheads, and should be positioned relative to note stems in the same way.

U+E325 and U+E32A may be repeated to create a continuing line, indicating the duration of the technique.

































Tuned mallet percussion pictograms (U+E340–U+E34F)

U+E340	U+E341	U+E342	U+E343	U+E344	U+E345	U+E346	U+E347
							
Glockenspiel	Marimba	Vibraphone	Xylophone	Crotales	Unused	Unused	Unused
U+E348	U+E349	U+E34A	U+E34B	U+E34C	U+E34D	U+E34E	U+E34F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused









Chimes pictograms (U+E350–U+E35F)

U+E350	U+E351	U+E352	U+E353	U+E354	U+E355	U+E356	U+E357
							
Tubular bells	Wind chimes (glass)	Chimes	Unused	Unused	Unused	Unused	Unused
U+E358	U+E359	U+E35A	U+E35B	U+E35C	U+E35D	U+E35E	U+E35F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused



Drums pictograms (U+E360–U+E37F)

U+E360	U+E361	U+E362	U+E363	U+E364	U+E365	U+E366	U+E367
							
Timpani	Snare drum	Snare drum, snares off	Military snare drum	Bass drum	Bass drum on side	Tenor drum	Tom-tom
U+E368	U+E369	U+E36A	U+E36B	U+E36C	U+E36D	U+E36E	U+E36F
							
Tambourine	Timbales	Bongos	Conga	Log drum	Slit drum	Brake drum	Goblet drum (djembe, dumbek)
U+E370	U+E371	U+E372	U+E373	U+E374	U+E375	U+E376	U+E377
							
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E378	U+E379	U+E37A	U+E37B	U+E37C	U+E37D	U+E37E	U+E37F
							
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused






Wooden struck or scraped percussion pictograms (U+E380–U+E38F)

U+E380	U+E381	U+E382	U+E383	U+E384	U+E385	U+E386	U+E387
							
Wood block	Temple blocks	Claves	Guiro	Ratchet	Whip	Board clapper	Castanets
U+E388	U+E389	U+E38A	U+E38B	U+E38C	U+E38D	U+E38E	U+E38F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused











Metallic struck percussion pictograms (U+E390–U+E397)

U+E390	U+E391	U+E392	U+E393	U+E394	U+E395	U+E396	U+E397
							
Triangle	Anvil	Unused	Unused	Unused	Unused	Unused	Unused





Bells pictograms (U+E398–U+E3A7)

U+E398	U+E399	U+E39A	U+E39B	U+E39C	U+E39D	U+E39E	U+E39F
							
Sleigh bell	Cow bell	Almglocken	Bell plate	Bell	Unused	Unused	Unused
U+E3A0	U+E3A1	U+E3A2	U+E3A3	U+E3A4	U+E3A5	U+E3A6	U+E3A7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused







Cymbals pictograms (U+E3A8–U+E3C7)

U+E3A8	U+E3A9	U+E3AA	U+E3AB	U+E3AC	U+E3AD	U+E3AE	U+E3AF
							
Crash cymbals	Suspended cymbal	Hi-hat	Hi-hat cymbal on stand	Sizzle cymbal	Vietnamese hat cymbal	Finger cymbals	Cymbal tongs
U+E3B0	U+E3B1	U+E3B2	U+E3B3	U+E3B4	U+E3B5	U+E3B6	U+E3B7
							
Bell of cymbal	Edge of cymbal	Unused	Unused	Unused	Unused	Unused	Unused
U+E3B8	U+E3B9	U+E3BA	U+E3BB	U+E3BC	U+E3BD	U+E3BE	U+E3BF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E3C0	U+E3C1	U+E3C2	U+E3C3	U+E3C4	U+E3C5	U+E3C6	U+E3C7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused









Gongs pictograms (U+E3C8–U+E3D7)


U+E3C8	U+E3C9	U+E3CA	U+E3CB	U+E3CC	U+E3CD	U+E3CE	U+E3CF
							
Tam-tam	Gong	Gong with button (nipple)	Slide brush on gong	Unused	Unused	Unused	Unused
U+E3D0	U+E3D1	U+E3D2	U+E3D3	U+E3D4	U+E3D5	U+E3D6	U+E3D7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Shakers or rattles pictograms (U+E3D8–E3E7)

U+E3D8	U+E3D9	U+E3DA	U+E3DB	U+E3DC	U+E3DD	U+E3DE	U+E3DF
							
Flexatone	Maracas	Cabasa	Thundersheet	Vibraslap	Sistrum	Unused	Unused
U+E3E0	U+E3E1	U+E3E2	U+E3E3	U+E3E4	U+E3E5	U+E3E6	U+E3E7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Whistles and aerophones pictograms (U+E3E8–U+E407)





U+E3E8	U+E3E9	U+E3EA	U+E3EB	U+E3EC	U+E3ED	U+E3EE	U+E3EF
							
Slide whistle	Bird whistle	Police whistle	Siren	Wind machine	Car horn	Klaxon horn	Duck call

U+E3F0	U+E3F1	U+E3F2	U+E3F3	U+E3F4	U+E3F5	U+E3F6	U+E3F7
							
Wind whistle (or mouth siren)	Unused	Unused	Unused	Unused	Unused	Unused	Unused









































U+E3F8	U+E3F9	U+E3FA	U+E3FB	U+E3FC	U+E3FD	U+E3FE	U+E3FF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

U+E400	U+E401	U+E402	U+E403	U+E404	U+E405	U+E406	U+E407
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused





































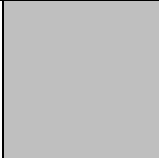

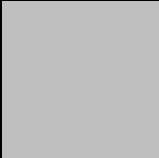
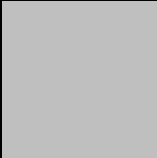
Miscellaneous percussion instrument pictograms (U+E408–U+E417)

U+E408	U+E409	U+E40A	U+E40B	U+E40C	U+E40D	U+E40E	U+E40F
							
Pistol shot	Cannon	Sandpaper blocks	Lion's roar	Unused	Unused	Unused	Unused
U+E410	U+E411	U+E412	U+E413	U+E414	U+E415	U+E416	U+E417
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Beaters pictograms (U+E418–U+E467)

U+E418	U+E419	U+E41A	U+E41B	U+E41C	U+E41D	U+E41E	U+E41F
							
Soft xylophone stick up	Soft xylophone stick down	Soft xylophone stick right	Soft xylophone stick left	Medium xylophone stick up	Medium xylophone stick down	Medium xylophone stick right	Medium xylophone stick left
U+E420	U+E421	U+E422	U+E423	U+E424	U+E425	U+E426	U+E427
							
Hard xylophone stick up	Hard xylophone stick down	Hard xylophone stick right	Hard xylophone stick left	Wood xylophone stick up	Wood xylophone stick down	Wood xylophone stick right	Wood xylophone stick left
U+E428	U+E429	U+E42A	U+E42B	U+E42C	U+E42D	U+E42E	U+E42F
							
Soft timpani stick up	Soft timpani stick down	Soft timpani stick right	Soft timpani stick left	Medium timpani stick up	Medium timpani stick down	Medium timpani stick right	Medium timpani stick left
U+E430	U+E431	U+E432	U+E433	U+E434	U+E435	U+E436	U+E437
							
Hard timpani stick up	Hard timpani stick down	Hard timpani stick right	Hard timpani stick left	Wood timpani stick up	Wood timpani stick down	Wood timpani stick right	Wood timpani stick left
U+E438	U+E439	U+E43A	U+E43B	U+E43C	U+E43D	U+E43E	U+E43F
							
Soft bass drum stick up	Soft bass drum stick down	Medium bass drum stick up	Medium bass drum stick down	Hard bass drum stick up	Hard bass drum stick down	Double bass drum stick up	Double bass drum stick down

Beaters pictograms (U+E418–U+E467)

U+E440	U+E441	U+E442	U+E443	U+E444	U+E445	U+E446	U+E447
							
Soft yarn beater up	Soft yarn beater down	Soft yarn beater right	Soft yarn beater left	Medium yarn beater up	Medium yarn beater down	Medium yarn beater right	Medium yarn beater left
U+E448	U+E449	U+E44A	U+E44B	U+E44C	U+E44D	U+E44E	U+E44F
							
Hard yarn beater up	Hard yarn beater down	Hard yarn beater right	Hard yarn beater left	Snare sticks up	Snare sticks down	Jazz sticks up	Jazz sticks down
U+E450	U+E451	U+E452	U+E453	U+E454	U+E455	U+E456	U+E457
							
Triangle beater up	Triangle beater down	Wire brushes up	Wire brushes down	Brass mallets up	Brass mallets down	Soft xylophone beaters	Spoon-shaped wooden mallet
U+E458	U+E459	U+E45A	U+E45B	U+E45C	U+E45D	U+E45E	U+E45F
							
Guiro scraper	Bow	Mallet	Metal hammer	Hammer	Knitting needle	Hand	Finger
U+E460	U+E461	U+E462	U+E463	U+E464	U+E465	U+E466	U+E467
							
Fist	Fingernails	Coins	Drum stick	Unused	Unused	Unused	Unused






Percussion playing technique pictograms (U+E468–U+E487)

U+E468	U+E469	U+E46A	U+E46B	U+E46C	U+E46D	U+E46E	U+E46F
Stick shot	Scrape from center to edge	Scrape from edge to center	Scrape around rim	On rim	Open / rim shot	Half-open	Half-open 2 (Weinberg)
U+E470	U+E471	U+E472	U+E473	U+E474	U+E475	U+E476	U+E477
Open	Damp	Damp 2	Damp 3	Damp 4	Rim shot (on stem)	Center (Weinberg)	Center (Ghent)
U+E478	U+E479	U+E47A	U+E47B	U+E47C	U+E47D	U+E47E	U+E47F
Center (Caltabiano)	Rim or edge (Weinberg)	Rim (Ghent)	Rim (Caltabiano)	Normal position (Caltabiano)	Circular motion segment	Unused	Unused
U+E480	U+E481	U+E482	U+E483	U+E484	U+E485	U+E486	U+E487
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Handbells (U+E488–U+E4AF)

U+E488	U+E489	U+E48A	U+E48B	U+E48C	U+E48D	U+E48E	U+E48F
▼	▼↑	▼	▼	+	+	↑	↑
Martellato	Martellato lift	Hand martellato	Muted martellato	Mallet, bell suspended	Mallet, bell on table	Mallet lift	Swing up
U+E490	U+E491	U+E492	U+E493	U+E494	U+E495	U+E496	U+E497
↓	↑↓	↵	↕	↻	⊗	⌘	
Swing down	Swing	Echo	Echo 2	Gyro	Damp 3	Belltree	Unused
U+E498	U+E499	U+E49A	U+E49B	U+E49C	U+E49D	U+E49E	U+E49F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E4A0	U+E4A1	U+E4A2	U+E4A3	U+E4A4	U+E4A5	U+E4A6	U+E4A7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused










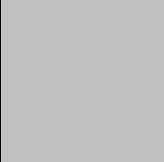






Guitar (U+E4A8–U+E4C7)

U+E4A8	U+E4A9	U+E4AA	U+E4AB	U+E4AC	U+E4AD	U+E4AE	U+E4AF
					①	①	②
Guitar vibrato bar scoop	Guitar vibrato bar dip	Vibrato stroke	Wide vibrato stroke	Guitar shake	String number 0	String number 1 <i>Also U+2460</i>	String number 2 <i>Also U+2461</i>
U+E4B0	U+E4B1	U+E4B2	U+E4B3	U+E4B4	U+E4B5	U+E4B6	U+E4B7
③	④	⑤	⑥	⑦	⑧	⑨	
String number 3 <i>Also U+2462</i>	String number 4 <i>Also U+2463</i>	String number 5 <i>Also U+2464</i>	String number 6 <i>Also U+2465</i>	String number 7 <i>Also U+2466</i>	String number 8 <i>Also U+2467</i>	String number 9 <i>Also U+2468</i>	<i>Unused</i>
U+E4B8	U+E4B9	U+E4BA	U+E4BB	U+E4BC	U+E4BD	U+E4BE	U+E4BF
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E4C0	U+E4C1	U+E4C2	U+E4C3	U+E4C4	U+E4C5	U+E4C6	U+E4C7
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

U+E4AA and U+E4AB are designed as interlocking symbols that can be repeated successively to create a line of variable length.

Chord diagrams (U+E4C8–U+E4D7)

U+E4C8	U+E4C9	U+E4CA	U+E4CB	U+E4CC	U+E4CD	U+E4CE	U+E4CF
							
3-string fretboard	3-string fretboard at nut	4-string fretboard <i>Also U+1D11D</i>	4-string fretboard at nut	5-string fretboard	5-string fretboard at nut	6-string fretboard <i>Also U+1D11C</i>	6-string fretboard at nut
U+E4D0	U+E4D1	U+E4D2	U+E4D3	U+E4D4	U+E4D5	U+E4D6	U+E4D7
							
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Implementation notes

Scoring applications may choose to draw chord diagram fretboards using primitives in order to provide the end user with control over grid spacing and line thickness relative to size.

Analytics (U+E4D8–U+E4E7)

U+E4D8	U+E4D9	U+E4DA	U+E4DB	U+E4DC	U+E4DD	U+E4DE	U+E4DF
Ḥ	Ḥ	Ḥ	Ḥ				
Hauptstimme Also U+1D1A6	Nebenstimme Also U+1D1A7	Start of stimme	End of stimme Also U+1D1A8	Unused	Unused	Unused	Unused
U+E4E0	U+E4E1	U+E4E2	U+E4E3	U+E4E4	U+E4E5	U+E4E6	U+E4E7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Chord symbols (U+E4E8–U+E4F7)

U+E4E8	U+E4E9	U+E4EA	U+E4EB	U+E4EC	U+E4ED	U+E4EE	U+E4EF
○	∅	+	△				
Half-diminished Also U+1D1A9	Diminished	Augmented	Major seventh	Unused	Unused	Unused	Unused
U+E4F0	U+E4F1	U+E4F2	U+E4F3	U+E4F4	U+E4F5	U+E4F6	U+E4F7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Implementation notes

These symbols are designed to combine with accidental symbols (U+E162 for sharp and U+E160 for flat) from the music font and the letters A–G (for root and bass alterations), lower case letters (for chord qualities, e.g. “maj” and “min”) and numbers (for chord extensions or tensions) from any standard text font to produce complete chord symbols.

Scoring applications should be able to create strings with complex formatting, e.g. superscript and subscript characters, small digits stacked on top of each other, and scale these symbols to any arbitrary size in order to produce satisfactory chord symbols with a wide variety of visual appearances.

Tuplets (U+E4F8–U+E517)











U+E4F8	U+E4F9	U+E4FA	U+E4FB	U+E4FC	U+E4FD	U+E4FE	U+E4FF
0	1	2	3	4	5	6	7
Tuplet 0	Tuplet 1	Tuplet 2	Tuplet 3	Tuplet 4	Tuplet 5	Tuplet 6	Tuplet 7

U+E500	U+E501	U+E502	U+E503	U+E504	U+E505	U+E506	U+E507
8	9	:					
Tuplet 8	Tuplet 9	Tuplet colon	Unused	Unused	Unused	Unused	Unused

































U+E508	U+E509	U+E50A	U+E50B	U+E50C	U+E50D	U+E50E	U+E50F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

U+E510	U+E511	U+E512	U+E513	U+E514	U+E515	U+E516	U+E517
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Conductor symbols (U+E518–U+E537)









U+E518	U+E519	U+E51A	U+E51B	U+E51C	U+E51D	U+E51E	U+E51F
							
Strong beat or cue	Left-hand beat or cue	Right-hand beat or cue	Weak beat or cue	Beat 2, simple time	Beat 3, simple time	Beat 4, simple time	Beat 2, compound time
U+E520	U+E521	U+E522	U+E523	U+E524	U+E525	U+E526	U+E527
							
Beat 3, compound time	Beat 4, compound time	Unused	Unused	Unused	Unused	Unused	Unused
U+E528	U+E529	U+E52A	U+E52B	U+E52C	U+E52D	U+E52E	U+E52F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E530	U+E531	U+E532	U+E533	U+E534	U+E535	U+E536	U+E537
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Accordion (U+E538–U+E567)

U+E538	U+E539	U+E53A	U+E53B	U+E53C	U+E53D	U+E53E	U+E53F
							
Right hand, 3 ranks, 4' stop (Piccolo)	Right hand, 3 ranks, 8' stop (Clarinet)	Right hand, 3 ranks, upper tremolo 8' stop	Right hand, 3 ranks, lower tremolo 8' stop	Right hand, 3 ranks, 16' stop (Bassoon)	Right hand, 3 ranks, 4' stop + 8' stop (Oboe)	Right hand, 3 ranks, 8' + upper tremolo 8' (Violin)	RH, 3 ranks, 4' + 8' + upper tremolo 8' (imitation musette)
U+E540	U+E541	U+E542	U+E543	U+E544	U+E545	U+E546	U+E547
							
RH, 3 r, lower trem. 8' + 8' + upper trem. 8' (authentic musette)	Right hand, 3 ranks, 4' stop + 16' stop (Organ)	Right hand, 3 ranks, 4' + 8' + 16' (Harmonium)	Right hand, 3 ranks, 8' + 16' (Bandoneon)	RH, 3 ranks, 8' + upper tremolo 8' + 16' (Accordion)	RH, 3 ranks, 4' + lower trem. 8' + upper trem. 8' + 16' (Master)	Right hand, 4 ranks, soprano	Right hand, 4 ranks, alto
U+E548	U+E549	U+E54A	U+E54B	U+E54C	U+E54D	U+E54E	U+E54F
							
Right hand, 4 ranks, tenor	Right hand, 4 ranks, master	Right hand, 4 ranks, soft bass	Right hand, 4 ranks, soft tenor	Right hand, 4 ranks, bass/alto	Left hand, 2 ranks, 8' stop (round)	Left hand, 2 ranks, 16' stop (round)	Left hand, 2 ranks, 8' stop + 16' stop (round)
U+E550	U+E551	U+E552	U+E553	U+E554	U+E555	U+E556	U+E557
							
Left hand, 2 ranks, master (round)	Left hand, 2 ranks, master + 16' stop (round)	Left hand, 2 ranks, full master (round)	Left hand, 3 ranks, 8' stop (square)	Left hand, 3 ranks, 2' stop (square)	Left hand, 3 ranks, double 8' stop (square)	Left hand, 3 ranks, 2' stop + 8' stop (square)	Left hand, 3 ranks, 2' stop + double 8' stop (tutti) (square)
U+E558	U+E559	U+E55A	U+E55B	U+E55C	U+E55D	U+E55E	U+E55F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

U+E560	U+E561	U+E562	U+E563	U+E564	U+E565	U+E566	U+E567
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Beams and slurs (U+E568–U+E56F)

U+E568	U+E569	U+E56A	U+E56B	U+E56C	U+E56D	U+E56E	U+E56F
							
Begin beam <i>Also U+1D173</i>	End beam <i>Also U+1D174</i>	Begin tie <i>Also U+1D175</i>	End tie <i>Also U+1D176</i>	Begin slur <i>Also U+1D177</i>	End slur <i>Also U+1D178</i>	Begin phrase <i>Also U+1D179</i>	End phrase <i>Also U+1D17A</i>

Implementation notes

These are format characters as defined in the Unicode Standard¹¹:

Extensive ligature-like beams are used frequently in musical notation between groups of notes having short values. The practice is widespread and very predictable, so it is therefore amenable to algorithmic handling. The format characters U+1D173 musical symbol begin beam and U+1D174 musical symbol end beam can be used to indicate the extents of beam groupings. In some exceptional cases, beams are left unclosed on one end. This status can be indicated with a U+1D159 musical symbol null notehead character if no stem is to appear at the end of the beam.



























Similarly, format characters have been provided for other connecting structures. The characters U+1D175 musical symbol begin tie, U+1D176 musical symbol end tie, U+1D177 musical symbol begin slur, U+1D178 musical symbol end slur, U+1D179 musical symbol begin phrase, and U+1D17A musical symbol end phrase indicate the extent of these features. Like beaming, these features are easily handled in an algorithmic fashion.

These pairs of characters modify the layout and grouping of notes and phrases in full musical notation. When musical examples are written or rendered in plain text without special software, the start/end format characters may be rendered as brackets or left uninterpreted. To the extent possible, more sophisticated software that renders musical examples inline with natural-language text might interpret them in their actual format control capacity, rendering slurs, beams, and so forth, as appropriate.

Scoring applications may choose to implement these format characters for beams, slurs, phrase marks and ties or not, as they wish.







¹¹ *Ibid.*, Allen, page 537.

Mensural notation (U+E570–U+E59F)

U+E570	U+E571	U+E572	U+E573	U+E574	U+E575	U+E576	U+E577
							
Maxima, stem up right <i>Also U+1D1B6</i>	Maxima, stem down right	Maxima, stem up left	Maxima, stem down left	Longa, stem up right <i>Also U+1D1B7</i>	Longa, stem down right	Longa, stem up left	Longa, stem down left
U+E578	U+E579	U+E57A	U+E57B	U+E57C	U+E57D	U+E57E	U+E57F
							
Brevis <i>Also U+1D1B8</i>	Semibrevis white <i>Also U+1D1B9</i>	Semibrevis black <i>Also U+1D1BA</i>	Minima white stem up <i>Also U+1D1BB</i>	Minima white stem down	Minima black stem up <i>Also U+1D1BC</i>	Minima black stem down	Semiminima white stem up <i>Also U+1D1BD</i>
U+E580	U+E581	U+E582	U+E583	U+E584	U+E585	U+E586	U+E587
							
Semiminima white stem down	Semiminima black stem up <i>Also U+1D1BE</i>	Semiminima black stem down	Fusa white stem up <i>Also U+1D1BF</i>	Fusa white stem down	Fusa black stem up <i>Also U+1D1C0</i>	Fusa black stem down	Signum congruentia
U+E588	U+E589	U+E58A	U+E58B	U+E58C	U+E58D	U+E58E	U+E58F
							
Custos up	Custos down	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E590	U+E591	U+E592	U+E593	U+E594	U+E595	U+E596	U+E597
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

U+E598	U+E599	U+E59A	U+E59B	U+E59C	U+E59D	U+E59E	U+E59F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Mensural rests (U+E5A0–U+E5AF)

U+E5A0	U+E5A1	U+E5A2	U+E5A3	U+E5A4	U+E5A5	U+E5A6	U+E5A7
							
Longa perfecta rest Also U+1D1C1	Longa imperfecta rest Also U+1D1C2	Brevis rest Also U+1D1C3	Semibrevis rest Also U+1D1C4	Minima rest Also U+1D1C5	Semiminima rest Also U+1DC6	Unused	Unused
U+E5A8	U+E5A9	U+E5AA	U+E5AB	U+E5AC	U+E5AD	U+E5AE	U+E5AF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused















Mensural prolations (U+E5B0–U+E5CF)

U+E5B0	U+E5B1	U+E5B2	U+E5B3	U+E5B4	U+E5B5	U+E5B6	U+E5B7
Tempus perfectum cum prolacione perfecta Also U+1D1C7	Tempus perfectum cum prolacione imperfecta Also U+1D1C8	Tempus perfectum cum prolacione perfecta diminution 1 Also U+1D1C9	Tempus perfectum cum prolacione perfecta diminution 2	Tempus imperfectum cum prolacione perfecta Also U+1D1CA	Tempus imperfectum cum prolacione imperfecta Also U+1D1CB	Tempus imperfectum cum prolacione imperfecta diminution 1 Also U+1D1CC	Tempus imperfectum cum prolacione perfecta diminution 2
U+E5B8	U+E5B9	U+E5BA	U+E5BB	U+E5BC	U+E5BD	U+E5BE	U+E5BF
Tempus imperfectum cum prolacione imperfecta diminution 3 Also U+1D1CD	Tempus imperfectum cum prolacione imperfecta diminution 4 Also U+1D1CE	Tempus imperfectum cum prolacione imperfecta diminution 5	Unused	Unused	Unused	Unused	Unused
U+E5C0	U+E5C1	U+E5C2	U+E5C3	U+E5C4	U+E5C5	U+E5C6	U+E5C7
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused
U+E5C8	U+E5C9	U+E5CA	U+E5CB	U+E5CC	U+E5CD	U+E5CE	U+E5CF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Miscellaneous symbols (U+E5D0–U+E5DF)

U+E5D0	U+E5D1	U+E5D2	U+E5D3	U+E5D4	U+E5D5	U+E5D6	U+E5D7
✂	↗						
Croix Also U+1D1CF	Swish	Unused	Unused	Unused	Unused	Unused	Unused
U+E5D8	U+E5D9	U+E5DA	U+E5DB	U+E5DC	U+E5DD	U+E5DE	U+E5DF
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Gregorian notation (U+E5E0–U+E5FF)

U+E5E0	U+E5E1	U+E5E2	U+E5E3	U+E5E4	U+E5E5	U+E5E6	U+E5E7
							
Gregorian C clef <i>Also U+1D1D0</i>	Gregorian F clef <i>Also U+1D1D1</i>	Gregorian flat <i>Also U+1D1D2</i>	Virga <i>Also U+1D1D3</i>	Podatus <i>Also U+1D1D4</i>	Clivis <i>Also U+1D1D5</i>	Scandicus <i>Also U+1D1D6</i>	Climacus <i>Also U+1D1D7</i>
U+E5E8	U+E5E9	U+E5EA	U+E5EB	U+E5EC	U+E5ED	U+E5EE	U+E5EF
							
Torculus <i>Also U+1D1D8</i>	Porrectus <i>Also U+1D1D9</i>	Porrectus flexus <i>Also U+1D1DA</i>	Scandicus flexus <i>Also U+1D1DB</i>	Torculus resupinus <i>Also U+1D1DC</i>	Pes subpunctis <i>Also U+1D1DD</i>	<i>Unused</i>	<i>Unused</i>
U+E5F0	U+E5F1	U+E5F2	U+E5F3	U+E5F4	U+E5F5	U+E5F6	U+E5F7
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>
U+E5F8	U+E5F9	U+E5FA	U+E5FB	U+E5FC	U+E5FD	U+E5FE	U+E5FF
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Figured bass (U+E600–U+E62F)

U+E600	U+E601	U+E602	U+E603	U+E604	U+E605	U+E606	U+E607
0	1	2	2̣	3	4	4̣	5
Figured bass 0	Figured bass 1	Figured bass 2	Figured bass 2 raised by half-step	Figured bass 3	Figured bass 4	Figured bass 4 raised by half-step	Figured bass 5
U+E608	U+E609	U+E60A	U+E60B	U+E60C	U+E60D	U+E60E	U+E60F
5̣	5̣̣	5̣̣̣	6	6̣	7	7̣	8
Figured bass 5 raised by half-step	Figured bass 5 raised by half-step 2	Figured bass 5 raised by half-step 3	Figured bass 6	Figured bass 6 raised by half-step	Figured bass 7	Figured bass 7 raised by half-step	Figured bass 8
U+E610	U+E611	U+E612	U+E613	U+E614	U+E615	U+E616	U+E617
9	9̣	♭♭	♭	♮	♯	×	l
Figured bass 9	Figured bass 9 raised by half-step	Figured bass double flat	Figured bass flat	Figured bass natural	Figured bass sharp	Figured bass double sharp	Figured bass l
U+E618	U+E619	U+E61A	U+E61B	U+E61C	U+E61D	U+E61E	U+E61F
l	()	+				
Figured bass l	Figured bass (Figured bass)	Figured bass +	Unused	Unused	Unused	Unused
U+E620	U+E621	U+E622	U+E623	U+E624	U+E625	U+E626	U+E627
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Figured bass (U+E600–U+E62F)

U+E628	U+E629	U+E62A	U+E62B	U+E62C	U+E62D	U+E62E	U+E62F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused

Function theory symbols (U+E630–U+E65F)

U+E630	U+E631	U+E632	U+E633	U+E634	U+E635	U+E636	U+E637
0	1	2	3	4	5	6	7
Function theory 0	Function theory 1	Function theory 2	Function theory 3	Function theory 4	Function theory 5	Function theory 6	Function theory 7
U+E638	U+E639	U+E63A	U+E63B	U+E63C	U+E63D	U+E63E	U+E63F
8	9	<	-	>	§§	§	D
Function theory 8	Function theory 9	Function theory less than	Function theory minus	Function theory greater than	Function theory major subdominant of subdominant	Function theory minor subdominant of subdominant	Function theory major dominant
U+E640	U+E641	U+E642	U+E643	U+E644	U+E645	U+E646	U+E647
d	Ḑ	Ḑ̇	G	g	N	n	P
Function theory minor dominant	Function theory dominant of dominant	Function theory double dominant seventh	Function theory G	Function theory g	Function symbol N	Function symbol n	Function symbol P
U+E648	U+E649	U+E64A	U+E64B	U+E64C	U+E64D	U+E64E	U+E64F
p	S	s	T	t	V	v	[
Function symbol p	Function symbol major subdominant	Function symbol minor subdominant	Function symbol tonic	Function symbol minor tonic	Function symbol V	Function symbol v	Function symbol bracket left
U+E650	U+E651	U+E652	U+E653	U+E654	U+E655	U+E656	U+E657
]	()					
Function symbol bracket right	Function symbol parenthesis left	Function symbol parenthesis right	Unused	Unused	Unused	Unused	Unused

Function theory symbols (U+E630–U+E65F)

U+E658	U+E659	U+E65A	U+E65B	U+E65C	U+E65D	U+E65E	U+E65F
<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>	<i>Unused</i>

Arel-Ezgi-Uzdilek (AEU) accidentals (U+E660–U+E667)

U+E660	U+E661	U+E662	U+E663	U+E664	U+E665	U+E666	U+E667
₺	ḃ	Ḅ	Ḋ	₧	₧	₧	₧
Büyük mücenneb (flat)	Küçük mücenneb (flat)	Bakiye (flat)	Koma (flat)	Koma (sharp)	Bakiye (sharp)	Küçük mücenneb (sharp)	Büyük mücenneb (sharp)
U+E668	U+E669	U+E66A	U+E66B	U+E66C	U+E66D	U+E66E	U+E66F
Unused	Unused	Unused	Unused	Unused	Unused	Unused	Unused