

The `musicography` Package: Symbols for Music Writing with `pdf \LaTeX`

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September 8, 2023

Most \LaTeX font packages and freely available fonts only provided a limited range of musical symbols. The `lilyglyphs` package uses Lilypond’s fonts, but requires `lua \LaTeX` . This package makes available the most commonly used symbols in writing about music in a way that looks consistent and attractive. It is especially useful for `pdf \LaTeX` but also works alongside Unicode fonts with `x \LaTeX` . It includes accidentals, meters, notes of different rhythmic values, and automatic formatting of figured bass.

This package builds on the approach used in the `harmony` package, where the symbols are taken from the MusiX \TeX fonts. But it provides a larger range of symbols and a more flexible, user-friendly interface written using the new interface introduced in `x \LaTeX` (now built in to \LaTeX). The package is meant to work hand-in-hand with my `semantic-markup` package, and overrides some of its music-symbol commands with better alternatives.

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1 Package Options

To use the package, write `\usepackage{musicography}` in your preamble. If you are also using this author's `semantic-markup` package, `musicography` will automatically redefine the commands for accidentals in the other package.

The `bigger` option provides larger font sizes that match better with certain fonts (tested with 12-point `ebgaramond`).

2 Fonts

The package requires the MusiX \TeX fonts, which are installed by default in \TeX Live. In case there is anyone else using the obscure `\meterCZ` command (in which case, send me a note!) it now requires the EB Garamond font, also installed in \TeX Live.

Most of the font commands can be customized by redefining one of the following commands:

- `\musAccidentalFont`: The size of accidentals is defined as larger relative to the other symbols.
- `\musNumFont`: This command is used in typesetting time signatures and meters. By default such numbers are boldfaced, which looks better in most fonts. Redefine this command to adjust the appearance of the numbers, for example by using lining numerals. Recommended with `ebgaramond` or `libertine`:

```
\RenewDocumentCommand{\musNumFont}{\liningnums}
```

The command is employed in a way that both font switches and commands with arguments will work (e.g., `\bfseries\liningnums`), but take care when combining multiple elements.

- `\musFigSize` and `\musFigFont`: These commands are used in typesetting figured bass. By default `\musFigSize` sets a smaller size for both numerals and accidentals. The command `\musFigFont` is empty by default but it would be a good idea to make sure the treatment of numerals matches `\musNumFont` if, for example, you are using lining numerals.








3 Symbols and Commands

Accidentals




Flat	<code>\musFlat</code> or <code>\fl</code>	b
Sharp	<code>\musSharp</code> or <code>\sh</code>	#
Natural	<code>\musNatural</code> or <code>\na</code>	n
Double Flat	<code>\musDoubleFlat</code>	bb
Double Sharp	<code>\musDoubleSharp</code>	x

Notes of Different Rhythmic Values


Commands are available using modern (United States) note names; in several cases there are also aliases for older note names.

Whole note (semibreve)	<code>\musWhole</code> or <code>\musSemibreve</code>	
Half note (minim)	<code>\musHalf</code> or <code>\musMinim</code>	
Quarter note (semiminim)	<code>\musQuarter</code> or <code>\musSeminimin</code>	
Eighth note (corchea)	<code>\musEighth</code> or <code>\musCorchea</code>	
Sixteenth note	<code>\musSixteenth</code>	
Thirty-second note	<code>\musThirtySecond</code>	
Sixty-fourth note	<code>\musSixtyFourth</code>	







A dot may be added to any of the above by adding `Dotted` to the end of the command. For example:

Dotted whole note	<code>\musWholeDotted</code>	
Dotted quarter note	<code>\musQuarterDotted</code>	
Dotted thirty-second note	<code>\musThirtySecondDotted</code>	

Other Symbols

<i>Segno</i> repeat marker	<code>\musSegno</code>	
----------------------------	------------------------	---

Meter Signatures

Common duple	<code>\meterC</code>	
<i>Alla breve</i>	<code>\meterCutC</code>	
Ternary (16th–18th cent.)	<code>\meterCThree</code>	
Ternary with 3 : 2 proportion	<code>\meterCThreeTwo</code>	
Spanish 17th-cent. ternary	<code>\meterCZ</code>	
Medieval <i>tempus perfectum</i>	<code>\meterO</code>	

For other time signatures, use `\musMeter{ }{ }`; the two arguments are the numerator and denominator of the fraction, respectively.

By default this command applies the `\musNumFont` command to its arguments; in a pinch (such as for testing) you can supply an alternate font command as an optional first argument, which will be used instead of `\musNumFont`. In practical use it would be better and more consistent to redefine `\musNumFont` as described above.

Figured Bass

For figured-bass notation, use `\musFig{ }`. The command takes a single argument which may contain as many space-separated elements as you like (just like `\Shortstack` from the `stackengine` package, which it uses internally).

The elements in the argument will be stacked vertically and right-aligned (to allow for accidentals preceding the numerals). Multiple figures in a row should be enclosed in brackets if there are spaces between them.

To align figures when there are empty slots, as in $6-5$ / \sharp , use `\noFig[]`. It will insert horizontal space the same width as its optional argument when typeset; the default value is the width of the numeral 5. It does this using `\hphantom`, so you should supply the same text in the argument as the

figure with which you want to align. The code for the example at the beginning of this paragraph was `\musFig{6--5 \noFig[5--]\musSharp}`.

You can adjust the size and font of the figures by redefining `\musFigSize` and `\musFigFont` as described above. The command applies both commands, in that order, so if you change them, make sure the two work together appropriately.

Two figures	<code>\musFig{7 \sh5}</code>	\sharp^7_5
Two figures, accidentals after	<code>\musFig[1]{7 \sh5}</code>	\sharp^7_5
Three figures	<code>\musFig{\fl7} 5 3}</code>	$\flat^7_5_3$
Four figures	<code>\musFig{7 5 4 2}</code>	$\sharp^7_5_4_2$
Voice leading	<code>\musFig{7--6 5--4 3}</code>	$\sharp^7_5_4_3$
Multiple figures per row	<code>\musFig{\fl6} 5} {\noFig[\fl6] \sh}</code>	$\flat^6_5 \sharp$

Scale Degrees and Octave Numbers

Scale degree	A is <code>\musDegree{6}</code> in C major.	A is $\hat{6}$ in C major.
Pitch with octave	<code>\musPitch{A}{4}</code> is 440Hz.	A ₄ is 440Hz.

For more flexible options, including traditional, non-Helmholtz notation for pitches, use my `octave` package.

4 Customization

To create aliases for these commands, such as `\quaver` for British usage, use `\NewDocumentCommand` like this:

```
\NewDocumentCommand{\quaver}{}{\musEighth}
```

If this new LaTeX interface is unfamiliar, `\newcommand` or even `\let` will still work.

LaTeX programmers may wish to use the package's internal commands directly to access more symbols from the fonts or fine-tune their appearance. See `\musSymbol`, `\musAccidental`, and `\musStack` in the code listing below.

MusiXTeX Symbol List

You may use `\musSymbol` to pull in any of the following symbols by number:

0	.	1	..	2	...	3	(4)	5	()	6	()	7	•	8	◦	9	◦
10	—	11	—	12	↗	13	↘	14	↪	15	↩	16		17		18	·	19	·

20	^	21	v	22	▮	23	v	24	·	25	.	26	-	27	-	28	·	29	.
30	>	31	>	32	▮	33	*	34	♯	35	∞	36	▮	37	◆	38	◇	39	▮
40	⋈	41	⋈	42	⋈	43	⋈	44	⋈	45	⋈	46	⋈	47	⋈	48	⋈	49	⋈
50	♭	51	♭	52	♯	53	×	54	♯	55	:	56	+	57	+	58	▮	59	▮
60	-	61	-	62	z	63	γ	64	γ	65	γ	66	∞	67	∞	68	∞	69	~
70	,	71	♩	72	♩	73	♩	74	♩	75	♩	76	♩	77		78	∕	79	'
80	⌒	81	⌒	82	♩	83	♩	84	♩	85	⊕	86	⊗	87	∞	88	∞	89	∞
90	♭	91	♭	92	♯	93	×	94	♯	95	▮	96	▮	97	▮	98	▮	99	▮
100	♯	101	□	102	□	103	♩	104	*	105	♯	106	∞	107	∞	108	∞	109	∞
110	∞	111	×	112	×	113	×	114	×	115	×	116	∧	117	+	118	∕	119	∞
120	°	121	□	122	▮	123	♯	124	♯	125	▮	126	▮	127	∞				

5 Changes

2023-09-08 Improved customization, time signatures, figured bass, and documentation

- Documentation reorganized, clarified, corrected
- Customizable font commands used throughout: `\musAccidentalFont`, `\musNumFont`, `\musFigSize`, and `\musFigFont`
- `\musStack` now takes an optional last argument to specify alignment
- `\musMeter` now takes an optional font argument, and has a smaller vertical gap between numerals. It is now scaled to fit within the line.
- Spacing commands in `\musSymbolMeter` are simplified
- `\meterThreeTwo` now uses `\musMeter` for the numbers, shifted slightly to align with the meter symbol
- `\meterCZ` now pulls in a cursive Z symbol from the EB Garamond font (installed by default in TeXLive)
- `\musFig` now includes configurable `\musFigSize` and `\musFigFont` switches, and a first optional argument with alignment specifier
- New commands for scale degree (`\musDegree`) and pitches with Helmholtz octave (`\musPitch`)
- For testing or extension, add command to display a list of symbols by number in a given font

2020-01-29 Reduced stack gap for `\musFig`

2019/11/24 Fix `\MeterCThreeTwo` so that numbers are stacked and aligned correctly

2019/05/28 Bux fixes and new features, especially figured bass

- Fix issue 1 on Bitbucket, thanks to Christian Mondrup
 - * Correct mistaken notehead symbol for values less than quarter note (was hollow, now filled)
 - * Add 32nd and 64th notes, regular and dotted varieties
 - * `\musSymbol` is now typeset inside an `\mbox` to fix alignment problems when used in tables
- New features (some requested in issue no. 1):
 - * Add medieval perfect meter
 - * Add aliases for *fusa* (= corchea = eighth note)
 - * Replace `musStack` implementation with `stackengine`
 - * Add full figured-bass support

2018/05/21 Override semantic-markup's `\fl`, `\sh`, `\na` commands if it is loaded

2017/10/31 Corrected glyph used for `\musHalf` and documented `\musMeter` and `\musFigures`

2017/08/29 First version on CTAN

2017/04/12 Created

6 Code

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{musicography}[2023/09/08
  Symbols for music writing with pdflatex]

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% The latest version of this license is in
%   http://www.latex-project.org/lppl.txt
% and version 1.3 or later is part of all distributions
% of LaTeX version 2005/12/01 or later.
%
% This work has the LPPL maintenance status 'maintained'.
% The Current Maintainer of this work is Andrew A. Cashner.
% This work consists of the package file musicography.sty
% and the documentation file musicography.tex.
```

```

% CHANGE LOG
% 2023-09-08 - Improved time signatures, figured bass, documentation
%               + Documentation reorganized, clarified, corrected
%               + Customizable font commands used throughout:
%                 \musAccidentalFont, \musNumFont, \musFigSize, and
%                 \musFigFont
%               + \musStack now takes an optional last argument to specify
%                 alignment
%               + \musMeter now takes an optional font argument, and has a
%                 smaller vertical gap between numerals. It is now scaled
%                 to fit within the line.
%               + Spacing commands in \musSymbolMeter are simplified
%               + \meterThreeTwo now uses \musMeter for the numbers, shifted
%                 slightly to align with the meter symbol
%               + \meterCZ now pulls in a cursive Z symbol from the EB
%                 Garamond font (installed by default in TeXLive)
%               + \musFig now includes configurable \musFigSize and
%                 \musFigFont switches, and a first optional argument with
%                 alignment specifier
%               + New commands for scale degree (\musDegree) and pitches with
%                 Helmholtz octave (\musPitch)
%               + For testing or extension, add command to display a list of
%                 symbols by number in a given font
%
% 2020-01-29 - Reduced stack gap for \musFig
% 2019-11-24 - Fix problem with \MeterCThreeTwo where numerals were being
%               printed next to each other instead of stacked.
% 2019-05-28 - Fix issue #1:
%               + Correct notehead symbol for values < quarter note
%                 (was hollow, should be filled)
%               + Add 32nd and 64th notes regular and dotted
%               + \musSymbol now inside an \mbox to fix alignment problems
% - New features (some requested in issue #1)
%               + Add medieval perfect meter
%               + Add aliases for fusa (= corchea = eighth note)
%               + Replace musStack implementation with stackengine:
%                 Now takes any number of space-separated arguments to stack
%                 numerals, allowing for full figured-bass notation
% 2018-05-21 Override semantic-markup's \fl, \sh, \na commands if it is loaded
% 2017-10-31 Corrected glyph for \musHalf and documented
%               \musMeter and \musFigures
% 2017-08-29 First version on CTAN
% 2017-04-12 Created

```

```

% FONT SIZES

```

```

% Package option 'bigger'
%
% The package uses three sizes of music fonts; the 'bigger' option increases
% all three.
\newif\ifLargeFont
\LargeFontfalse
\DeclareOption{bigger}{\LargeFonttrue}
\ProcessOptions\relax

\ifLargeFont
  \newfont{\musFont}{musix13}
  \newfont{\musFontBig}{musix16}
  \newfont{\musFontLarge}{musix20}
\else
  \newfont{\musFont}{musix11}
  \newfont{\musFontBig}{musix13}
  \newfont{\musFontLarge}{musix16}
\fi

% BASIC COMMANDS

% Print a music symbol from the \musFont, specifying space before, after, and
% baseline adjustment
% #1 optional font command (default: \musFont)
% #2 kern before
% #3 raisebox value
% #4 kern after
% #5 symbol code (e.g., \symbol{4})
\NewDocumentCommand{\musSymbol}{ O{\musFont} m m m m }{%
  \mbox{#1\kern#2\raisebox{#3}{#5}\kern#4}%
}

% ACCIDENTALS

% Larger relative font for accidentals (can be modified)
\NewDocumentCommand{\musAccidentalFont}{ }{\musFontLarge}

% Any accidental
% #1 symbol command for accidental
\NewDocumentCommand{\musAccidental}{ m }{%
  \musSymbol[\musAccidentalFont]{0.1em}{0.5ex}{-0.1pt}{#1}%
}

% Specific accidentals
\NewDocumentCommand{\musFlat}          {}{\musAccidental{\symbol{90}}}
\NewDocumentCommand{\musDoubleFlat}    {}{\musAccidental{\symbol{91}}}

```



```

\NewDocumentCommand{\musSharp}      {}{\musAccidental{\symbol{92}}}
\NewDocumentCommand{\musDoubleSharp}{}{\musAccidental{\symbol{93}}}
\NewDocumentCommand{\musNatural}    {}{\musAccidental{\symbol{94}}}

% Shorthand accidental commands
%
% These commands are defined differently in the semantic-markup package,
% so LaTeX will use musicography commands instead
\@ifpackageloaded{semantic-markup}{%
  \RenewDocumentCommand{\fl}{-}{\musFlat}
  \RenewDocumentCommand{\sh}{-}{\musSharp}
  \RenewDocumentCommand{\na}{-}{\musNatural}
}{%
  \NewDocumentCommand{\fl}{-}{\musFlat}
  \NewDocumentCommand{\sh}{-}{\musSharp}
  \NewDocumentCommand{\na}{-}{\musNatural}
}

% MUSIC NOTES

% Just the stem
\NewDocumentCommand{\musStem}{-}{%
  \musSymbol{0.955em}{0.55ex}{0pt}{\symbol{16}}%
}

% Just the (augmentation) dot
\NewDocumentCommand{\musDot}{-}{%
  \musSymbol{-0.2em}{-0.5ex}{0.7em}{\symbol{24}}%
}

% Notehead plus stem (composite music symbol)
% #1 Symbol musSymbol command for notehead
\NewDocumentCommand{\musStemmedNote}{ m }{%
  \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
}

% Stemmed note plus flag
% #1 symbol command for base note
% #2 symbol command for flag
\NewDocumentCommand{\musFlaggedNote}{ m m }{%
  \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
  \musSymbol{0pt}{0pt}{0.9em}{#2}%
}

% Dotted note
% #1 \musSymbol command for note to be dotted

```

```

\NewDocumentCommand{\musDottedNote}{ m }{#1\musDot}

% Notes of different rhythmic values
\NewDocumentCommand{\musBreve}{-}{%
  \musSymbol{0.05em}{0.5ex}{1.35em}{\symbol{32}}%
}
\NewDocumentCommand{\musWhole}{-}{%
  \musSymbol{0.05em}{0.5ex}{1.35em}{\symbol{9}}%
}
\NewDocumentCommand{\musHalf}{-}{%
  \musStemmedNote{\symbol{8}}%
}
\NewDocumentCommand{\musQuarter}{-}{%
  \musStemmedNote{\symbol{7}}%
}
\NewDocumentCommand{\musEighth}{-}{%
  \musFlaggedNote{\symbol{7}}{\symbol{40}}%
}
\NewDocumentCommand{\musSixteenth}{-}{%
  \musFlaggedNote{\symbol{7}}{\symbol{41}}%
}
\NewDocumentCommand{\musThirtySecond}{-}{%
  \musFlaggedNote{\symbol{7}}{\symbol{42}}%
}
\NewDocumentCommand{\musSixtyFourth}{-}{%
  \musFlaggedNote{\symbol{7}}{\symbol{43}}%
}

% Dotted rhythmic values
\NewDocumentCommand{\musWholeDotted}{-}{%
  \musDottedNote{\musWhole}%
}
\NewDocumentCommand{\musHalfDotted}{-}{%
  \musDottedNote{\musHalf}%
}
\NewDocumentCommand{\musQuarterDotted}{-}{%
  \musDottedNote{\musQuarter}%
}
\NewDocumentCommand{\musEighthDotted}{-}{%
  \musDottedNote{\musEighth}%
}
\NewDocumentCommand{\musSixteenthDotted}{-}{%
  \musDottedNote{\musSixteenth}%
}
\NewDocumentCommand{\musThirtySecondDotted}{-}{%

```

```

    \musDottedNote{\musThirtySecond}%
}
\NewDocumentCommand{\musSixtyFourthDotted}{}{%
    \musDottedNote{\musSixtyFourth}%
}

% Aliases for older note names
\NewDocumentCommand{\musSemibreve}      {}{\musWhole}
\NewDocumentCommand{\musMinim}         {}{\musHalf}
\NewDocumentCommand{\musSemiminim}     {}{\musQuarter}
\NewDocumentCommand{\musCorchea}       {}{\musEighth}
\NewDocumentCommand{\musFusa}          {}{\musEighth}
\NewDocumentCommand{\musSemibreveDotted} {}{\musWholeDotted}
\NewDocumentCommand{\musMinimDotted}   {}{\musHalfDotted}
\NewDocumentCommand{\musSemiminimDotted} {}{\musQuarterDotted}
\NewDocumentCommand{\musCorcheaDotted}  {}{\musEighthDotted}
\NewDocumentCommand{\musFusaDotted}     {}{\musEighthDotted}

% STACKED NUMERALS (for figured bass, time signatures)

\RequirePackage{stackengine}

% Only a minimal vertical gap between stacked elements
\setstackgap{S}{1pt}

% Specify the font for numbers in \musStack. For time signatures I think bold
% numbers look better in most fonts, but you could redefine it, for example,
% to use lining figures, math mode, sans-serif, etc.
%
% Example: To get lining figures when using the ebgaramond package:
% \renewcommand{\musNumFont}{\liningnums}
%
% The command is employed in a way that both font switches and commands with
% arguments will work (e.g., {\bfseries\liningnums}), but take care when
% combining multiple elements.
\NewDocumentCommand{\musNumFont}{}{\bfseries}

% Command to stack numerals for metrical symbols or figured bass
% Takes any number of space-separated arguments and stacks them vertically
%
% #1 (optional) Font command (\musNumFont by default)
% #2 Series of space-separated arguments to be stacked, e.g., {\fl6 5}
% #3 (optional) Alignment specifier for \Shortstack (l, c, or r); default is c
% for centering
\NewDocumentCommand{\musStack}{ O{\musNumFont} m O{c} }{%

```

```

    {\#1{\Shortstack[#3]{#2}}}%
}

% METER and TIME SIGNATURES

\RequirePackage{graphicx} % for resizebox

% Numeric meter signatures (e.g., 3/4)
% #1 (optional) font command (\musNumFont by default)
% #1 number on top
% #2 number on bottom
%
% In a pinch you can issue a font command directly in the optional first
% argument, but it would be better to redefine \musNumFont.
%
% These are now scaled to the current line height and centered.
\NewDocumentCommand{\musMeter}{ O{\musNumFont} m m }{%
  \resizebox{!}{\ht\strutbox}{%
    \musStack[#1]{#2 #3}%
  }\kern0.05em
}

% Meter symbols
% #1 symbol code for meter sign
\NewDocumentCommand{\musSymbolMeter}{ m }{%
  \smash{\kern-1pt\musFontBig\raisebox{1.1ex}{#1}\kern0.3em}%
}

% Meter symbol plus numerals
\NewDocumentCommand{\meterPlus}{ m m }{#1\kern-0.7pt#2}

% Meter signatures with a C or cut C symbol
% Just the symbols
\NewDocumentCommand{\meterC}{ }{%
  \musSymbolMeter{\symbol{83}}%
}
\NewDocumentCommand{\meterCutC}{ }{%
  \musSymbolMeter{\symbol{82}}%
}

% Ternary meters used in 16th--18th c. music
% Just the numbers: 3
\NewDocumentCommand{\meterThree}{ }{%
  {\musNumFont{3}}%
}

```

```

% 3/2
\NewDocumentCommand{\meterThreeTwo}{-}{%
  \raisebox{-0.26ex}{\musMeter{3}{2}}%
}

% Combining symbols and numbers
% Meter that combines \meterC with numerals (e.g., C3 C3/2)
\NewDocumentCommand{\meterCplus}{ m }{\meterPlus{\meterC}{#1}}

% Meter that combines \meterCutC with numerals (e.g., C3 C3/2)
\NewDocumentCommand{\meterCutCplus}{ m }{\meterPlus{\meterCutC}{#1}}

% Proportions of cut C
\NewDocumentCommand{\meterCutCThree}{-}{%
  \meterCutCplus{\meterThree}%
}
\NewDocumentCommand{\meterCutCThreeTwo}{-}{%
  \meterCutCplus{\meterThreeTwo}%
}

% Proportions of C
\NewDocumentCommand{\meterCThree}{-}{%
  \meterCplus{\meterThree}%
}
\NewDocumentCommand{\meterCThreeTwo}{-}{%
  \meterCplus{\meterThreeTwo}%
}

% CZ meter: Ternary meter used in 17th-century Spanish music
%
% A cursive Z to match the C meter symbol, as notated in Spanish manuscripts
%
% Pull in symbol from EB Garamond font; could be redefined
\NewDocumentCommand{\meterZfont}{-}{%
  \fontfamily{EBGaramond-LF}\selectfont
}

% The symbol
\NewDocumentCommand{\meterZsymbol}{-}{%
  {\meterZfont\Large\itshape z}%
}

% CZ meter
\NewDocumentCommand{\meterCZ}{-}{%
  \meterCplus{\meterZsymbol}%
}

```

```

% Perfect meter in medieval music
\NewDocumentCommand{\meter0}{}{%
  $\bigcirc$
}

% FIGURED BASS

% Definable font command to be used with figured bass; consider matching
% \musNumFont (e.g., with lining numerals)
\NewDocumentCommand{\musFigFont}{}{}

% Size adjustment for figured bass: smaller font for numerals, reduce sizes of
% music symbols (\tiny might make it fit better within the line height)
\NewDocumentCommand{\musFigSize}{}{%
  \scriptsize
  \RenewDocumentCommand{\musAccidentalFont}{}{\musFont}%
}

% Figured bass is typeset a \musStack using \musFigFont, right-aligned to
% allow for accidentals preceding numerals
% #1 (optional) Alignment specifier: l, c, r (default: r)
% #2 space-delimited list of arguments to stack, in top-down order
%
% Example: \musFig{\fl6 4} or \musFig{\sh5 4 2}
%
% Note that the command applies first \musFigSize, then \musFigFont inside the
% stack.
\NewDocumentCommand{\musFig}{ O{r} m }{%
  {\musFigSize\musStack[\musFigFont]{#2}[#1]}%
}

% Placeholder for no figure, to maintain alignment
% #1 (optional) width of blank space (Default: numeral 5)
%
% Example: \musFig{6 4}--\musFig{5 \noFig}
\NewDocumentCommand{\noFig}{ O{5} }{%
  \hphantom{#1}%
}

% MISCELLANEOUS SYMBOLS and NOTATIONS

% Segno (repeat marker)
\NewDocumentCommand{\musSegno}{}{%
  \musSymbol{0.55em}{-0.4ex}{1.5em}{\symbol{86}}%
}

```

```

}

% Scale degrees
% #1 Numeral (offset from tonic)
\NewDocumentCommand{\musDegree}{ m }{${\hat{#1}}$}

% Pitch with Helmholtz octave number (e.g., A4 = A440Hz)
% #1 Pitch-class name (A-G)
% #2 Octave number
\NewDocumentCommand{\musPitch}{ m m }{#1\textsubscript{#2}}

% Recommended: Use my 'octave' package for more options, including
% traditional, non-Helmholtz notation

% AUXILIARY COMMANDS

% Print a list of symbols for documentation, debugging, or extension
% E.g., \symbolList{\musFont}{256} to see all useable symbols in MusiXTeX font

\RequirePackage{setspace} % for symbol list spacing

\ExplSyntaxOn
% Single entry in the symbol list: Number + corresponding symbol
% #1 font command
% #2 symbol number
\cs_new:Nn \aac_symbolEntry:nn
{
  \makebox[4em]{#2\quad{#1\symbol{#2}}}\ %
}

% Loop through all the symbols in given font up to given max
% #1 font command
% #2 max symbol number
\cs_new:Nn \aac_symbolLoop:nn
{
  \int_step_inline:nnn {0} {#2 - 1}
  {
    \aac_symbolEntry:nn {#1} {##1}
  }
}

% The whole symbol list up to a given max, typeset in a big double-spaced
% block
% #1 font command
% #2 max symbol number

```

```
\NewDocumentCommand{\symbolList}{ m m }{\par
  \begin{doublespace}
    \noindent\aac_symbolLoop:nn {#1} {#2}
  \end{doublespace}
}
\ExplSyntaxOff

% Print a list of symbols in the MusiXTeX font
\NewDocumentCommand{\musixSymbolList}{}{\symbolList{\musFont}{128}}

\endinput
```