

Guidance for engravers and music-setters for the production of accessible master scores



Guidance from the DAISY Music Braille Project

<https://daisy.org/music-braille>

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Document Purpose

This guidance helps music setters and engravers to produce quality master scores which are transcription-friendly, especially for braille production.

This kind of engraving is necessary when, for example, a printed score needs to be converted into braille and no digital file exists, and the transcriber cannot scan the print original using music recognition software and mark it up to be correct.

In this case, the transcriber needs to start from a high-quality MusicXML score which has been correctly engraved in music notation software so that it includes all the tags needed for accessibility.

These guidelines are for engravers and music setters who produce scores using music notation software. By following these guidelines, engravers can export the scores as MusicXML files for non-profit agencies who will then convert those files into music braille and other accessible formats, such as modified stave notation (accessible large print), talking scores, and scores suitable for exploring with screen readers with braille, sound and speech output.

The visual result will mostly be no different from the original print scores (unless noted below), but the file itself will now be correctly encoded to enable accurate and effective conversion into an accessible format.

This document has three sections: General Guidance (applicable to all engravers), MuseScore-Specific Guidance, and Sibelius-Specific Guidance.

Feedback welcome

We can provide sample files and feedback whilst you learn how to apply the guidance, and will be happy to hear your experiences to make sure we've included everything you need to be confident when you apply the guidance in real cases.

Please email your feedback or questions to the main author at hhpcomposer@gmail.com.

General guidance for all engravers

1. General

G1. Reflect the layout of original print score

Keep the original layout, including pagination, bars per system, systems per page, instrument combinations etc as the original. Instrument names and abbreviations should be in the original language. This will help blind musicians to communicate with their sighted teachers who just read the original books.

G2. Position elements correctly

Ensure all texts, marks, articulations and symbols are entered and are at their correct position. If necessary, attach anything which is not correctly located to the correct notes/rests in the correct voices (e.g. text frame, plain text, system text, staff text, metronome text, footnote, lyrics, chord, symbol, articulation etc. Don't drag objects from their incorrect places to their correct places, except for the cases of G12, S14 and S15.

G3. Input text in correct order

When multiple staff texts appear, first enter the top ones, then lower ones. Therefore, system texts are always the first ones, then staff texts, and lastly dynamics. Don't drag texts if they are entered in an incorrect order. This will not change their internal order when doing MusicXML export. Instead, re-enter them in the correct order.

G4. Use default music and text fonts

Use default music and text fonts, unless there are certain symbols that really require special fonts. Default and default-compatible fonts will get the best MusicXML output.

G5. Use standard symbols and lines

Try to enter all symbols and lines as normal way, thus use the ones from the software as appropriately as possible, avoiding heavy drawing or customization, or even graphic import. If there are things do need customization, try to annotate them as 'NB' texts, so we know what to do in braille. Always try to use standard glissando lines or slides in glissando passages, not other kind of lines. Always use standard breath marks instead of literary comma.

G6. Position hairpins and lines accurately

Put the beginning and end of hairpin at the precise locations. Don't drag it after inputting it, or the start and end points may not be correct. If entering an ottava line (8va or 8vb), please first select all notes applied to this line, and then create the line. This will ensure all notes to be enclosed in the line. The same rules apply to all other line objects.

G7. Define glissando line position

If a glissando line has no beginning and/or ending notes in print, enter invisible grace note(s) for the missing one(s), so that the glissando can have reference pitches for braille transcription, but the original rest(s) will not be occupied by such added note(s).

G8. Avoid unnecessary hidden notes

Avoid hidden auxiliary playing notes, articulations, dynamics, pedals used to render playback, unless requested. These may be exported into MusicXML under certain software such as MuseScore , and will make the braille full of unnecessary and irrelevant information.

G9. Copy and paste passages carefully

Be very careful when copying and pasting passages which look similar, but which are in fact slightly different. Check the pasted passage against the published score to make any necessary changes.

G10. Present special accidental rules carefully

For scores with unusual accidental rules (e.g., accidentals which apply only to the current notes, or an accidental restated on a tied note but not restated on other same notes in the same measure, etc) please choose different accidental settings in the engraving rules or available options in the notation software. Otherwise, apply correct accidentals to appropriate notes. Some kinds of special accidental rules may look normal visually when entering using incorrect settings, but will play and export in incorrect pitches, bringing difficulties to braille transcription.

2. Vocal

G11. Present lyrics appropriately

Ensure that all lyrics are correctly worded and hyphenated, so that braille software can group words correctly. Ensure that all notes are slurred to match lyric syllables, so that lyrics can be associated to the correct notes.

3. Keyboard

G12. Insert markings between staves by dragging

This is an exception to the general guidance, for keyboard or harp music: if a dynamic or hairpin or text should appear between two staves, unless the upper staff is completely empty (full measure rest) in this measure, please input the dynamic, hairpin or text on the upper staff and drag it to between the staves.

G13. Apply hand alternations the same voice

In keyboard music, when there's a passage with hand alternations, always apply staff changes (cross-staff) in the same voice throughout the whole passage. This will have the passage put in the correct braille staff, and all slurs will be correctly exported.

G14. Clean hidden rests

In Keyboard music, if a measure contains partial voices or has nothing in one hand (this staff is reserved for alternation of hands from the other staff), try to clean hidden rests after input. E.g., in Sibelius, after entering a partial voice, the rest filling the remaining beats can be deleted twice to completely remove it from the score.

G15. Mark accidentals in different parts appropriately

In piano scores or other scores with multiple voices, if there are different voices playing the same note, but only one of them has an accidental not belonging to the key signature, please check if the same notes in other voices after this note play correctly. In most cases, they are ok. If not, please add appropriate accidentals. Also, such a note crossed from another staff MUST add an accidental, because internally it belongs to another staff, and will not share the accidental of a different staff.

4. Ensemble

G16. Handle combined instrument staves carefully

In ensemble scores, especially orchestral scores, if not requested by the transcriber or end user, don't split a staff with combined instruments (including string divisi) into two or more staves; also don't combine separated staves with same type of instruments. If splitting or combination is requested, do include necessary information (articulations, slurs, dynamics and texts) in every individual staff, or avoid duplication of elements in combined staff (unless it's written as multiple voices instead of chords).

G17. Avoid instrument changes

For complicated scores with varied instrument changes (for example, clarinet in Bb changes to in A or Eb) and combinations (e.g., clarinets 1.2.3, clarinets 1.2., clarinet 1., clarinet 2, violin I, Violin I Div. staves 1 & 2 etc., etc), try to avoid instrument changes. For braille music transcription, it's better to keep every kind of combination as one staff, so that the software can generate correct abbreviations according to MusicXML's part list. Before engraving, go through the whole score, and create all available combinations, each as one staff with the correct name and/or abbreviation, then hide unused staves during engraving.

G18. Present shared markings on each staff

In orchestral score, if a dynamic, hairpin or text applies to a group of staves (e.g., "pizz." And "sff" For both staves of violin I, printed between two divisi staves), please include such indication(s) on both staves. In braille we need them on both staves. This case is often seen in early-mid 20th century scores such as works by Stravinsky.

Guidance specifically for MuseScore users

1. General

M1. Use MuseScore properly

All the General rules apply to MuseScore engravers, except for G17. The engraver should read MuseScore's online handbook to get familiar with all required operations.

M2. Use latest version of MuseScore

Use the latest version of MuseScore to notate music and export MusicXML files, at least V4.0.2.

M3. Use MuseScore palettes to enter most symbols and lines

Enter most of symbols and lines from the normal palettes, use the 'Advanced' workspace to get more symbols. Only when no appropriate signs are available from the palettes can the engraver press Z to choose objects from the 'Symbols' list. These symbols are not easy to export to MusicXML. Adding some symbols to a customized palette may be better, but not tested, so please avoid doing this.

M4. Combine text with dynamics

When text is combined with dynamic marks, e.g., "sempre f", "p cresc.", it's better to use one piece of dynamic text (by inputting the dynamic first, then in edit mode input other texts), so that it can be converted as one string in braille.

M5. Use Articulations palette for 'Laissez Vibrer'

If a 'Laissez Vibrer' is used, use the available one from the 'articulations' palette. Don't use a hidden note or chord for a tie for this. This kind of l.v. tie only apply one curve on a note or chord, but when exporting to MusicXML, if it's a chord, every note will be applied with a let-ring tie, so will be correctly converted in braille.

M6. Use a new voice with hidden rests to position a hairpin around notes

If a hairpin begins or ends not at the beginning or end of a note, please don't use the mouse to drag the object. Instead, use a new voice with hidden rests to place it at the precise position.

M7. Add an accidental to the trill line in the right order

For a trill line with accidental, please first select the trill line and then add an accidental, so that it can be attached to the line and exported as a standard trill line with accidental.

M8. Use workaround for adding two trill marks in a chord

If a two-note chord has two trill marks, one for each note, input the first as normal, and the second as a symbol, until MuseScore allows us to input them both.

M9. Use 'Individual' articulations for multiple articulations on a note

If there are multiple articulations on a note, e.g., a tenuto with an accent, please enter 'individual' articulations; instead of the 'composite' articulations in the palette. The only exception is the "loure" (tenuto-staccato), which can be correctly exported as a *detache* or *portato*.

M10. Follow MuseScore guidance to present unmeasured cadenza

For unmeasured cadenza, especially the ones spanning several systems, the 'Bar Operation' section of the handbook has detailed guidance for how to alter measure length and add uncounted measures in order to produce such passages with correct results.

M11. Don't use fake slurs or notes in cross-voice ties

For a tie crossing voices, don't use any fake slurs or notes. MuseScore can connect ties between voices within the same staff automatically.

M12. Don't use hidden notes or voices in cross-staff ties

For a tie from a staff to another, don't use hidden notes or voices. MuseScore can connect notes on the same staff, no matter which voices they are in. So please first cross the notes wanting to tie to the other staff, then add ties, and then cross back to the original staff.

M13. Notate fingerings correctly

For a chord with fingerings, please select each note to input the finger(s) attached to it.

2. Keyboard

M14. Use individual ottava lines for cross-staff chords

The ottava line limitation of S14 also applies to MuseScore. See attached ottava.mscz file. The long text line is a customised ottava line for chords crossed from left hand, but not played. When making braille-friendly scores, please replace it with individual ottava lines which only apply to crossed chords, shown here as hidden lines.

M15. Follow guidance for inputting figured bass

For a good way to input figured bass, please study the attached bsgbass.mscz - an encyclopedia of figured bass.

3. Ensemble

M16. Use Atonal key signature for contemporary ensemble scores

For contemporary ensemble scores without key signatures, input an Atonal (open) key signature at the beginning. This is important especially when transposed instruments are used, because they will not show unwanted key signatures this way.

M17. Use 'Staff/Part Properties' to correctly adjust key signatures for transposed instruments

When a transposed instrument has different type of key signature which is not possible to add through ctrl+click on the key signature palette, the following way helps. The example is the beginning of Copland's 3rd symphony, where the music is in E major, while the B flat clarinets use G flat major instead of F sharp major. There's no F flat major in the palette, while the G flat major will yield an A flat major (because of the transposition). The solution is to use MuseScore version 3.5 or higher, select the first measure for that key signature, and right-click to choose 'staff/part properties', turn the radio button of 'preferred sharps or flats for transposed key signatures' to 'flats'. The key signature should change to the correct one automatically. But if there are key signatures in the opposite behavior, use a hidden instrument change, changing to the same instrument, but with a different setting of preferred accidentals. The instrument name and abbreviation should be the same as the previous passage at the changing point.

M18. Input multiple time signatures separately

If a multi-staff score has different time signatures simultaneously, they can be inputted individually: ctrl+click the time signatures to enter it in the selected staff. There is a current bug in MuseScore which means that sometimes a bar length problem may be reported when you open the file again. The workaround for this is to delete the problematic passage and input the time signatures in a different order. See also M19.

M19. Use workaround to input local time signatures

If M18 above still generates an error message or even a corrupt the file, we have to use a fake time signature and hidden tuplets for one of the two time signatures. First, input one time signature (if both time signatures are different from the previous time signature) as the main time signature. On the staves with the other

time signature, input a displayed time signature in the text fields of the 'time signature' properties page, and use hidden tuplets to scale the notes on these staves.

M20. Two ways to handle complicated instrument combinations and changes

For orchestral scores with complicated instrument combinations and changes of wind and brass instruments in different keys, there are two ways to make the engraving: 1) Follow G16 and G17; and 2) Use instrument changes, including changing to the same instrument in order to input different part names/abbreviations. MuseScore's instrument changes are more friendly than other software, so this can save lots of staves and computer resources on big scores.

Guidance specifically for Sibelius users

1. General

S1. Use Sibelius properly

Generally, follow the same the general rules above, and the engravers should follow all notation operations in the Sibelius Reference Guide, and train themselves with the Sibelius Tutorial installed along with Sibelius, which will maximize the accuracy and readability of the resulting files. Following these rules will produce fairly friendly scores for braille transcription.

S2. Use latest Sibelius with Dolet plugin

When the engraver needs to export the Sibelius file into MusicXML, it's better to use the latest version of Sibelius and Dolet plugin (Sibelius 2023.x + Dolet 8 or later pair is highly recommended). This will enable the maximum amount and accuracy of musical elements' export.

S3. Use auxiliary plugins

To allow blind music braille transcribers to work with your files, please download and run an additional plugin called "There It Is!". This plugin can be found in the Sibelius plugin online library (press F5 to install plugins, then choose 'Sight-Impaired' category).

In the current score, press Esc to deselect all, then run the plugin, answer "yes" for the whole score selection. In the dialog, choose 'Option', select 'Trace to log file only'. Then go back and press 'Trace All' to export a text file with all required information. This is to retrieve unexported texts, lines and symbols, also other elements which may be useful to the blind transcriber. This text file can be given to the blind transcriber together with the MusicXML file so they can prepare the conversion into music braille.

To allow blind music braille transcribers to work with advanced orchestral scores with instrument changes and staff name changes, please also download and run an additional plugin called "Trace Instrument Changes".

This plugin can be found in the Sibelius plugin online library (press F5 to install plugins, then choose 'Developers' Tools' category). In the current score, press Esc to deselect all, then run the plugin. Copy the texts in the pop-up Plugin Trace window, and paste into a text file.

S4. Use English language setting

Make sure the engravers must switch their Sibelius to English language, so that the exported symbols and lines information is correct.

S5. Use English keyboard layout

If using English keyboard layouts, it's better to enter accent letters using Sibelius' built-in accent letters from the context menu in text entry mode. This will ease the input, in case one can't remember all the alt numbers for such letters.

S6. Use correct symbols

Don't use Opus text fonts to input symbols as texts. They will be exported as letters instead of symbols. Use available symbols from the articulations palette (various keypad layers) or from the symbols/lines gallery.

S7. Combine text with dynamic

When text is combined with dynamic marks, e.g., "sempre f", "p cresc.", it's better to use one piece of expression text, so that it can be converted as one string in braille.

S8. Enter chord fingering for multiple voices correctly

If a chord has fingerings for multiple notes, enter them one by one. Don't input them in a single fingering text session and use returns to place them vertically. This will confuse the MusicXML export. When a different voice has fingerings, make sure to input them by attaching them to the correct notes.

S9. Use 'Accidentals' from Symbols Gallery for ornaments

If an ornament has accidental(s), please use 'accidentals' in the Symbols gallery. Don't try to create composite ornament (symbols or lines with accidentals attached), which will currently not be able to export to MusicXML correctly. Also don't use text entry to input accidentals, which will be texts instead of symbols.

S10. Use correct names for custom symbols or lines

If creating special symbols or lines which are not available in Sibelius, please give them correct English names in the 'creation' dialog, so that the Dolet plugin can export the names for the braille conversion software to pick up.

S11. Select Ottava lines correctly

Please use the computer keyboard to select notes within an ottava line, so that the end of line effect the last note of the passage. This is a known issue of Sibelius, that a mouse-selected ottava passage will have the last note out of the ottava line when played and exported.

S12. Present unmeasured cadenza correctly

For unmeasured cadenza, don't enter fake time signatures which will export in braille. Instead, add an irregular bar using the 'add bar' function in the Home tab, calculate and enter the appropriate length for this bar (see the reference guide). If system breaks are met, either use a whole bar of the whole passage and break without bar numbers after input, or enter every line as a single irregular bar, applying correct accidentals for playback and braille output, and then hide them from print if needed. Also, measure numbering of such continuation measures should be excepted.

S13. Enter special time signatures correctly

If there are special time signatures like $2/4+3/4$, $2/4=12/16$ etc, please don't enter this into the normal time signature edit box. Instead, enter a hidden time signature with correct beat amount, then write the special time signatures as texts using either standard numbers/punctuations or the time signature text style, which will generate special codes which can be recognized as texts. Sibelius doesn't export such special time signatures correctly from the normal time property, so we should use the text style instead. However, time signatures such as $3+2+3/8$ can be correctly exported.

2. Keyboard

S14. Use workaround for ottava in stave changes

For piano music with hand alternations, there's a known limitation when meeting ottava lines in another staff in Sibelius. This kind of ottava line is placed independently, and doesn't affect cross-staff notes which belong to another voice internally, so both the playback and braille will be incorrect. Please see the attached ottava.sib file for a temporary workaround (bar 2), which will generate a correct transcription result (the ottava lines are input separately to the cross-staff notes, and they are not able to be switched to another staff, which looks weird). When the Sibelius team fixes the problem, we can use the standard way (bar 1).

S15. Attach accidentals and pedal to correct notes in cross-staff passages

For piano music, in a passage with hand alternations meets extra accidentals and pedals in another staff, don't visually put them on it, but attach the accidentals and pedals to the correct notes using keyboard selection. This looks a bit different from the original, but this is the only way to generate correct braille.

3. Ensemble

S16. Turn on 'Transpose scores' for transposed instruments

When a score has transposed instruments, and is notated using transposed pitches, please always turn on "transposing scores" (in the Instruments group in the Home tab), so that the notated pitches can be played in correct sounding pitches. Always use instrument staves with correct transposition.

S17. Use 'Edit instruments' to create unusual transposing instruments

In orchestral scores, if there are unusual transposing instruments which are not available in Sibelius, please create them in the 'Edit Instruments' dialog with correct properties, so that the transposition output is correct for both braille transcription and midi playback.

S18. Use Atonal key signature for contemporary ensemble scores

For contemporary ensemble scores without key signatures, input an Atonal (open) key signature at the beginning. This is important especially when transposed instruments are used, because they will not show unwanted key signatures this way.

Attached files

[ottava.sib](#)

Reference S14. Use workaround for ottava in stave changes

[ottava.mscz](#)

Reference M14. Use individual ottava lines for cross-staff chords

[bsgbass.mscz](#)

Reference M15. Follow guidance for inputting figured bass