SMuFL

Standard Music Font Layout

Version 0.7 (2013-11-27)

Acknowledgements

Version history

Version 0.1 (2013-01-31)

- Initial version.

Version 0.2 (2013-02-08)

- Added **Tick barline**.
- 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.
- Added **Time signature +** and **Time signature fraction slash** glyphs.
- Added **Black diamond notehead**, **White diamond notehead**, **Half-filled diamond notehead**, **Black circled notehead**, **White circled notehead** glyphs.
- Added 256th and 512th note glyphs.
- 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 for canzicrans and inverted canons.
- Added trill wiggle segment, glissando wiggle segment and arpeggiato wiggle segment glyphs.
- Added string **Half-harmonic**, **Overpressure down bow** and **Overpressure up bow** glyphs.
- Added **Breath mark** glyph.
- Added angled beater pictograms for xylophone, timpani and yarn beaters.
- Added alternative glyph for **Half-open**, per Weinberg.
- Added **Scrape from rim to center** and **Scrape around rim** glyphs.
- Added **Start of stimme** glyph.
- Added colon for tuplet ratios.
- Added stem down versions of mensural notes, and signum congruentia and custos glyphs.
- Added three additional mensuration signs.
- Added Riemann Function theorys glyphs.

Version 0.3 (2013-03-11):

- Moved combining flags glyphs to accommodate glyphs for 256th note stem up, 256th note stem down, 512th note stem up and 512th note stem down.

Version 0.4 (2013-05-16):

- Added range for Arel-Ezgi-Uzdilek (AEU) accidentals for Turkish maqam music.
- Added equals sign and open time signature glyphs.

Version 0.5 (2013-07-08):

- Many existing code points have been changed, as a result of hundreds of new glyphs being added, plus a number of new ranges.
- Added long and very long system dividers for very large scores.
- Added heavy, double heavy and dotted barlines.
- Added square coda and small repeat signs for repeats within bars.
- Added recommended stylistic alternates for segno and coda for the appearance preferred by Japanese publishers.
- Added quindicesima bassa G clef and F clef, G clef combined with C clef, G clefs designed to be ligated with numbers below and above to show the transposition of an instrument, plus recommended ligatures for G and F clefs with numbers above and below; also added G, C and F clefs with arrows up and down, which may be used either as alternatives for octave clefs or to represent the extremes of register on an instrument, and semi-pitched percussion clefs, plus a bridge clef.
- Removed "tall" versions of 6- and 4-string tab clefs, and instead made them recommended stylistic alternates, together with versions that use letterforms with serifs.
- Added +, -, X (multiply), comma, parentheses glyphs for time signatures, plus basic fractions, and Penderecki-style open time signature.
- Added specific noteheads for double whole note and whole note to the noteheads range rather than relying on the glyphs in the pre-composed notes range.
- Added shaped noteheads for specific note values (double whole note, whole note, half note, and quarter note and shorter); also added large up- and down-pointing triangles for highest/lowest notes played by an instrument.
- Added large slashed circular noteheads as used by Stockhausen for notating gong/tam-tam hits.
- Added combining glyphs for note clusters of specific note values.
- Added noteheads with *solfège* and chromatic note names embedded within them, as seen in "EZ-Play" educational scores.
- Added specific range of noteheads for sacred harp shape note singing.
- Added pre-composed 1024th notes, tails and rest.

- Added range for typing simple beamed groups of notes in text-based applications,. Designed to be used in conjunction with pre-composed notes, and allowing beamed groups with rhythmic values between 8th notes and 64th notes, plus ties and triplets.
- Added combining stems for multiphonics, damp, sussurando, Saunders vibrato pulse accent.
- Added four- and five-stroke tremolos plus Wieniawski-style unmeasured tremolo glyphs.
- Added stylistic alternates for flags: straight flags; and shorter stem-up flags to avoid collisions with augmentation dots.
- Separated accidentals into several discrete ranges based around the various accidental systems, including 12-EDO, 24-EDO, the system of up- and down-pointing arrows favoured by Gould, Stein-Zimmermann (also known as Tartini-Couper), Sims (also known as Maneri-Sims, due to the adoption of Ezra Sims' accidentals by Joe Maneri of the Boston Microtonal Society), Ben Johnston, Marc Sabat and Wolfgang von Schweinitz's Extended Helmholtz-Ellis Just Intonation Pitch Notation.
- Added George Secor and Dave Keenan's Sagittal system of accidentals.
- Added accidentals used in Turkish folk music.
- Added Persian accidentals.
- Added staccatissimo wedge and stroke glyphs.
- Added very short and very long fermatas, plus short caesura.
- Added left and right halves of multirest H-bars and old-style quarter rest as seen in e.g. Novello editions.
- Added *ventiduesima* (three octaves, "22") glyphs to octaves range.
- Added precomposed glyphs for common dynamics and *niente* circle for hairpins.
- Added *schleifer* (long mordent) and Haydn ornament.
- Added additional brass techniques, including short, medium and long versions of lift, doit, lip fall, smooth fall, rough fall, plus jazz turn.
- Added range of glyphs for embouchure tightness, reed position, multiphonics, and stylistic alternates for double- and triple-tonguing with no slurs.
- Added further overpressure glyphs, plus *jété*, *fouetté*, Rebecca Saunders's "vibrato pulse" accent, thumb position and indeterminate bow direction to string techniques range.
- Added plectrum pictogram and combining damp glyph for note stems to plucked techniques range.
- Added arrows for breathing and intonation, plus combining *sussurando* glyph for note stems, to vocal techniques range.

- Added pedal pictograms, *sostenuto* pedal symbols, and half-pedal marks to keyboard techniques range.
- Added pictograms for metal rod and tuning key to harp techniques range.
- Added Smith Brindle's pictograms for tuned percussion instruments.
- Added pictogram for Indian table, plus stylistic alternate for tambourine as used by Stockhausen.
- Added pictogram for football rattle, plus Smith Brindle's pictogram for castanets as a stylistic alternate.
- Added pictogram for handbell, plus stylistic alternates for cow bell (from Berio) and sleigh bell (from Smith Brindle).
- Added pictogram for Chinese cymbal.
- Added pictogram for tam-tam with beater from Smith Brindle.
- Added pictogram for maracas, rainstick, plus stylistic alternate for maraca from Smith Brindle.
- Added pictogram for megaphone.
- Added soft and hard glockenspiel beaters, superball beaters, wound beaters with hard and soft cores, plus soft, medium and hard gum beaters.
- Added pluck lift to handbells range.
- Added "Theme" indicators to analytics range.
- Added minor (minus sign) glyph to chord symbols range.
- Added mensural proportion glyphs.
- Added combining raise and lower glyphs to figured bass range.
- Added repetition, angle brackets, and prefix + and ring glyphs to Function theorys range.
- Added new range for multi-segment lines, including moving all of the various "wiggle" glyphs (for trill, glissando, arpeggiando, vibrato, etc.) plus the 11 ornament strokes from the Unicode Musical Symbols range into this range, and adding further glyphs for variable speed trills, alternate arpeggiato ending glyphs, wavy lines, squaretooth and sawtooth lines, group glissando, circular motion, and variable speed and intensity of vibrato.
- Added new range of pictograms for electronic music, including microphone, loudspeaker, transport controls, volume level and MIDI controller level.
- Added new "do not copy" glyphs, eyeglasses and choral divide arrows glyphs to the miscellaneous symbols range.
- Adjusted the registration of many glyphs (e.g. noteheads, accidentals, time signatures, flags, rests) in Bravura in line with the interim guidelines for metrics and registration for SMuFL-compliant fonts intended for use with scoring applications.

Version 0.6 (2013-07-29):

- Added opening parenthesis and closing parenthesis for noteheads, circled slash notehead, heavy X and heavy X with hat noteheads, as used in Dante Agostini's drum method.
- Added muted slash noteheads.
- Added "si" note name noteheads for French solfège, and H sharp note name noteheads for German.
- Added combining rim shot stem.
- Added "sharp sharp" accidental for compatibility with MusicXML.
- Added extended Stein-Zimmermann accidentals with arrows.
- Added one-third-tone sharp and two-third-tones sharp accidentals as used by Xenakis.
- Significant revision to the ornaments range, including splitting into separate ranges (common ornaments, other baroque ornaments, combining strokes for trills/mordents, precomposed trills/mordents). A small number of glyphs from previous versions of SMuFL have been removed to make way for symbols drawn from Frederick Neumann's authoritative book on baroque ornamentation.
- Added left hand pizzicato.
- Added recommended stylistic alternates for Bartok pizzicato above/below.
- Added recommended stylistic alternates for 'Ped.' and 'Sost.' that do not include terminal dots.
- Added choke cymbal glyph from Weinberg.
- Added open, half-open and closed wah/volume pedals, left- and right-hand tapping glyphs for guitar.
- Added new range for arrows and arrowheads, including moving the up/down/right/left arrows from the vocal techniques into this new range.

Version 0.7 (2013-11-27):

- Introduced canonical names for every mandatory glyph, which are intended to be immutable. Code points, on the other hand, may change as required to accommodate insertions or deletions of glyphs.
- New **Notes for implementers** section with expanded guidelines for glyph registration, with changes for precomposed stems and stem decorations (which should now be centered around x=0) and flags (which should be positioned vertically relative to the end of a stem of normal length at y=0).
- Added specification for JSON metadata files for SMuFL and for SMuFL-compliant fonts, developed in conjunction with Joe Berkovitz.

- Significantly expanded the repertoire of glyphs for Medieval and Renaissance notation, with new ranges for clefs, accidentals and ligatures, plus considerable reworking of the notes and prolations ranges, expansion of the repertoire of glyphs for plainchant notation (with new ranges for staves, divisions, clefs and articulations, and a wider range of neumes).
- Added range for Daseian notation, as found in the ninth century treatises *Musica enchiriadis* and *Scolica enchiriadis*.
- Added new range of control characters for adjusting the staff position of staff-relative glyphs, intended for fonts designed for text-based applications.
- Added narrow and wide staff line glyphs, intended for fonts designed for text-based applications.
- Added C clef *ottava bassa*, and recommended stylistic alternate for G clef *ottava bassa* with parentheses around the 8.
- Added control characters for time signature digits to allow digits to be stacked vertically, intended for fonts designed for text-based applications.
- Added square double whole note (breve) notehead.
- Added new combining harp string noise for stem glyph, and corresponding precomposed stem glyph.
- Added four further quarter-tone accidental symbols to "other microtonal accidentals" group.
- Added some percussion playing technique symbols from Dante Agostino's method books.
- Added a *golpe* (tap the pick guard) glyph from Claude Worm's flamenco guitar method book.
- Added short and long fermata glyphs as used by Henze.
- Added combining glyphs for accordion couplers, allowing the creation of any coupler diagram not explicitly encoded.
- Added "pf" dynamic.

Contents

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 1988[2]) 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 notation[3] 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 Standard[4]. This range of 220 glyphs was duly accepted into the Unicode Standard, and those symbols are found at code points U+1D100–U+1D1FF[5]. 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 more than 1850 glyphs, plus several hundred further optional but recommended glyphs, primarily ligatures (i.e. two or more symbols drawn as a single glyph) and stylistic alternates (i.e. a different appearance for

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[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, 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 same glyph with equivalent meaning). 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 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 following the SMuFL code point.

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 currently 99 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 generally been left in each group, so code points are not contiguous. Code points may also change between revisions to accommodate the insertion or deletion of individual glyphs and groups of glyphs. However, every glyph in SMuFL also has a canonical name, intended to be immutable, which makes it possible for software developers to minimize the impact of code points changing.

Mandatory and optional glyphs

One of the aims of SMuFL is to make it as simple as possible for developers both of fonts and of scoring software to implement support for a wide range of musical symbols. Although modern font technologies such as OpenType enable a great deal of sophistication in automatic substitution features[6], applications that wish to use SMuFL-compliant fonts are not obliged to support advanced OpenType features.

The basic requirements for the use of SMuFL-compliant fonts are the ability to access glyphs by their Unicode code point, to measure glyphs, and to scale them (e.g. by drawing the font at different point sizes). If applications are able to access OpenType features such as stylistic sets and ligatures, then additional functionality may be enabled.

However, all glyphs that can be accessed via OpenType features are also accessible via an explicit code point. For example, a stylistic alternate for the sharp accidental designed to have a clearer appearance when reproduced at a small size can be accessed as a stylistic alternate for **accidentalSharp**, but also by way of its explicit code point, which will be in the range U+F400–U+F8FF.

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[6] See http://www.adobe.com/devnet/opentype/afdko/topic_feature_file_syntax.html

Because optional glyphs for ligatures, stylistic alternates, etc. are not required, and different font developers may choose to provide different sets (e.g. several different appearances of tab clefs, or different sets of glyphs whose designs are optimized for drawing at different optical sizes), SMuFL does not make any specific recommendations for how these glyphs should be assigned explicit code points, except that they must be within the range U+F400–U+F8FF, which is reserved for this purpose and for any other private use required by font or application developers.

In summary, mandatory glyphs (i.e. the base set that a font should contain if it is to be SMuFL-compliant) are encoded from U+E000, with a nominal upper limit of U+F3FF (a total of 5120 possible glyphs), while optional glyphs (ligatures, stylistic alternates, etc.) are encoded from U+F400, with a nominal upper limit of U+F8FF (a total of 1280 possible glyphs).

Implementations

To date the only available implementation of SMuFL is in Bravura, an OpenType font released under the SIL Open Font License that can be downloaded from the SMuFL web site at 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, Finale and other scoring applications, the following texts were consulted as sources for musical symbols:

- Agostini, Dante. *Methode de Batterie*. France: Carisch Musicom, 2009.

- Balestrieri, Donald. *Registers of the Standard Stradella Keyboard*. USA: Accord Magazine, 1979.[7]

- Doty, David B. *The Just Intonation Primer*. San Francisco, USA: The Just Intonation Network, 1993.

- Draugsvoll, Geir & Højsgaard, Erik (translated Borregaard, Andreas). *Handbook on Accordion Notation*. Copenhagen: The Royal Danish Academy of Music in Copenhagen, 2001.[8]

- Drobner, Mieczysław. *Instrumentoznawstwo i akustyka* (Musical Instruments and Acoustics). Cracow: PWM Edition, 1960 (7th Edition, 2008).

- Gould, Elaine. *Behind Bars*. London: Faber Music, 2011.

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[7] See http://www.accordions.com/articles/stradella.aspx
[8] See http://www.rednoteensemble.com/Calls_for_Scores_files/Handbook%20on%20Accordion%20Notation.pdf

- Inglefield, Ruth & Neill, Lou Anne. *Writing for the Pedal Harp: Standardized Manual for Composers and Harpists.* University of California Press, 1985.

- McCarty, Frank. *Notational Standards for Percussion: A Report on the Ghent Conference* (from *The Instrumentalist, xxix*). Northfield, IL: The Instrumentalist Publishing Co., 1975.

- Neumann, Frederick. *Ornamentation in Baroque and Post-Baroque Music.* Princeton, NJ: Princeton University Press, 1978.

- Read, Gardner. *Twentieth-Century Microtonal Notation.* USA: Praeger, 1990.

- Roland, Perry. *Proposal for Encoding Western Music Symbols in ISO/IEC 10646.* Virginia: University of Virginia, 1998.

- Sabat, Marc. *The Extended Helmholtz-Ellis JI Pitch Notation.* Plainsound Music Edition, 2005.

- Salzedo, Carlos. *Modern Study of the Harp.* London: G. Schirmer, 1921.

- Secor, George & Keenan, David. *Sagittal – A Microtonal Notation System.* Xenharmonikôn, An Informal Journal of Experimental Music, Volume 18, 2006. www.sagittal.org, 2004.

- Smith Brindle, Reginald. *Contemporary Percussion.* New York: Oxford University Press, 1991.

- 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.[9]

Other contributors

Grateful thanks are also extended to the following, all of whom have contributed their time and expertise to identifying further sources of glyphs for inclusion in SMuFL: Mark Adler, Stephen Begley, Michael Scott Cuthbert, Michael Good, Mark Johnson, Dave Keenan, Alexander Plötz, Ahmed Tahar, Emil Wojtacki, Werner Wolff.

Thanks also to Joe Berkovitz for his contribution towards the guidelines for font metrics and glyph registration for fonts intended for use with scoring applications, and the design of the font metadata JSON files.

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

Missing symbols?

If you know of any commonly used symbols that are not included in SMuFL, please post your suggestions to the **smufl-discuss** mailing list (see www.smufl.org/discuss).

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Notes for implementers

This section provides guidelines and recommendations for metrics, glyph registration and font metadata, and is intended for font designers who want to design SMuFL-compliant fonts, and for software developers who want to build applications that can consume SMuFL-compliant fonts.

Glyph and class names

To aid software developers in implementing SMuFL-compliant fonts, two support files in JSON format are available, one providing a mapping between code point and canonical glyph name, and the other providing a list of similar glyphs grouped into classes, i.e. groups of glyphs that should be handled in a similar way in software applications (e.g. noteheads, clefs, flags, etc.).

For more information about the JSON format, see www.json.org.

It is strongly recommended that software developers should refer to specific glyphs within SMuFL by name rather than by Unicode code point. While SMuFL is still under active development, it cannot be guaranteed that code points will remain unchanged from one revision to the next, whereas every effort will be made to keep glyph names consistent between revisions.

glyphnames.json is the file that maps code points to glyph names, which by convention use lower camel case, a convenient format for most programming languages. Here is an excerpt of this file:

```
{
    ...
    "barlineDashed": {
        "alternateCodepoint": "U+1D104",
        "codepoint": "U+E036"
    },
    "barlineDotted": {
        "codepoint": "U+E037"
    },
    "barlineDouble": {
        "alternateCodepoint": "U+1D101",
        "codepoint": "U+E031"
    },
    "barlineFinal": {
        "alternateCodepoint": "U+1D102",
        "codepoint": "U+E032"
    },
    "barlineHeavy": {
        "codepoint": "U+E034"
    },
    ...
```

}

The file is keyed using the glyph names, with the SMuFL code point provided as the value for the "codepoint" key, and the Unicode Musical Symbols range code point (if applicable) provided as the value for the "alternateCodepoint" key.

classes.json is the file that groups glyphs together into classes, so that software developers can handle similar glyphs in a similar fashion. Here is an excerpt of this file:

```
{
    "clefs": [
        "gClef",
        "gClef15mb",
        "gClef8vb",
        "gClef8va",
        "gClef15ma",
        "gClef8vbOld",
        "gClef8vbCclef",
        ...
    ],
    "noteheads": [
        "noteheadDoubleWhole",
        "noteheadWhole",
        "noteheadHalf",
        "noteheadBlack",
        "noteheadNull",
        ...
    ],
    "flags": [
        "flag8thUp",
        "flag8thDown",
        "flag16thUp",
        "flag16thDown",
        "flag32ndUp",
        "flag32ndDown",
        ...
    ],
    ...
}
```

Glyphs are listed within their classes using the names specified in **glyphnames.json**. Not all glyphs are contained within classes, and the same glyph can theoretically appear in multiple classes (though, as of the current version, none do).

The current versions of **glyphnames.json** and **classes.json** are available for download at www.smufl.org/download.

In addition to the glyph names and classes JSON files, it is recommended that SMuFL-compliant fonts also contain font-specific metadata JSON files, which are described below.

Designing for scoring applications and text-based applications

In addition to providing a standard approach to how musical symbols should be assigned to Unicode code points, SMuFL also aims to provide two sets of guidelines for the metrics and glyph registration, addressing the two most common use cases for fonts that contain musical symbols, i.e. use within dedicated scoring applications, and use within text-based applications (such as a word processors, desktop publishers, web pages, etc.).

Since it is helpful for scoring applications that all symbols in a font be scaled relative to each other as if drawn on a staff of a particular size, and conversely it is helpful for musical symbols to be drawn in-line with text to be scaled relative to the letterforms with which the musical symbols are paired, in general a single font cannot address these two use cases: the required metrics and relative scaling of glyphs are incompatible[10].

Therefore, it is recommended that font developers make clear whether a given font is intended for use by scoring applications or by text-based applications by appending "Text" to the name of the font intended for text-based applications; for example, "Bravura" is intended for use by scoring applications, and "Bravura Text" is intended for use by text-based applications (or indeed for mixing musical symbols with free text within a scoring application).

Metrics and glyph registration for scoring applications

The following guidelines are provided for fonts intended for use in scoring applications:

- Dividing the em in four provides an analogue for a five-line staff: if a font uses 1000 upm (design units per em), as is conventional for a PostScript font, one staff space is equal to 250 design units; if a font uses 2048 upm, as is conventional for a TrueType font, one staff space is equal to 512 design units.

- The origin (bottom left corner of the em square, i.e. x = 0 and y = 0 in font design space) therefore represents the middle of the bottom staff line of a nominal five-line staff, and y = 1 em represents the middle of the top staff line of that same five-line staff.

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[10] The main problem concerns line spacing: because most applications determine the line spacing required for a font based on a sum of the ascender, descender and line gap values in the font (for which different applications on different operating systems use different combinations of the three places this can be defined, once the **hhea** table and twice in the **OS/2** table), it is impractical to provide a font where all glyphs are scaled correctly relatively to another in such a way that all musical symbols can be drawn at a single scale factor that complements text fonts at the same point size. Many applications clip glyphs that exceed the calculated line spacing, so in order to have a single font in which e.g. a G clef is drawn without clipping and an eighth note is drawn at a corresponding scale factor (such that the clef is around twice as tall as the note), the line spacing would have to be so tall that it would greatly distort the line spacing of the text. For more information about this issue, see http://typophile.com/node/13081. Bravura, for what it's worth, uses very large line spacing (1.75 times its em square), such that 99% of glyphs are drawn without clipping in text-based applications, at the expense of making it practical to use the font mixed in-line with text.

- All glyphs should be drawn at a scale consistent with the key measurement that one staff space = 0.25 em.

- Unless otherwise stated, all glyphs shall be horizontally registered so that their leftmost point coincides with x = 0.

- Unless otherwise stated, all glyphs shall have zero-width side bearings, i.e. no blank space to the left or right of the glyph.

- Glyphs that apply to a staff as a whole (e.g. barlines) shall be registered such that the font baseline lies at the nominal vertical position of the bottom line of a five-line staff. If the glyph is specific to a staff other than a regular five-line staff, then for registration purposes that staff's vertical center shall be exactly aligned with the vertical center of a five-line staff.

- Glyphs for movable notations that apply to some vertical staff position (e.g. note heads, accidentals) shall be registered such that the font baseline lies exactly at that position. For example, a typical notehead or accidental glyph is registered such that it is vertically centered on the baseline.

- Clefs should be positioned such that the pitch the clef refers to is on the baseline (e.g. the F clef is placed such that the upper dot is above and the lower dot below the baseline). If a clef does not refer specifically to a pitch, its y=0 should coincide with the center staff line.

- Noteheads should be positioned as if on the bottom line of the staff (except for complete clusters representing intervals of a second or third, which should be positioned as if in the bottom space of the staff).

- Pre-composed stems should be positioned as if they are pointing upwards and attached to a notehead on the bottom line of the staff. The center of the stem should be at x=0.

- Combining glyphs that are designed to be superimposed on stems (stem decorations) should be registered such that the point that should sit in the center of the stem (i.e. typically the visual center of the symbol) should be at x=0 and y=0.

- Accidentals should be positioned as if they apply to a notehead on the bottom line of the staff.

- Pre-composed notes should be positioned as if on the bottom line of the staff.

- Flags are positioned such that y=0 corresponds to the end of a stem of normal length, and such that x=0 corresponds to the left-hand side of the stem.

- Rests are relative to an imaginary staff position, typographically speaking (usually the center line of a five-line staff in which the rest assumes its default position). The font baseline should represent this staff position, with the exception of the whole note (semibreve) rest, which should hang from the font baseline.

- Bracket ends are positioned such that the point at which they connect to the top or bottom of a vertical bracket is at y=0.

- Letters for dynamics (and for D.C./D.S. in the repeats range) should be scaled such that the caps height is around 0.75 em, and the x-height is around 0.5 em.

- Digits for time signatures should be scaled such that each digit is two staff spaces tall, i.e. 0.5 em, and vertically centered on the baseline. Although some glyphs in the time signatures range (such as the large + sign, common and cut time glyphs, etc.) apply to the whole staff, these should likewise be vertically centered on the baseline.

Many of these guidelines are based on the conventions established by Adobe's Sonata font and carried through by most other fonts designed for use in scoring applications, for the sake of making it as easy as possible for font and application developers to transition their existing fonts and software to supporting SMuFL-compliant fonts.

Metadata for SMuFL-compliant fonts

To help software developers integrate SMuFL-compliant fonts, it is recommended that font designers provide a font-specific metadata file, in JSON format, in the distribution package for their fonts.

The metadata file allows the designer to provide information that cannot easily (or in some cases at all) be encoded within or retrieved from the font software itself, including recommendations for how to draw the elements of music notation not provided directly by the font itself (such as staff lines, barlines, hairpins, etc.) in a manner complementary to the design of the font, and important glyph-specific metrics, such as the precise coordinates at which a stem should connect to a notehead.

Glyph names may be supplied either using their Unicode code point or their canonical glyph name (as defined in the **glyphnames.json** file – see above). Measurements are specified in staff spaces, using floating point numbers to any desired level of precision.

The following key/value pairs are mandatory:

Key name	Description
"fontName"	The name of the font to which the metadata applies
"fontVersion"	The version number of the font to which the metadata applies

All other key/value pairs are optional. The "engravingDefaults" structure contains key/value pairs defining recommended defaults for line widths etc., as follows, with all measurements expressed in staff spaces:

Key name	Description
"staffLineThickness"	The thickness of each staff line
"stemThickness"	The thickness of a stem
"beamThickness"	The thickness of a beam
"beamSpacing"	The distance between the inner edge of the primary and outer edge of subsequent secondary beams
"legerLineThickness"	The thickness of a leger line (normally somewhat thicker than a staff line)
"legerLineExtension"	The amount by which a leger line should extend either side of a notehead
"slurEndpointThickness"	The thickness of the end of a slur
"slurMidpointThickness"	The thickness of the mid-point of a slur (i.e. its thickest point)
"tieEndpointThickness"	The thickness of the end of a tie
"tieMidpointThickness"	The thickness of the mid-point of a tie
"thinBarlineThickness"	The thickness of a thin barline, e.g. a normal barline, or each of the lines of a double barline
"thickBarlineThickness"	The thickness of a thick barline, e.g. in a final barline or a repeat barline
"dashedBarlineThickness"	The thickness of a dashed barline
"dashedBarlineDashLength"	The length of the dashes to be used in a dashed barline
"dashedBarlineGapLength"	The length of the gap between dashes in a dashed barline
"barlineSeparation"	The default distance between multiple barlines when locked together, e.g. between two thin barlines making a double barline, or a thin and a thick barline making a final barline, measured from the right-hand edge of the left barline to the left-hand edge of the right barline.
"repeatBarlineDotSeparation"	The default horizontal distance between the dots and the inner barline of a repeat barline, measured from the edge of the dots to the edge of the barline.
"bracketThickness"	The thickness of the vertical line of a bracket grouping staves together
"subBracketThickness"	The thickness of the vertical line of a sub-bracket grouping staves belonging to the same instrument together
"hairpinThickness"	The thickness of a *crescendo/diminuendo* hairpin

Key name	Description
"octaveLineThickness"	The thickness of the dashed line used for an octave line
"pedalLineThickness"	The thickness of the line used for piano pedaling
"repeatEndingLineThickness"	The thickness of the brackets drawn to indicate repeat endings
"arrowShaftThickness"	The thickness of the line used for the shaft of an arrow
"lyricLineThickness"	The thickness of the lyric extension line to indicate a melisma in vocal music
"textEnclosureThickness"	The thickness of a box drawn around text instructions (e.g. rehearsal marks)

The "glyphs" structure contains a structure for each glyph for which metadata is supplied, with the canonical glyph name or its Unicode code point as the key. Each glyph may define any of the following key/value pairs:

Key name	Description
"stemUpSE"	The exact position at which the bottom right-hand (south-east) corner of an upward-pointing stem rectangle should start, relative to the glyph origin, expressed as Cartesian coordinates in staff spaces.
"stemDownNW"	The exact position at which the top left-hand (north-west) corner of a downward-pointing stem rectangle should start, relative to the glyph origin, expressed as Cartesian coordinates in staff spaces.
"stemUpNW"	The amount by which an up-stem should be lengthened from its nominal unmodified length in order to ensure a good connection with a flag, in spaces.[11]
"stemDownSW"	The amount by which a down-stem should be lengthened from its nominal unmodified length in order to ensure a good connection with a flag, in spaces.
"nominalWidth"	The width in staff spaces of a given glyph that should be used for e.g. positioning leger lines correctly.[12]

---

[11] It is typical for noteheads and flags to be drawn using font glyphs, while stems themselves are drawn using primitive lines or rectangles. Flag glyphs in SMuFL-compliant fonts are registered such that y=0 represents the end of a stem drawn at its normal length, i.e. typically 3.5 staff spaces, so for simple drawing, any flag can be drawn at the same position relative to the stem and give the correct visual stem length. Modern drawing APIs typically provide sub-pixel RGB anti-aliasing for font glyphs, but may only provide grayscale anti-aliasing for primitive shapes. If the stem is drawn at its normal length with a flag glyph continuing beyond the end of the stem, there may be a poor visual appearance resulting from the primitive stem using standard anti-aliasing and the flag glyph using sub-pixel anti-aliasing. Therefore, it is recommended to extend the stem by the additional height of the flag such that the primitive stem stops at the end (or just short of the end) of the flag. Because the amount by which the stem should be extended is highly dependent on the design of the flag in a particular font, this value should be specified for each flag glyph in the metadata JSON file.

[12] Certain fonts, for example those that mimic music calligraphy, may include glyphs that are asymmetric by design, and where a simple calculation of the glyph's bounding box will not provide the correct result for registering that glyph with other primitives. For example, a whole rest may be slightly oblique if mimicking a chisel nib pen, and for precise registration it may be necessary to specify its width independent of the glyph's actual bounding box.

Key name	Description
"numeralTop"	The position in staff spaces that should be used to position numerals relative to clefs with ligated numbers where those numbers hang from the bottom of the clef, corresponding horizontally to the center of the numeral's bounding box.
"numeralBottom"	The position in staff spaces that should be used to position numerals relative to clefs with ligatured numbers where those numbers sit on the baseline or at the north-east corner of the G clef, corresponding horizontally to the center of the numeral's bounding box.

Below is an excerpt of a dummy font metadata file for the Bravura font, with some of the "engravingDefaults" and "glyphs" structures filled in:

```
{
    "fontName" : "Bravura",
    "fontVersion": "0.3",

    "engravingDefaults": {
        "staffLineThickness": 0.1,
        "stemThickness": 0.1,
        "beamThickness": 0.5,
        "beamSpacing": 0.25,
        "legerLineThickness": 0.2,
        "legerLineExtension": 0.2,
        ...
    },

    "glyphs": {
        "noteheadBlack": {
            "stemDownNW": [
                0.0,
                -0.184
            ],
            "stemUpSE": [
                1.328,
                0.184
            ]
        },
        ...
    },
}
```

Example of glyph registration for notes with flags

The figure below shows how font-specific metadata may be used in conjunction with the conventions of glyph registration to construct two notes: an up-stem 16th note (semiquaver), and a down-stem 32nd (demisemiquaver).

- The horizontal grey lines denote staff lines, for scale.

- The light blue boxes show glyph bounding boxes, with the left-hand side of the box corresponding to x=0, while the horizontal lines bisecting the blue boxes show the origin for each glyph, i.e. y=0.

- The red boxes show the locations of the glyph attachment points, as specified in the font metadata JSON file.

- The shaded area on the down-stem note shows the amount by which a stem of standard length (i.e. the unfilled portion of the stem) should be extended in order to ensure good on-screen appearance at all zoom levels.
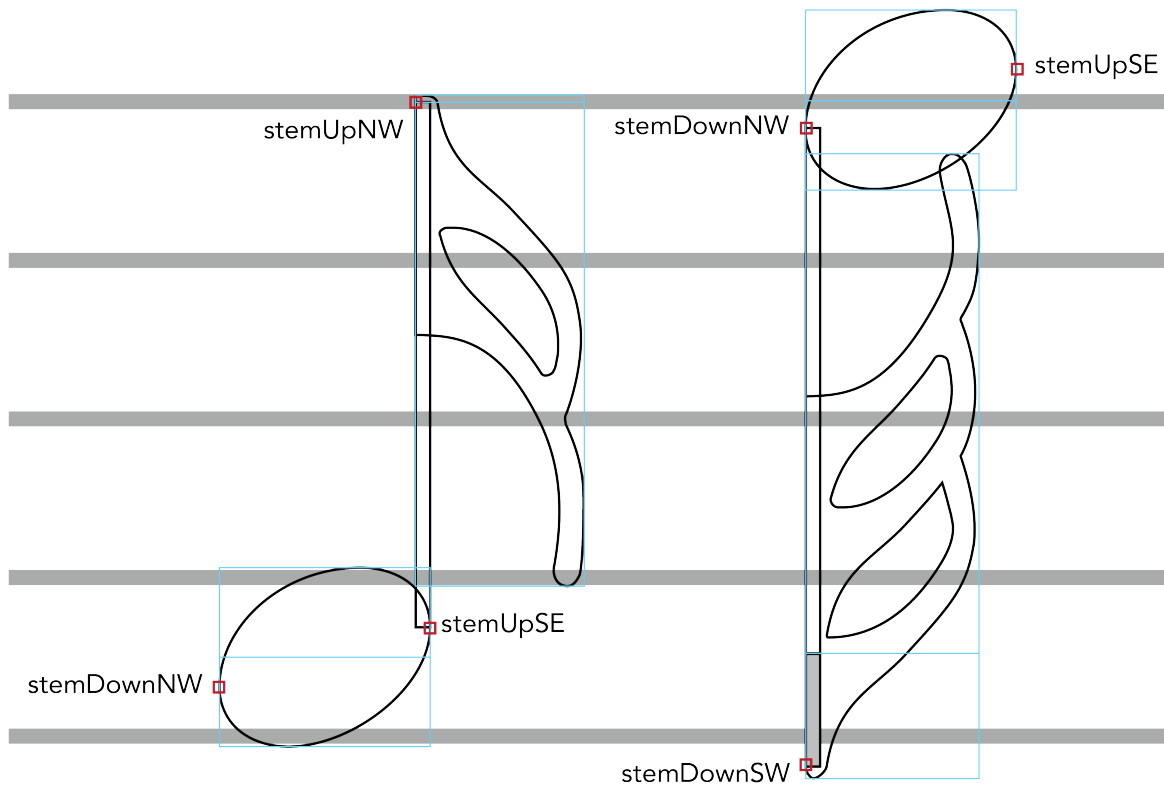
Note that the **stemUpSE** attachment point corresponds to the bottom right-hand (or south-east) corner of the stem, while **stemDownNW** corresponds to the top left-hand (or north-west) corner of the stem. Likewise, for correct alignment, the flag glyphs must always be aligned precisely to the left-hand side of the stem, with the glyph origin positioned vertically at the end of the normal stem length.

Metrics and glyph registration for text-based applications

Work on these guidelines for metrics and glyph registration is ongoing.

Staff brackets (U+E000–U+E00F)

U+E000 (and U+1D114)

brace

Brace

U+E001

reversedBrace

Reversed brace

U+E002 (and U+1D115)

bracket

Bracket

U+E003

bracketTop

Bracket top

U+E004

bracketBottom

Bracket bottom

U+E005

reversedBracketTop

Reversed bracket top

U+E006

reversedBracketBottom

Reversed bracket bottom

U+E007

systemDivider

System divider

U+E008

systemDividerLong

Long system divider

U+E009

systemDividerExtraLong

Extra long system divider

U+E00A

splitBarDivider

Split bar divider (bar spans a system break)

Implementation notes

The **brace** glyph should be scaled vertically in a scoring application to the appropriate height of the two or more staves it encompasses.

bracket 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 **bracketTop** and **bracketBottom** as the top and bottom terminals of a bracket drawn using a stroked line or filled rectangle of the appropriate width.

Staves (U+E010–U+E02F)

U+E010 (and U+1D116)

staff1Line

1-line staff

U+E011 (and U+1D117)

staff2Lines

2-line staff

U+E012 (and U+1D118)

staff3Lines

3-line staff

U+E013 (and U+1D119)

staff4Lines

4-line staff

U+E014 (and U+1D11A)

staff5Lines

5-line staff

U+E015 (and U+1D11B)

staff6Lines

6-line staff

U+E016

staff1LineWide

1-line staff (wide)

U+E017

staff2LinesWide

2-line staff (wide)

U+E018

staff3LinesWide

3-line staff (wide)

U+E019

staff4LinesWide

4-line staff (wide)

U+E01A

staff5LinesWide

5-line staff (wide)

U+E01B

staff6LinesWide

6-line staff (wide)

U+E01C

staff1LineNarrow

1-line staff (narrow)

U+E01D

staff2LinesNarrow

2-line staff (narrow)

U+E01E

staff3LinesNarrow

3-line staff (narrow)

U+E01F

staff4LinesNarrow

4-line staff (narrow)

U+E020

staff5LinesNarrow

5-line staff (narrow)

U+E021

staff6LinesNarrow

6-line staff (narrow)

Implementation notes

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

Narrow and wide versions are provided for use in fonts intended for use in text-based applications. These glyphs should be zero-width in such fonts.

Barlines (U+E030–U+E03F)

U+E030 (and U+1D100)

barlineSingle

Single barline

U+E031 (and U+1D101)

barlineDouble

Double barline

U+E032 (and U+1D102)

barlineFinal

Final barline

U+E033 (and U+1D103)

barlineReverseFinal

Reverse final barline

U+E034

barlineHeavy

Heavy barline

U+E035

barlineHeavyHeavy

Heavy double barline

U+E036 (and U+1D104)

barlineDashed

Dashed barline

U+E037

barlineDotted

Dotted barline

U+E038 (and U+1D105)

barlineShort

Short barline

U+E039

barlineTick

Tick barline

Implementation notes

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

Repeats (U+E040–U+E04F)

U+E040 (and U+1D106)

leftRepeat

Left repeat sign

U+E041 (and U+1D107)

rightRepeat

Right repeat sign

U+E042 (and U+1D108)

repeatDots

Repeat dots

U+E043

repeatDot

Single repeat dot

U+E044 (and U+1D109)

dalSegno

Dal segno

U+E045 (and U+1D10A)

daCapo

Da capo

U+E046 (and U+1D10B)

segno

Segno

U+E047 (and U+1D10C)

coda

Coda

U+E048

codaSquare

Square coda

U+E049

segnoSerpent1

Segno (serpent)

U+E04A

segnoSerpent2

Segno (serpent with vertical lines)

U+E04B

leftRepeatSmall

Left repeat sign within bar

U+E04C

rightRepeatSmall

Right repeat sign within bar

Recommended stylistic alternates

uniE046.salt01

segnoJapanese

Segno (Japanese style, rotated)

uniE047.salt01

codaJapanese

Coda (Japanese style, serif)

Implementation notes

Scoring programs should draw their own repeat barlines using primitives to draw the thick and thin lines and **repeatDots** to draw the dots, not use the precomposed glyphs **leftRepeat** or **rightRepeat**.

dalSegno and **daCapo** 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+E050–U+E07F)

U+E050 (and U+1D11E)

gClef

G clef

U+E051

gClef15mb

G clef quindicesima bassa

U+E052 (and U+1D120)

gClef8vb

G clef ottava bassa

U+E053 (and U+1D11F)

gClef8va

G clef ottava alta

U+E054

gClef15ma

G clef quindicesima alta

U+E055

gClef8vbOld

G clef ottava bassa (old style)

U+E056

gClef8vbSquare

G clef ottava bassa (19th century)

U+E057

gClef8vbCclef

G clef ottava bassa with C clef

U+E058

gClefLigatedNumberBelow

Combining G clef, number below

U+E059

gClefLigatedNumberAbove

Combining G clef, number above

U+E05A

gClefArrowUp

G clef, arrow up

U+E05B

gClefArrowDown

G clef, arrow down

U+E05C (and U+1D121)

cClef

C clef

U+E05D

cClef8vb

C clef ottava bassa

U+E05E

cClefArrowUp

C clef, arrow up

U+E05F

cClefArrowDown

C clef, arrow down

U+E060

cClefCombining

Combining C clef

U+E061 (and U+1D122)

fClef

F clef

U+E062

fClef15mb

F clef quindicesima bassa

U+E063 (and U+1D124)

fClef8vb

F clef ottava bassa

U+E064 (and U+1D123)

fClef8va

F clef ottava alta

U+E065

fClef15ma

F clef quindicesima alta

U+E066

fClefArrowUp

F clef, arrow up

U+E067

fClefArrowDown

F clef, arrow down

U+E068 (and U+1D125)

unpitchedPercussionClef1

Unpitched percussion clef 1

U+E069 (and U+1D126)

unpitchedPercussionClef2

Unpitched percussion clef 2

U+E06A

semipitchedPercussionClef1

Semi-pitched percussion clef 1

U+E06B

semipitchedPercussionClef2

Semi-pitched percussion clef 2

U+E06C

6stringTabClef

6-string tab clef

U+E06D

4stringTabClef

4-string tab clef

U+E06E

cClefTriangular

Triangular C clef

U+E06F

fClefTriangular

Triangular F clef

U+E070

cClefTriangularToFClef

C clef to F clef change

U+E071

fClefTriangularToCClef

F clef to C clef change

U+E072

gClefReversed

Reversed G clef

U+E073

gClefUpsideDown

Upside-down G clef

U+E074

cClefReversed

Reversed C clef

U+E075

fClefReversed

Reversed F clef

U+E076

fClefUpsideDown

Upside-down F clef

U+E077

bridgeClef

Bridge clef

Recommended stylistic alternates

uniE052.salt01

gClef8vbParens

G clef ottava bassa (8)

uniE068.salt01

unpitchedPercussionClef1Alt

Unpitched percussion clef 1 (thick-thin)

uniE06C.salt01

6stringTabClefTall

6-string tab clef (tall)

uniE06C.salt02

6stringTabClefSerif

6-string tab clef (serif)

uniE06D.salt01

4stringTabClefTall

4-string tab clef (tall)

uniE06D.salt02

4stringTabClefSerif

4-string tab clef (serif)

Recommended ligatures

uniE061_uniE7D5

fClef5Below

F clef, 5 below

uniE058_uniE7D0

gClef0Below

G clef, 0 below

uniE058_uniE7D1_uniE7D0

gClef10Below

G clef, 10 below

uniE058_uniE7D1_uniE7D1

gClef11Below

G clef, 11 below

uniE058_uniE7D1_uniE7D2

gClef12Below

G clef, 12 below

uniE058_uniE7D1_uniE7D3

gClef13Below

G clef, 13 below

uniE058_uniE7D1_uniE7D4

gClef14Below

G clef, 14 below

uniE058_uniE7D1_uniE7D5

gClef15Below

G clef, 15 below

uniE058_uniE7D1_uniE7D6

gClef16Below

G clef, 16 below

uniE058_uniE7D1_uniE7D7

gClef17Below

G clef, 17 below

uniE059_uniE7D2

gClef2Above

G clef, 2 above

uniE058_uniE7D2

gClef2Below

G clef, 2 below

uniE059_uniE7D3

gClef3Above

G clef, 3 above

uniE058_uniE7D3

gClef3Below

G clef, 3 below

uniE059_uniE7D4

gClef4Above

G clef, 4 above

uniE058_uniE7D4

gClef4Below

G clef, 4 below

uniE059_uniE7D5

gClef5Above

G clef, 5 above

uniE058_uniE7D5

gClef5Below

G clef, 5 below

uniE059_uniE7D6

gClef6Above

G clef, 6 above

uniE058_uniE7D6

gClef6Below

G clef, 6 below

uniE059_uniE7D7

gClef7Above

G clef, 7 above

uniE058_uniE7D7

gClef7Below

G clef, 7 below

uniE058_uniE7D8

gClef8Below

G clef, 8 below

uniE059_uniE7D9

gClef9Above

G clef, 9 above

uniE058_uniE7D9

gClef9Below

G clef, 9 below

uniE058_uniE7D1_uniE7D0_uniE230

gClefFlat10Below

G clef, flat 10 below

uniE058_uniE7D1_uniE7D1_uniE230

gClefFlat11Below

G clef, flat 11 below

uniE058_uniE7D1_uniE7D3_uniE230

gClefFlat13Below

G clef, flat 13 below

uniE058_uniE7D1_uniE7D4_uniE230

gClefFlat14Below

G clef, flat 14 below

uniE058_uniE7D1_uniE7D5_uniE230

gClefFlat15Below

G clef, flat 15 below

uniE058_uniE7D1_uniE7D6_uniE230

gClefFlat16Below

G clef, flat 16 below

uniE058_uniE230_uniE7D1

gClefFlat1Below

G clef, flat 1 below

uniE059_uniE7D2_uniE230

gClefFlat2Above

G clef, flat 2 above

uniE058_uniE230_uniE7D2

gClefFlat2Below

G clef, flat 2 below

uniE059_uniE7D3_uniE230

gClefFlat3Above

G clef, flat 3 above

uniE058_uniE230_uniE7D3

gClefFlat3Below

G clef, flat 3 below

uniE058_uniE230_uniE7D4

gClefFlat4Below

G clef, flat 4 below

uniE059_uniE7D5_uniE230

gClefFlat5Above

G clef, flat 5 above

uniE059_uniE7D6_uniE230

gClefFlat6Above

G clef, flat 6 above

uniE058_uniE230_uniE7D6

gClefFlat6Below

G clef, flat 6 below

uniE059_uniE7D7_uniE230

gClefFlat7Above

G clef, flat 7 above

uniE058_uniE230_uniE7D7

gClefFlat7Below

G clef, flat 7 below

uniE059_uniE7D8_uniE230

gClefFlat8Above

G clef, flat 8 above

uniE059_uniE7D9_uniE230

gClefFlat9Above

G clef, flat 9 above

uniE058_uniE230_uniE7D9

gClefFlat9Below

G clef, flat 9 below

uniE058_uniE231_uniE7D2

gClefNat2Below

G clef, natural 2 below

uniE058_uniE7D1_uniE7D0_uniE231

gClefNatural10Below

G clef, natural 10 below

uniE058_uniE7D1_uniE7D3_uniE231

gClefNatural13Below

G clef, natural 13 below

uniE058_uniE7D1_uniE7D7_uniE231

gClefNatural17Below

G clef, natural 17 below

uniE059_uniE7D2_uniE231

gClefNatural2Above

G clef, natural 2 above

uniE059_uniE7D3_uniE231

gClefNatural3Above

G clef, natural 3 above

uniE058_uniE231_uniE7D3

gClefNatural3Below

G clef, natural 3 below

uniE059_uniE7D6_uniE231

gClefNatural6Above

G clef, natural 6 above

uniE058_uniE231_uniE7D6

gClefNatural6Below

G clef, natural 6 below

uniE059_uniE7D7_uniE231

gClefNatural7Above

G clef, natural 7 above

uniE059_uniE7D9_uniE231

gClefNatural9Above

G clef, natural 9 above

uniE058_uniE231_uniE7D9

gClefNatural9Below

G clef, natural 9 below

uniE058_uniE7D1_uniE7D2_uniE232

gClefSharp12Below

G clef, sharp 12 below

uniE059_uniE7D1_uniE232

gClefSharp1Above

G clef, sharp 1 above

uniE059_uniE7D4_uniE232

gClefSharp4Above

G clef, sharp 4 above

uniE058_uniE232_uniE7D5

gClefSharp5Below

G clef, sharp 5 below

Implementation notes

Scoring applications may choose to create e.g. *ottava alta* and *ottava bassa* versions of the G clef and F clef by combining **gClef** and **fClef** with **ottava** and **quindicesima** rather than using the precomposed glyphs.

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

timeSig0

0   Time signature 0

U+E081

timeSig1

1   Time signature 1

U+E082

timeSig2

2   Time signature 2

U+E083

timeSig3

3   Time signature 3

U+E084

timeSig4

4   Time signature 4

U+E085

timeSig5

5   Time signature 5

U+E086

timeSig6

6   Time signature 6

U+E087

timeSig7

7   Time signature 7

U+E088

timeSig8

8   Time signature 8

U+E089

timeSig9

9   Time signature 9

U+E08A (and U+1D134)

timeSigCommon

𝄴   Common time

U+E08B (and U+1D135)

timeSigCutCommon

𝄵   Cut time

U+E08C

timeSigPlus

+   Time signature +

U+E08D

timeSigPlusSmall

+   Time signature + (for numerators)

U+E08E

timeSigFractionalSlash

╱   Time signature fraction slash

U+E08F

timeSigEquals

=   Time signature equals

U+E090

timeSigMinus

−   Time signature minus

U+E091

timeSigMultiply

✕   Time signature multiply

U+E092

timeSigParensLeftSmall

(Left parenthesis for numerator only

U+E093

timeSigParensRightSmall

)   Right parenthesis for numerator only

U+E094

timeSigParensLeft

(Left parenthesis for whole time signature

U+E095

timeSigParensRight

)   Right parenthesis for whole time signature

U+E096

timeSigComma

,   Time signature comma

U+E097

timeSigFractionQuarter

¼   Time signature fraction ¼

U+E098

timeSigFractionHalf

½   Time signature fraction ½

U+E099

timeSigFractionThreeQuarters

¾   Time signature fraction ¾

U+E09A

timeSigFractionOneThird

⅓   Time signature fraction

U+E09B

timeSigFractionTwoThirds

⅔   Time signature fraction

U+E09C

timeSigX

Χ   Open time signature

U+E09D

timeSigOpenPenderecki

∿   Open time signature (Penderecki)

U+E09E

timeSigCombNumerator

Control character for numerator digit

U+E09F

timeSigCombDenominator

Control character for denominator digit

Recommended ligatures

uniE09F_uniE080

timeSig0Denominator

0   Time signature 0 (denominator)

uniE09E_uniE080

timeSig0Numerator

0   Time signature 0 (numerator)

uniE09F_uniE081

timeSig1Denominator

1   Time signature 1 (denominator)

uniE09E_uniE081

timeSig1Numerator

1   Time signature 1 (numerator)

uniE09F_uniE082

timeSig2Denominator

2 Time signature 2 (denominator)

uniE09E_uniE082

timeSig2Numerator

2 Time signature 2 (numerator)

uniE09F_uniE083

timeSig3Denominator

3 Time signature 3 (denominator)

uniE09E_uniE083

timeSig3Numerator

3 Time signature 3 (numerator)

uniE09F_uniE084

timeSig4Denominator

4 Time signature 4 (denominator)

uniE09E_uniE084

timeSig4Numerator

4 Time signature 4 (numerator)

uniE09F_uniE085

timeSig5Denominator

5 Time signature 5 (denominator)

uniE09E_uniE085

timeSig5Numerator

5 Time signature 5 (numerator)

uniE09F_uniE086

timeSig6Denominator

6 Time signature 6 (denominator)

uniE09E_uniE086

timeSig6Numerator

6 Time signature 6 (numerator)

uniE09F_uniE087

timeSig7Denominator

7 Time signature 7 (denominator)

uniE09E_uniE087

timeSig7Numerator

7 Time signature 7 (numerator)

uniE09F_uniE088

timeSig8Denominator

8 Time signature 8 (denominator)

uniE09E_uniE088

timeSig8Numerator

8 Time signature 8 (numerator)

uniE09F_uniE089

timeSig9Denominator

9 Time signature 9 (denominator)

uniE09E_uniE089

timeSig9Numerator

9 Time signature 9 (numerator)

Implementation notes

timeSigCombNumerator and **timeSigCombDenominator** are control characters designed to be combined with the time signature digits (by way of glyph substitution, such as OpenType ligatures) to shift them vertically into position suitable for drawing as the numerator and denominator of a time signature. These control characters are intended for fonts to be used in text-based applications, since scoring applications should position the numerator and denominator of time signatures independently.

Noteheads (U+E0A0–U+E0EF)

U+E0A0

noteheadDoubleWhole

Double whole notehead

U+E0A1

noteheadDoubleWholeSquare

Double whole notehead (square)

U+E0A2

noteheadWhole

Whole notehead

U+E0A3 (and U+1D157)

noteheadHalf

Half notehead

U+E0A4 (and U+1D158)

noteheadBlack

Black notehead

U+E0A5 (and U+1D159)

noteheadNull

Null notehead

U+E0A6

noteheadXDoubleWhole

X notehead double whole

U+E0A7

noteheadXWhole

X notehead whole

U+E0A8

noteheadXHalf

X notehead half

U+E0A9 (and U+1D143)

noteheadXBlack

X notehead black

U+E0AA

noteheadXOrnate

Ornate X notehead

U+E0AB

noteheadPlusDoubleWhole

Plus notehead double whole

U+E0AC

noteheadPlusWhole

Plus notehead whole

U+E0AD

noteheadPlusHalf

Plus notehead half

U+E0AE (and U+1D144)

noteheadPlusBlack

Plus notehead black

U+E0AF

noteheadCircleXDoubleWhole

Circle X double whole

U+E0B0

noteheadCircleXWhole

Circle X whole

U+E0B1

noteheadCircleXHalf

Circle X half

U+E0B2 (and U+1D145)

noteheadCircleX

⊗ Circle X notehead

U+E0B3

noteheadDoubleWholeWithX

❙⊗❙ Double whole notehead with X

U+E0B4

noteheadWholeWithX

⊗ Whole notehead with X

U+E0B5

noteheadHalfWithX

⊘ Half notehead with X

U+E0B6

noteheadVoidWithX

⊗ Void notehead with X

U+E0B7 (and U+1D146)

noteheadSquareWhite

□ Square notehead white

U+E0B8 (and U+1D147)

noteheadSquareBlack

■ Square notehead black

U+E0B9

noteheadTriangleUpDoubleWhole

❙△❙ Triangle notehead up double whole

U+E0BA

noteheadTriangleUpWhole

△ Triangle notehead up whole

U+E0BB

noteheadTriangleUpHalf

△ Triangle notehead up half

U+E0BC (and U+1D148)

noteheadTriangleUpWhite

△ Triangle notehead up white

U+E0BD (and U+1D149)

noteheadTriangleUpBlack

▲ Triangle notehead up black

U+E0BE (and U+1D14A)

noteheadTriangleLeftWhite

◁ Triangle notehead left white

U+E0BF (and U+1D14B)

noteheadTriangleLeftBlack

◀ Triangle notehead left black

U+E0C0 (and U+1D14C)

noteheadTriangleRightWhite

◸ Triangle notehead right white

U+E0C1 (and U+1D14D)

noteheadTriangleRightBlack

◢ Triangle notehead right black

U+E0C2

noteheadTriangleDownDoubleWhole

❙▽❙ Triangle notehead down double whole

U+E0C3

noteheadTriangleDownWhole

▽ Triangle notehead down whole

U+E0C4

noteheadTriangleDownHalf

▽ Triangle notehead down half

U+E0C5 (and U+1D14E)

noteheadTriangleDownWhite

▽ Triangle notehead down white

U+E0C6 (and U+1D14F)

noteheadTriangleDownBlack

▼ Triangle notehead down black

U+E0C7 (and U+1D150)

noteheadTriangleUpRightWhite

◁ Triangle notehead up right white

U+E0C8 (and U+1D151)

noteheadTriangleUpRightBlack

◣ Triangle notehead up right black

U+E0C9 (and U+1D152)

noteheadMoonWhite

⏝ Moon notehead white

U+E0CA (and U+1D153)

noteheadMoonBlack

⏢ Moon notehead black

U+E0CB (and U+1D154)

noteheadTriangleRoundDownWhite

▽ Triangle-round notehead down white

U+E0CC (and U+1D155)

noteheadTriangleRoundDownBlack

▼ Triangle-round notehead down black

U+E0CD (and U+1D156)

noteheadParenthesis

( ) Parenthesis notehead

U+E0CE

noteheadSlashedBlack1

 Slashed black notehead (bottom left to top right)

U+E0CF

noteheadSlashedBlack2

 Slashed black notehead (top left to bottom right)

U+E0D0

noteheadSlashedHalf1

 Slashed half notehead (bottom left to top right)

U+E0D1

noteheadSlashedHalf2

 Slashed half notehead (top left to bottom right)

U+E0D2

noteheadSlashedWhole1

 Slashed whole notehead (bottom left to top right)

U+E0D3

noteheadSlashedWhole2

 Slashed whole notehead (top left to bottom right)

U+E0D4

noteheadSlashedDoubleWhole1

 Slashed double whole notehead (bottom left to top right)

U+E0D5

noteheadSlashedDoubleWhole2

 Slashed double whole notehead (top left to bottom right)

U+E0D6

noteheadDiamondDoubleWhole

Diamond double whole notehead

U+E0D7

noteheadDiamondWhole

Diamond whole notehead

U+E0D8

noteheadDiamondHalf

Diamond half notehead

U+E0D9

noteheadDiamondBlack

Diamond black notehead

U+E0DA

noteheadDiamondDoubleWholeOld

Diamond double whole notehead (old)

U+E0DB

noteheadDiamondWholeOld

Diamond whole notehead (old)

U+E0DC

noteheadDiamondHalfOld

White diamond notehead

U+E0DD

noteheadDiamondBlackOld

Black diamond notehead

U+E0DE

noteheadDiamondHalfFilled

Half-filled diamond notehead

U+E0DF

noteheadCircledBlack

Circled black notehead

U+E0E0

noteheadCircledHalf

Circled half notehead

U+E0E1

noteheadCircledWhole

Circled whole notehead

U+E0E2

noteheadCircledDoubleWhole

Circled double whole notehead

U+E0E3

noteheadLargeArrowUpDoubleWhole

Large arrow up (highest pitch) double whole notehead

U+E0E4

noteheadLargeArrowUpWhole

Large arrow up (highest pitch) whole notehead

U+E0E5

noteheadLargeArrowUpHalf

Large arrow up (highest pitch) half notehead

U+E0E6

noteheadLargeArrowUpBlack

Large arrow up (highest pitch) black notehead

U+E0E7

noteheadLargeArrowDownDoubleWhole

Large arrow down (lowest pitch) double whole notehead

U+E0E8

noteheadLargeArrowDownWhole

▽ Large arrow down (lowest pitch) whole notehead

U+E0E9

noteheadLargeArrowDownHalf

▽ Large arrow down (lowest pitch) half notehead

U+E0EA

noteheadLargeArrowDownBlack

▼ Large arrow down (lowest pitch) black notehead

U+E0EB

noteheadParenthesisLeft

(Opening parenthesis

U+E0EC

noteheadParenthesisRight

) Closing parenthesis

U+E0ED

noteheadCircleSlash

⊘ Circle slash notehead

U+E0EE

noteheadHeavyX

✖ Heavy X notehead

U+E0EF

noteheadHeavyXHat

✖ Heavy X with hat notehead

Recommended stylistic alternates

uniE0A0.salt01

noteheadDoubleWholeAlt

|O| Double whole note (breve), single vertical strokes

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:

1D15E	1D157	1D165

1D15F	1D158	1D165

1D160	1D158	1D165	1D16E

1D161	1D158	1D165	1D16F

1D162	1D158	1D165	1D170

1D163	1D158	1D165	1D171

1D164	1D158	1D165	1D172
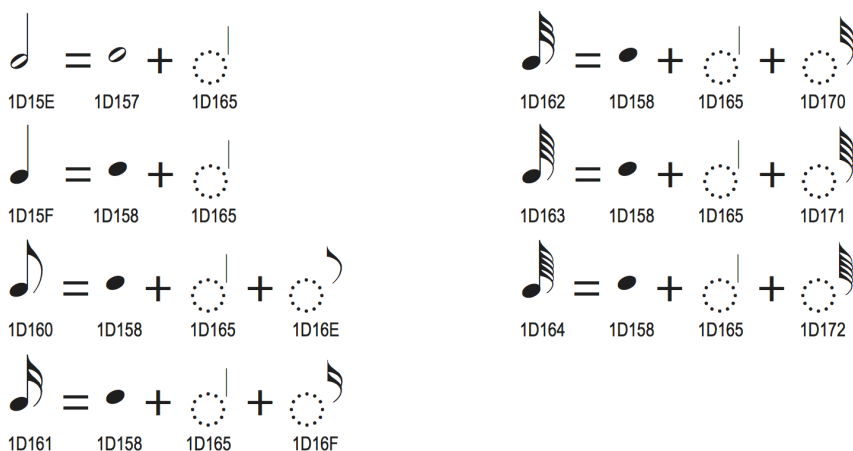
Scoring applications should draw stems using primitives, rather than using **stem** (i.e. U+1D165 as shown in the above image[13]), so that they can be drawn to the correct length.

See also the implementation notes for flags.

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[13] 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+E0F0–U+E0FF)

U+E0F0

noteheadSlashVerticalEnds

Slash with vertical ends

U+E0F1 (and U+1D10D)

noteheadSlashHorizontalEnds

Slash with horizontal ends

U+E0F2

noteheadSlashWhite

White slash

U+E0F3

noteheadSlashDiamondWhite

Large white diamond

U+E0F4

noteheadSlashVerticalEndsSmall

Small slash with vertical ends

U+E0F5

noteheadSlashX

Large X notehead

U+E0F6

noteheadSlashVerticalEndsMuted

Muted slash with vertical ends

U+E0F7

noteheadSlashHorizontalEndsMuted

Muted slash with horizontal ends

U+E0F8

noteheadSlashWhiteMuted

Muted white slash

Implementation notes

See the implementation notes for noteheads.

Round and square noteheads (U+E100–U+E10F)

U+E100

noteheadRoundBlackLarge

Large round black notehead

U+E101

noteheadRoundWhiteLarge

Large round white notehead

U+E102

noteheadRoundWhiteWithDotLarge

Large round white notehead with dot

U+E103

noteheadRoundBlack

Round black notehead

U+E104

noteheadRoundWhite

Round white notehead

U+E105

noteheadRoundWhiteWithDot

Round white notehead with dot

U+E106

noteheadRoundBlackSlashedLarge

Large round black notehead, slashed

U+E107

noteheadRoundWhiteSlashedLarge

Large round white notehead, slashed

U+E108

noteheadRoundBlackSlashed

Round black notehead, slashed

U+E109

noteheadRoundWhiteSlashed

Round white notehead, slashed

U+E10A

noteheadSquareBlackLarge

Large square black notehead

U+E10B

noteheadSquareBlackWhite

Large square white notehead

Note clusters (U+E110–U+E13F)

U+E110 (and U+1D15A)

noteheadClusterSquareWhite

Cluster notehead white (square)

U+E111 (and U+1D15B)

noteheadClusterSquareBlack

Cluster notehead black (square)

U+E112

noteheadClusterRoundWhite

Cluster notehead white (round)

U+E113

noteheadClusterRoundBlack

Cluster notehead black (round)

U+E114

noteheadClusterDoubleWhole2nd

Double whole note cluster, 2nd

U+E115

noteheadClusterWhole2nd

Whole note cluster, 2nd

U+E116

noteheadClusterHalf2nd

Half note cluster, 2nd

U+E117

noteheadClusterQuarter2nd

Quarter note cluster, 2nd

U+E118

noteheadClusterDoubleWhole3rd

Double whole note cluster, 3rd

U+E119

noteheadClusterWhole3rd

Whole note cluster, 3rd

U+E11A

noteheadClusterHalf3rd

Half note cluster, 3rd

U+E11B

noteheadClusterQuarter3rd

Quarter note cluster, 3rd

U+E11C

noteheadClusterDoubleWholeTop

Combining double whole note
cluster, top

U+E11D

noteheadClusterDoubleWholeMiddle

Combining double whole note
cluster, middle

U+E11E

noteheadClusterDoubleWholeBottom

Combining double whole note
cluster, bottom

U+E11F

noteheadClusterWholeTop

Combining whole note cluster, top

U+E120

noteheadClusterWholeMiddle

Combining whole note cluster,
middle

U+E121

noteheadClusterWholeBottom

Combining whole note cluster,
bottom

U+E122

noteheadClusterHalfTop

Combining half note cluster, top

U+E123

noteheadClusterHalfMiddle

Combining half note cluster, middle

U+E124

noteheadClusterHalfBottom

Combining half note cluster, bottom

U+E125

noteheadClusterQuarterTop

Combining quarter note cluster, top

U+E126

noteheadClusterQuarterMiddle

Combining quarter note cluster, middle

U+E127

noteheadClusterQuarterBottom

Combining quarter note cluster, bottom

U+E128

noteheadDiamondClusterWhite2nd

White diamond cluster, 2nd

U+E129

noteheadDiamondClusterBlack2nd

Black diamond cluster, 2nd

U+E12A

noteheadDiamondClusterWhite3rd

White diamond cluster, 3rd

U+E12B

noteheadDiamondClusterBlack3rd

Black diamond cluster, 3rd

U+E12C

noteheadDiamondClusterWhiteTop

Combining white diamond cluster, top

U+E12D

noteheadDiamondClusterWhiteMiddle

Combining white diamond cluster, middle

U+E12E

noteheadDiamondClusterWhiteBottom

Combining white diamond cluster, bottom

U+E12F

noteheadDiamondClusterBlackTop

Combining black diamond cluster, top

U+E130

noteheadDiamondClusterBlackMiddle

Combining black diamond cluster, middle

U+E131

noteheadDiamondClusterBlackBottom

Combining black diamond cluster, bottom

Implementation notes

Scoring applications should draw simple note clusters (e.g. **noteheadClusterSquareWhite**, **noteheadClusterRoundBlack**) directly using primitives rather than using these glyphs, so that the clusters can be drawn spanning the correct interval.

The combining glyphs for note clusters are designed to allow the creation of clusters of any size, with a scoring application inserting the appropriate number of "middle" segments between a single instance of the "top" and "bottom" segments:
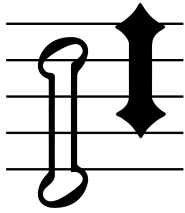
The left-hand cluster is a stack (top to bottom) of 1 x **noteheadClusterHalfTop**, 3 x **noteheadClusterHalfMiddle**, 1 x **noteheadClusterHalfBottom**; the right-hand cluster is 1 x **noteheadDiamondClusterBlackTop**, 2 x **noteheadDiamondClusterBlackMiddle**, 1 x **noteheadDiamondClusterBlackBottom**.

See also the implementation notes for noteheads.

Note name noteheads (U+E140–U+E19F)

U+E140

noteDoWhole

Do (whole note)

U+E141

noteReWhole

Re (whole note)

U+E142

noteMiWhole

Mi (whole note)

U+E143

noteFaWhole

Fa (whole note)

U+E144

noteSoWhole

So (whole note)

U+E145

noteLaWhole

La (whole note)

U+E146

noteTiWhole

Ti (whole note)

U+E147

noteSiWhole

Si (whole note)

U+E148

noteDoHalf

Do (half note)

U+E149

noteReHalf

Re (half note)

U+E14A

noteMiHalf

Mi (half note)

U+E14B

noteFaHalf

Fa (half note)

U+E14C

noteSoHalf

So (half note)

U+E14D

noteLaHalf

La (half note)

U+E14E

noteTiHalf

Ti (half note)

U+E14F

noteSiHalf

Si (half note)

U+E150

noteDoBlack

Do (black note)

U+E151

noteReBlack

Re (black note)

U+E152

noteMiBlack

Mi (black note)

U+E153

noteFaBlack

Fa (black note)

U+E154

noteSoBlack

So (black note)

U+E155

noteLaBlack

La (black note)

U+E156

noteTiBlack

Ti (black note)

U+E157

noteSiBlack

Si (black note)

U+E158

noteAFlatWhole

A flat (whole note)

U+E159

noteAWhole

A (whole note)

U+E15A

noteASharpWhole

A sharp (whole note)

U+E15B

noteBFlatWhole

B flat (whole note)

U+E15C

noteBWhole

B (whole note)

U+E15D

noteBSharpWhole

B sharp (whole note)

U+E15E

noteCFlatWhole

C flat (whole note)

U+E15F

noteCWhole

C (whole note)

U+E160

noteCSharpWhole

C sharp (whole note)

U+E161

noteDFlatWhole

D flat (whole note)

U+E162

noteDWhole

D (whole note)

U+E163

noteDSharpWhole

D sharp (whole note)

U+E164

noteEFlatWhole

E flat (whole note)

U+E165

noteEWhole

E (whole note)

U+E166

noteESharpWhole

E sharp (whole note)

U+E167

noteFFlatWhole

F flat (whole note)

U+E168

noteFWhole

F (whole note)

U+E169

noteFSharpWhole

F sharp (whole note)

U+E16A

noteGFlatWhole

G flat (whole note)

U+E16B

noteGWhole

G (whole note)

U+E16C

noteGSharpWhole

G sharp (whole note)

U+E16D

noteHWhole

H (whole note)

U+E16E

noteHSharpWhole

H sharp (whole note)

U+E16F

noteAFlatHalf

A flat (half note)

U+E170

noteAHalf

A (half note)

U+E171

noteASharpHalf

A sharp (half note)

U+E172

noteBFlatHalf

B flat (half note)

U+E173

noteBHalf

B (half note)

U+E174

noteBSharpHalf

B sharp (half note)

U+E175

noteCFlatHalf

C flat (half note)

U+E176

noteCHalf

C (half note)

U+E177

noteCSharpHalf

C sharp (half note)

U+E178

noteDFlatHalf

D flat (half note)

U+E179

noteDHalf

D (half note)

U+E17A

noteDSharpHalf

D sharp (half note)

U+E17B

noteEFlatHalf

E flat (half note)

U+E17C

noteEHalf

E (half note)

U+E17D

noteESharpHalf

E sharp (half note)

U+E17E

noteFFlatHalf

F flat (half note)

U+E17F

noteFHalf

F (half note)

U+E180

noteFSharpHalf

F sharp (half note)

U+E181

noteGFlatHalf

G flat (half note)

U+E182

noteGHalf

G (half note)

U+E183

noteGSharpHalf

G sharp (half note)

U+E184

noteHHalf

H (half note)

U+E185

noteHSharpHalf

H sharp (half note)

U+E186

noteAFlatBlack

A flat (black note)

U+E187

noteABlack

A (black note)

U+E188

noteASharpBlack

A sharp (black note)

U+E189

noteBFlatBlack

B flat (black note)

U+E18A

noteBBlack

B (black note)

U+E18B

noteBSharpBlack

B sharp (black note)

U+E18C

noteCFlatBlack

C flat (black note)

U+E18D

noteCBlack

C (black note)

U+E18E

noteCSharpBlack

C sharp (black note)

U+E18F

noteDFlatBlack

D flat (black note)

U+E190

noteDBlack

D (black note)

U+E191

noteDSharpBlack

D sharp (black note)

U+E192

noteEFlatBlack

E flat (black note)

U+E193

noteEBlack

E (black note)

U+E194

noteESharpBlack

E sharp (black note)

U+E195

noteFFlatBlack

F flat (black note)

U+E196

noteFBlack

F (black note)

U+E197

noteFSharpBlack

F sharp (black note)

U+E198

noteGFlatBlack

G flat (black note)

U+E199

noteGBlack

G (black note)

U+E19A

noteGSharpBlack

G sharp (black note)

U+E19B

noteHBlack

H (black note)

U+E19C

noteHSharpBlack

H sharp (black note)

U+E19D

noteEmptyWhole

Empty whole note

U+E19E

noteEmptyHalf

Empty half note

U+E19F

noteEmptyBlack

Empty black note

Implementation notes

These noteheads are designed for use by scoring applications to render music where the names of notes are shown inside noteheads. For practical use, scoring applications should provide a means of automatically substituting regular noteheads for the appropriate note name notehead glyph according to the pitch of each note.

See also the implementation notes for noteheads.

Sacred harp shape notes (U+E1A0–U+E1AF)

U+E1A0

noteShapeRoundWhite

Round white (4-shape sol; 7-shape so)

U+E1A1

noteShapeRoundBlack

Round black (4-shape sol; 7-shape so)

U+E1A2

noteShapeSquareWhite

Square white (4-shape la; 7-shape la)

U+E1A3

noteShapeSquareBlack

Square black (4-shape la; 7-shape la)

U+E1A4

noteShapeTriangleRightWhite

Triangle right white (stem down; 4-shape fa; 7-shape fa)

U+E1A5

noteShapeTriangleRightBlack

Triangle right black (stem down; 4-shape fa; 7-shape fa)

U+E1A6

noteShapeTriangleLeftWhite

Triangle left white (stem up; 4-shape fa; 7-shape fa)

U+E1A7

noteShapeTriangleLeftBlack

Triangle left black (stem up; 4-shape fa; 7-shape fa)

U+E1A8

noteShapeDiamondWhite

Diamond white (4-shape mi; 7-shape mi)

U+E1A9

noteShapeDiamondBlack

Diamond black (4-shape mi; 7-shape mi)

U+E1AA

noteShapeTriangleUpWhite

Triangle up white (7-shape do)

U+E1AB

noteShapeTriangleUpBlack

Triangle up black (7-shape do)

U+E1AC

noteShapeMoonWhite

Moon white (7-shape re)

U+E1AD

noteShapeMoonBlack

Moon black (7-shape re)

U+E1AE

noteShapeTriangleRoundWhite

Triangle-round white (7-shape ti)

U+E1AF

noteShapeTriangleRoundBlack

Triangle-round black (7-shape ti)

Implementation notes

For practical use, scoring applications should provide a means of automatically substituting regular noteheads for the appropriate shape note notehead glyph according to the pitch of each note.

See also the implementation notes for noteheads.

Individual notes (U+E1B0–U+E1CF)

U+E1B0 (and U+1D15C)

noteDoubleWhole

Double whole note (breve)

U+E1B1

noteDoubleWholeSquare

Double whole note (square)

U+E1B2 (and U+1D15D)

noteWhole

Whole note (semibreve)

U+E1B3 (and U+1D15E)

noteHalfUp

Half note (minim) stem up

U+E1B4

noteHalfDown

Half note (minim) stem down

U+E1B5 (and U+1D15F)

noteQuarterUp

Quarter note (crotchet) stem up

U+E1B6

noteQuarterDown

Quarter note (crotchet) stem down

U+E1B7 (and U+1D160)

noteEighthUp

Eighth note (quaver) stem up

U+E1B8

noteEighthDown

Eighth note (quaver) stem down

U+E1B9 (and U+1D161)

note16thUp

16th note (semiquaver) stem up

U+E1BA

note16thDown

16th note (semiquaver) stem down

U+E1BB (and U+1D162)

note32ndUp

32nd note (demisemiquaver) stem up

U+E1BC

note32ndDown

32nd note (demisemiquaver) stem down

U+E1BD (and U+1D163)

note64thUp

64th note (hemidemisemiquaver) stem up

U+E1BE

note64thDown

64th note (hemidemisemiquaver) stem
down

U+E1BF (and U+1D164)

note128thUp

128th note (semihemidemisemiquaver)
stem up

U+E1C0

note128thDown

128th note (semihemidemisemiquaver)
stem down

U+E1C1

note256thUp

256th note
(demisemihemidemisemiquaver) stem up

U+E1C2

note256thDown

256th note
(demisemihemidemisemiquaver) stem

U+E1C3

note512thUp

512th note
(hemidemisemihemidemisemiquaver)

U+E1C4

note512thDown

512th note
(hemidemisemihemidemisemiquaver)

U+E1C5

note1024thUp

1024th note
(semihemidemisemihemidemisemiquaver)

U+E1C6

note1024thDown

1024th note
(semihemidemisemihemidemisemiquaver)

U+E1C7 (and U+1D16D)

augmentationDot

Augmentation dot

Recommended stylistic alternates

uniE1B0.salt01

noteDoubleWholeAlt

Double whole note (breve), single
vertical strokes

Implementation notes

This range is most useful in fonts intended for text-based applications, with metrics that are compatible for mixing musical symbols with text.

In such a font, the precomposed note glyphs may be used for displaying metronome marks and simple metric modulations. More complex metric modulations and *l'istesso tempo* directions may be drawn using these glyphs in conjunction with the **Beamed groups of notes** range.

Scoring applications should draw all notes by combining notehead glyphs — e.g. **noteheadBlack** for quarter notes (crotchets) and shorter notes, **noteheadHalf** for half notes (minims) — with stems drawn using primitives.

Beamed groups of notes (U+E1D0–U+E1EF)

U+E1D0

textBlackNoteShortStem

Black note, short stem

U+E1D1

textBlackNoteLongStem

Black note, long stem

U+E1D2

textBlackNoteFrac8thShortStem

Black note, fractional 8th beam, short stem

U+E1D3

textBlackNoteFrac8thLongStem

Black note, fractional 8th beam, long stem

U+E1D4

textBlackNoteFrac16thShortStem

Black note, fractional 16th beam, short stem

U+E1D5

textBlackNoteFrac16thLongStem

Black note, fractional 16th beam, long stem

U+E1D6

textBlackNoteFrac32ndLongStem

Black note, fractional 32nd beam, long stem

U+E1D7

textCont8thBeamShortStem

Continuing 8th beam for short stem

U+E1D8

textCont8thBeamLongStem

Continuing 8th beam for long stem

U+E1D9

textCont16thBeamShortStem

Continuing 16th beam for short stem

U+E1DA

textCont16thBeamLongStem

Continuing 16th beam for long stem

U+E1DB

textCont32ndBeamLongStem

Continuing 32nd beam for long stem

U+E1DC

textAugmentationDot

Augmentation dot

U+E1DD

textTie

Tie

U+E1DE

textTupletBracketStartShortStem

Tuplet bracket start for short stem

U+E1DF

textTuplet3ShortStem

Tuplet number 3 for short stem

U+E1E0

textTupletBracketEndShortStem

Tuplet bracket end for short stem

U+E1E1

textTupletBracketStartLongStem

Tuplet bracket start for long stem

	U+E1E2		**U+E1E3**
3	*textTuplet3LongStem*	¬	*textTupletBracketEndLongStem*
	Tuplet number 3 for long stem		Tuplet bracket end for long stem

Implementation notes

This range is most useful in fonts intended for text-based applications, with metrics that are compatible for mixing musical symbols with text.

In such a font, these glyphs may be used for displaying complex metric modulations and *l'istesso tempo* directions in conjunction with the precomposed note glyphs in the **Individual notes** range.

By way of example:

textBlackNoteShortStem, **textCont8thBeamShortStem**, space, **textBlackNoteFrac8thShortStem**, **textCont16thBeamShortStem**, space, **textBlackNoteFrac16thShortStem**

textBlackNoteShortStem, **textCont8thBeamShortStem**, space, **textBlackNoteFract8thShortStem**, space, =, **textTupletBracketStartLongStem**, **textBlackNoteShortStem**, **textTuplet3LongStem**, space, **textTupletBracketEndLongStem**, **noteEighthUp**

textBlackNoteShortStem, **textCont8thBeamShortStem**, **textAugmentationDot**, space, **textCont8thBeamShortStem**, **textBlackNoteFrac16thShortStem**

Stems (U+E1F0–U+E1FF)

U+E1F0 (and U+1D165)

stem

Combining stem

U+E1F1 (and U+1D166)

stemSprechgesang

Combining sprechgesang stem

U+E1F2

stemSwished

Combining swished stem

U+E1F3

stemPendereckiTremolo

Combining Penderecki unmeasured tremolo stem

U+E1F4

stemSulPonticello

Combining sul ponticello (bow behind bridge) stem

U+E1F5

stemBowOnBridge

Combining bow on bridge stem

U+E1F6

stemBowOnTailpiece

Combining bow on tailpiece stem

U+E1F7

stemBuzzRoll

Combining buzz roll stem

U+E1F8

stemDamp

Combining damp stem

U+E1F9

stemVibratoPulse

Combining vibrato pulse accent (Saunders) stem

U+E1FA

stemMultiphonicsBlack

Combining multiphonics (black) stem

U+E1FB

stemMultiphonicsWhite

Combining multiphonics (white) stem

U+E1FC

stemMultiphonicsBlackWhite

Combining multiphonics (black and white) stem

U+E1FD

stemSussurando

Combining sussurando stem

U+E1FE

stemRimShot

Combining rim shot stem

U+E1FF

stemHarpStringNoise

Combining harp string noise stem

Implementation notes

The glyphs shown here may be combined with noteheads 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 (**vocalSprechgesang**)

- Swish (**miscSwish**)

- Penderecki unmeasured tremolo (**pendereckiTremolo**)

- Sul ponticello (**stringsBowBehindBridge**)

- Bow on bridge (**stringsBowOnBridge**)

- Bow on tailpiece (**stringsBowOnTailpiece**)

- Buzz roll (**buzzRoll**)

- Damp (**pluckedDamp**)

- Vibrato pulse accent (**stringsVibratoPulse**)

- Multiphonics (**windMultiphonicsBlackStem**, **windMultiphonicsWhiteStem**, **windMultiphonicsBlackWhiteStem**)

- Sussurando (**vocalsSussurando**)

- Rim shot (**pictRimShotOnStem**)

- Harp string noise (**harpStringNoiseStem**)

Tremolos (U+E200–U+E20F)

U+E200 (and U+1D167)

tremolo1

Combining tremolo 1

U+E201 (and U+1D168)

tremolo2

Combining tremolo 2

U+E202 (and U+1D169)

tremolo3

Combining tremolo 3

U+E203

tremolo4

Combining tremolo 4

U+E204

tremolo5

Combining tremolo 5

U+E205 (and U+1D16A)

tremoloFingered1

Fingered tremolo 1

U+E206 (and U+1D16B)

tremoloFingered2

Fingered tremolo 2

U+E207 (and U+1D16C)

tremoloFingered3

Fingered tremolo 3

U+E208

tremoloFingered4

Fingered tremolo 4

U+E209

tremoloFingered5

Fingered tremolo 5

U+E20A

buzzRoll

Buzz roll

U+E20B

pendereckiTremolo

Penderecki unmeasured tremolo

U+E20C

unmeasuredTremolo

Wieniawski unmeasured tremolo

U+E20D

unmeasuredTremoloSimple

Wieniawski unmeasured tremolo (simpler)

Implementation notes

Scoring applications may simply use multiple instances of **tremolo1** imposed on note stems to draw one-note tremolos with different numbers of slashes.

The fingered tremolo glyphs 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+E210–U+E22F)

U+E210 (and U+1D16E)

flag8thUp

Combining flag 1 (8th) above

U+E211

flag8thDown

Combining flag 1 (8th) below

U+E212 (and U+1D16F)

flag16thUp

Combining flag 2 (16th) above

U+E213

flag16thDown

Combining flag 2 (16th) below

U+E214 (and U+1D170)

flag32ndUp

Combining flag 3 (32nd) above

U+E215

flag32ndDown

Combining flag 3 (32nd) below

U+E216 (and U+1D171)

flag64thUp

Combining flag 4 (64th) above

U+E217

flag64thDown

Combining flag 4 (64th) below

U+E218 (and U+1D172)

flag128thUp

Combining flag 5 (128th) above

U+E219

flag128thDown

Combining flag 5 (128th) below

U+E21A

flag256thUp

Combining flag 6 (256th) above

U+E21B

flag256thDown

Combining flag 6 (256th) below

U+E21C

flag512thUp

Combining flag 7 (512th) above

U+E21D

flag512thDown

Combining flag 7 (512th) below

U+E21E

flag1024thUp

Combining flag 8 (1024th) above

U+E21F

flag1024thDown

Combining flag 8 (1024th) below

U+E220

flagInternalUp

Internal combining flag above

U+E221

flagInternalDown

Internal combining flag below

Recommended stylistic alternates

uniE210.ss03

flag8thUpStraight

Combining flag 1 (8th) above (straight)

uniE211.ss03

flag8thDownStraight

Combining flag 1 (8th) below (straight)

uniE212.ss02

flag16thUpShort

Combining flag 2 (16th) above (short)

uniE214.ss03

flag32ndUpStraight

Combining flag 3 (32nd) above (straight)

uniE215.ss03

flag32ndDownStraight

Combining flag 3 (32nd) below (straight)

uniE216.ss02

flag64thUpShort

Combining flag 4 (64th) above (short)

uniE218.ss03

flag128thUpStraight

Combining flag 5 (128th) above (straight)

uniE219.ss03

flag128thDownStraight

Combining flag 5 (128th) below (straight)

uniE21A.ss02

flag256thUpShort

Combining flag 6 (256th) above (short)

uniE210.ss02

flag8thUpShort

Combining flag 1 (8th) above (short)

uniE212.ss03

flag16thUpStraight

Combining flag 2 (16th) above (straight)

uniE213.ss03

flag16thDownStraight

Combining flag 2 (16th) below (straight)

uniE214.ss02

flag32ndUpShort

Combining flag 3 (32nd) above (short)

uniE216.ss03

flag64thUpStraight

Combining flag 4 (64th) above (straight)

uniE217.ss03

flag64thDownStraight

Combining flag 4 (64th) below (straight)

uniE218.ss02

flag128thUpShort

Combining flag 5 (128th) above (short)

uniE21A.ss03

flag256thUpStraight

Combining flag 6 (256th) above (straight)

uniE21B.ss03

flag256thDownStraight

Combining flag 6 (256th) below (straight)

uniE21C.ss03

flag512thUpStraight

Combining flag 7 (512th) above (straight)

uniE21C.ss02

flag512thUpShort

Combining flag 7 (512th) above (short)

uniE21D.ss03

flag512thDownStraight

Combining flag 7 (512th) below (straight)

uniE21E.ss03

flag1024thUpStraight

Combining flag 8 (1024th) above (straight)

uniE21E.ss02

flag1024thUpShort

Combining flag 8 (1024th) above (short)

uniE21F.ss03

flag1024thDownStraight

Combining flag 8 (1024th) below (straight)

Implementation notes

Scoring applications may create groups of flags for notes shorter than 16th notes (semiquavers) by combining **flag16thUp** with the required number of **flagInternalUp** for stem up notes, or **flag16thDown** with the required number of **flagInternalDown** for stem down notes, stacking **flagInternalUp** above or **flagInternalDown** below respectively, ensuring even spacing.

The set of stylistic alternates for shorter flags may be substituted by a scoring application in the case of a dotted note with an upward stem, to avoid collisions between the augmentation dot and the flag.

Standard accidentals (12-EDO) (U+E230–U+E23F)

U+E230 (and 266D)

accidentalFlat

♭ Flat

U+E231 (and 266E)

accidentalNatural

♮ Natural

U+E232 (and 266F)

accidentalSharp

♯ Sharp

U+E233 (and U+1D12A)

accidentalDoubleSharp

𝄪 Double sharp

U+E234 (and U+1D12B)

accidentalDoubleFlat

𝄫 Double flat

U+E235

accidentalTripleSharp

Triple sharp

U+E236

accidentalTripleFlat

Triple flat

U+E237

accidentalNaturalFlat

Natural flat

U+E238

accidentalNaturalSharp

Natural sharp

U+E239

accidentalSharpSharp

Sharp sharp

Recommended stylistic alternates

uniE230.ss01

accidentalFlatSmall

♭ Flat (for small staves)

uniE231.ss01

accidentalNaturalSmall

♮ Natural (for small staves)

uniE232.ss01

accidentalSharpSmall

♯ Sharp (for small staves)

Implementation notes

Scoring applications may choose to substitute stylistic alternate versions of the common accidentals glyphs for a better appearance on smaller staves.

Quartertone accidentals (24-EDO) (U+E240–U+E24F)

U+E240 (and U+1D132)

accidentalQuarterSharp3

Quarter-tone sharp

U+E241 (and U+1D133)

accidentalQuarterFlat3

Quarter-tone flat

U+E242

accidentalQuarterFlat5

Filled reversed flat (quarter-tone flat)

U+E243

accidentalSharpReversed

Reversed sharp

U+E244

accidentalNaturalReversed

Reversed natural

U+E245

accidentalDoubleFlatReversed

Reversed double flat

U+E246

accidentalFlatInverted

Inverted flat

U+E247

accidentalDoubleFlatInverted

Inverted double flat

U+E248

accidentalThreeQuartersFlatGrisey

Three-quarter-tones flat (Grisey)

U+E249

accidentalThreeQuartersFlatTartini

Three-quarter-tones flat (Tartini)

U+E24A

accidentalQuarterFlatTartini

Quarter-tone flat (van Blankenburg)

U+E24B

accidentalThreeQuartersFlatCouper

Three-quarter-tones flat (Couper)

Gould arrow quartertone accidentals (24-EDO) (U+E250–U+E25F)

U+E250 (and U+1D12C)

accidentalQuarterFlatArrowUp

Quarter-tone flat

U+E251 (and U+1D12D)

accidentalThreeQuartersFlatArrowDown

Three-quarter-tones flat

U+E252 (and U+1D12E)

accidentalQuarterSharpNaturalArrowUp

Quarter-tone sharp

U+E253 (and U+1D12F)

accidentalQuarterFlatNaturalArrowDown

Quarter-tone flat

U+E254 (and U+1D130)

accidentalThreeQuartersSharpArrowUp

Three-quarter-tones sharp

U+E255 (and U+1D131)

accidentalQuarterSharpArrowDown

Quarter-tone flat

U+E256

accidentalDoubleSharpArrowUp

Five-quarter-tones sharp

U+E257

accidentalDoubleSharpArrowDown

Three-quarter-tones sharp

U+E258

accidentalDoubleFlatArrowUp

Three-quarter-tones flat

U+E259

accidentalDoubleFlatArrowDown

Five-quarter-tones flat

U+E25A

accidentalArrowUp

Arrow up (raise by one quarter-tone)

U+E25B

accidentalArrowDown

Arrow down (lower by one quarter-tone)

Stein-Zimmermann accidentals (24-EDO) (U+E260–U+E26F)

U+E260

accidentalQuarterFlat4

Reversed flat (quarter-tone flat) (Stein)

U+E261

accidentalThreeQuartersFlat2

Reversed flat and flat (three-quarter-tones flat) (Zimmermann)

U+E262

accidentalQuarterSharp4

Half sharp (quarter-tone sharp) (Stein)

U+E263

accidentalThreeQuartersSharp2

One and a half sharps (three-quarter-tones sharp) (Stein)

Extended Stein-Zimmermann accidentals (U+E270–U+E27F)

U+E270

accidentalReversedFlatArrowUp

Reversed flat with arrow up

U+E271

accidentalReversedFlatArrowDown

Reversed flat with arrow down

U+E272

accidentalFilledReversedFlatArrowUp

Filled reversed flat with arrow up

U+E273

accidentalFilledReversedFlatArrowDown

Filled reversed flat with arrow down

U+E274

accidentalReversedFlatAndFlatArrowUp

Reversed flat and flat with arrow up

U+E275

accidentalReversedFlatAndFlatArrowDown

Reversed flat and flat with arrow down

U+E276

accidentalFilledReversedFlatAndFlat

Filled reversed flat and flat

U+E277

accidentalFilledReversedFlatAndFlatArrowUp

Filled reversed flat and flat with arrow up

U+E278

accidentalFilledReversedFlatAndFlatArrowDown

Filled reversed flat and flat with arrow down

U+E279

accidentalHalfSharpArrowUp

Half sharp with arrow up

U+E27A

accidentalHalfSharpArrowDown

Half sharp with arrow down

U+E27B

accidentalOneAndAHalfSharpsArrowUp

One and a half sharps with arrow up

U+E27C

accidentalOneAndAHalfSharpsArrowDown

One and a half sharps with arrow down

Implementation notes

These accidentals were not actually proposed by Richard Stein or Bernd Zimmermann, but are instead logical extensions of their symbols adding arrows to provide options for notating slight pitch modifications[14].

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[14] Gould, *ibid.*, page 96 acknowledges the Stein-Zimmermann accidentals as the most commonly-used symbols with fixed meanings; however, the extensions provided here do not have fixed meanings.

Sims accidentals (72-EDO) (U+E280–U+E28F)

U+E280

accidentalManeriSims12Down

1/12 tone low

U+E281

accidentalManeriSims6Down

1/6 tone low

U+E282

accidentalManeriSims4Down

1/4 tone low

U+E283

accidentalManeriSims12Up

1/12 tone high

U+E284

accidentalManeriSims6Up

1/6 tone high

U+E285

accidentalManeriSims4Up

1/4 tone high

Implementation notes

These glyphs may be used alone and to the left of the standard 12-EDO accidentals.

Johnston accidentals (just intonation) (U+E290–U+E29F)

U+E290

accidentalJohnstonPlus

Plus (raise by 81:80)

U+E291

accidentalJohnstonMinus

Minus (lower by 81:80)

U+E292

accidentalJohnstonEl

Inverted seven (raise by 36:35)

U+E293

accidentalJohnstonSeven

Seven (lower by 36:35)

U+E294

accidentalJohnstonUp

Up arrow (raise by 33:32)

U+E295

accidentalJohnstonDown

Down arrow (lower by 33:32)

U+E296

accidentalJohnston13

Thirteen (raise by 65:64~)

U+E297

accidentalJohnston31

Inverted 13 (lower by 65:64)

Implementation notes

These glyphs are intended for combining with the standard 12-EDO accidentals.

Extended Helmholtz-Ellis accidentals (just intonation) (U+E2A0–U+E2DF)

U+E2A0

accidentalDoubleFlatOneArrowDown

Double flat lowered by one syntonic comma

U+E2A1

accidentalFlatOneArrowDown

Flat lowered by one syntonic comma

U+E2A2

accidentalNaturalOneArrowDown

Natural lowered by one syntonic comma

U+E2A3

accidentalSharpOneArrowDown

Sharp lowered by one syntonic comma

U+E2A4

accidentalDoubleSharpOneArrowDown

Double sharp lowered by one syntonic comma

U+E2A5

accidentalDoubleFlatOneArrowUp

Double flat raised by one syntonic comma

U+E2A6

accidentalFlatOneArrowUp

Flat raised by one syntonic comma

U+E2A7

accidentalNaturalOneArrowUp

Natural raised by one syntonic comma

U+E2A8

accidentalSharpOneArrowUp

Sharp raised by one syntonic comma

U+E2A9

accidentalDoubleSharpOneArrowUp

Double sharp raised by one syntonic comma

U+E2AA

accidentalDoubleFlatTwoArrowsDown

Double flat lowered by two syntonic commas

U+E2AB

accidentalFlatTwoArrowsDown

Flat lowered by two syntonic commas

U+E2AC

accidentalNaturalTwoArrowsDown

Natural lowered by two syntonic commas

U+E2AD

accidentalSharpTwoArrowsDown

Sharp lowered by two syntonic commas

U+E2AE

accidentalDoubleSharpTwoArrowsDown

Double sharp lowered by two syntonic commas

U+E2AF

accidentalDoubleFlatTwoArrowsUp

Double flat raised by two syntonic commas

U+E2B0

accidentalFlatTwoArrowsUp

Flat raised by two syntonic commas

U+E2B1

accidentalNaturalTwoArrowsUp

Natural raised by two syntonic commas

U+E2B2

accidentalSharpTwoArrowsUp

Sharp raised by two syntonic commas

U+E2B3

accidentalDoubleSharpTwoArrowsUp

Double sharp raised by two syntonic commas

U+E2B4

accidentalDoubleFlatThreeArrowsDown

Double flat lowered by three syntonic commas

U+E2B5

accidentalFlatThreeArrowsDown

Flat lowered by three syntonic commas

U+E2B6

accidentalNaturalThreeArrowsDown

Natural lowered by three syntonic commas

U+E2B7

accidentalSharpThreeArrowsDown

Sharp lowered by three syntonic commas

U+E2B8

accidentalDoubleSharpThreeArrowsDown

Double sharp lowered by three syntonic commas

U+E2B9

accidentalDoubleFlatThreeArrowsUp

Double flat raised by three syntonic commas

U+E2BA

accidentalFlatThreeArrowsUp

Flat raised by three syntonic commas

U+E2BB

accidentalNaturalThreeArrowsUp

Natural raised by three syntonic commas

U+E2BC

accidentalSharpThreeArrowsUp

Sharp raised by three syntonic commas

U+E2BD

accidentalDoubleSharpThreeArrowsUp

Double sharp raised by three syntonic commas

U+E2BE

accidentalLowerOneSeptimalComma

Lower by one septimal comma

U+E2BF

accidentalRaiseOneSeptimalComma

Raise by one septimal comma

U+E2C0

accidentalLowerTwoSeptimalCommas

Lower by two septimal commas

U+E2C1

accidentalRaiseTwoSeptimalCommas

Raise by two septimal commas

U+E2C2

accidentalLowerOneUndecimalQuartertone

Lower by one undecimal quartertone

U+E2C3

accidentalRaiseOneUndecimalQuartertone

Raise by one undecimal quartertone

U+E2C4

accidentalLowerOneTridecimalQuartertone

Lower by one tridecimal quartertone

U+E2C5

accidentalRaiseOneTridecimalQuartertone

Raise by one tridecimal quartertone

U+E2C6

accidentalCombiningLower17Schisma

Combining lower by one 17-limit schisma

U+E2C7

accidentalCombiningRaise17Schisma

Combining raise by one 17-limit schisma

U+E2C8

accidentalCombiningLower19Schisma

Combining lower by one 19-limit schisma

U+E2C9

accidentalCombiningRaise19Schisma

Combining raise by one 19-limit schisma

U+E2CA

accidentalCombiningLower23Limit29LimitComma

Combining lower by one 23-limit comma or 29-limit comma

U+E2CB

accidentalCombiningRaise23Limit29LimitComma

Combining raise by one 23-limit comma or 29-limit comma

U+E2CC

accidentalCombiningLower31Schisma

Combining lower by one 31-limit schisma

U+E2CD

accidentalCombiningRaise31Schisma

Combining raise by one 31-limit schisma

U+E2CE

accidentalCombiningOpenCurlyBrace

Combining open curly brace

U+E2CF

accidentalCombiningCloseCurlyBrace

Combining close curly brace

U+E2D0

accidentalDoubleFlatEqualTempered

Double flat equal tempered semitone

U+E2D1

accidentalFlatEqualTempered

Flat equal tempered semitone

U+E2D2

accidentalNaturalEqualTempered

Natural equal tempered semitone

U+E2D3

accidentalSharpEqualTempered

Sharp equal tempered semitone

U+E2D4

accidentalDoubleSharpEqualTempered

Double sharp equal tempered
semitone

Spartan Sagittal single-shaft accidentals (U+E2E0–U+E2EF)

U+E2E0

accSagittal57KleismaUp

5:7 kleisma up (5:7k, ~11:13k, 7C less 5C)

U+E2E1

accSagittal57KleismaDown

5:7 kleisma down

U+E2E2

accSagittal5CommaUp

5 comma up (5C) 1° up [22 27 29 34 41 46 53 96 EDOs] 1/12-tone up

U+E2E3

accSagittal5CommaDown

5 comma down 1° dn [22 27 29 34 41 46 53 96 EDOs] 1/12-tone down

U+E2E4

accSagittal7CommaUp

7 comma up (7C) 1° up [43 EDO] 2° up [72 EDO] 1/6-tone up

U+E2E5

accSagittal7CommaDown

7 comma down 1° down [43 EDO] 2° down [72 EDO] 1/6-tone down

U+E2E6

accSagittal25SmallDiesisUp

25 small diesis up (25S, ~5:13S, ~37S, 5C plus 5C) 2° up [53 EDO]

U+E2E7

accSagittal25SmallDiesisDown

25 small diesis down 2° down [53 EDO]

U+E2E8

accSagittal35MediumDiesisUp

35 medium diesis up (35M, ~13M, ~125M, 5C plus 7C)

U+E2E9

accSagittal35MediumDiesisDown

35 medium diesis down 1°[50] 2°[27] dn / 2/9-tone down

U+E2EA

accSagittal11MediumDiesisUp

11 medium diesis up (11M) 1°[17 31] 2°46 up 1/4-tone up

U+E2EB

accSagittal11MediumDiesisDown

11 medium diesis down 1°[17 31] 2°46 dn 1/4-tone down

U+E2EC

accSagittal11LargeDiesisUp

11 large diesis up (11L) (sharp less 11M) 3° up [46 EDO]

U+E2ED

accSagittal11LargeDiesisDown

11 large diesis down 3° down [46 EDO]

U+E2EE

accSagittal35LargeDiesisUp

35 large diesis up (35L , ~13L, ~125L, sharp less 35M) 2° down [50

U+E2EF

accSagittal35LargeDiesusDown

35 large diesis down 2° down [50 EDO] 5/18-tone down

Implementation notes

It is not necessary to implement the complete Sagittal microtonal notation system. The Spartan set is sufficient to notate 13-limit just intonation (JI), 1/12-tones, 50 common equal divisions of the octave (EDOs), and their related linear temperaments.

The eight pairs of single-shaft accidentals above are sufficient to provide these capabilities when used alone, and to the left of the standard double-flat, flat, sharp and large double-sharp (**accidentalDoubleFlat**, **accidentalFlat**, **accidentalSharp**, **accSagittalLargeDoubleSharp**). This is called "mixed Sagittal."

As an alternative, the following group (the multi-shaft Spartans) provides a complete set of stand-alone accidentals to replace each of the above combinations of a single-shaft Sagittal with a standard accidental. This is called "pure Sagittal." The standard natural (**accidentalNatural**) is used alone in both mixed and pure variants, but only to cancel a previous accidental.

Sagittal accidentals are not intended to be combined with one another, inasmuch as symbols representing useful combinations and powers of primes are already provided. An accidental can often be used to represent alternative commas that differ by 2 cents or less. In such cases the intended comma ratio may be determined by the note to which it is applied, or by the musical context. Alternatively, diacritics (from the Herculean and subsequent extensions) may be added to distinguish these commas. Commas which require diacritics for exact representation are preceded by a tilde "~" in the glyph descriptions.

Sagittal extensions following Spartan allow notation of JI ratios with primes beyond 13, and more combinations of lower primes, as well as finer tone-fractions, degrees of larger EDOs, and more complex temperaments, all with single Sagittal accidentals. The same choice of mixed versus pure is available with each extension. See http://sagittal.org for more information.

Spartan Sagittal multi-shaft accidentals (U+E2F0–U+E31F)

U+E2F0

accSagittalSharp25SDown

Sharp 25S-down 3° up [53 EDO]

U+E2F1

accSagittalFlat25SUp

Flat 25S-up 3° down [53 EDO]

U+E2F2

accSagittalSharp7CDown

Sharp 7C-down 2° up [43 EDO] 4° up [72 EDO] 1/3-tone up

U+E2F3

accSagittalFlat7CUp

Flat 7C-up 2° down [43 EDO] 4° down [72 EDO] 1/3-tone down

U+E2F4

accSagittalSharp5CDown

Sharp 5C-down 2°[22 29] 3°[34 41] 4°[46 53 60] u 5/12-tone up

U+E2F5

accSagittalFlat5CUp

Flat 5C-up 2°[22,29] 3°[34 41] 4°[46 53 60] d 5/12-tone down

U+E2F6

accSagittalSharp57kDown

Sharp 5:7k-down

U+E2F7

accSagittalFlat57kUp

Flat 5:7k-up

U+E2F8

accSagittalSharpApotomeUp

Sharp (apotome up) [almost all EDOs] 1/2-tone up

U+E2F9

accSagittalFlatApotomeDown

Flat (apotome down) [almost all EDOs] 1/2-tone down

U+E2FA

accSagittalUnused1

Unused

U+E2FB

accSagittalUnused2

Unused

U+E2FC

accSagittalSharp57kUp

Sharp 5:7k-up

U+E2FD

accSagittalFlat57kDown

Flat 5:7k-down

U+E2FE

accSagittalSharp5CUp

Sharp 5C-up 4°[22 29] 5°[27 34 41] 6°[39 46 53] u 7/12-tone up

U+E2FF

accSagittalFlat5CDown

Flat 5C-down 4°[22 29] 5°[27 34 41] 6°[39 46 53] d 7/12-tone down

U+E300

accSagittalSharp7CUp

Sharp 7C-up 4° up [43 EDO] 8° up [72 EDO] 2/3-tone up

U+E301

accSagittalFlat7CDown

Flat 7C-down 4° down [43 EDO] 8° down [72 EDO] 2/3-tone down

U+E302

accSagittalSharp25SUp

Sharp 25S-up 7° up [53 EDO]

U+E303

accSagittalFlat25SDown

Flat 25S-down 7° down [53 EDO]

U+E304

accSagittalSharp35MUp

Sharp 35M up 4° up [50 EDO] 6° up [27 EDO] 13/18-tone up

U+E305

accSagittalFlat35MDown

Flat 35M down 4° down [50 EDO] 6° down [27 EDO] 13/18-tone down

U+E306

accSagittalSharp11MUp

Sharp 11M up 3° up [17 31 EDOs] 7° up [46 EDO] 3/4-tone up

U+E307

accSagittalFlat11MDown

Flat 11M down 3° dn [17 31 EDOs] 7° down [46 EDO] 3/4-tone down

U+E308

accSagittalSharp11LUp

Sharp 11L up 8° up [46 EDO]

U+E309

accSagittalFlat11LDown

Flat 11L down 8° up [46 EDO]

U+E30A

accSagittalSharp35LUp

Sharp 35L up 5° up [50 EDO]

U+E30B

accSagittalFlat35LDown

Flat 35L down 5° down [50 EDO]

U+E30C

accSagittalDoubleSharp25SDown

Double sharp 25S down 8°up [53 EDO]

U+E30D

accSagittalDoubleFlat25SUp

Double flat 25S up 8°down [53 EDO]

U+E30E

accSagittalDoubleSharp7CDown

Double sharp 7C down 5°[43] 10°[72] up 5/6-tone up

U+E30F

accSagittalDoubleFlat7CUp

Double flat 7C up 5° down [43 EDO] 10° down [72 EDO] 5/6-tone

U+E310

accSagittalDoubleSharp5CDown

Double sharp 5C-down, 5°[22 29] 7°[34 41] 9°53 up 11/12 tone down

U+E311

accSagittalDoubleFlat5CUp

Double flat 5C-up 5°[22 29] 7°[34 41] 9°[53] down 11/12 tone down

U+E312

accSagittalDoubleSharp57kDown

Double sharp 5:7k-down

U+E313

accSagittalDoubleFlat57kUp

Double flat 5:7k up

U+E314

accSagittalDoubleSharp2ApotomesUp

Double sharp (2 apotomes up)
[almost all EDOs] whole-tone up

U+E315

accSagittalDoubleFlat2ApotomesDown

Double flat (2 apotomes down)
[almost all EDOs] whole-tone down

Athenian Sagittal extension (medium precision) accidentals (U+E320–U+E34F)

U+E320

accSagittal711KleismaUp

7:11 kleisma up (7:11k , ~29k)

U+E321

accSagittal711KleismaDown

7:11 kleisma down

U+E322

accSagittal17CommaUp

17 comma up (17C)

U+E323

accSagittal17CommaDown

17 comma down

U+E324

accSagittal55CommaUp

55 comma up (55C, 11M less 5C) 3°up [96 EDO] 3/16-tone up

U+E325

accSagittal55CommaDown

55 comma down 3° down [96 EDO] 3/16-tone down

U+E326

accSagittal711CommaUp

7:11 comma up (7:11C, ~13:17S, ~29S, 11L less 7C) 1° up [60 EDO]

U+E327

accSagittal711CommaDown

7:11 comma down 1° down [60 EDO] 1/10- tone down

U+E328

accSagittal511SmallDiesisUp

5:11 small diesis up (5:11S, ~7:13S, ~11:17S, 5:7k plus 7:11C)

U+E329

accSagittal511SmallDiesisDown

5:11 small diesis down

U+E32A

accSagittalSharp511SDown

Sharp 5:11S-down

U+E32B

accSagittalFlat511SUp

Flat 5:11S-up

U+E32C

accSagittalSharp711CDown

Sharp 7:11C-down 4° up [60 EDO] 2/5-tone up

U+E32D

accSagittalFlat711CUp

Flat 7:11C-up 4° down [60 EDO] 2/5-tone down

U+E32E

accSagittalSharp55CDown

Sharp 55C down 5° up [96 EDO] 5/16-tone up

U+E32F

accSagittalFlat55CUp

Flat 55C-up 5° down [96 EDO] 5/16-tone down

U+E330

accSagittalSharp17CDown

Sharp 17C-down

U+E331

accSagittalFlat17CUp

Flat 17C-up

U+E332

accSagittalSharp711kDown

Sharp 7:11k-down

U+E333

accSagittalFlat711kUp

Flat 7:11k-up

U+E334

accSagittalSharp711kUp

Sharp 7:11k-up

U+E335

accSagittalFlat711kDown

Flat 7:11k-down

U+E336

accSagittalSharp17CUp

Sharp 17C-up

U+E337

accSagittalFlat17CDown

Flat 17C-down

U+E338

accSagittalSharp55CUp

Sharp 55C-up 11° up [96 EDO]
11/16-tone up

U+E339

accSagittalFlat55CDown

Flat 55C-down 11° down [96 EDO]
11/16-tone down

U+E33A

accSagittalSharp711CUp

Sharp 7:11C-up 6° up [60 EDO] 3/5-
tone up

U+E33B

accSagittalFlat711CDown

Flat 7:11C-down 6° down [60 EDO]
3/5- tone down

U+E33C

accSagittalSharp611SUp

Sharp 5:11S-up

U+E33D

accSagittalFlat511SDown

Flat 5:11S-down

U+E33E

accSagittalDoubleSharp511SDown

Double sharp 5:11S-down

U+E33F

accSagittalDoubleFlat511SUp

Double flat 5:11S-up

U+E340

accSagittalDoubleSharp711CDown

Double sharp 7:11C-down 9° up [60
EDO] 9/10-tone up

U+E341

accSagittalDoubleFlat711CUp

Double flat 7:11C-up 9° down [60
EDO] 9/10-tone down

U+E342

accSagittalDoubleSharp55CDown

Double sharp 55C-down 13° up [96 EDO] 13/16-tone up

U+E344

accSagittalDoubleSharp17CDown

Double sharp 17C-down

U+E346

accSagittalDoubleSharp711kDown

Double sharp 7:11k-down

U+E343

accSagittalDoubleFlat55CUp

Double flat 55C-up 13° down [96 EDO] 13/16-tone down

U+E345

accSagittalDoubleFlat17CUp

Double flat 17C up

U+E347

accSagittalDoubleFlat711kUp

Double flat 7:11k-up

Trojan Sagittal extension (12-EDO relative) accidentals (U+E350–U+E36F)

U+E350

accSagittal23CommaUp

23 comma up (23C) 2° up [96 EDO] 1/8-tone up

U+E351

accSagittal23CommaDown

23 comma down 2° down [96 EDO] 1/8-tone down

U+E352

accSagittal519CommaUp

5:19 comma up (5:19C , 5C plus 19s) 1/20-tone up

U+E353

accSagittal519CommaDown

5:19 comma down 1/20-tone down

U+E354

accSagittal523SmallDiesisUp

5:23 small diesis up (5:23S, 5C plus 23C) 2° up [60 EDO]

U+E355

accSagittal523SmallDiesisDown

5:23 small diesis down 2° down [60 EDO] 1/5-tone down

U+E356

accSagittalSharp523SDown

Sharp 5:23S-down 3° up [60 EDO] 3/10-tone up

U+E357

accSagittalFlat523SUp

Flat 5:23S-up 3° down [60 EDO] 3/10-tone down

U+E358

accSagittalSharp519CDown

Sharp 5:19C-down 9/20-tone up

U+E359

accSagittalFlat519CUp

Flat 5:19C-up 9/20-tone down

U+E35A

accSagittalSharp23CDown

Sharp 23C-down 6° up [96 EDO] 3/8-tone up

U+E35B

accSagittalFlat23CUp

Flat 23C-up 6° down [96 EDO] 3/8-tone down

U+E35C

accSagittalSharp23CUp

Sharp 23C-up 10° up [96 EDO] 5/8-tone up

U+E35D

accSagittalFlat23CDown

Flat 23C-down 10° down [96 EDO] 5/8-tone down

U+E35E

accSagittalSharp519CUp

Sharp 5:19C-up 11/20-tone up

U+E35F

accSagittalFlat519CDown

Flat 5:19C-down 11/20-tone down

U+E360

accSagittalSharp523SUp

Sharp 5:23S-up 7° up [60 EDO]
7/10-tone up

U+E361

accSagittalFlat523SDown

Flat 5:23S-down 7° down [60 EDO]
7/10-tone down

U+E362

accSagittalDoubleSharp523SDown

Double sharp 5:23S-down 8° up [60
EDO] 4/5-tone up

U+E363

accSagittalDoubleFlat523SUp

Double flat 5:23S-up 8° down [60
EDO] 4/5-tone down

U+E364

accSagittalDoubleSharp519CDown

Double sharp 5:19C-down 19/20-
tone up

U+E365

accSagittalDoubleFlat519CUp

Double flat 5:19C-up 19/20-tone
down

U+E366

accSagittalDoubleSharp23CDown

Double sharp 23C-down 14°up [96
EDO] 7/8-tone up

U+E367

accSagittalDoubleFlat23CUp

Double flat 23C-up 14° down [96
EDO] 7/8-tone down

Implementation notes

The Trojan (or tone-fraction) set is not strictly-speaking an extension of Athenian, as there are a few Athenians (including Spartans) that are not Trojan. Those are the glyphs whose descriptions include "5:7k", "7:11k", "5:11S", "25S" or "11L" and do not include a tone-fraction.

The descriptions below the Sagittal glyphs do not include all possible uses, only a selection of the most common. To determine which of these glyphs to use for tone-fractions not listed here (as well as for JI ratios and degrees of EDOs that are not listed here) please see http://sagittal.org.

Promethean Sagittal extension (high precision) single-shaft accidentals (U+E370–U+E38F)

U+E370

accSagittal19SchismaUp

19 schisma up (19s)

U+E371

accSagittal19SchismaDown

19 schisma down

U+E372

accSagittal17KleismaUp

17 kleisma up (17k)

U+E373

accSagittal17KleismaDown

17 kleisma down

U+E374

accSagittal143CommaUp

143 comma up (143C, 13L less 11M)

U+E375

accSagittal143CommaDown

143 comma down

U+E376

accSagittal1149CommaUp

11:49 comma up (11:49C, 11M less 49C)

U+E377

accSagittal1149CommaDown

11:49 comma down

U+E378

accSagittal19CommaUp

19 comma up (19C)

U+E379

accSagittal19CommaDown

19 comma down

U+E37A

accSagittal719CommaUp

7:19 comma up (7:19C, 7C less 19s)

U+E37B

accSagittal719CommaDown

7:19 comma down

U+E37C

accSagittal49SmallDiesisUp

49 small diesis up (49S, ~31S)

U+E37D

accSagittal49SmallDiesisDown

49 small diesis down

U+E37E

accSagittal23SmallDiesisUp

23 small diesis up (23S)

U+E37F

accSagittal23SmallDiesisDown

23 small diesis down

U+E380

accSagittal513MediumDiesisUp

5:13 medium diesis up (5:13M, ~37M, 5C plus 13C)

U+E381

accSagittal513MediumDiesisDown

5:13 medium diesis down

U+E382

accSagittal1119MediumDiesisUp

11:19 medium diesis up (11:19M , 11M plus 19s)

U+E383

accSagittal1119MediumDiesisDown

11:19 medium diesis down

U+E384

accSagittal49MediumDiesisUp

49 medium diesis up (49M, ~31M, 7C plus 7C)

U+E385

accSagittal49MediumDiesisDown

49 medium diesis down

U+E386

accSagittal549MediumDiesisUp

5:49 medium diesis up (5:49M, half apotome)

U+E387

accSagittal549MediumDiesisDown

5:49 medium diesis down

U+E388

accSagittal49LargeDiesisUp

49 large diesis up (49L, ~31L, apotome less 49M)

U+E389

accSagittal49LargeDiesisDown

49 large diesis down

U+E38A

accSagittal1119LargeDiesisUp

11:19 large diesis up (11:19L, apotome less 11:19M)

U+E38B

accSagittal1119LargeDiesisDown

11:19 large diesis down

U+E38C

accSagittal513LargeDiesisUp

5:13 large diesis up (5:13L, ~37L , apotome less 5:13M)

U+E38D

accSagittal513LargeDiesisDown

5:13 large diesis down

Promethean Sagittal extension (high precision) multi-shaft accidentals (U+E390–U+E3CF)

U+E390

accSagittalSharp23SDown

Sharp 23S-down

U+E391

accSagittalFlat23SUp

Flat 23S-up

U+E392

accSagittalSharp49SDown

Sharp 49S-down

U+E393

accSagittalFlat49SUp

Flat 49S-up

U+E394

accSagittalSharp719CDown

Sharp 7:19C-down

U+E395

accSagittalFlat719CUp

Flat 7:19C-up

U+E396

accSagittalSharp19CDown

Sharp 19C-down

U+E397

accSagittalFlat19CUp

Flat 19C-up

U+E398

accSagittalSharp1149CDown

Sharp 11:49C-down

U+E399

accSagittalFlat1149CUp

Flat 11:49C-up

U+E39A

accSagittalSharp143CDown

Sharp 143C-down

U+E39B

accSagittalFlat143CUp

Flat 143C-up

U+E39C

accSagittalSharp17kDown

Sharp 17k-down

U+E39D

accSagittalFlat17kUp

Flat 17k-up

U+E39E

accSagittalSharp19sDown

Sharp 19s-down

U+E39F

accSagittalFlat19sUp

Flat 19s-up

U+E3A0

accSagittalSharp19sUp

Sharp 19s-up

U+E3A1

accSagittalFlat19sDown

Flat 19s-down

U+E3A2

accSagittalSharp17kUp

Sharp 17k-up

U+E3A3

accSagittalFlat17kDown

Flat 17k-down

U+E3A4

accSagittalSharp143CUp

Sharp 143C-up

U+E3A5

accSagittalFlat143CDown

Flat 143C-down

U+E3A6

accSagittalSharp1149CUp

Sharp 11:49C-up

U+E3A7

accSagittalFlat1149CDown

Flat 11:49C-down

U+E3A8

accSagittalSharp19CUp

Sharp 19C-up

U+E3A9

accSagittalFlat19CDown

Flat 19C-down

U+E3AA

accSagittalSharp719CUp

Sharp 7:19C-up

U+E3AB

accSagittalFlat719CDown

Flat 7:19C-down

U+E3AC

accSagittalSharp49SUp

Sharp 49S-up

U+E3AD

accSagittalFlat49SDown

Flat 49S-down

U+E3AE

accSagittalSharp23SUp

Sharp 23S-up

U+E3AF

accSagittalFlat23SDown

Flat 23S-down

U+E3B0

accSagittalSharp513MUp

Sharp 5:13M-up

U+E3B1

accSagittalFlat513MDown

Flat 5:13M-down

U+E3B2

accSagittalSharp1119MUp

Sharp 11:19M-up

U+E3B3

accSagittalFlat1119MDown

Flat 11:19M-down

U+E3B4

accSagittalSharp49MUp

Sharp 49M-up

U+E3B5

accSagittalFlat49MDown

Flat 49M-down

U+E3B6

accSagittalSharp549MUp

Sharp 5:49M-up (one and a half apotomes)

U+E3B7

accSagittalFlat549MDown

Flat 5:49M down

U+E3B8

accSagittalSharp49LUp

Sharp 49L-up

U+E3B9

accSagittalFlat49LDown

Flat 49L-down

U+E3BA

accSagittalSharp1119LUp

Sharp 11:19L-up

U+E3BB

accSagittalFlat1119LDown

Flat 11:19L-down

U+E3BC

accSagittalSharp513LUp

Sharp 5:13L-up

U+E3BD

accSagittalFlat513LDown

Flat 5:13L-down

U+E3BE

accSagittalUnused3

Unused

U+E3BF

accSagittalUnused4

Unused

U+E3C0

accSagittalDoubleSharp23SDown

Double sharp 23S-down

U+E3C1

accSagittalDoubleFlat23SUp

Double flat 23S-up

U+E3C2

accSagittalDoubleSharp49SDown

Double sharp 49S-down

U+E3C3

accSagittalDoubleFlat49SUp

Double flat 49S-up

U+E3C4

accSagittalDoubleSharp719CDown

Double sharp 7:19C-down

U+E3C5

accSagittalDoubleFlat719CUp

Double flat 7:19C-up

U+E3C6

accSagittalDoubleSharp19CDown

Double sharp 19C-down

U+E3C7

accSagittalDoubleFlat19CUp

Double flat 19C-up

U+E3C8

accSagittalDoubleSharp1149CDown

Double sharp 11:49C-down

U+E3C9

accSagittalDoubleFlat1149CUp

Double flat 11:49C-up

U+E3CA

accSagittalDoubleSharp143CDown

Double sharp 143C-down

U+E3CB

accSagittalDoubleFlat143CUp

Double flat 143C-up

U+E3CC

accSagittalDoubleSharp17kDown

Double sharp 17k-down

U+E3CD

accSagittalDoubleFlat17kUp

Double flat 17k-up

U+E3CE

accSagittalDoubleSharp19sDown

Double sharp 19s-down

U+E3CF

accSagittalDoubleFlat19sUp

Double flat 19s-up

Sagittal-compatible accidentals (U+E3D0–U+E3DF)

U+E3D0

accSagittalWilsonPlus

Wilson plus (5 comma up)

U+E3D1

accSagittalWilsonMinus

Wilson minus (5 comma down)

U+E3D2

accSagittalNarrowReversedFlat

Narrow reversed flat (quarter-tone flat)

U+E3D3

accSagittalNarrowReversedFlatAndFlat

Narrow reversed flat and flat (three-quarter-tones flat)

U+E3D4

accSagittalLargeDoubleSharp

Large double sharp

Implementation notes

Other Sagittal-compatible accidentals are the standard double-flat, flat, natural and sharp (**accidentalDoubleFlat**, **accidentalFlat**, **accidentalNatural** and **accidentalSharp**) and the Stein half-sharp and one-and-a-half-sharps (**accidentalQuarterSharp4** and **accidentalThreeQuartersSharp2**).

Herculean Sagittal extension (very high precision) accidental diacritics (U+E3E0–U+E3EF)

U+E3E0

accSagittalShaftUp

| Shaft up (natural for use with only diacritics up)

U+E3E2

accSagittalAcute

´   Acute 5 schisma up (5s) 2 cents up

U+E3E1

accSagittalShaftDown

| Shaft down (natural for use with only diacritics down)

U+E3E3

accSagittalGrave

`   Grave 5 schisma down 2 cents down

Implementation notes

Sagittal diacritics are placed to the left of Sagittal accidentals if required; at most one diacritic from each group. If there are multiple diacritics, those representing the larger alteration are placed closer to the accidental. If diacritics are directly altering the natural note, they should be placed to the left of, but not touching, one of the bare-shaft glyphs (**accSagittalShaftUp** or **accSagittalShaftDown**); whichever one represents the direction of the sum of the diacritic alterations.

Olympian Sagittal extension (extreme precision) accidental diacritics (U+E3F0–U+E3FF)

Reserved for future use.

Implementation notes

This range is reserved for the future definition of four glyphs, representing alterations of one and two 455 or 65:77 schisminas. These schisminas are approximately 0.4 cents.

Magrathean Sagittal extension (insane precision) accidental diacritics (U+E400–U+E40F)

Reserved for future use.

Implementation notes

This range is reserved for the future definition of 38 glyphs, representing alterations of a half to nine-and-a-half tinas. A tina is approximately 0.14 cents.

Other microtonal accidentals (U+E420–U+E42F)

U+E420

accidentalXenakisOneThirdSharp

One-third-tone sharp (Xenakis)

U+E421

accidentalXenakisTwoThirdsSharp

Two-third-tones sharp (Xenakis)

U+E422

accidentalQuarterSharpOneStroke

Quarter sharp (one stroke)

U+E423

accidentalQuarterSharpTwoStrokes

Three quarters sharp (two strokes)

U+E424

accidentalThreeQuartersSharpThreeStrokes

Three quarters sharp (three strokes)

U+E425

accidentalQuarterSharpWiggle

Quarter sharp with wiggly tail

Arel-Ezgi-Uzdilek (AEU) accidentals (U+E430– U+E43F)

U+E430

accidentalBuyukMucennebFlat

Büyük mücenneb (flat)

U+E431

accidentalKucukMucennebFlat

Küçük mücenneb (flat)

U+E432

accidentalBakiyeFlat

Bakiye (flat)

U+E433

accidentalKomaFlat

Koma (flat)

U+E434

accidentalKomaSharp

Koma (sharp)

U+E435

accidentalBakiyeSharp

Bakiye (sharp)

U+E436

accidentalKucukMucennebSharp

Küçük mücenneb (sharp)

U+E437

accidentalBuyukMucennebSharp

Büyük mücenneb (sharp)

Turkish folk music accidentals (U+E440–U+E44F)

U+E440

accidental1CommaSharp

1-comma sharp

U+E441

accidental2CommaSharp

2-comma sharp

U+E442

accidental3CommaSharp

3-comma sharp

U+E443

accidental5CommaSharp

5-comma sharp

U+E444

accidental1CommaFlat

1-comma flat

U+E445

accidental2CommaFlat

2-comma flat

U+E446

accidental3CommaFlat

3-comma flat

U+E447

accidental4CommaFlat

4-comma flat

Persian accidentals (U+E450–U+E45F)

U+E450

accidentalKoron

Koron (quarter-flat)

U+E451

accidentalSori

Sori (quarter-sharp)

Articulation (U+E460–U+E47F)

U+E460 (and U+1D17B)

articAccent

> Accent

U+E461 (and U+1D17C)

articStaccato

Staccato

U+E462 (and U+1D17D)

articTenuto

Tenuto

U+E463 (and U+1D17E)

articStaccatissimoAbove

Staccatissimo above

U+E464

articStaccatissimoBelow

Staccatissimo below

U+E465

articStaccatissimoWedgeAbove

Staccatissimo wedge above

U+E466

articStaccatissimoWedgeBelow

Staccatissimo wedge below

U+E467

articStaccatissimoStrokeAbove

Staccatissimo stroke above

U+E468

articStaccatissimoStrokeBelow

Staccatissimo stroke below

U+E469 (and U+1D17F)

articMarcatoAbove

Marcato above

U+E46A

articMarcatoBelow

Marcato below

U+E46B (and U+1D180)

articMarcatoStaccatoAbove

Marcato-staccato above

U+E46C

articMarcatoStaccatoBelow

Marcato-staccato below

U+E46D (and U+1D181)

articAccentStaccatoAbove

Accent-staccato above

U+E46E

articAccentStaccatoBelow

Accent-staccato below

U+E46F (and U+1D182)

articTenutoSlurAbove

Louré (tenuto-staccato) above

U+E470

articTenutoSlurBelow

Louré (tenuto-staccato) below

U+E471

articStressAbove

Stress above

U+E472

articStressBelow

Stress below

U+E473

articUnstressAbove

Unstress above

U+E474

articUnstressBelow

Unstress below

U+E475

articLaissezVibrerAbove

Laissez vibrer (l.v.) above

U+E476

articLaissezVibrerBelow

Laissez vibrer (l.v.) below

Recommended stylistic alternates

uniE460.salt01

articAccentLarge

Large accent

Holds and pauses (U+E480–U+E49F)

U+E480 (and U+1D110)

fermataAbove

Fermata above

U+E481 (and U+1D111)

fermataBelow

Fermata below

U+E482

fermataVeryShortAbove

Very short fermata above

U+E483

fermataVeryShortBelow

Very short fermata below

U+E484

fermataShortAbove

Short fermata above

U+E485

fermataShortBelow

Short fermata below

U+E486

fermataLongAbove

Long fermata above

U+E487

fermataLongBelow

Long fermata below

U+E488

fermataVeryLongAbove

Very long fermata above

U+E489

fermataVeryLongBelow

Very long fermata below

U+E48A

fermataLongHenzeAbove

Long fermata (Henze) above

U+E48B

fermataLongHenzeBelow

Long fermata (Henze) below

U+E48C

fermataShortHenzeAbove

Short fermata (Henze) above

U+E48D

fermataShortHenzeBelow

Short fermata (Henze) below

U+E48E (and U+1D112)

breathMark

Breath mark

U+E48F (and U+1D113)

caesura

Caesura

U+E490

caesuraThick

Thick caesura

U+E491

caesuraShort

Short caesura

U+E492

breathMarkSalzedo

Breath mark (Salzedo)

Recommended stylistic alternates

uniE48F.salt01

caesuraSingleStroke

Caesura (single stroke)

Rests (U+E4A0–U+E4BF)

U+E4A0

restLonga

Longa rest

U+E4A1 (and U+1D13A)

restDoubleWhole

Double whole (breve) rest

U+E4A2 (and U+1D13B)

restWhole

Whole (semibreve) rest

U+E4A3 (and U+1D13C)

restHalf

Half (minim) rest

U+E4A4 (and U+1D13D)

restQuarter

Quarter (crotchet) rest

U+E4A5 (and U+1D13E)

rest8th

Eighth (quaver) rest

U+E4A6 (and U+1D13F)

rest16th

16th (semiquaver) rest

U+E4A7 (and U+1D140)

rest32nd

32nd (demisemiquaver) rest

U+E4A8 (and U+1D141)

rest64th

64th (hemidemisemiquaver) rest

U+E4A9 (and U+1D142)

rest128th

128th (semihemidemisemiquaver) rest

U+E4AA

rest256th

256th rest

U+E4AB

rest512th

512th rest

U+E4AC

rest1024th

1024th rest

U+E4AD (and U+1D129)

restHBar

Multiple measure rest

U+E4AE

restHBarLeft

H-bar, left half

U+E4AF

restHBarRight

H-bar, right half

U+E4B0

restQuarterOld

Old-style quarter (crotchet) rest

Implementation notes

Scoring applications should draw multiple measure rests using primitives to provide variable width and line thickness rather than using **restHBar**.

"Old style" multiple measure rests can be created by laying out **restLonga** (four bars), **restDoubleWhole** (two bars) and **restWhole** (one bar) next to each other.

Bar repeats (U+E4C0–U+E4CF)

U+E4C0 (and U+1D10E)

repeat1Bar

Repeat last bar

U+E4C1 (and U+1D10F)

repeat2Bars

Repeat last two bars

U+E4C2

repeat4Bars

Repeat last four bars

Octaves (U+E4D0–U+E4DF)

U+E4D0

ottava

Ottava

U+E4D1 (and U+1D136)

ottavaAlta

Ottava alta

U+E4D2 (and U+1D137)

ottavaBassa

Ottava bassa

U+E4D3

ottavaBassaBa

Ottava bassa (ba)

U+E4D4

quindicesima

Quindicesima

U+E4D5 (and U+1D138)

quindicesimaAlta

Quindicesima alta

U+E4D6 (and U+1D139)

quindicesimaBassa

Quindicesima bassa

U+E4D7

ventiduesima

Ventiduesima

U+E4D8

ventiduesimaAlta

Ventiduesima alta

U+E4D9

ventiduesimaBassa

Ventiduesima bassa

Implementation notes

See the implementation notes for clefs.

Dynamics (U+E4E0–U+E4FF)

p

U+E4E0 (and U+1D18F)

dynamicPiano

Piano

m

U+E4E1 (and U+1D190)

dynamicMezzo

Mezzo

f

U+E4E2 (and U+1D191)

dynamicForte

Forte

r

U+E4E3 (and U+1D18C)

dynamicRinforzando

Rinforzando

s

U+E4E4 (and U+1D18D)

dynamicSforzando

Sforzando

z

U+E4E5 (and U+1D18E)

dynamicZ

Z

n

U+E4E6

dynamicNiente

Niente

pppppp

U+E4E7

dynamicPPPPPP

pppppp

ppppp

U+E4E8

dynamicPPPPP

ppppp

pppp

U+E4E9

dynamicPPPP

pppp

ppp

U+E4EA

dynamicPPP

ppp

pp

U+E4EB

dynamicPP

pp

mp

U+E4EC

dynamicMP

mp

mf

U+E4ED

dynamicMF

mf

pf

U+E4EE

dynamicPF

pf

ff

U+E4EF

dynamicFF

ff

fff

U+E4F0

dynamicFFF

fff

ffff

U+E4F1

dynamicFFFF

ffff

𝆑𝆑𝆑𝆑𝆑	**U+E4F2** *dynamicFFFFF* fffff		𝆑𝆑𝆑𝆑𝆑𝆑	**U+E4F3** *dynamicFFFFFF* ffffff
𝆑𝆎	**U+E4F4** *dynamicFortePiano* Forte-piano		𝆑𝆥	**U+E4F5** *dynamicForzando* Forzando
𝆘𝆑	**U+E4F6** *dynamicSforzando1* Sforzando 1		𝆘𝆑𝆎	**U+E4F7** *dynamicSforzandoPiano* Sforzando-piano
𝆘𝆑𝆎𝆎	**U+E4F8** *dynamicSforzandoPianissimo* Sforzando-pianissimo		𝆘𝆑𝆥	**U+E4F9** *dynamicSforzato* Sforzato
𝆘𝆑𝆑𝆥	**U+E4FA** *dynamicSforzatoFF* Sforzatissimo		𝆐𝆑	**U+E4FB** *dynamicRinforzando1* Rinforzando 1
𝆐𝆑𝆥	**U+E4FC** *dynamicRinforzando2* Rinforzando 2		<	**U+E4FD** (and U+1D192) *dynamicCrescendoHairpin* Crescendo
>	**U+E4FE** (and U+1D193) *dynamicDiminuendoHairpin* Diminuendo		°	**U+E4FF** *dynamicNienteForHairpin* Niente (for hairpins)

Implementation notes

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

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

Scoring applications may choose to draw dynamics either using multiple glyphs (e.g. 3 x **dynamicForte** for *𝆑𝆑𝆑*) or using the pre-composed glyph (e.g. 1 x **dynamicFFF** for *𝆑𝆑𝆑*).

Common ornaments (U+E500–U+E50F)

U+E500 (and U+1D194)

graceNoteAcciaccaturaStemUp

Slashed grace note stem up

U+E501

graceNoteAcciaccaturaStemDown

Slashed grace note stem down

U+E502 (and U+1D195)

graceNoteAppoggiaturaStemUp

Grace note stem up

U+E503

graceNoteAppoggiaturaStemDown

Grace note stem down

U+E504

graceNoteSlashStemUp

Slash for stem up grace note

U+E505

graceNoteSlashStemDown

Slash for stem down grace note

U+E506 (and U+1D196)

ornamentTrill

Trill

U+E507 (and U+1D197)

ornamentTurn

Turn

U+E508 (and U+1D198)

ornamentTurnInverted

Inverted turn

U+E509 (and U+1D199)

ornamentTurnSlash

Turn with slash

U+E50A (and U+1D19A)

ornamentTurnUp

Turn up

U+E50B

ornamentTurnUpS

Inverted turn up

U+E50C

ornamentMordent

Mordent

U+E50D

ornamentMordentInverted

Inverted mordent

U+E50E

ornamentTremblement

Tremblement

U+E50F

ornamentHaydn

Haydn ornament

Recommended ligatures

uniE230_uniE506

ornamentTrillFlatAbove

Trill, flat above

uniE231_uniE506

ornamentTrillNaturalAbove

Trill, natural above

uniE232_uniE506

ornamentTrillSharpAbove

Trill, sharp above

uniE230_uniE507

ornamentTurnFlatAbove

Turn, flat above

uniE230_uniE507_uniE232

ornamentTurnFlatAboveSharpBelow

Turn, flat above, sharp below

uniE507_uniE230

ornamentTurnFlatBelow

Turn, flat below

uniE231_uniE507

ornamentTurnNaturalAbove

Turn, natural above

uniE507_uniE231

ornamentTurnNaturalBelow

Turn, natural below

uniE232_uniE507

ornamentTurnSharpAbove

Turn, sharp above

uniE232_uniE507_uniE230

ornamentTurnSharpAboveFlatBelow

Turn, sharp above, flat below

uniE507_uniE232

ornamentTurnSharpBelow

Turn, sharp below

Implementation notes

Scoring applications should draw grace notes in the same way as they draw regular notes, rather than using the precomposed glyphs.

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

Other baroque ornaments (U+E510–U+E52F)

U+E510

ornamentPortDeVoixV

Port de voix

U+E511

ornamentRightFacingHalfCircle

Right-facing half circle

U+E512

ornamentLeftFacingHalfCircle

Left-facing half circle

U+E513

ornamentRightFacingHook

Right-facing hook

U+E514

ornamentLeftFacingHook

Left-facing hook

U+E515

ornamentHookBeforeNote

Hook before note

U+E516

ornamentHookAfterNote

Hook after note

U+E517

ornamentUpCurve

Curve above

U+E518

ornamentDownCurve

Curve below

U+E519

ornamentShortObliqueLineBeforeNote

Short oblique straight line SW-NE

U+E51A

ornamentShortObliqueLineAfterNote

Short oblique straight line NW-SE

U+E51B

ornamentObliqueLineBeforeNote

Oblique straight line SW-NE

U+E51C

ornamentObliqueLineAfterNote

Oblique straight line NW-SE

U+E51D

ornamentDoubleObliqueLinesBeforeNote

Double oblique straight lines SW-NE

U+E51E

ornamentDoubleObliqueLinesAfterNote

Double oblique straight lines NW-SE

U+E51F

ornamentObliqueLineHorizBeforeNote

Oblique straight line tilted SW-NE

U+E520

ornamentObliqueLineHorizAfterNote

Oblique straight line tilted NW-SE

U+E521

ornamentComma

Comma

U+E522

ornamentShake3

+ Shake

U+E523

ornamentVerticalLine

Vertical line

U+E524

ornamentShakeMuffat1

ꞇ Shake (Muffat)

U+E525 (and U+1D1B1)

glissandoUp

Glissando up

U+E526 (and U+1D1B2)

glissandoDown

Glissando down

U+E527

ornamentSchleifer

Schleifer (long mordent)

Implementation notes

There is little agreement over the meaning, or indeed the naming, of ornaments beyond those that have survived into modern usage. The glyphs included in this range are the shapes that are used by a wide variety of composers, particularly in the baroque period. For information about the uses and interpretations of individual symbols in this range, consult Neumann (ibid.).

Combining strokes for trills and mordents (U+E530–U+E54F)

U+E530

ornamentTopLeftConcaveStroke

Ornament top left concave stroke

U+E531 (and U+1D1A5)

ornamentTopLeftConvexStroke

Ornament top left convex stroke

U+E532

ornamentHighLeftConcaveStroke

Ornament high left concave stroke

U+E533 (and U+1D1A2)

ornamentHighLeftConvexStroke

Ornament high left convex stroke

U+E534 (and U+1D19B)

ornamentLeftVerticalStroke

Ornament left vertical stroke

U+E535

ornamentLeftVerticalStrokeWithCross

Ornament left vertical stroke with cross (+)

U+E536

ornamentLeftShakeT

Ornament left shake t

U+E537

ornamentLeftPlus

Ornament left +

U+E538

ornamentLowLeftConcaveStroke

Ornament low left concave stroke

U+E539 (and U+1D1A4)

ornamentLowLeftConvexStroke

Ornament low left convex stroke

U+E53A

ornamentBottomLeftConcaveStroke

Ornament bottom left concave stroke

U+E53B (and U+1D1A1)

ornamentBottomLeftConcaveStrokeLarge

Ornament bottom left concave stroke, large

U+E53C

ornamentBottomLeftConvexStroke

Ornament bottom left convex stroke

U+E53D (and U+1D19C)

ornamentZigZagLineNoRightEnd

Ornament zig-zag line without right-hand end

U+E53E (and U+1D19D)

ornamentZigZagLineWithRightEnd

Ornament zig-zag line with right-hand end

U+E53F (and U+1D1A0)

ornamentMiddleVerticalStroke

Ornament middle vertical stroke

U+E540

ornamentTopRightConcaveStroke

Ornament top right concave stroke

U+E541 (and U+1D19E)

ornamentTopRightConvexStroke

Ornament top right convex stroke

U+E542

ornamentHighRightConcaveStroke

Ornament high right concave stroke

U+E543

ornamentHighRightConvexStroke

Ornament high right convex stroke

U+E544

ornamentRightVerticalStroke

Ornament right vertical stroke

U+E545 (and U+1D1A3)

ornamentLowRightConcaveStroke

Ornament low right concave stroke

U+E546

ornamentLowRightConvexStroke

Ornament low right convex stroke

U+E547 (and U+1D19F)

ornamentBottomRightConcaveStroke

Ornament bottom right concave stroke

U+E548

ornamentBottomRightConvexStroke

Ornament bottom right convex stroke

Implementation notes

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:[15]

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[15] *Ibid.*, Allen, page 539.

⌇	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

This range expands upon the repertoire of 11 strokes in the Unicode Musical Symbols range.

The side-bearings for the glyphs in this range must be adjusted carefully to ensure correct positioning. (Kerning pairs may also be used.)

Glyphs between **ornamentTopLeftConcaveStroke** and **ornamentBottomLeftConvexStroke** are designed to be positioned immediately to the left of and to join seamlessly to **ornamentZigZagLineNoRightEnd**. **ornamentZigZagLineWithRightEnd** and glyphs between **ornamentTopRightConcaveStroke** and **ornamentBottomRightConvexStroke** are designed to be positioned immediately to the right of and to join seamlessly to **ornamentZigZagLineNoRightEnd**. **ornamentMiddleVerticalStroke** should be used immediately to the left of either **ornamentZigZagLineNoRightEnd** or **ornamentZigZagLineWithRightEnd** to provide correct positioning of the vertical stroke across the zig-zag line.

Precomposed trills and mordents (U+E550– U+E55F)

U+E550

ornamentPrecompSlide

Slide

U+E551

ornamentPrecompDescendingSlide

Descending slide

U+E552

ornamentPrecompAppoggTrill

Supported appoggiatura trill

U+E553

ornamentPrecompAppoggTrillSuffix

Supported appoggiatura trill with two-note suffix

U+E554

ornamentPrecompTurnTrillDAnglebert

Turn-trill (D'Anglebert)

U+E555

ornamentPrecompSlideTrillDAnglebert

Slide-trill (D'Anglebert)

U+E556

ornamentPrecompSlideTrillMarpurg

Slide-trill with one-note suffix (Marpurg)

U+E557

ornamentPrecompTurnTrillBach

Turn-trill with two-note suffix (J.S. Bach)

U+E558

ornamentPrecompSlideTrillBach

Slide-trill with two-note suffix (J.S. Bach)

U+E559

ornamentPrecompSlideTrillMuffat

Slide-trill (Muffat)

U+E55A

ornamentPrecompSlideTrillSuffixMuffat

Slide-trill with two-note suffix (Muffat)

U+E55B

ornamentPrecompTrillSuffixDandrieu

Trill with two-note suffix (Dandrieu)

U+E55C

ornamentPrecompPortDeVoixMordent

Pre-beat port de voix follwed by multiple mordent (Dandrieu)

Implementation notes

The glyphs in this range show how the glyphs in the preceding range can be combined, based on examples from the "Selective Glossary of Terms and Symbols" in Neumann (*ibid.*).

ornamentPrecompSlide	2 x **ornamentZigZagLineNoRightEnd** + **ornamentHighRightConcaveStroke**

ornamentPrecompDescendingSlide	2 x **ornamentZigZagLineNoRightEnd** + **ornamentBottomRightConvexStroke**
ornamentPrecompAppoggTrill	**ornamentLeftVerticalStroke** + 2 x **ornamentZigZagLineNoRightEnd** + **ornamentZigZagLineWithRightEnd**
ornamentPrecompAppoggTrillSuffix	**ornamentLeftVerticalStroke** + 2 x **ornamentZigZagLineNoRightEnd** + **ornamentRightVerticalStroke**
ornamentPrecompTurnTrillDAnglebert	**ornamentHighLeftConvexStroke** + 3 x **ornamentZigZagLineNoRightEnd** + **ornamentTopRightConcaveStroke**
ornamentPrecompSlideTrillDAnglebert	**ornamentBottomLeftConcaveStrokeLarge** + **ornamentZigZagLineNoRightEnd** + **ornamentZigZagLineWithRightEnd**
ornamentPrecompSlideTrillMarpurg	**ornamentBottomLeftConcaveStrokeLarge** + 2 x **ornamentZigZagLineNoRightEnd** + **ornamentTopRightConvexStroke**
ornamentPrecompTurnTrillBach	**ornamentHighLeftConvexStroke** + 3 x **ornamentZigZagLineNoRightEnd** + **ornamentMiddleVerticalStroke** + **ornamentZigZagLineWithRightEnd**
ornamentPrecompSlideTrillBach	**ornamentBottomLeftConcaveStroke** + 2 x **ornamentZigZagLineNoRightEnd** + **ornamentMiddleVerticalStroke** + **ornamentZigZagLineWithRightEnd**
ornamentPrecompSlideTrillMuffat	**ornamentBottomLeftConvexStroke** + 2 x **ornamentZigZagLineNoRightEnd** + **ornamentTopRightConcaveStroke**
ornamentPrecompSlideTrillSuffixMuffat	**ornamentBottomLeftConvexStroke** + 2 x **ornamentZigZagLineNoRightEnd** + **ornamentTopRightConvexStroke**
ornamentPrecompTrillSuffixDandrieu	3 x **ornamentZigZagLineNoRightEnd** + **ornamentZigZagLineWithRightEnd**
ornamentPrecompPortDeVoixMordent	**ornamentLowLeftConcaveStroke** + 2 x **ornamentZigZagLineNoRightEnd** + **ornamentMiddleVerticalStroke** + **ornamentZigZagLineWithRightEnd**

Brass techniques (U+E560–U+E57F)

U+E560

brassScoop

Scoop

U+E561

brassLiftShort

Lift, short

U+E562

brassLiftMedium

Lift, medium

U+E563

brassLiftLong

Lift, long

U+E564 (and U+1D185)

brassDoitShort

Doit, short

U+E565

brassDoitMedium

Doit, medium

U+E566

brassDoitLong

Doit, long

U+E567 (and U+1D186)

brassFallLipShort

Lip fall, short

U+E568

brassFallLipMedium

Lip fall, medium

U+E569

brassFallLipLong

Lip fall, long

U+E56A

brassFallSmoothShort

Smooth fall, short

U+E56B

brassFallSmoothMedium

Smooth fall, medium

U+E56C

brassFallSmoothLong

Smooth fall, long

U+E56D

brassFallRoughShort

Rough fall, short

U+E56E

brassFallRoughMedium

Rough fall, medium

U+E56F

brassFallRoughLong

Rough fall, long

U+E570

brassPlop

Plop

U+E571 (and U+1D187)

brassFlip

Flip

U+E572 (and U+1D188)

brassSmear

Smear

U+E573 (and U+1D189)

brassBend

Bend

U+E574

brassJazzTurn

Jazz turn

U+E575

brassMuteClosed

Muted (closed)

U+E576

brassMuteHalfClosed

Half-muted (half-closed)

U+E577

brassMuteOpen

Open

U+E578

brassHarmonMuteClosed

Harmon mute, closed

U+E579

brassHarmonMuteStemHalfLeft

Harmon mute, stem-cup half-closed, left

U+E57A

brassHarmonMuteStemHalfRight

Harmon mute, stem-cup half-closed, right

U+E57B

brassHarmonMuteStemOpen

Harmon mute, stem-cup open

Wind techniques (U+E580–U+E59F)

U+E580 (and U+1D18A)

doubleTongueAbove

Double-tongue above

U+E581

doubleTongueBelow

Double-tongue below

U+E582 (and U+1D18B)

tripleTongueAbove

Triple-tongue above

U+E583

tripleTongueBelow

Triple-tongue below

U+E584

windClosedHole

Closed hole

U+E585

windThreeQuartersClosedHole

Three-quarters closed hole

U+E586

windHalfClosedHole1

Half-closed hole

U+E587

windHalfClosedHole2

Half-closed hole 2

U+E588

windHalfClosedHole3

Half-open hole

U+E589

windOpenHole

Open hole

U+E58A

windTrillKey

Trill key

U+E58B

windFlatEmbouchure

Sharper embouchure

U+E58C

windSharpEmbouchure

Flatter embouchure

U+E58D

windRelaxedEmbouchure

Relaxed embouchure

U+E58E

windLessRelaxedEmbouchure

Somewhat relaxed embouchure

U+E58F

windTightEmbouchure

Tight embouchure

U+E590

windLessTightEmbouchure

Somewhat tight embouchure

U+E591

windVeryTightEmbouchure

Very tight embouchure

U+E592

windWeakAirPressure

Very relaxed embouchure / weak air-pressure

U+E593

windStrongAirPressure

Very tight embouchure / strong air pressure

U+E594

windReedPositionNormal

Normal reed position

U+E595

windReedPositionOut

Very little reed (pull outwards)

U+E596

windReedPositionIn

Much more reed (push inwards)

U+E597

windMultiphonicsBlackStem

Combining multiphonics (black) for stem

U+E598

windMultiphonicsWhiteStem

Combining multiphonics (white) for stem

U+E599

windMultiphonicsBlackWhiteStem

Combining multiphonics (black and white) for stem

Recommended stylistic alternates

uniE580.salt01

doubleTongueAboveNoSlur

Double-tongue above (no slur)

uniE581.salt01

doubleTongueBelowNoSlur

Double-tongue below (no slur)

uniE582.salt01

tripleTongueAboveNoSlur

Triple-tongue above (no slur)

uniE583.salt01

tripleTongueBelowNoSlur

Triple-tongue below (no slur)

String techniques (U+E5A0–U+E5BF)

U+E5A0 (and U+1D1AA)

stringsDownBow

Down bow

U+E5A1 (and U+1D1AB)

stringsUpBow

Up bow

U+E5A2 (and U+1D1AC)

stringsHarmonic

Harmonic

U+E5A3

stringsHalfHarmonic

Half-harmonic

U+E5A4

stringsMuteOn

Mute on

U+E5A5

stringsMuteOff

Mute off

U+E5A6

stringsBowBehindBridge

Bow behind bridge (sul ponticello)

U+E5A7

stringsBowOnBridge

Bow on top of bridge

U+E5A8

stringsBowOnTailpiece

Bow on tailpiece

U+E5A9

stringsOverpressureDownBow

Overpressure, down bow

U+E5AA

stringsOverpressureUpBow

Overpressure, up bow

U+E5AB

stringsOverpressurePossibileDownBow

Overpressure possibile, down bow

U+E5AC

stringsOverpressurePossibileUpBow

Overpressure possibile, up bow

U+E5AD

stringsOverpressureNoDirection

Overpressure, no bow direction

U+E5AE

stringsJeteAbove

Jeté (gettato) above

U+E5AF

stringsJeteBelow

Jeté (gettato) below

U+E5B0

stringsFouetté

Fouetté

U+E5B1

stringsVibratoPulse

Vibrato pulse accent (Saunders) for stem

U+E5B2	**U+E5B3**
stringsThumbPosition	*stringsChangeBowDirection*
Thumb position	Change bow direction, indeterminate

Recommended stylistic alternates

uniE5B3.salt01	**uniE5B3.salt02**
stringsChangeBowDirectionLiga	*stringsChangeBowDirectionImposed*
Change bow direction, indeterminate (Pricope)	Change bow direction, indeterminate (Plötz)

Implementation notes

Scoring applications should not use the precomposed glyphs that include stems but instead draw the stems using primitives and impose the symbols upon them to ensure optimal positioning.

Plucked techniques (U+E5C0–U+E5CF)

U+E5C0 (and U+1D1AD)

pluckedSnapPizzicatoBelow

Snap pizzicato below

U+E5C1

pluckedSnapPizzicatoAbove

Snap pizzicato above

U+E5C2

pluckedBuzzPizzicato

Buzz pizzicato

U+E5C3

pluckedLeftHandPizzicato

Left-hand pizzicato

U+E5C4 (and U+1D183)

arpeggiatoUp

Arpeggiato up

U+E5C5 (and U+1D184)

arpeggiatoDown

Arpeggiato down

U+E5C6 (and U+1D1B3)

pluckedWithFingernails

With fingernails

U+E5C7

pluckedFingernailFlick

Fingernail flick

U+E5C8 (and U+1D1B4)

pluckedDamp

Damp

U+E5C9 (and U+1D1B5)

pluckedDampAll

Damp all

U+E5CA

pluckedPlectrum

Plectrum

U+E5CB

pluckedDampOnStem

Damp (on stem)

Recommended stylistic alternates

uniE5C0.salt01

pluckedSnapPizzicatoBelowGerman

Snap pizzicato below (German)

uniE5C1.salt01

pluckedSnapPizzicatoAboveGerman

Snap pizzicato above (German)

Implementation notes

Scoring applications should draw arpeggiato markings using multiple instances of the appropriate wiggly line segment glyphs (in the **Multi-segment lines** range) rather than the precomposed glyphs (**arpeggiatoUp** and **arpeggiatoDown**) to allow variable length.

Vocal techniques (U+E5D0–U+E5DF)

U+E5D0

vocalBreathMark

Breath mark

U+E5D1

vocalMouthClosed

Mouth closed

U+E5D2

vocalMouthSlightlyOpen

Mouth slightly open

U+E5D3

vocalMouthOpen

Mouth open

U+E5D4

vocalMouthWideOpen

Mouth wide open

U+E5D5

vocalMouthPursed

Mouth pursed

U+E5D6

vocalSprechgesang

Sprechgesang

U+E5D7

vocalsSussurando

Combining sussurando for stem

Keyboard techniques (U+E5E0–U+E5FF)

U+E5E0 (and U+1D1AE)

keyboardPedalPed

Pedal mark

U+E5E1

keyboardPedalP

Pedal P

U+E5E2 (and U+1D1AF)

keyboardPedalUp

Pedal up mark

U+E5E3 (and U+1D1B0)

keyboardPedalHalf

Half-pedal mark

U+E5E4

keyboardPedalUpNotch

Pedal up notch

U+E5E5

keyboardPedalSost

Sostenuto pedal mark

U+E5E6

keyboardPedalS

Pedal S

U+E5E7

keyboardPedalHalf2

Half pedal mark 1

U+E5E8

keyboardPedalHalf3

Half pedal mark 2

U+E5E9

keyboardPedalUpSpecial

Pedal up special

U+E5EA

keyboardLeftPedalPictogram

Left pedal pictogram

U+E5EB

keyboardMiddlePedalPictogram

Middle pedal pictogram

U+E5EC

keyboardRightPedalPictogram

Right pedal pictogram

U+E5ED

keyboardPedalHeel1

Pedal heel 1

U+E5EE

keyboardPedalHeel2

Pedal heel 2

U+E5EF

keyboardPedalToe1

Pedal toe 1

U+E5F0

keyboardPedalToe2

Pedal toe 2

U+E5F1

keyboardPluckInside

Pluck strings inside piano (Maderna)

Recommended stylistic alternates

uniE5E0.salt01

keyboardPedalPedNoDot

Pedal mark (no dot)

uniE5E5.salt01

keyboardPedalSostNoDot

Sostenuto pedal mark (no dot)

Harp techniques (U+E600–U+E61F)

U+E600

harpPedalRaised

Harp pedal raised (flat)

U+E601

harpPedalCentered

Harp pedal centered (natural)

U+E602

harpPedalLowered

Harp pedal lowered (sharp)

U+E603

harpPedalDivider

Harp pedal divider

U+E604

harpSalzedoSlideWithSuppleness

Slide with suppleness (Salzedo)

U+E605

harpSalzedoOboicFlux

Oboic flux (Salzedo)

U+E606

harpSalzedoThunderEffect

Thunder effect (Salzedo)

U+E607

harpSalzedoWhistlingSounds

Whistling sounds (Salzedo)

U+E608

harpSalzedoMetallicSounds

Metallic sounds (Salzedo)

U+E609

harpSalzedoTamTamSounds

Tam-tam sounds (Salzedo)

U+E60A

harpSalzedoPlayUpperEnd

Play at upper end of strings
(Salzedo)

U+E60B

harpSalzedoTimpanicSounds

Timpanic sounds (Salzedo)

U+E60C

harpSalzedoMuffleTotally

Muffle totally (Salzedo)

U+E60D

harpSalzedoFluidicSoundsLeft

Fluidic sounds, left hand (Salzedo)

U+E60E

harpSalzedoFluidicSoundsRight

Fluidic sounds, right hand (Salzedo)

U+E60F

harpMetalRod

Metal rod pictogram

U+E610

harpTuningKey

Tuning key pictogram

U+E611

harpTuningKeyHandle

Use handle of tuning key pictogram

U+E612

harpTuningKeyShank

Use shank of tuning key pictogram

U+E613

harpTuningKeyGlissando

Retune strings for glissando

U+E614

harpStringNoiseStem

Combining string noise for stem

Recommended stylistic alternates

uniE60F.salt01

harpMetalRodAlt

Metal rod pictogram (alternative)

uniE610.salt01

harpTuningKeyAlt

Tuning key pictogram (alternative)

Implementation notes

harpSalzedoFluidicSoundsLeft and **harpSalzedoFluidicSoundsRight** are similar in function to noteheads, and should be positioned relative to note stems in the same way.

harpSalzedoOboicFlux and **harpSalzedoPlayUpperEnd** may be repeated to create a continuing line, indicating the duration of the technique.

Tuned mallet percussion pictograms (U+E620–U+E62F)

U+E620

pictGlsp

Glockenspiel

U+E621

pictXyl

Xylophone

U+E622

pictMar

Marimba

U+E623

pictVib

Vibraphone

U+E624

pictEmptyTrap

Empty trapezoid

U+E625

pictGlspSmithBrindle

Glockenspiel (Smith Brindle)

U+E626

pictXylSmithBrindle

Xylophone (Smith Brindle)

U+E627

pictMarSmithBrindle

Marimba (Smith Brindle)

U+E628

pictVibSmithBrindle

Vibraphone (Smith Brindle)

U+E629

pictCrotales

Crotales

Chimes pictograms (U+E630–U+E63F)

U+E630

pictTubularBells

Tubular bells

U+E631

pictWindChimesGlass

Wind chimes (glass)

U+E632

pictChimes

Chimes

Drums pictograms (U+E640–U+E65F)

U+E640

pictTimpani

Timpani

U+E641

pictSnareDrum

Snare drum

U+E642

pictSnareDrumSnaresOff

Snare drum, snares off

U+E643

pictSnareDrumMilitary

Military snare drum

U+E644

pictBassDrum

Bass drum

U+E645

pictBassDrumOnSide

Bass drum on side

U+E646

pictTenorDrum

Tenor drum

U+E647

pictTomTom

Tom-tom

U+E648

pictTambourine

Tambourine

U+E649

pictTimbales

Timbales

U+E64A

pictBongos

Bongos

U+E64B

pictConga

Conga

U+E64C

pictLogDrum

Log drum

U+E64D

pictSlitDrum

Slit drum

U+E64E

pictBrakeDrum

Brake drum

U+E64F

pictGobletDrum

Goblet drum (djembe, dumbek)

U+E650

pictTabla

Indian tabla

Recommended stylistic alternates

uniE648.salt01

pictTambourineStockhausen

Tambourine (Stockhausen)

Wooden struck or scraped percussion pictograms (U+E660–U+E66F)

U+E660

pictWoodBlock

Wood block

U+E661

pictTempleBlocks

Temple blocks

U+E662

pictClaves

Claves

U+E663

pictGuiro

Guiro

U+E664

pictRatchet

Ratchet

U+E665

pictFootballRatchet

Football rattle

U+E666

pictWhip

Whip

U+E667

pictBoardClapper

Board clapper

U+E668

pictCastanets

Castanets

Recommended stylistic alternates

uniE668.salt01

pictCastanetsSmithBrindle

Castanets (Smith Brindle)

Metallic struck percussion pictograms (U+E670–U+E67F)

	U+E670			U+E671
	pictTriangle			*pictAnvil*
	Triangle			Anvil

Bells pictograms (U+E680–U+E68F)

U+E680

pictSleighBell

Sleigh bell

U+E681

pictCowBell

Cow bell

U+E682

pictAlmglocken

Almglocken

U+E683

pictBellPlate

Bell plate

U+E684

pictBell

Bell

U+E685

pictHandbell

Handbell

Recommended stylistic alternates

uniE680.salt01

pictSleighBellSmithBrindle

Sleigh bell (Smith Brindle)

uniE681.salt01

pictCowBellBerio

Cow bell (Berio)

Cymbals pictograms (U+E690–U+E69F)

U+E690

pictCrashCymbals

Crash cymbals

U+E691

pictSuspendedCymbal

Suspended cymbal

U+E692

pictHiHat

Hi-hat

U+E693

pictHiHatOnStand

Hi-hat cymbals on stand

U+E694

pictSizzleCymbal

Sizzle cymbal

U+E695

pictVietnameseHat

Vietnamese hat cymbal

U+E696

pictChineseCymbal

Chinese cymbal

U+E697

pictFingerCymbals

Finger cymbals

U+E698

pictCymbalTongs

Cymbal tongs

U+E699

pictBellOfCymbal

Edge of cymbal

U+E69A

pictEdgeOfCymbal

Bell of cymbal

Gongs pictograms (U+E6A0–U+E6AF)

U+E6A0

pictTamTam

Tam-tam

U+E6A1

pictTamTamWithBeater

Tam-tam with beater (Smith Brindle)

U+E6A2

pictGong

Gong

U+E6A3

pictGongWithButton

Gong with button (nipple)

U+E6A4

pictSlideBrushOnGong

Slide brush on gong

Shakers or rattles pictograms (U+E6B0–U+E6BF)

U+E6B0

pictFlexatone

Flexatone

U+E6B1

pictMaraca

Maraca

U+E6B2

pictMaracas

Maracas

U+E6B3

pictCabasa

Cabasa

U+E6B4

pictThundersheet

Thundersheet

U+E6B5

pictVibraslap

Vibraslap

U+E6B6

pictSistrum

Sistrum

U+E6B7

pictRainstick

Rainstick

Recommended stylistic alternates

uniE6B1.salt01

pictMaracaSmithBrindle

Maraca (Smith Brindle)

Whistles and aerophones pictograms (U+E6C0–U+E6CF)

U+E6C0

pictSlideWhistle

Slide whistle

U+E6C1

pictBirdWhistle

Bird whistle

U+E6C2

pictPoliceWhistle

Police whistle

U+E6C3

pictSiren

Siren

U+E6C4

pictWindMachine

Wind machine

U+E6C5

pictCarHorn

Car horn

U+E6C6

pictKlaxonHorn

Klaxon horn

U+E6C7

pictDuckCall

Duck call

U+E6C8

pictWindWhistle

Wind whistle (or mouth siren)

U+E6C9

pictMegaphone

Megaphone

Miscellaneous percussion instrument pictograms (U+E6D0–U+E6DF)

U+E6D0

pictPistolShot

Pistol shot

U+E6D1

pictCannon

Cannon

U+E6D2

pictSandpaperBlocks

Sandpaper blocks

U+E6D3

pictLionsRoar

Lion's roar

Beaters pictograms (U+E6E0–U+E74F)

U+E6E0

pictBeaterSoftXylophoneUp

Soft xylophone stick up

U+E6E1

pictBeaterSoftXylophoneDown

Soft xylophone stick down

U+E6E2

pictBeaterSoftXylophoneRight

Soft xylophone stick right

U+E6E3

pictBeaterSoftXylophoneLeft

Soft xylophone stick left

U+E6E4

pictBeaterMediumXylophoneUp

Medium xylophone stick up

U+E6E5

pictBeaterMediumXylophoneDown

Medium xylophone stick down

U+E6E6

pictBeaterMediumXylophoneRight

Medium xylophone stick right

U+E6E7

pictBeaterMediumXylophoneLeft

Medium xylophone stick left

U+E6E8

pictBeaterHardXylophoneUp

Hard xylophone stick up

U+E6E9

pictBeaterHardXylophoneDown

Hard xylophone stick down

U+E6EA

pictBeaterHardXylophoneRight

Hard xylophone stick right

U+E6EB

pictBeaterHardXylophoneLeft

Hard xylophone stick left

U+E6EC

pictBeaterWoodXylophoneUp

Wood xylophone stick up

U+E6ED

pictBeaterWoodXylophoneDown

Wood xylophone stick down

U+E6EE

pictBeaterWoodXylophoneRight

Wood xylophone stick right

U+E6EF

pictBeaterWoodXylophoneLeft

Wood xylophone stick left

U+E6F0

pictBeaterSoftGlockenspielUp

Soft glockenspiel stick up

U+E6F1

pictBeaterSoftGlockenspielDown

Soft glockenspiel stick down

U+E6F2

pictBeaterSoftGlockenspielRight

Soft glockenspiel stick right

U+E6F3

pictBeaterSoftGlockenspielLeft

Soft glockenspiel stick left

U+E6F4

pictBeaterHardGlockenspielUp

Hard glockenspiel stick up

U+E6F5

pictBeaterHardGlockenspielDown

Hard glockenspiel stick down

U+E6F6

pictBeaterHardGlockenspielRight

Hard glockenspiel stick right

U+E6F7

pictBeaterHardGlockenspielLeft

Hard glockenspiel stick left

U+E6F8

pictBeaterSoftTimpaniUp

Soft timpani stick up

U+E6F9

pictBeaterSoftTimpaniDown

Soft timpani stick down

U+E6FA

pictBeaterSoftTimpaniRight

Soft timpani stick right

U+E6FB

pictBeaterSoftTimpaniLeft

Soft timpani stick left

U+E6FC

pictBeaterMediumTimpaniUp

Medium timpani stick up

U+E6FD

pictBeaterMediumTimpaniDown

Medium timpani stick down

U+E6FE

pictBeaterMediumTimpaniRight

Medium timpani stick right

U+E6FF

pictBeaterMediumTimpaniLeft

Medium timpani stick left

U+E700

pictBeaterHardTimpaniUp

Hard timpani stick up

U+E701

pictBeaterHardTimpaniDown

Hard timpani stick down

U+E702

pictBeaterHardTimpaniRight

Hard timpani stick right

U+E703

pictBeaterHardTimpaniLeft

Hard timpani stick left

U+E704

pictBeaterWoodTimpaniUp

Wood timpani stick up

U+E705

pictBeaterWoodTimpaniDown

Wood timpani stick down

U+E706

pictBeaterWoodTimpaniRight

Wood timpani stick right

U+E707

pictBeaterWoodTimpaniLeft

Wood timpani stick left

U+E708

pictBeaterSoftBassDrumUp

Soft bass drum stick up

U+E709

pictBeaterSoftBassDrumDown

Soft bass drum stick down

U+E70A

pictBeaterMediumBassDrumUp

Medium bass drum stick up

U+E70B

pictBeaterMediumBassDrumDown

Medium bass drum stick down

U+E70C

pictBeaterHardBassDrumUp

Hard bass drum stick up

U+E70D

pictBeaterHardBassDrumDown

Hard bass drum stick down

U+E70E

pictBeaterDoubleBassDrumUp

Double bass drum stick up

U+E70F

pictBeaterDoubleBassDrumDown

Double bass drum stick down

U+E710

pictBeaterSoftYarnUp

Soft yarn beater up

U+E711

pictBeaterSoftYarnDown

Soft yarn beater down

U+E712

pictBeaterSoftYarnRight

Soft yarn beater right

U+E713

pictBeaterSoftYarnLeft

Soft yarn beater left

U+E714

pictBeaterMediumYarnUp

Medium yarn beater up

U+E715

pictBeaterMediumYarnDown

Medium yarn beater down

U+E716

pictBeaterMediumYarnRight

Medium yarn beater right

U+E717

pictBeaterMediumYarnLeft

Medium yarn beater left

U+E718

pictBeaterHardYarnUp

Hard yarn beater up

U+E719

pictBeaterHardYarnDown

Hard yarn beater down

U+E71A

pictBeaterHardYarnRight

Hard yarn beater right

U+E71B

pictBeaterHardYarnLeft

Hard yarn beater left

U+E71C

pictBeaterSuperballUp

Superball beater up

U+E71D

pictBeaterSuperballDown

Superball beater down

U+E71E

pictBeaterSuperballRight

Superball beater right

U+E71F

pictBeaterSuperballLeft

Superball beater left

U+E720

pictSuperball

Superball

U+E721

pictWoundHardUp

Wound beater, hard core up

U+E722

pictWoundHardDown

Wound beater, hard core down

U+E723

pictWoundHardRight

Wound beater, hard core right

U+E724

pictWoundHardLeft

Wound beater, hard core left

U+E725

pictWoundSoftUp

Wound beater, soft core up

U+E726

pictWoundSoftDown

Wound beater, soft core down

U+E727

pictWoundSoftRight

Wound beater, soft core right

U+E728

pictWoundSoftLeft

Wound beater, soft core left

U+E729

pictGumSoftUp

Soft gum beater, up

U+E72A

pictGumSoftDown

Soft gum beater, down

U+E72B

pictGumSoftRight

Soft gum beater, right

U+E72C

pictGumSoftLeft

Soft gum beater, left

U+E72D

pictGumMediumUp

Medium gum beater, up

U+E72E

pictGumMediumDown

Medium gum beater, down

U+E72F

pictGumMediumRight

Medium gum beater, right

U+E730

pictGumMediumLeft

Medium gum beater, left

U+E731

pictGumHardUp

Hard gum beater, up

U+E732

pictGumHardDown

Hard gum beater, down

U+E733

pictGumHardRight

Hard gum beater, right

U+E734

pictGumHardLeft

Hard gum beater, left

U+E735

pictBeaterSnareSticksUp

Snare sticks up

U+E736

pictBeaterSnareSticksDown

Snare sticks down

U+E737

pictBeaterJazzSticksUp

Jazz sticks up

U+E738

pictBeaterJazzSticksDown

Jazz sticks down

U+E739

pictBeaterTriangleUp

Triangle beater up

U+E73A

pictBeaterTriangleDown

Triangle beater down

U+E73B

pictBeaterWireBrushesUp

Wire brushes up

U+E73C

pictBeaterWireBrushesDown

Wire brushes down

U+E73D

pictBeaterBrassMalletsUp

Brass mallets up

U+E73E

pictBeaterBrassMalletsDown

Brass mallets down

U+E73F

pictBeaterSoftXylophone

Soft xylophone beaters

U+E740

pictBeaterSpoonWoodenMallet

Spoon-shaped wooden mallet

U+E741

pictBeaterGuiroScraper

Guiro scraper

U+E742

pictBeaterBow

Bow

U+E743

pictBeaterMallet

Chime hammer

U+E744

pictBeaterMetalHammer

Metal hammer

U+E745

pictBeaterHammer

Hammer

U+E746

pictBeaterKnittingNeedle

Knitting needle

U+E747

pictBeaterHand

Hand

U+E748

pictBeaterFinger

Finger

U+E749

pictBeaterFist

Fist

U+E74A

pictBeaterFingernails

Fingernails

U+E74B

pictCoins

Coins

U+E74C

pictDrumStick

Drum stick

Percussion playing technique pictograms (U+E750–U+E76F)

U+E750

pictStickShot

Stick shot

U+E751

pictScrapeCenterToEdge

Scrape from center to edge

U+E752

pictScrapeEdgeToCenter

Scrape from edge to center

U+E753

pictScrapeAroundRim

Scrape around rim

U+E754

pictOnRim

On rim

U+E755

pictOpenRimShot

Closed / rim shot

U+E756

pictHalfOpen1

Half-open

U+E757

pictHalfOpen2

Half-open 2 (Weinberg)

U+E758

pictOpen

Open

U+E759

pictDamp1

Damp

U+E75A

pictDamp2

Damp 2

U+E75B

pictDamp3

Damp 3

U+E75C

pictDamp4

Damp 4

U+E75D

pictRimShotOnStem

Rim shot (on stem)

U+E75E

pictCenter1

Center (Weinberg)

U+E75F

pictCenter2

Center (Ghent)

U+E760

pictCenter3

Center (Caltabiano)

U+E761

pictRim1

Rim or edge (Weinberg)

U+E762

pictRim2

Rim (Ghent)

U+E763

pictRim3

Rim (Caltabiano)

U+E764

pictNormalPosition

Normal position (Caltabiano)

U+E765

pictChokeCymbal

Choke (Weinberg)

U+E766

pictRightHandSquare

Left hand (Agostino)

U+E767

pictLeftHandCircle

Right hand (Agostino)

Handbells (U+E770–U+E77F)

U+E770

handbellsMartellato

Martellato

U+E771

handbellsMartellatoLift

Martellato lift

U+E772

handbellsHandMartellato

Hand martellato

U+E773

handbellsMutedMartellato

Muted martellato

U+E774

handbellsMalletBellSuspended

Mallet, bell suspended

U+E775

handbellsMalletBellOnTable

Mallet, bell on table

U+E776

handbellsMalletLft

Mallet lift

U+E777

handbellsPluckLift

Pluck lift

U+E778

handbellsSwingUp

Swing up

U+E779

handbellsSwingDown

Swing down

U+E77A

handbellsSwing

Swing

U+E77B

handbellsEcho1

Echo

U+E77C

handbellsEcho2

Echo 2

U+E77D

handbellsGyro

Gyro

U+E77E

handbellsDamp3

Damp 3

U+E77F

handbellsBelltree

Belltree

Guitar (U+E780–U+E79F)

U+E780

guitarVibratoBarScoop

Guitar vibrato bar scoop

U+E781

guitarVibratoBarDip

Guitar vibrato bar dip

U+E782

guitarShake

Guitar shake

U+E783

guitarString0

String number 0

U+E784

guitarString1

String number 1

U+E785

guitarString2

String number 2

U+E786

guitarString3

String number 3

U+E787

guitarString4

String number 4

U+E788

guitarString5

String number 5

U+E789

guitarString6

String number 6

U+E78A

guitarString7

String number 7

U+E78B

guitarString8

String number 8

U+E78C

guitarString9

String number 9

U+E78D

guitarOpenPedal

Open wah/volume pedal

U+E78E

guitarHalfOpenPedal

Half-open wah/volume pedal

U+E78F

guitarClosePedal

Closed wah/volume pedal

U+E790

guitarLeftHandTapping

Left-hand tapping

U+E791

guitarRightHandTapping

Right-hand tapping

U+E792

guitarGolpe

*   Golpe (tapping the pick guard)

Chord diagrams (U+E7A0–U+E7AF)

U+E7A0

fretboard3String

3-string fretboard

U+E7A1

fretboard3StringNut

3-string fretboard at nut

U+E7A2 (and U+1D11D)

fretboard4String

4-string fretboard

U+E7A3

fretboard4StringNut

4-string fretboard at nut

U+E7A4

fretboard5String

5-string fretboard

U+E7A5

fretboard5StringNut

5-string fretboard at nut

U+E7A6 (and U+1D11C)

fretboard6String

6-string fretboard

U+E7A7

fretboard6StringNut

6-string fretboard at nut

U+E7A8

fretboardFilledCircle

Fingered fret (filled circle)

U+E7A9

fretboardX

String not played (X)

U+E7AA

fretboard0

Open string (O)

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+E7B0–U+E7BF)

U+E7B0 (and U+1D1A6)

analyticsHauptstimme

Hauptstimme

U+E7B1 (and U+1D1A7)

analyticsNebenstimme

Nebenstimme

U+E7B2

analyticsStartStimme

Start of stimme

U+E7B3 (and U+1D1A8)

analyticsEndStimme

End of stimme

U+E7B4

analyticsTheme

Theme

U+E7B5

analyticsThemeRetrograde

Retrograde of theme

U+E7B6

analyticsThemeRetrogradeInversion

Retrograde inversion of theme

U+E7B7

analyticsThemeInversion

Inversion of theme

U+E7B8

analyticsTheme1

Theme 1

U+E7B9

analyticsInversion1

Inversion 1

Chord symbols (U+E7C0–U+E7CF)

U+E7C0 (and U+1D1A9)

csymDiminished

Diminished

U+E7C1

csymHalfDiminished

Half-diminished

U+E7C2

csymAugmented

Augmented

U+E7C3

csymMajorSeventh

Major seventh

U+E7C4

csymMinor

Minor

Implementation notes

These symbols are designed to combine with accidental symbols (**accidentalSharp** and **accidentalFlat**) 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+E7D0–U+E7DF)

U+E7D0

tuplet0

0   Tuplet 0

U+E7D1

tuplet1

1   Tuplet 1

U+E7D2

tuplet2

2   Tuplet 2

U+E7D3

tuplet3

3   Tuplet 3

U+E7D4

tuplet4

4   Tuplet 4

U+E7D5

tuplet5

5   Tuplet 5

U+E7D6

tuplet6

6   Tuplet 6

U+E7D7

tuplet7

7   Tuplet 7

U+E7D8

tuplet8

8   Tuplet 8

U+E7D9

tuplet9

9   Tuplet 9

U+E7DA

tupletColon

:   Tuplet colon

Conductor symbols (U+E7E0–U+E7EF)

U+E7E0

conductorStrongBeat

Strong beat or cue

U+E7E1

conductorLeftBeat

Left-hand beat or cue

U+E7E2

conductorRightBeat

Right-hand beat or cue

U+E7E3

conductorWeakBeat

Weak beat or cue

U+E7E4

conductorBeat2Simple

Beat 2, simple time

U+E7E5

conductorBeat3Simple

Beat 3, simple time

U+E7E6

conductorBeat4Simple

Beat 4, simple time

U+E7E7

conductorBeat2Compound

Beat 2, compound time

U+E7E8

conductorBeat3Compound

Beat 3, compound time

U+E7E9

conductorBeat4Compound

Beat 4, compound time

Accordion (U+E7F0–U+E81F)

U+E7F0

accdnRH3RanksPiccolo

Right hand, 3 ranks, 4' stop (piccolo)

U+E7F1

accdnRH3RanksClarinet

Right hand, 3 ranks, 8' stop (clarinet)

U+E7F2

accdnRH3RanksUpperTremolo8

Right hand, 3 ranks, upper tremolo 8' stop

U+E7F3

accdnRH3RanksLowerTremolo8

Right hand, 3 ranks, lower tremolo 8' stop

U+E7F4

accdnRH3RanksBassoon

Right hand, 3 ranks, 16' stop (bassoon)

U+E7F5

accdnRH3RanksOboe

Right hand, 3 ranks, 4' stop + 8' stop (oboe)

U+E7F6

accdnRH3RanksViolin

Right hand, 3 ranks, 8' stop + upper tremolo 8' stop (violin)

U+E7F7

accdnRH3RanksImitationMusette

Right hand, 3 ranks, 4' stop + 8' stop + upper tremolo 8' stop

U+E7F8

accdnRH3RanksAuthenticMusette

Right hand, 3 ranks, lower tremolo 8' stop + 8' stop + upper tremolo 8'

U+E7F9

accdnRH3RanksOrgan

Right hand, 3 ranks, 4' stop + 16' stop (organ)

U+E7FA

accdnRH3RanksHarmonium

Right hand, 3 ranks, 4' stop + 8' stop + 16' stop (harmonium)

U+E7FB

accdnRH3RanksBandoneon

Right hand, 3 ranks, 8' stop + 16' stop (bandoneón)

U+E7FC

accdnRH3RanksAccordion

Right hand, 3 ranks, 8' stop + upper tremolo 8' stop + 16' stop

U+E7FD

accdnRH3RanksMaster

Right hand, 3 ranks, 4' stop + lower tremolo 8' stop + upper tremolo 8'

U+E7FE

accdnRH4RanksSoprano

Right hand, 4 ranks, soprano

U+E7FF

accdnRH4RanksAlto

Right hand, 4 ranks, alto

U+E800

accdnRH4RanksTenor

Right hand, 4 ranks, tenor

U+E801

accdnRH4RanksMaster

Right hand, 4 ranks, master

U+E802

accdnRH4RanksSoftBass

Right hand, 4 ranks, soft bass

U+E803

accdnRH4RanksSoftTenor

Right hand, 4 ranks, soft tenor

U+E804

accdnRH4RanksBassAlto

Right hand, 4 ranks, bass/alto

U+E805

accdnLH2Ranks8Round

Left hand, 2 ranks, 8' stop (round)

U+E806

accdnLH2Ranks16Round

Left hand, 2 ranks, 16' stop (round)

U+E807

accdnLH2Ranks8Plus16Round

Left hand, 2 ranks, 8' stop + 16' stop (round)

U+E808

accdnLH2RanksMasterRound

Left hand, 2 ranks, master (round)

U+E809

accdnLH2RanksMasterPlus16Round

Left hand, 2 ranks, master + 16' stop (round)

U+E80A

accdnLH2RanksFullMasterRound

Left hand, 2 ranks, full master (round)

U+E80B

accdnLH3Ranks8Square

Left hand, 3 ranks, 8' stop (square)

U+E80C

accdnLH3Ranks2Square

Left hand, 3 ranks, 2' stop (square)

U+E80D

accdnLH3RanksDouble8Square

Left hand, 3 ranks, double 8' stop (square)

U+E80E

accdnLH3Ranks2Plus8Square

Left hand, 3 ranks, 2' stop + 8' stop (square)

U+E80F

accdnLH3RanksTuttiSquare

Left hand, 3 ranks, 2' stop + double 8' stop (tutti) (square)

U+E810

accdnCombRH3RanksEmpty

Combining right hand, 3 ranks, empty

U+E811

accdnCombRH4RanksEmpty

Combining right hand, 4 ranks, empty

U+E812

accdnCombLH2RanksEmpty

Combining left hand, 2 ranks, empty

U+E813

accdnCombLH3RanksEmptySquare

Combining left hand, 3 ranks, empty (square)

U+E814

accdnCombDot

• Combining accordion coupler dot

accdnCombDot

Beams and slurs (U+E820–U+E82F)

U+E820 (and U+1D173)

controlBeginBeam

Begin beam

U+E821 (and U+1D174)

controlEndBeam

End beam

U+E822 (and U+1D175)

controlBeginTie

Begin tie

U+E823 (and U+1D176)

controlEndTie

End tie

U+E824 (and U+1D177)

controlBeginSlur

Begin slur

U+E825 (and U+1D178)

controlEndSlur

End slur

U+E826 (and U+1D179)

controlBeginPhrase

Begin phrase

U+E827 (and U+1D17A)

controlEndPhrase

End phrase

Implementation notes

These are format characters as defined in the Unicode Standard[16]:

> 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.

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[16] *Ibid.*, Allen, page 537.

Medieval and Renaissance staves (U+E830–U+E83F)

U+E830

chantStaff

Plainchant staff

U+E831

chantStaffWide

Plainchant staff (wide)

U+E832

chantStaffNarrow

Plainchant staff (narrow)

U+E833

chantDivisioMinima

Divisio minima

U+E834

chantDivisioMaior

Divisio maior

U+E835

chantDivisioMaxima

Divisio maxima

U+E836

chantDivisioFinalis

Divisio finalis

U+E837

chantVirgula

Virgula

U+E838

chantCaesura

Caesura

Medieval and Renaissance clefs (U+E840–U+E84F)

U+E840

mensuralGclef

Mensural G clef

U+E841

mensuralGclefPetrucci

Petrucci G clef

U+E842

mensuralFclefGregorian

Gregorian F clef

U+E843

mensuralFClefAncient

Ancient F clef

U+E844

mensuralFclef

Mensural F clef

U+E845

mensuralFclefPetrucci

Petrucci F clef

U+E846

mensuralCclefGregorian

Gregorian C clef

U+E847

mensuralCclef

Mensural C clef

U+E848

mensuralCclefPetrucci

Petrucci C clef

Medieval and Renaissance prolations (U+E850–U+E86F)

U+E850 (and U+1D1C7)

mensuralProlation1

⊙ Tempus perfectum cum prolatione perfecta (9/8)

U+E852 (and U+1D1C9)

mensuralProlation3

Φ Tempus perfectum cum prolatione imperfecta diminution 1 (3/8)

U+E854 (and U+1D1CA)

mensuralProlation5

ⓒ Tempus imperfectum cum prolatione perfecta (6/8)

U+E856 (and U+1D1CC)

mensuralProlation7

↺ Tempus imperfectum cum prolatione imperfecta diminution 1

U+E858 (and U+1D1CD)

mensuralProlation9

¢ Tempus imperfectum cum prolatione imperfecta diminution 3

U+E85A

mensuralProlation11

⊙ Tempus imperfectum cum prolatione imperfecta diminution 5

U+E85C

mensuralProlationCombiningTwoDots

˙˙ Combining two dots

U+E85E

mensuralProlationCombiningThreeDotsTri

⸫ Combining three dots triangular

U+E851 (and U+1D1C8)

mensuralProlation2

○ Tempus perfectum cum prolatione imperfecta (3/4)

U+E853

mensuralProlation4

Φ Tempus perfectum cum prolatione perfecta diminution 2 (9/16)

U+E855 (and U+1D1CB)

mensuralProlation6

C Tempus imperfectum cum prolatione imperfecta (2/4)

U+E857

mensuralProlation8

¢ Tempus imperfectum cum prolatione imperfecta diminution 2

U+E859 (and U+1D1CE)

mensuralProlation10

Φ Tempus imperfectum cum prolatione imperfecta diminution 4

U+E85B

mensuralProlationCombiningDot

· Combining dot

U+E85D

mensuralProlationCombiningThreeDots

˙˙˙ Combining three dots horizontal

U+E85F

mensuralProlationCombiningDotVoid

○ Combining void dot

U+E860

mensuralProlationCombiningStroke

Combining vertical stroke

U+E861

mensuralProportion1

Mensural proportion 1

U+E862

mensuralProportion2

Mensural proportion 2

U+E863

mensuralProportion3

Mensural proportion 3

U+E864

mensuralProportion4

Mensural proportion 4

U+E865

mensuralProportionMinor

Mensural proportion minor

U+E866

mensuralProportionMajor

Mensural proportion major

U+E867

mensuralModusPerfectumVert

Modus perfectum, vertical

U+E868

mensuralModusImperfectumVert

Modus imperfectum, vertical

U+E869

mensuralTempusPerfectumHoriz

Tempus perfectum, horizontal

U+E86A

mensuralTempusImperfectumHoriz

Tempus imperfectum, horizontal

Recommended stylistic alternates

uniE864.salt01

mensuralProportion4Old

Mensural proportion 4 (old)

Medieval and Renaissance noteheads and stems (U+E870–U+E88F)

U+E870

mensuralNoteheadMaximaBlack

Maxima notehead, black

U+E871 (and U+1D1B6)

mensuralNoteheadMaximaVoid

Maxima notehead, void

U+E872

mensuralNoteheadMaximaBlackVoid

Maxima notehead, black and void

U+E873

mensuralNoteheadLongaBlack

Longa/brevis notehead, black

U+E874 (and U+1D1B7)

mensuralNoteheadLongaVoid

Longa/brevis notehead, void

U+E875

mensuralNoteheadLongaBlackVoid

Longa/brevis notehead, black and void

U+E876 (and U+1D1BA)

mensuralNoteheadSemibrevisBlack

Semibrevis notehead, black

U+E877 (and U+1D1B9)

mensuralNoteheadSemibrevisVoid

Semibrevis notehead, void

U+E878

mensuralNoteheadSemibrevisBlackVoid

Semibrevis notehead, black and void

U+E879

mensuralNoteheadSemibrevisBlackVoidInverted

Semibrevis notehead, black and void (inverted)

U+E87A

mensuralCombStemUp

Combining stem up

U+E87B

mensuralCombStemDown

Combining stem down

U+E87C

mensuralCombStemDiagonal

Combining stem diagonal

U+E87D

mensuralCombStemUpFlagRight

Combining stem with flag right up

U+E87E

mensuralCombStemDownFlagRight

Combining stem with flag right down

U+E87F

mensuralCombStemUpFlagLeft

Combining stem with flag left up

U+E880

mensuralCombStemDownFlagLeft

Combining stem with flag left down

U+E881

mensuralCombStemUpFlagFlared

Combining stem with flared flag up

U+E882

mensuralCombStemDownFlagFlared

Combining stem with flared flag down

U+E883

mensuralCombStemUpFlagExtended

Combining stem with extended flag up

U+E884

mensuralCombStemDownFlagExtended

Combining stem with extended flag down

U+E885

mensuralCombStemUpFlagSemiminima

Combining stem with semiminima flag up

U+E886

mensuralCombStemDownFlagSemiminima

Combining stem with semiminima flag down

U+E887

mensuralCombStemUpFlagFusa

Combining stem with fusa flag up

U+E888

mensuralCombStemDownFlagFusa

Combining stem with fusa flag down

Recommended ligatures

uniE876_uniE888

mensuralFusaBlackStemDown

Fusa black, stem down

uniE876_uniE887

mensuralFusaBlackStemUp

Fusa black, stem up

uniE878_uniE888

mensuralFusaBlackVoidStemDown

Fusa black and void, stem down

uniE878_uniE887

mensuralFusaBlackVoidStemUp

Fusa black and void, stem up

uniE877_uniE888

mensuralFusaVoidStemDown

Fusa void, stem down

uniE877_uniE887

mensuralFusaVoidStemUp

Fusa void, stem up

uniE87B_uniE873

mensuralLongaBlackStemDownLeft

Longa black, stem down left

uniE873_uniE87B

mensuralLongaBlackStemDownRight

Longa black, stem down right

uniE87A_uniE873

mensuralLongaBlackStemUpLeft

Longa black, stem up left

uniE873_uniE87A

mensuralLongaBlackStemUpRight

Longa black, stem up right

uniE87B_uniE875

mensuralLongaBlackVoidStemDownLeft

Longa black and void, stem down left

uniE875_uniE87B

mensuralLongaBlackVoidStemDownRight

Longa black and void, stem down right

uniE87A_uniE875

mensuralLongaBlackVoidStemUpLeft

Longa black and void, stem up left

uniE875_uniE87A

mensuralLongaBlackVoidStemUpRight

Longa black and void, stem up right

uniE87B_uniE874

mensuralLongaVoidStemDownLeft

Longa void, stem down left

uniE874_uniE87B

mensuralLongaVoidStemDownRight

Longa void, stem down right

uniE87A_uniE874

mensuralLongaVoidStemUpLeft

Longa void, stem up left

uniE874_uniE87A

mensuralLongaVoidStemUpRight

Longa void, stem up right

uniE87B_uniE870

mensuralMaximaBlackStemDownLeft

Maxima black, stem down left

uniE870_uniE87B

mensuralMaximaBlackStemDownRight

Maxima black, stem down right

uniE87A_uniE870

mensuralMaximaBlackStemUpLeft

Maxima black, stem up left

uniE870_uniE87A

mensuralMaximaBlackStemUpRight

Maxima black, stem up right

uniE87B_uniE872

mensuralMaximaBlackVoidStemDownLeft

Maxima black and void, stem down
left

uniE872_uniE87B

mensuralMaximaBlackVoidStemDownRight

Maxima black and void, stem down
right

uniE87A_uniE872

mensuralMaximaBlackVoidStemUpLeft

Maxima black and void, stem up left

uniE872_uniE87A

mensuralMaximaBlackVoidStemUpRight

Maxima black and void, stem up right

uniE87B_uniE871

mensuralMaximaVoidStemDownLeft

Maxima void, stem down left

uniE87A_uniE871

mensuralMaximaVoidStemUpLeft

Maxima void, stem up left

uniE876_uniE87B

mensuralMinimaBlackStemDown

Minima black, stem down

uniE876_uniE880

mensuralMinimaBlackStemDownFlagLeft

Minima black, stem down with flag left

uniE876_uniE882

mensuralMinimaBlackStemDownFlaredFlag

Minima black, stem down with flared flag

uniE876_uniE883

mensuralMinimaBlackStemUpExtendedFlag

Minima black, stem up with extended flag

uniE876_uniE87D

mensuralMinimaBlackStemUpFlagRight

Minima black, stem up with flag right

uniE878_uniE87B

mensuralMinimaBlackVoidStemDown

Minima black and void, stem down

uniE878_uniE880

mensuralMinimaBlackVoidStemDownFlagLeft

Minima black and void, stem down with flag left

uniE871_uniE87B

mensuralMaximaVoidStemDownRight

Maxima void, stem down right

uniE871_uniE87A

mensuralMaximaVoidStemUpRight

Maxima void, stem up right

uniE876_uniE884

mensuralMinimaBlackStemDownExtendedFlag

Minima black, stem down with extended flag

uniE876_uniE87E

mensuralMinimaBlackStemDownFlagRight

Minima black, stem down with flag right

uniE876_uniE87A

mensuralMinimaBlackStemUp

Minima black, stem up

uniE876_uniE87F

mensuralMinimaBlackStemUpFlagLeft

Minima black, stem up with flag left

uniE876_uniE881

mensuralMinimaBlackStemUpFlaredFlag

Minima black, stem up with flared flag

uniE878_uniE884

mensuralMinimaBlackVoidStemDownExtendedFlag

Minima black and void, stem down with extended flag

uniE878_uniE87E

mensuralMinimaBlackVoidStemDownFlagRight

Minima black and void, stem down with flag right

uniE878_uniE882

mensuralMinimaBlackVoidStemDownFlaredFlag

Minima black and void, stem down with flared flag

uniE878_uniE883

mensuralMinimaBlackVoidStemUpExtendedFlag

Minima black and void, stem up with extended flag

uniE878_uniE87D

mensuralMinimaBlackVoidStemUpFlagRight

Minima black and void, stem up with flag right

uniE877_uniE87B

mensuralMinimaVoidStemDown

Minima void, stem down

uniE877_uniE880

mensuralMinimaVoidStemDownFlagLeft

Minima void, stem down with flag left

uniE877_uniE882

mensuralMinimaVoidStemDownFlaredFlag

Minima void, stem down with flared flag

uniE877_uniE87A

mensuralMinimaVoidStemUp

Minima void, stem up

uniE877_uniE87D

mensuralMinimaVoidStemUpFlagRight

Minima void, stem up with flag right

uniE876_uniE886

mensuralSemiminimaBlackStemDown

Semiminima black, stem down

uniE878_uniE87A

mensuralMinimaBlackVoidStemUp

Minima black and void, stem up

uniE878_uniE87F

mensuralMinimaBlackVoidStemUpFlagLeft

Minima black and void, stem up with flag left

uniE878_uniE881

mensuralMinimaBlackVoidStemUpFlaredFlag

Minima black and void, stem up with flared flag

uniE877_uniE884

mensuralMinimaVoidStemDownExtendedFlag

Minima void, stem down with extended flag

uniE877_uniE87E

mensuralMinimaVoidStemDownFlagRight

Minima void, stem down with flag right

uniE877_uniE883

mensuralMinimaVoidStemUpExtendedFlag

Minima void, stem up with extended flag

uniE877_uniE87F

mensuralMinimaVoidStemUpFlagLeft

Minima void, stem up with flag left

uniE877_uniE881

mensuralMinimaVoidStemUpFlaredFlag

Minima void, stem up with flared flag

uniE876_uniE885

mensuralSemiminimaBlackStemUp

Semiminima black, stem up

uniE878_uniE886

mensuralSemiminimaBlackVoidStemDown

Semiminima black and void, stem down

uniE877_uniE886

mensuralSemiminimaVoidStemDown

Semiminima void, stem down

uniE878_uniE885

mensuralSemiminimaBlackVoidStemUp

Semiminima black and void, stem up

uniE877_uniE885

mensuralSemiminimaVoidStemUp

Semiminima void, stem up

Medieval and Renaissance individual notes (U+E890–U+E8AF)

U+E890

mensuralBlackMaxima

Black mensural maxima

U+E891

mensuralBlackLonga

Black mensural longa

U+E892

mensuralBlackBrevis

Black mensural brevis

U+E893

mensuralBlackSemibrevis

Black mensural semibrevis

U+E894

mensuralBlackMinima

Black mensural minima

U+E895

mensuralBlackSemiminima

Black mensural semiminima

U+E896

mensuralBlackBrevisVoid

Black mensural void brevis

U+E897

mensuralBlackSemibrevisVoid

Black mensural void semibrevis

U+E898

mensuralBlackMinimaVoid

Black mensural void minima

U+E899

mensuralBlackSemibrevisCaudata

Black mensural semibrevis caudata

U+E89A

mensuralBlackDragma

Black mensural dragma

U+E89B

mensuralBlackSemibrevisOblique

Black mensural oblique semibrevis

U+E89C

mensuralWhiteMaxima

White mensural maxima

U+E89D

mensuralWhiteLonga

White mensural longa

U+E89E

mensuralWhiteBrevis

White mensural brevis

U+E89F

mensuralWhiteMinima

White mensural minima

U+E8A0

mensuralWhiteSemiminima

White mensural semiminima

U+E8A1

mensuralWhiteFusa

White mensural fusa

Medieval and Renaissance plainchant single-note forms (U+E8B0–U+E8BF)

U+E8B0

chantPunctum

Punctum

U+E8B1

chantPunctumInclinatum

Punctum inclinatum

U+E8B2 (and U+1D1D3)

chantPunctumVirga

Punctum virga

U+E8B3

chantPunctumCavum

Punctum cavum

U+E8B4

chantPunctumLinea

Punctum linea

U+E8B5

chantPunctumLineaCavum

Punctum linea cavum

U+E8B6

chantQuilisma

Quilisma

U+E8B7

chantOriscusAscending

Oriscus ascending

U+E8B8

chantOriscusDescending

Oriscus descending

U+E8B9

chantAugmentum

Augmentum (mora)

Medieval and Renaissance plainchant multiple-note forms (U+E8C0–U+E8DF)

U+E8C0 (and U+1D1D4)

chantPodatus2nd

Podatus, ascending 2nd

U+E8C1

chantPodatus3rd

Podatus, ascending 3rd

U+E8C2

chantPodatus4th

Podatus, ascending 4th

U+E8C3

chantPodatus5th

Podatus, ascending 5th

U+E8C4 (and U+1D1D5)

chantClivis2nd

Clivis, descending 2nd

U+E8C5

chantClivis3rd

Clivis, descending 3rd

U+E8C6

chantClivis4th

Clivis, descending 4th

U+E8C7

chantClivis5th

Clivis, descending 5th

U+E8C8

chantLiquescentAscLower

Liquescent ascending, lower

U+E8C9

chantLiquescentAscUpper

Liquescent ascending, upper

U+E8CA

chantLiquescentDescUpper

Liquescent descending, upper

U+E8CB

chantLiquescentDescLower

Liquescent descending, lower

U+E8CC

chantPorrectus2nd

Porrectus, descending 2nd

U+E8CD

chantPorrectus3rd

Porrectus, descending 3rd

U+E8CE

chantPorrectus4th

Porrectus, descending 4th

U+E8CF

chantPorrectus5th

Porrectus, descending 5th

U+E8D0

chantConnectingLineAsc2nd

Connecting line, ascending 2nd

U+E8D1

chantConnectingLineAsc3rd

Connecting line, ascending 3rd

U+E8D2

chantConnectingLineAsc4th

Connecting line, ascending 4th

U+E8D3

chantConnectingLineAsc5th

Connecting line, ascending 5th

Implementation notes

To produce ligatures of three or more notes, some of the glyphs in this range have to be combined.

Glyphs should be positioned relative to their starting pitch: for example, the **chantPorrectus3rd** glyph, which describes a downwards progression by an interval of a third, should be positioned on the staff line or space of the starting note of the downwards pattern; the connecting lines (e.g. **chantConnectingLineAsc3rd**) should likewise be positioned on the staff line or space corresponding to the bottom of the line; for an ascending liquescent, position **chantLiquescentAscLower** on the starting staff position, and **chantLiquescentAscUpper** on the ending staff position, with the appropriate length of connecting line between them, starting one staff position above the starting staff position (so describing an interval one staff position smaller than the distance between the lower and upper notes of the liquescent).

Scoring applications should position these glyphs like any other notehead, i.e. moving them vertically according to the desired starting staff position. Fonts intended for use in text-based applications should include glyphs that present these symbols at different staff positions, and a means to easily choose between them; one possible implementation would be to define OpenType ligatures of each of the glyphs in the **Combining staff positions** range with each of the glyphs in this range.

The table below shows how to produce some common ligatures, and describes which glyphs should be used; glyphs whose names appear in parentheses are control characters that move the following glyph vertically to a different staff position, as might be used in a font that employs OpenType ligatures.

Salicus: **chantPunctum** + (**staffPosRaise1**) + **chantPodatus2nd**

Climacus: **chantPunctumVirga** + (**staffPosLower1**) + **chantPunctumInclinatum** + (**staffPosLower1**) + **chantPunctumInclinatum**

Torculus: **chantPunctum** + (**staffPosRaise1**) + **chantPunctum** + (**staffPosLower1**) + **chantPunctum**

Porrectus flexus resupinus: **chantConnectingLineAsc5th** + (**staffPosRaise5**) + **chantPorrectus4th** + (**staffPosLower4**) + **chantConnectingLineAsc3rd** + (**staffPosRaise3**) + **chantPunctum**

Scandicus flexus: **chantPodatus2nd** + (**staffPosRaise2**) + **chantClivis3rd**

Porrectus flexus: **chantConnectingLineAsc3rd** + (**staffPosRaise3**) + **chantPorrectus3rd** + (**staffPosLower3**) + **chantClivis3rd**

Climacus resupinus: **chantPunctumVirga** + (**staffPosLower1**) + **chantPunctumInclinatum** + (**staffPosLower1**) + **chantPunctumInclinatum** + (**staffPosRaise1**) + **chantPunctum**
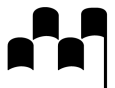
Torculus resupinus: **chantPunctum** + (**staffPosRaise1**) + **chantPunctum** + (**staffPosLower1**) + **chantPunctum** + (**staffPosRaise1**) + **chantPunctumVirga**

Pes subbipunctus: **chantPodatus2nd** + (**staffPosLower1**) + **chantPunctumInclinatum** + (**staffPosLower1**) + **chantPunctumInclinatum**

Virga praetripunctis: **chantPodatus3rd** + (**staffPosRaise4**) + **chantPodatus2nd**

Epiphonus (liquescent podatus): **chantLiquescentAscLower** + (**staffPosRaise1**) + **chantLiqeuscentAscUpper**

Cephalicus (liquescent flexa): **chantConnectingLineAsc3rd** + (**staffPosRaise3**) + **chantLiquescentDescUpper** + (**staffPosLower1**) + **chantLiquescentDescLower**

Pinnosa (liquescent torculus): **chantPunctum** + **chantConnectingLineAsc4th** + (**staffPosRaise4**) + **chantLiquescentDescUpper** + (**staffPosLower1**) + **chantLiquescentDescLower**

Porrectus liquescens: **chantConnectingLineAsc3rd** + (**staffPosRaise3**) + **chantPunctum** + (**staffPosLower1**) + **chantLiquescentAscLower** + (**stffPosLower3**) + **chantLiquescentAscUpper**

Scandicus liquescens: **chantPunctum** + (**staffPosRaise1**) + **chantLiquescentAscLower** + **chantConnectingLineAsc3rd** + (**staffPosRaise3**) + **chantLiquescentAscUpper**

Medieval and Renaissance plainchant articulations (U+E8E0–U+E8EF)

U+E8E0

chantIctusAbove

Ictus above

U+E8E1

chantIctusBelow

Ictus below

U+E8E2

chantCirculusAbove

Circulus above

U+E8E3

chantCirculusBelow

Circulus below

U+E8E4

chantSemicirculusAbove

Semicirculus above

U+E8E5

chantSemicirculusBelow

Semicirculus below

U+E8E6

chantAccentusAbove

Accentus above

U+E8E7

chantAccentusBelow

Accentus below

U+E8E8

chantEpisema

Episema

Medieval and Renaissance accidentals (U+E8F0–U+E8FF)

U+E8F0

medRenFlatSoftB

Flat, soft b (fa)

U+E8F1

medRenFlatHardB

Natural, hard b (mi)

U+E8F2

medRenNatural

Natural

U+E8F3 (and U+1D1CF)

medRenSharpCroix

Croix

U+E8F4

medRenFlatWithDot

Flat with dot

U+E8F5

medRenNaturalWithCross

Natural with interrupted cross

Medieval and Renaissance rests (U+E900–U+E90F)

U+E900

mensuralRestMaxima

Maxima rest

U+E901 (and U+1D1C1)

mensuralRestLongaPerfecta

Longa perfecta rest

U+E902 (and U+1D1C2)

mensuralRestLongaImperfecta

Longa imperfecta rest

U+E903 (and U+1D1C3)

mensuralRestBrevis

Brevis rest

U+E904 (and U+1D1C4)

mensuralRestSemibrevis

Semibrevis rest

U+E905 (and U+1D1C5)

mensuralRestMinima

Minima rest

U+E906 (and U+1D1C6)

mensuralRestSemiminima

Semiminima rest

U+E907

mensuralRestFusa

Fusa rest

U+E908

mensuralRestSemifusa

Semifusa rest

Medieval and Renaissance miscellany (U+E910–U+E91F)

U+E910

mensuralSignum

Signum congruentia

U+E911

mensuralCustosUp

Mensural custos up

U+E912

mensuralCustosDown

Mensural custos down

U+E913

chantCustosStemUp

Plainchant custos, stem up

U+E914

chantCustosStemDown

Plainchant custos, stem down

U+E915

mensuralCustosCheckmark

Checkmark custos

U+E916

mensuralCustosTurn

Turn-like custos

U+E917

mensuralColorationStartSquare

Coloration start, square

U+E918

mensuralColorationEndSquare

Coloration end, square

U+E919

mensuralColorationStartRound

Coloration start, round

U+E91A

mensuralColorationEndRound

Coloration end, round

U+E91B

mensuralAlterationSign

Alteration sign

Medieval and Renaissance symbols in CMN (U+E920–U+E92F)

U+E920

ornamentQuilisma

Quilisma

U+E921

ornamentOriscus

Oriscus

U+E922

medRenLiquescenceCMN

Liquescence

U+E923

medRenPlicaCMN

Plica

Daseian notation (U+E930–U+E94F)

U+E930

daseianGraves1

Daseian graves 1

U+E931

daseianGraves2

Daseian graves 2

U+E932

daseianGraves3

Daseian graves 3

U+E933

daseianGraves4

Daseian graves 4

U+E934

daseianFinales1

Daseian finales 1

U+E935

daseianFinales2

Daseian finales 2

U+E936

daseianFinales3

Daseian finales 3

U+E937

daseianFinales4

Daseian finales 4

U+E938

daseianSuperiores1

Daseian superiores 1

U+E939

daseianSuperiores2

Daseian superiores 2

U+E93A

daseianSuperiores3

Daseian superiores 3

U+E93B

daseianSuperiores4

Daseian superiores 4

U+E93C

daseianExcellentes1

Daseian excellentes 1

U+E93D

daseianExcellentes2

Daseian excellentes 2

U+E93E

daseianExcellentes3

Daseian excellentes 3

U+E93F

daseianExcellentes4

Daseian excellentes 4

U+E940

daseianResidua1

Daseian residua 1

U+E941

daseianResidua2

Daseian residua 2

Figured bass (U+E950–U+E96F)

U+E950

figbass0

Figured bass 0

U+E951

figbass1

Figured bass 1

U+E952

figbass2

Figured bass 2

U+E953

figbass2Raised

Figured bass 2 raised by half-step

U+E954

figbass3

Figured bass 3

U+E955

figbass4

Figured bass 4

U+E956

figbass4Raised

Figured bass 4 raised by half-step

U+E957

figbass5

Figured bass 5

U+E958

figbass5Raised1

Figured bass 5 raised by half-step

U+E959

figbass5Raised2

Figured bass 5 raised by half-step 2

U+E95A

figbass5Raised3

Figured bass diminished 5

U+E95B

figbass6

Figured bass 6

U+E95C

figbass6Raised

Figured bass 6 raised by half-step

U+E95D

figbass7

Figured bass 7

U+E95E

figbass7Raised

Figured bass 7 raised by half-step

U+E95F

figbass8

Figured bass 8

U+E960

figbass9

Figured bass 9

U+E961

figbass9Raised

Figured bass 9 raised by half-step

U+E962

figbassDoubleFlat

Figured bass double flat

U+E963

figbassFlat

Figured bass flat

U+E964

figbassNatural

Figured bass natural

U+E965

figbassSharp

Figured bass sharp

U+E966

figbassDoubleSharp

Figured bass double sharp

U+E967

figbassBracketLeft

Figured bass [

U+E968

figbassBracketRight

Figured bass]

U+E969

figbassParensLeft

Figured bass (

U+E96A

figbassParensRight

Figured bass)

U+E96B

figbassPlus

Figured bass +

U+E96C

figbassCombiningRaising

Combining raise

U+E96D

figbassCombiningLowering

Combining lower

Function theory symbols (U+E970–U+E99F)

U+E970

functionZero

0

Function theory 0

U+E971

functionOne

1

Function theory 1

U+E972

functionTwo

2

Function theory 2

U+E973

functionThree

3

Function theory 3

U+E974

functionFour

4

Function theory 4

U+E975

functionFive

5

Function theory 5

U+E976

functionSix

6

Function theory 6

U+E977

functionSeven

7

Function theory 7

U+E978

functionEight

8

Function theory 8

U+E979

functionNine

9

Function theory 9

U+E97A

functionLessThan

<

Function theory less than

U+E97B

functionMinus

-

Function theory minus

U+E97C

functionGreaterThan

>

Function theory greater than

U+E97D

functionSSUpper

Function theory major subdominant of subdominant

U+E97E

functionSSLower

Function theory minor subdominant of subdominant

U+E97F

functionDUpper

D

Function theory major dominant

U+E980

functionDLower

d

Function theory minor dominant

U+E981

functionDD

Function theory dominant of dominant

U+E982

functionSlashedDD

Function theory double dominant seventh

U+E983

functionGUpper

Function theory G

U+E984

functionGLower

Function theory g

U+E985

functionNUpper

Function theory N

U+E986

functionNLower

Function theory n

U+E987

functionPUpper

Function theory P

U+E988

functionPLower

Function theory p

U+E989

functionSUpper

Function theory major subdominant

U+E98A

functionSLower

Function theory minor subdominant

U+E98B

functionTUpper

Function theory tonic

U+E98C

functionTLower

Function theory minor tonic

U+E98D

functionVUpper

Function theory V

U+E98E

functionVLower

Function theory v

U+E98F

functionBracketLeft

Function theory bracket left

U+E990

functionBracketRight

Function theory bracket right

U+E991

functionParensLeft

Function theory parenthesis left

U+E992

functionParensRight

Function theory parenthesis right

U+E993

functionAngleLeft

Function theory angle bracket left

U+E994

functionAngleRight

Function theory angle bracket right

U+E995

functionRepetition1

Function theory repetition 1

U+E996

functionRepetition2

Function theory repetition 2

U+E997

functionRing

Function theory prefix ring

U+E998

functionPlus

Function theory prefix plus

Multi-segment lines (U+E9A0–U+E9EF)

U+E9A0

wiggleTrillFastest

Trill wiggle segment, fastest

U+E9A1

wiggleTrillFasterStill

Trill wiggle segment, faster still

U+E9A2

wiggleTrillFaster

Trill wiggle segment, faster

U+E9A3

wiggleTrillFast

Trill wiggle segment, fast

U+E9A4

wiggleTrill

Trill wiggle segment

U+E9A5

wiggleTrillSlow

Trill wiggle segment, slow

U+E9A6

wiggleTrillSlower

Trill wiggle segment, slower

U+E9A7

wiggleTrillSlowerStill

Trill wiggle segment, slower still

U+E9A8

wiggleTrillSlowest

Trill wiggle segment, slowest

U+E9A9

wiggleArpeggiatoUp

Arpeggiato wiggle segment, upwards

U+E9AA

wiggleArpeggiatoDown

Arpeggiato wiggle segment, downwards

U+E9AB

wiggleArpeggiatoUpSwash

Arpeggiato upward swash

U+E9AC

wiggleArpeggiatoDownSwash

Arpeggiato downward swash

U+E9AD

wiggleArpeggiatoUpArrow

Arpeggiato arrowhead up

U+E9AE

wiggleArpeggiatoDownArrow

Arpeggiato arrowhead down

U+E9AF

wiggleGlissando

Glissando wiggle segment

U+E9B0

wiggleVibrato

Vibrato / shake wiggle segment

U+E9B1

wiggleVibratoWide

Wide vibrato / shake wiggle segment

U+E9B2

guitarVibratoStroke

Vibrato wiggle segment

U+E9B3

guitarWideVibratoStroke

Wide vibrato wiggle segment

U+E9B4

wiggleWavy

Wavy line segment

U+E9B5

wiggleSquaretooth

Squaretooth line segment

U+E9B6

wiggleSawtooth

Sawtooth line segment

U+E9B7

wiggleGlissandoGroup1

Group glissando 1

U+E9B8

wiggleGlissandoGroup2

Group glissando 2

U+E9B9

wiggleGlissandoGroup3

Group glissando 3

U+E9BA

wiggleCircularConstant

Constant circular motion segment

U+E9BB

wiggleCircularStart

Circular motion start

U+E9BC

wiggleCircularLargest

Circular motion segment, largest

U+E9BD

wiggleCircularLargerStill

Circular motion segment, larger still

U+E9BE

wiggleCircularLarger

Circular motion segment, larger

U+E9BF

wiggleCircularLarge

Circular motion segment, large

U+E9C0

wiggleCircular

Circular motion segment

U+E9C1

wiggleCircularSmall

Circular motion segment, small

U+E9C2

wiggleCircularEnd

Circular motion end

U+E9C3

wiggleVibratoStart

Vibrato start

U+E9C4

wiggleVibratoSmallestFastest

˷ Vibrato smallest, fastest

U+E9C5

wiggleVibratoSmallestFasterStill

˷ Vibrato smallest, faster still

U+E9C6

wiggleVibratoSmallestFaster

˷ Vibrato smallest, faster

U+E9C7

wiggleVibratoSmallestFast

˷ Vibrato smallest, fast

U+E9C8

wiggleVibratoSmallestSlow

˜ Vibrato smallest, slow

U+E9C9

wiggleVibratoSmallestSlower

˜ Vibrato smallest, slower

U+E9CA

wiggleVibratoSmallestSlowest

˜ Vibrato smallest, slowest

U+E9CB

wiggleVibratoSmallFastest

˙ Vibrato small, fastest

U+E9CC

wiggleVibratoSmallFasterStill

˷ Vibrato small, faster still

U+E9CD

wiggleVibratoSmallFaster

˷ Vibrato small, faster

U+E9CE

wiggleVibratoSmallFast

˷ Vibrato small, fast

U+E9CF

wiggleVibratoSmallSlow

˷ Vibrato small, slow

U+E9D0

wiggleVibratoSmallSlower

˷ Vibrato small, slower

U+E9D1

wiggleVibratoSmallSlowest

˷ Vibrato small, slowest

U+E9D2

wiggleVibratoMediumFastest

˄ Vibrato medium, fastest

U+E9D3

wiggleVibratoMediumFasterStill

˄ Vibrato medium, faster still

U+E9D4

wiggleVibratoMediumFaster

˄ Vibrato medium, faster

U+E9D5

wiggleVibratoMediumFast

˄ Vibrato medium, fast

U+E9D6

wiggleVibratoMediumSlow

Vibrato medium, slow

U+E9D7

wiggleVIbratoMediumSlower

Vibrato medium, slower

U+E9D8

wiggleVibratoMediumSlowest

Vibrato medium, slowest

U+E9D9

wiggleVibratoLargeFastest

Vibrato large, fastest

U+E9DA

wiggleVibratoLargeFasterStill

Vibrato large, faster still

U+E9DB

wiggleVibratoLargeFaster

Vibrato large, faster

U+E9DC

wiggleVibratoLargeFast

Vibrato large, fast

U+E9DD

wiggleVibratoLargeSlow

Vibrato large, slow

U+E9DE

wiggleVibratoLargeSlower

Vibrato large, slower

U+E9DF

wiggleVibratoLargeSlowest

Vibrato large, slowest

U+E9E0

wiggleVibratoLargestFastest

Vibrato largest, fastest

U+E9E1

wiggleVibratoLargestFasterStill

Vibrato largest, faster still

U+E9E2

wiggleVibratoLargestFaster

Vibrato largest, faster

U+E9E3

wiggleVibratoLargestFast

Vibrato largest, fast

U+E9E4

wiggleVibratoLargestSlow

Vibrato largest, slow

U+E9E5

wiggleVIbratoLargestSlower

Vibrato largest, slower

U+E9E6

wiggleVibratoLargestSlowest

Vibrato largest, slowest

Implementation notes

Scoring applications can combine these glyphs to produce lines of varying lengths. By way of example:

(glyph)	**ornamentTrill** + **wiggleTrillFastest** + **wiggleTrillFasterStill** + **wiggleTrillFaster** + **wiggleTrillFast** + **wiggleTrill** + **wiggleTrillSlower** + **wiggleTrillSlowerStill** + **wiggleTrill** + **wiggleTrillFaster** + **wiggleTrillFasterStill**
(glyph)	10 x **wiggleWavy**
(glyph)	10 x **wiggleSawtooth**
(glyph)	6 x **wiggleSquaretooth**
(glyph)	**wiggleCircularStart** + **wiggleCircularLargest** + **wiggleCircularLargerStill** + **wiggleCircularLarger** + **wiggleCircularLarge** + **wiggleCircularEnd**
(glyph)	**wiggleVibratoStart** + **wiggleVibratoSmallestFastest** + **wiggleVibratoMediumSlower** + **wiggleVibratoMediumSlowest** + **wiggleVibratoMediumFaster** + **wiggleVibratoMediumFasterStill**, etc.
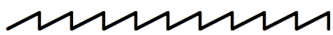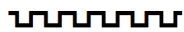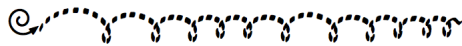
Electronic music pictograms (U+E9F0–U+EA0F)

U+E9F0

elecMicrophone

Microphone

U+E9F1

elecLoudspeaker

Loudspeaker

U+E9F2

elecPlay

Play

U+E9F3

elecStop

Stop

U+E9F4

elecPause

Pause

U+E9F5

elecSkipForwards

Skip forwards

U+E9F6

elecSkipBackwards

Skip backwards

U+E9F7

elecLoop

Loop

U+E9F8

elecVolumeLevel0

Volume level 0%

U+E9F9

elecVolumeLevel20

Volume level 20%

U+E9FA

elecVolumeLevel40

Volume level 40%

U+E9FB

elecVolumeLevel60

Volume level 60%

U+E9FC

elecVolumeLevel80

Volume level 80%

U+E9FD

elecVolumeLevel100

Volume level 100%

U+E9FE

elecMIDIIn

MIDI in

U+E9FF

elecMIDIOut

MIDI out

U+EA00

elecMIDIController0

MIDI controller 0%

U+EA01

elecMIDIController20

MIDI controller 20%

U+EA02

elecMIDIController40

MIDI controller 40%

U+EA03

elecMIDIController60

MIDI controller 60%

U+EA04

elecMIDIController80

MIDI controller 80%

U+EA05

elecMIDIController100

MIDI controller 100%

Arrows and arrowheads (U+EA10–U+EA2F)

U+EA10

arrowBlackUp

↑ Black arrow up (N)

U+EA11

arrowBlackUpRight

↗ Black arrow up-right (NE)

U+EA12

arrowBlackRight

→ Black arrow right (E)

U+EA13

arrowBlackDownRight

↘ Black arrow down-right (SE)

U+EA14

arrowBlackDown

↓ Black arrow down (S)

U+EA15

arrowBlackDownLeft

↙ Black arrow down-left (SW)

U+EA16

arrowBlackLeft

← Black arrow left (W)

U+EA17

arrowBlackUpLeft

↖ Black arrow up-left (NW)

U+EA18

arrowWhiteUp

⇑ White arrow up (N)

U+EA19

arrowWhiteUpRight

⇗ White arrow up-right (NE)

U+EA1A

arrowWhiteRight

⇒ White arrow right (E)

U+EA1B

arrowWhiteDownRight

⇘ White arrow down-right (SE)

U+EA1C

arrowWhiteDown

⇓ White arrow down (S)

U+EA1D

arrowWhiteDownLeft

⇙ White arrow down-left (SW)

U+EA1E

arrowWhiteLeft

⇐ White arrow left (W)

U+EA1F

arrowWhiteUpLeft

⇖ White arrow up-left (NW)

U+EA20

arrowheadBlackUp

▲ Black arrowhead up (N)

U+EA21

arrowheadBlackUpRight

◤ Black arrowhead up-right (NE)

U+EA22

arrowheadBlackRight

► Black arrowhead right (E)

U+EA23

arrowheadBlackDownRight

◄ Black arrowhead down-right (SE)

U+EA24

arrowheadBlackDown

▼ Black arrowhead down (S)

U+EA25

arrowheadBlackDownLeft

► Black arrowhead down-left (SW)

U+EA26

arrowheadBlackLeft

◄ Black arrowhead left (W)

U+EA27

arrowheadBlackUpLeft

▼ Black arrowhead up-left (NW)

U+EA28

arrowheadWhiteUp

△ White arrowhead up (N)

U+EA29

arrowheadWhiteUpRight

◁ White arrowhead up-right (NE)

U+EA2A

arrowheadWhiteRight

▷ White arrowhead right (E)

U+EA2B

arrowheadWhiteDownRight

◁ White arrowhead down-right (SE)

U+EA2C

arrowheadWhiteDown

▽ White arrowhead down (S)

U+EA2D

arrowheadWhiteDownLeft

▷ White arrowhead down-left (SW)

U+EA2E

arrowheadWhiteLeft

◁ White arrowhead left (W)

U+EA2F

arrowheadWhiteUpLeft

▷ White arrowhead up-left (NW)

Combining staff positions (U+EA30–U+EA3F)

U+EA30

staffPosRaise1

Raise 1 staff position

U+EA31

staffPosRaise2

Raise 2 staff positions

U+EA32

staffPosRaise3

Raise 3 staff positions

U+EA33

staffPosRaise4

Raise 4 staff positions

U+EA34

staffPosRaise5

Raise 5 staff positions

U+EA35

staffPosRaise6

Raise 6 staff positions

U+EA36

staffPosRaise7

Raise 7 staff positions

U+EA37

staffPosRaise8

Raise 8 staff positions

U+EA38

staffPosLower1

Lower 1 staff position

U+EA39

staffPosLower2

Lower 2 staff positions

U+EA3A

staffPosLower3

Lower 3 staff positions

U+EA3B

staffPosLower4

Lower 4 staff positions

U+EA3C

staffPosLower5

Lower 5 staff positions

U+EA3D

staffPosLower6

Lower 6 staff positions

U+EA3E

staffPosLower7

Lower 7 staff positions

U+EA3F

staffPosLower8

Lower 8 staff positions

Miscellaneous symbols (U+EA40–U+EA4F)

U+EA40

miscSwish

Swish

U+EA41

miscDoNotPhotocopy

Do not photocopy

U+EA42

miscDoNotCopy

Do not copy

U+EA43

miscEyeglasses

Eyeglasses

U+EA44

miscStaffDivideArrowDown

Staff divide arrow down

U+EA45

miscStaffDivideArrowUp

Staff divide arrow up

U+EA46

miscStaffDivideArrowUpDown

Staff divide arrows