

NAME

autosp – preprocessor to generate note-spacing commands for MusiXTeX scores

SYNOPSIS

autosp [-v | --version | -h | --help]

autosp [-d | --dotted] [-l | --log] *infile* [.aspc] [*outfile* [.tex]]

DESCRIPTION

This program makes it easier to create MusiXTeX scores by converting (non-standard) commands of the form `\notes ... \en` into one or more conventional note-spacing commands (`\notes \Notes \Notes ...`), determined by the actual note values, with `\sk` spacing commands inserted as necessary. The coding for an entire measure can be entered one part at a time, without concern for note-spacing changes within the part or spacing requirements of other parts.

For example, if applied to

```
\notes\qa J\qa K&\ca l\qa m\ca n\en
```

autosp generates

```
\Notes\qa J\sk\qa K\sk&\ca l\qa m\sk\ca n\en
```

Typically, an `\notes` command generates several conventional note-spacing commands.

If the *infile* argument does not have an .aspc extension, input is taken from *infile*.aspc if that file exists.

If the *outfile* argument does not have a .tex extension, output is sent to *outfile*.tex. If no *outfile* argument is provided, output will go to *infile*.tex (or to *infile*.ltx if a `\documentclass` declaration is encountered).

For `\notes` commands, line breaks and spaces may precede note segments, allowing more flexible source formatting; the line breaks and spaces will be elided from the output.

For example,

```
\notes
\ibl0K0\qb0K\bbbl0\qb0{.K}\tbbbl0\tbbbl0\tql0L&
\ibbl1m{-2}\qb1{.m}\tbbbl1\tbbbl1\qb1\tql1k\en
```

is acceptable and generates

```
\notesp\ibl0K0\qb0K&\ibbl1m{-2}\qb1{.m}\en
\nnotes\sk&\tbbbl1\tbbbl1\qb1\en
\notesp\bbbl0\qb0{.K}&\tql1k\en
\nnotes\tbbbl0\tbbbl0\tql0L&\sk\en
```

If the **-l** (**--log**) option is used, a very detailed log *infile.alog* is generated.

If the **-d** (**--dotted**) option is used, *dotted* beam notes of the form $\backslash\text{qb}\{n\}\{.p\}$ are *not* given extra space; it is assumed that the subsequent note will be shifted by a $\backslash\text{roff}$ -like command or a spacing command such as $\backslash\text{qsk}$ or $\backslash\text{hqsk}$. Commands of the form $\backslash\text{qlp}\{p\}$, $\backslash\text{qlpp}\{p\}$, ..., $\backslash\text{qpb}\{n\}\{p\}$ and $\backslash\text{qppb}\{n\}\{p\}$ are always spaced as indicated.

If there is a single staff, consecutive whole-bar rest bars are merged into a multi-bar rest. Bar-centered rests can be coded using the standard $\backslash\text{def}\backslash\text{atnextbar}$ notation but the non-standard command $\backslash\text{Cpause}$ in a note segment also generates a bar-centered rest.

Spacing commands $\backslash\text{sk}$ and $\backslash\text{bsk}$ in the source are discarded, but not "small" skips $\backslash\text{hsk}$, $\backslash\text{qsk}$, $\backslash\text{tqsk}$, $\backslash\text{hqsk}$ or $\backslash\text{qqsk}$, or the small "backward" skips $\backslash\text{hbsk}$, $\backslash\text{bqsk}$, $\backslash\text{btsk}$, or $\backslash\text{bhsk}$. Moreover, non-standard commands $\backslash\text{QQsk}$, $\backslash\text{HQsk}$, $\backslash\text{TQsk}$ and $\backslash\text{Qsk}$ in the source generate "global" skips; i.e., the effect of $\backslash\text{qqsk}$, $\backslash\text{hqsk}$, $\backslash\text{tqsk}$ or $\backslash\text{qsk}$, respectively, in *every* staff. These ensure that staves remain synchronized if additional spacing is needed in any staff(s).

Global skips may also be obtained within collective-coding sequences by using up to four successive commas to get the effects of $\backslash\text{QQsk}$, $\backslash\text{HQsk}$, $\backslash\text{TQsk}$ or $\backslash\text{Qsk}$, respectively. Global skips $\backslash\text{tqsk}$ (or, for double-flats, $\backslash\text{qsk}$) are automatically inserted before accidentals ('^' , $\text{'_}'$, '=' , '<' , '>') on collective-coding notes (except when the preceding note is "virtual"; i.e., a skip). If this automatic additional spacing is *not* wanted in some context, it may be avoided by replacing the accidental in the collective-coding sequence by any of the *explicit* accidental commands: $\backslash\text{sh}$, $\backslash\text{fl}$, $\backslash\text{na}$, $\backslash\text{smallsh}$, $\backslash\text{bigsh}$, etc. If the automatic spacing is insufficient, the spacing may be increased by adding sufficient commas or using a conventional notes command instead of $\backslash\text{anotes}$.

A note segment can be completely empty, but if a note segment should start with or contain a "space," the note-value of that space must be made explicit with a command of the form $\backslash\text{ha}\{*\}$, $\backslash\text{qa}\{*\}$, $\backslash\text{ca}\{*\}$, etc.

From version 2017-06-14, the effects of $\backslash\text{TransformNotes}$ calls are implemented by the **autosp** pre-processor. This enables use of *musixlyr* in **autosp** scores; *musixlyr.tex* is incompatible with the *musixtnt.tex* implementation of $\backslash\text{TransformNotes}$.

All other conventional MusiXTeX commands are output exactly as given in the input.

OPERATION

autosp determines the spacing for ordinary notes from the note commands themselves; for example,

+ $\backslash\text{qa}$, $\backslash\text{qu}$, $\backslash\text{ql}$, $\backslash\text{qp}$ result in $\backslash\text{Notes}$;

+ $\backslash\text{ca}$, $\backslash\text{cu}$, $\backslash\text{cl}$, $\backslash\text{ds}$ result in $\backslash\text{Notes}$;

and so on.

The spacing for *beamed* notes is determined by the beam multiplicity, so that $\backslash\text{ib}\dots$ results in $\backslash\text{Notes}$, $\backslash\text{ibb}\dots$ results in $\backslash\text{notes}$, etc.

Collective coding of note sequences (including accidentals and dots) is handled by expanding the sequence into a sequence of individual note commands.

LIMITATIONS

autosp assumes that `&` and `|` (rather than `\nextinstrument` and `\nextstaff`) are used to separate instruments and staves.

Appoggiaturas and grace notes are recognized by the use of `\tinynotesize`; note-spacing of `1.45\elemskip` is used. If this isn't suitable and can't be corrected with a small skip, a `\vnotes` command with any desired spacing can be used.

autosp supports *x-tuplets* introduced using `\xtuplet{x}` or `\xxtuplet{x:y}` and *triplets* introduced using any of the following commands (regardless of any re-definition of `\txt` or `\tuplettxt`):

```
\triolet
\uptrio
\downtrio
\uptuplet
\downtuplet
```

autosp assumes that an x-tuplet is to be played in $(x-1)/x$ of the apparent x-tuplet duration. So, for example, a triplet in eighths is assumed to be played in the time of one quarter note. If this assumption isn't valid, the x-tuplet must be coded explicitly using a suitable `\vnotes` command; see the first measure of `barsant2.aspc` for an example of a non-standard x-tuplet: a 5-tuple of 64th notes with an intended duration of *six* 64ths.

In some polyrhythmic scores, the `\txt` numeral may be displaced, even if the notes themselves are correctly spaced. In these cases, it is possible to suppress the normal output of `\txt` by using the non-standard commands `\Triolet` (no arguments) or `\Xtuplet{k}\` and placing a numeral at the correct location using `\zcn` (i.e., `\zcharnote`).

autosp can deal with simultaneous x-tuplets in multiple staves provided the x values and total note durations are identical.

In some baroque scores, particularly by J.S. Bach, a beamed sixteenth note is vertically aligned with the third note of a triplet of eighth notes in another staff (implying that they should be sounded simultaneously); e.g.,

```
\bbl0L0\qb0{.L}\tqql0L
```

would be played as if notated

```
\uptrio{b}10\qlL\hroff{\clL}
```

The following coding will align the beamed sixteenth note with the third note of a triplet in another staff:

`\ibl0L0\qb0{.L}\hbsk\tqq0L`

and, similarly, for triplets of sixteenth notes:

`\ibbu0J0\qb0{.J}\hbsk\nqqqu0J\qb0{.J}\hbsk\tqqqu0J`

Generally, user-defined macros are not processed or expanded; however, definitions of the form

`\def\atnextbar{\znates ... \en}`

generate definitions that do take account of `\TransformNotes`.

All staves are assumed to have the same meter; see `kinder2.aspc` for an example of how to work around this.

autosp may not be effective for music with more than one voice in a single staff. It might be advisable to use a separate staff for each voice, to avoid `\anotes` when necessary, or to omit certain voices initially and add them into the resulting TeX file.

EXAMPLES

See files `quod2.aspc`, `kinder2.aspc`, `geminiani.aspc` and `barsant2.aspc` for scores suitable for input to **autosp**. The program **tex2aspc** can be used to convert "legacy" MusiXTeX scores to `.aspc` format.

SEE ALSO

msxlint(1) **tex2aspc(1)**

`musixdoc.pdf`

AUTHOR

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