Table of contents

1. Introduction

While various music typography software packages have gained acceptance in the industry we see that some users have more than one product because each product has attractive features not available in another. Hence the need to convert from one system to another has become a requirement.

SipSib is a product which converts Sibelius EPS files to Score music files. While Sibelius keeps one or more pages in one file, it makes as many files as there are pages when outputting in EPS format. One EPS file generates one MUS file. Any number of EPS files may be selected on input by SipSib.

This guide explains how SipSib is to be used.

Apart from the input files (see File Selection, 4.1.1), SipSib uses a number of other pieces of information to perform its task of converting Sibelius EPS files to Score music files:
> user options
> font/size equivalence file
> symbol equivalence file
> PSC files
> DRW files
> PREF.SCR or PREF-4.SCR
> CODE9.DAT
> history file

When applicable, SipSib returns information to the user other than converted files. There are three categories of messages:
> On-line prompts. These are given when normal processing is interrupted because of an operational situation. If critical, SipSib is terminated, if informative, the process will continue.
> Off-line diagnostics. A report is generated which holds warnings, and optionally comments.
> Off-line statistics and debug information. Statistics come in two levels. The most detailed may be suppressed. Comments may also be suppressed.

More information on warnings and comments is given in the Report explanation (4.1.2.5).

While Sibelius has a provision to generate MusicXML, the quality of it does not allow for graphic applications.

2. Capabilities

2.1 General

As the conversion departs from EPS, it only has graphic information to work with. In some cases, the absence of information in a score is sufficient for a musician but not for a computer. Two examples are:
> the tuplet which is only written once or twice to tell the musician that the pattern repeats where SipSib has no way of understanding that this is a pattern (see the Sibelius Ornament example bar 1 piano part) which of course has implications to assign proper duration to notes and rests.
> the invisible barline. SipSib cannot create an invisible barline as it has no way of knowing that there is one.

It is hence suggested to put visible information in the Sibelius score prior to EPS file creation.

While Score is restricted to 32 staves and 1420 items on input, SipSib does not have this restriction and may generate items above these limits. Note however that this Score item limit is not the only one: the Sibelius 1.4 sample file 'Advanced notation' generates about 670 items but Score overflows on the converted file with the message 'vector memory full. Use DP feature'. It is to the user to select smaller portions for conversion (any group of adjacent staves can be selected for conversion). For practical reasons, the maximum number of items is set to 3000 and when exceeded, an overflow message will be given prior to abnormal termination. Note that the definition of a staff scope has no influence on the item count.

Input in the form of EPS means that there is very little context information between music items and since all items in Score are related to a staff, the issue is to find to which staff a graphic element belongs. If an element is closer to another staff than the intended one, SipSib may have problems taking the right decision. On the other hand, if elements are too close to each other, again SipSib may not be able to draw the correct conclusion. Best results are obtained when Sibelius House Style installation defaults are used. A mechanism is provided to assure that lyrics are always connected to the right staff independent how close a lower staff may be.

Before a page is converted, SipSib analyzes the staff layout. For this to work, it has to know the Staff designs settings. Installation defaults are:

> Staff line width 0.1 spaces
> Small staff size 75% of normal staff

Any other setting requires Strategy values to be changed. The length of the shortest staff on a page must be expressed as a percentage, the default being 70%. In the case of the Sibelius example called 'Exam paper', the percentage had to be lowered to 10 as the lower staff actually consists of two staves which are linked together.

Barlines must be installation defaults – 0.16 thickness for all but the final barline which must be .5. Separation must be 0.38.

Brackets: the line thickness of the sub-bracket must be 0.1 spaces. Any other setting requires the Strategy value to be changed.

Stems must be 3 pixels thick. There is a strategy option for stems of 4 pixels thick.

Guitar frames must be installation defaults.

It is suggested to suppress generation of the TIFF information as this takes up file space and takes additional processing time while the data is ignored by SipSib.

The Sibelius option 'Substitute braces' must be set if the input contains one or more occurrences of the accolade '{' as a barline.

Bounding box setting has no influence on the conversion.

Summarizing the creation of EPS by Sibelius 2 and up, do the following:

- Select "EPS Encapsulated Postscript" (3rd from bottom of list in Sibelius 2.1.1)
- Check either All pages or Pages....
- Leave Folder as is.
- Uncheck "Create SubFolder?"
- Uncheck "Include TIFF Preview"
- Keep the check on Embed Fonts
- Keep the checks on Substitute Lines and Braces
- Any other boxes, leave unchecked.

Chapter 12 shows the Sibelius panels to create valid SipSib EPS.

2.2 The SIP Control Center

SipSib is a module within the 'SIP Workbench for SCORE Engravers'. When SIP is started, the Control Center shows which modules have been configured. Non-configured modules have a disabled button. Of interest to SipSib users are two buttons: 'Set project options' and 'SipSib'.

2.3 Control Center menu item: Editors

Selection has no influence for SipSib. The default editor for SipSib is NotePad. When a report is generated which is too big for NotePad (this can happen on Windows from before XP), Windows will provide the option to switch to WordPad for the occasion.
The paths to editors are defined when SIP is executed for the first time and kept in SIPCNTRL.INI.

2.4 Control Center button: Set project options

Here the options are selected which are valid for more than one SIP module. SipSib users are interested in some of the following selections.

2.4.1 Project name
This name is ignored by SipSib.

2.4.2 SCORE library
SipSib needs to know the path to the Score LIB directory to find PSC files, DRW files. The path to PREF.SCR/PREF-4.SCR is also needed by SipSib and defined at first execution of SIP. Optionally, file CODE9.DAT is consulted.
Bracketed dynamics such as *[pp]* are normally translated to a text item for brackets around the dynamic. When SipSib encounters the file LIBSJ.DRW with the proper contents, a single item of type Code09Par05 = 3xx is created. This is true for xx = 50 through 58.

The option 'Use PREF.SCR' in the SIP Global Options panel, SCORE library tab, has no effect in SipSib. The path to this file is defined at first executuon and kept in SIPCNTRL.INI.
The file PREF.SCR or PREF-4.SCR is consulted by SipSib for the following settings:

DASH – dash size. If not defined, the default is assumed to be 1.29

REST – rest number font. If not defined, the default is assumed to be 6. When a value different from 6 is specified, Code02 Par14 will be set to this value.

METR – metrics indicator. SipSib can only work in inches and if specified, a warning message is issued. The value SipSib sets in inches is Code8 Par10 when no default space between staves is set.

SLUR – slur thickness. If set, all slurs and ties will receive this thickness in Code5 Par13.

2.4.3 Page Number
The font and size must be set if the user wants the page number to be a Code10 item. The other options from this tab have no effect. See the Page Number option under Code16.

2.4.4 Bar Number
The font and size must be set for the generation of bar numbers. Other options from this tab have no effect. For the recognition of Sibelius bar numbers, text classification panel needs user selection.

2.4.5 Plate Number
When SipSib encounters the text identical to the string defined here, it will assign the specified size and font and consider it for centering.

2.4.6 Rehearsals
The recognition and generation of rehearsal numbers and letters is entirely controlled by SipSib Code10 settings. This global option has no effect.

2.4.7 Lyrics
Font and size must be set if you use the unique lyrics font/size option. They should reflect the setting of the font definition in SIPSIB16.TXT even if a point size is defined.

The user must define from the text classification panel which unique font/size defines lyrics.

2.4.8 Fingering
Left hand font and size are used for string definitions (encircled digits) which in Sibelius are symbols. Right hand definitions are not yet used.

The user has an option panel to help in the recognition of fingering.

2.4.9 General
Settings in the General tab have no effect on the conversion.

2.4.10 ACCS
SipSib can optionally use this utility for accidental alignment. Use this panel to communicate to SIP where this software is installed. When instructed to use this utility, the backup files created by ACCS will be erased (.ACC files) as there is no use for them.

2.4.11 Other
The main panel has three tabs. Select here which tab you want as default.

3. Files

3.1 Font/size equivalence file
Sibelius comes with a vast range of fonts which not necessarily match those with the standard or user fonts of Score. Furthermore, engravers have entirely different preferences for fonts and a solution had to be found to cater for all prospective users of SipSib. With an equivalence file called SIPSIB16.TXT, every user can set up which Sibelius font is translated to which Score font.

The file is maintained by pressing the button 'Font equiv'. This shows the panel which views the font definitions and allows maintenance by simple point and click. It is shown here:

Sibelius font name	min	max	size	font	Score font name	?
AGaramond-Italic	77	83	1	_02	Times-Italic	
AGaramond-Regular	71	77	1	_00	Times-Roman	
AGaramond-Regular	78	200	2	_00	Times-Roman	
AGaramond-Semibold	71	84	1	_01	Times-Bold	
AGaramond-Semibold	85	200	2	_01	Times-Bold	
Arial-BoldMT	52	52	0.55	_05	Helvetica-Bold	
Arial-BoldMT	65	65	0.6	_05	Helvetica-Bold	
Arial-BoldMT	92	92	1.25	_05	Helvetica-Bold	
Arial-BoldMT	142	142	2	_05	Helvetica-Bold	
Arial-BoldMT-ISOLatin1	115	115	1.4	_07	Helvetica-BoldOblique	
Arial-BoldMT-ISOLatin1	222	222	3	_07	Helvetica-BoldOblique	
ArialMT	44	44	0.7	_04	Helvetica	
ArialMT	65	65	1	_04	Helvetica	
ArialMT	70	71	1.1	_04	Helvetica	
ArialMT	77	77	1.1	_04	Helvetica	
ArialMT-ISOLatin1	44	44	0.7	_04	Helvetica	
Bodoni	82	82	1	_02	Times-Italic	
Bodoni-Italic	68	68	1.2	_02	Times-Italic	
BookAntiqua	71	71	1.35	_00	Times-Roman	
BookAntiqua	77	77	1.4	_00	Times-Roman	
BookAntiqua	78	142	2.7	_00	Times-Roman	
CenturySchoolbook	40	80	1	_24	NewCenturySchlbk-Roman	
CourierNewPSMT	1	128	1	_29	Courier	

76 definitions in table, 0 unequated Sibelius font in input

Click above field to see Sibelius fonts in selected input not yet defined in equivalence table.

[Delete] [Clear] [Save] [Return]

Each entry has five columns, explained here

> Column 1: Sibelius font name, ie. TimesEuropaRoman-ISOLatin1
> Column 2: Sibelius minimum font size, ie. 96
> Column 3: Sibelius maximum font size, ie. 128
> Column 4: Score font prefix, ie. _00
> Column 5: Score size, ie. 1.2 or point size, ie. –10.00 (the minus sign indicates point size)

In words this means "convert any Sibelius text with the font TimesEuropaRoman-ISOLatin1 of pixel size from 96 to 128 to a Score text item with font _00 of size 1.2 (or 10 points)".

A sixth column has the Score font name which corresponds to the numeric font in Column 5.
Since a font may occur with different sizes, it may need to be specified for each different size.
To find out which fonts and sizes are used in the selected EPS input files which do not yet have a Score equivalent, click the white area on the left bottom. When nothing happens, all the fonts have been previously equated; otherwise, a selection list will appear mentioning the fonts not yet known to the table. You can select to move all or individual entries to be moved to the equivalent file. Each new entry will receive the same size for Sibelius minimum and maximum font size and the default Score font is set to Times-Roman size 1.

The default order is alphabetical per Sibelius font name. You can sort the table on Score font number by hitting the 'font' button, and then again alphabetically by hitting the 'Sibelius font name' button.

To update an entry select it by clicking any column. Then click a white field to update its contents. Score font selection can be done via number or name – both will show a selection list. Only existing Score fonts (those for which there is a .PSC file) can be selected.

To delete an entry, select it and hit the 'Delete' button.

The 'View' menu shows the file SIPSIB16.TXT in which this information is kept. Though discouraged, you can make changes and additions to this file with Notepad.

The question mark box will show explanatory text when pointed to.

Sibelius font names
A reserved font name is 'default'. Its definition will be taken if a font occurs in a file for which no equivalence was defined. If the 'default' font is not defined in the equivalence file, SipSib will resort to font _00 and deduct the size from the Sibelius input.

There are some exceptions, listed here:
1. Sibelius Opus(Special), Inkpen(Special) and Null (represented by a single slash) should not be part of this file;
2. Chord fonts (OpusChords, TimesChord-Regular, etc.) should not be defined in this file;
3. Fonts for page numbers, bar numbers and plate numbers need not be defined since these are overridden by Global Options;
4. Guitar chord names without guitar frames. Font and size are to be defined as a Code12 option.

You can instruct the converter to bypass consultation of the equivalence table by setting the switch 'Force Times-Roman 1.0' on the main SipSib panel.

3.2 Symbol equivalence file

A file with the name SIPSIB09.TXT is provided which couples the Sibelius dynamics abbreviations such as *ppp* to Score symbols. While most of the entries in this file will never change, the user has the flexibility to add new codes when Sibelius or Score offer additional symbols.
Each entry in this file has three columns separated by spaces or tabulations:
>   Field1: character string as it appears in Sibelius
>   Field2: numeric value (integer) of the SCORE equivalent
>   Field3: size factor, if omitted, 1 is assumed. This value may have a decimal point
Optionally a comment may be added if preceded by an apostrophe.
Note that symbols in this file are optionally aligned to a note. A displacement may be set.

3.3 PSC files

These file reside in the Score LIB directory and are consulted by SipSib in the following situations:
1. To compute right justification of text, to avoid that texts fall off the right margin;
2. To center text;
3. To place lyrics dashes to the right of a left syllable;
4. In case of a tuplet ratio such as 5:4, to compute the width of the open space in Code5 Par9 and the placement of this text in the middle of that space;
5. When text is put in a box (not if created as a line), Code12 Par3 and Par6 are adapted to the size of the text. The box is made two scale steps (a vertical notion!) wider than the text. Whatever the font and size of the text, the box will fit nicely around it;
6. When double capital letter rehearsals are generated, the width of the first character is used to compute the position of the second character.

The presence of a PSC file is checked when at the beginning of the program, the font/size equivalence file is validated. SipSib cannot run when a required PSC file is missing.

3.4 DRW files

It is the intention to supply a draw library with symbols identical to those used by Sibelius. This depends on market demand. Once available, the user will be able to control preference for such symbols.
Generated Code9 items may be validated for existence of the correct LIBxx file.

3.5 CODE9.DAT

SipSib has the option to translate texts to Code9 Par5=3xxx items. When the option is set, the character string is looked up in this file and if found, the appropriate Code9 item is generated.
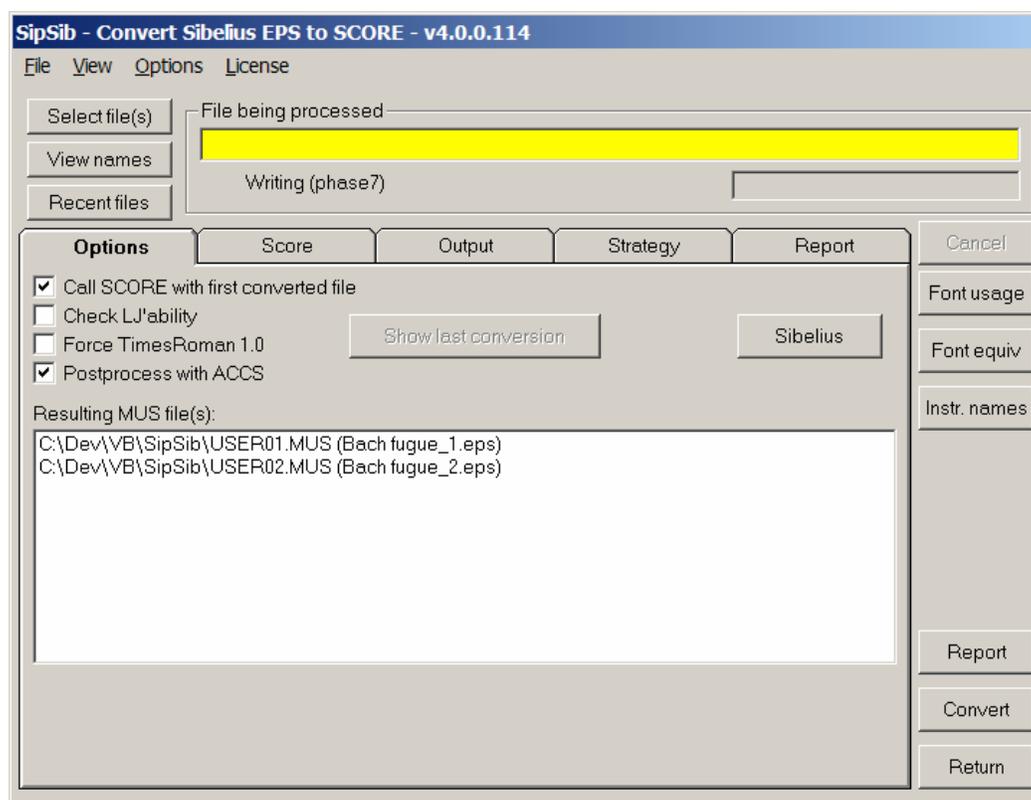
3.6 History file

SipSib keeps its own history of conversions. The information is displayed by the 'Recent files' button (4.1.1.3).

4. Program control

4.1 Control Center button SipSib

This button brings you to the module which controls conversion to Score. The panel has the menu line and three groups of functions: File selection, Conversion settings, and Execute.

```
SipSib - Convert Sibelius EPS to SCORE - v4.0.0.114

File   View   Options   License

  Select file(s)      ┌─File being processed──────────────────────────────┐
                      │ [                                                ] │
  View names          │                                                    │
                      │     Writing (phase7)              [            ]   │
  Recent files        └────────────────────────────────────────────────────┘

  ┌──────────┬──────────┬──────────┬──────────┬──────────┐         Cancel
  │ Options  │  Score   │  Output  │ Strategy │  Report  │
  └──────────┴──────────┴──────────┴──────────┴──────────┘       Font usage
  ☑ Call SCORE with first converted file
  ☐ Check LJ'ability          ┌──────────────────┐                Sibelius    Font equiv
  ☐ Force TimesRoman 1.0      │Show last conversion│
  ☑ Postprocess with ACCS     └──────────────────┘                           Instr. names

  Resulting MUS file(s):
  ┌──────────────────────────────────────────────────────┐
  │ C:\Dev\VB\SipSib\USER01.MUS (Bach fugue_1.eps)         │
  │ C:\Dev\VB\SipSib\USER02.MUS (Bach fugue_2.eps)         │
  │                                                        │
  │                                                        │                Report
  │                                                        │
  │                                                        │                Convert
  │                                                        │
  │                                                        │                Return
  └──────────────────────────────────────────────────────┘
```

4.1.0 Menu line
The File menu allows you to exit SipSib. This is identical to the Return button. The options will be remembered in a profile until the next SipSib execution.
The View menu allows you to select a minimum size panel for the text classification. As files with text and lyrics usually require all of the available screen size, the option should hardly be used.
The Option menu brings you to the panel which controls conversion of fingering and TAB.
The License menu shows the current owner and copyright clauses.

4.1.1 File selection
There are three buttons for file selection: Select file(s), View names, and Recent files.

4.1.1.1 Select files
To select one or more input files for conversion, this button gives control to the common file selection function of SIP. The result of this operation is a names file in a format known by Score users (Namelist files, page 289 of the Reference Manual Version 3.0). Even though file selection works with long filenames because Sibelius is a Windows application, the names file uses short names because Score is a DOS application. SIP alleviates the Score path length restriction of 24 characters.

A ToolTip gives the long name of the first file in the names file when moving the cursor over this button. Hitting the button causes the names file to be shown. You may want to update it by hand, though this is discouraged.
The first EPS file may be viewed by double clicking in the left corner of the file frame.
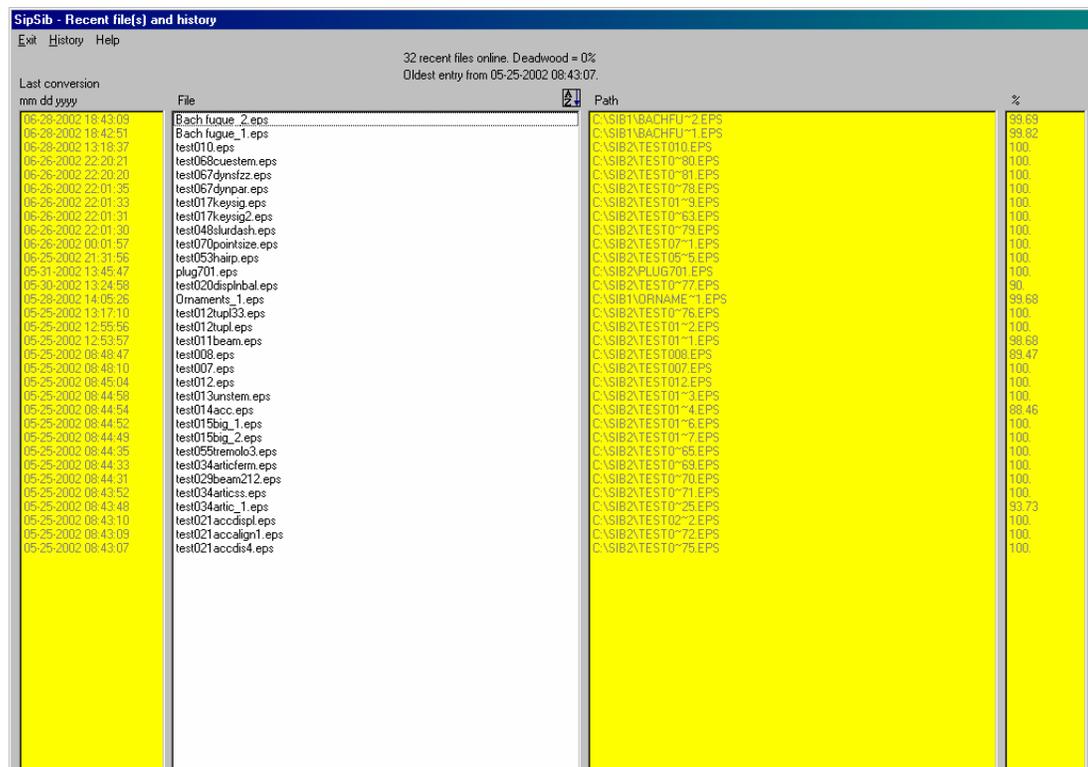
4.1.1.3 Recent files
This gives a summary of files that were recently converted by SipSib with date/time stamp, full path and conversion percentage. Only files which are still online are listed.
Names can be sorted by date/time stamp or alphabetically. Recently converted files can again be selected for reprocessing.
The information is taken from the history file and shown in a panel which uses the full screen size. This history file needs maintenance as it continually grows and slows down the 'Recent files' function.
Entries in the history file can be removed if they are older than 1, 6, or 30 days. When one file is converted multiple times, the older registrations are maintained but can be removed as 'deadwood'.
The percentage of deadwood is given and multiple files can be selected by keeping the shift key depressed.

4.1.2 Conversion settings
Tab panels control the conversion: Options, Score, Output, Strategy, and Report.

4.1.2.1 Options
The most common options are controlled on this panel.

Call Score after conversion
Following a conversion a report is shown. When this report is closed and this option is set, the first generated MUS file is shown by Score. When the path of the generated filename is longer than the Score restriction of 24 characters, the file is copied to the root directory of the work drive (defined by SIP) as CURRENT.MUS. Note that the Score commands NX and NB do not function in this case, which is why the list of generated files is provided. Push on a name and it will be shown by Score.

Check LJ'ability
By setting this option, the duration of bars in a system will be verified. A warning is given when inequality is found between vertical bars in one system. The exact staff and bar of the offending unit is indicated. This feature is intended for single voice notation. Individual voice duration in multi-voice notation is not verified.
The check is not against the current meter.

Force Times-Roman 1.0
When set, the font definitions in the equivalence file are ignored. For lyrics, this option may be overridden (see Score>16 Text).

Post-process with ACCS
When the button is enabled, you can view the last conversion of the previous call to SipSib.

Show last conversion
When the button is enabled, you can view the last conversion of the previous call to SipSib.
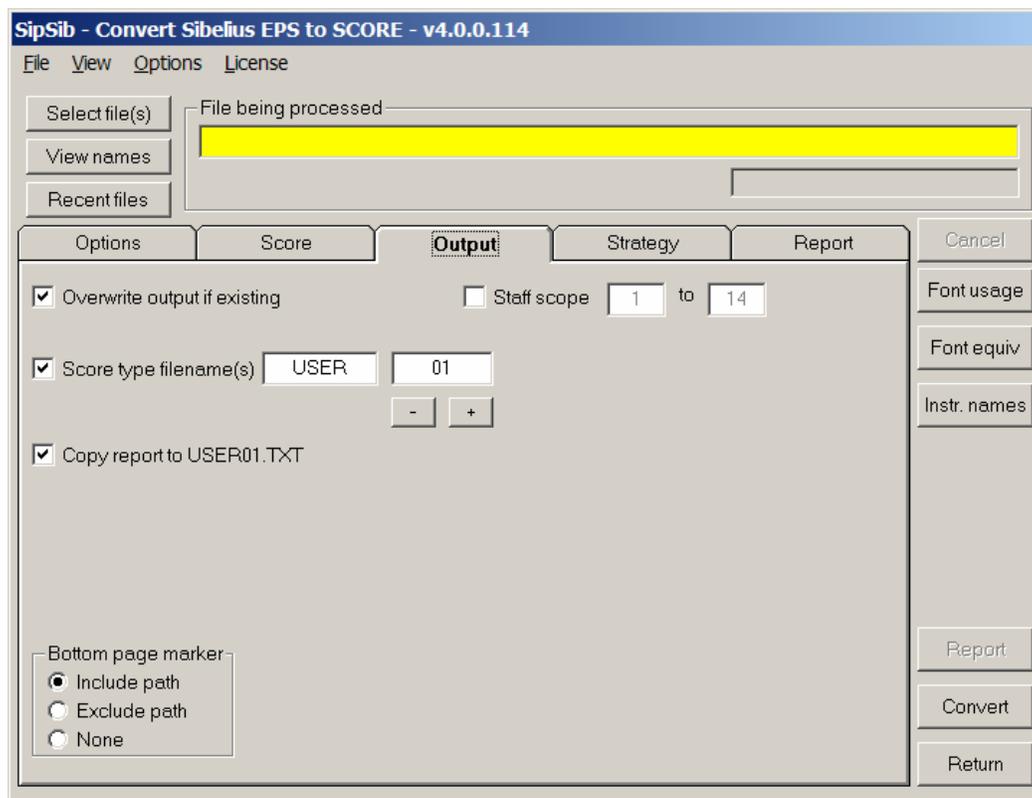
Sibelius
When Sibelius is installed on the same computer, you can call it immediately from this panel when the path was defined once. The path is kept in the profile.

4.1.2.2 Score
Per Score Code type, there is a tab for specific option settings. Options are self-explanatory through a description and in many cases additional ToolTips. To change the setting of a value, click the field. The individual options are explained in chapter 5.

4.1.2.3 Output
Staff scope

The user may select to only output one or more adjacent staves. This is useful when the original Sibelius input has more than 32 staves or when the number of output items exceeds Score limits. You

cannot define an invalid range, so when the range is 1-12 and you want to change this to 13-24, you must first change the upper limit.

Overwrite output if existing
When an output file is created, it may or may not be overwritten. When not set and an overwrite attempt is made, the process is halted with a prompt.

Generate bottom page marker
Every page by default receives a message with the name of the original input file, the output filename and the conversion percentage.

Score type filename(s)
Sibelius uses long Windows type filenames. The input name is by default used to create the Score filename. However, Score does not work with long filenames yet and SipSib converts long names to short names according to the MS-DOS rules. This causes MUS file names with the '~' character and a numeric part in the name which is not necessarily in the same sequence as the input. Therefor, Score users may prefer Score structured names consisting of an alphabetic part and a numeric part such as BACH001.MUS. This option allows you to set the name of the first output file.

Copy report
Once a SipSib session is closed, the conversion report is no longer available. Optionally, a copy of the conversion report can be sent to the same directory as the output file(s). The name of the copied report is taken from the first name of a series of generated output files.
The report is only copied when Score type filenames are selected for output. The ToolTip of the 'Convert' button gives the report name if there is one.

4.1.2.4 Strategy
SipSib needs some strategy to recognize music from a flat text file which is what EPS basically is. The Strategy tab required for the recognition of some basic elements which may be different as a result of House Style settings, private or new fonts, or future versions of Sibelius.
Horizontal lines are potential staff lines. By setting the percentage to a higher value the user can control the recognition of non-staff lines.
Note the 'Allow Schott fonts' for users applying fonts especially developed for the Schott publishing house. It needs to be set when those fonts are in use for the recognition of meter digits and dynamic marks.
Most users will never need this panel. When setting very specific House Style values, users have reported conversion problems which could be solved by changing strategy options. When you have an issue that could be related to a strategy setting, consult the author.

Shorter staff
Occasionally, Sibelius is known to write staves in sections and these can sometimes consist of very short lines. Files with uneven staff lengths seem to suffer from this phenomenon. Practice has shown that this value needed to descend to 20 or even 5 in order to get proper staff recognition.
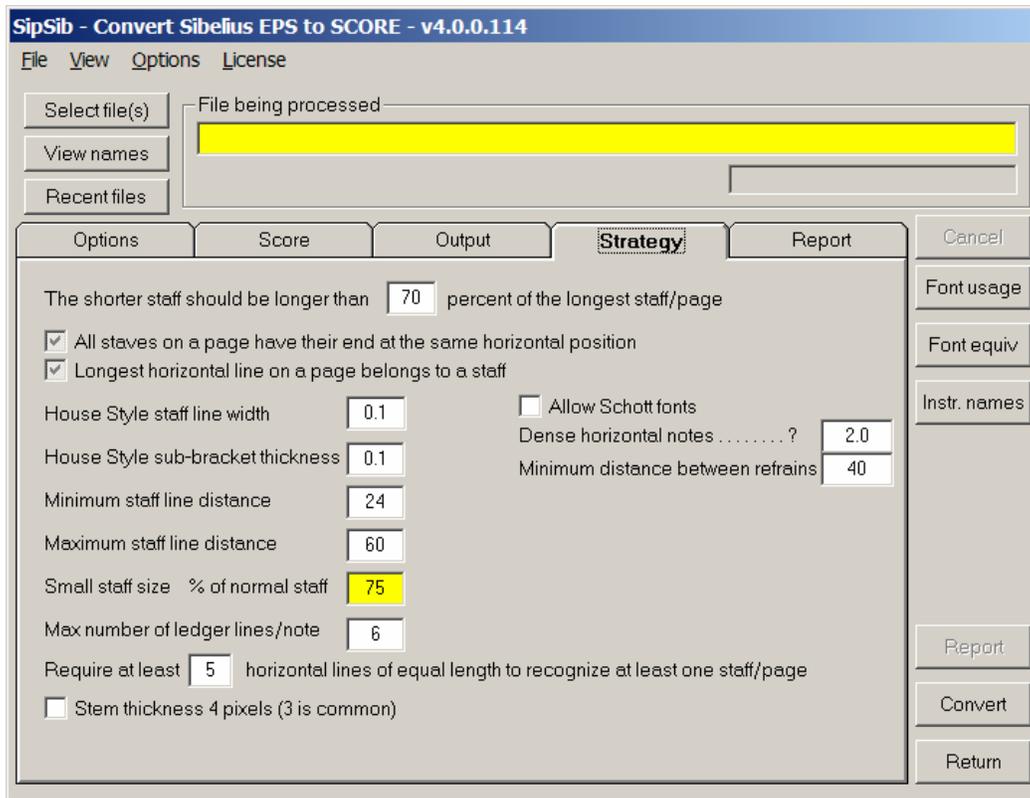
Dense horizontal lines
The remark on the bottom, in yellow background, lights up when you point to the '?' in 'Dense horizontal notes'.

4.1.2.5 Report
The output report communicates the conversion result to the user. The report provides for each converted file the input file name with its original time stamp (the time the EPS file was produced) and output file name. Then there are comments (non-critical communication to the user) and warnings. The latter messages refer to a conversion issue by staff number and horizontal position, usually to highlight a situation which SipSib could not or not entirely handle and user inspection is required or suggested. By changing font/size or setting options differently, SipSib may be able to provide a higher degree of conversion.
Comments can be turned off, warnings cannot.
Diagnostics are sorted per staff/position, following the staff numbering scheme of Score. When a staff scope was specified, the output staff numbers are also given in parentheses. It is possible to suppress the sorting of the diagnostics (situations are not detected in order of staves), but this is mainly implemented for debugging purposes and the unsorted option may be removed when the product evolves.
Extended statistics provide number of occurrences of specific types of items.
Comments as said can be suppressed. It is suggested to leave this on and when text justification is requested, also set the trace option.
System/staff information can be useful to set the staff scope of an orchestral piece of which a portion is to be extracted.
The debug option and the source listing are not of interest to the user.
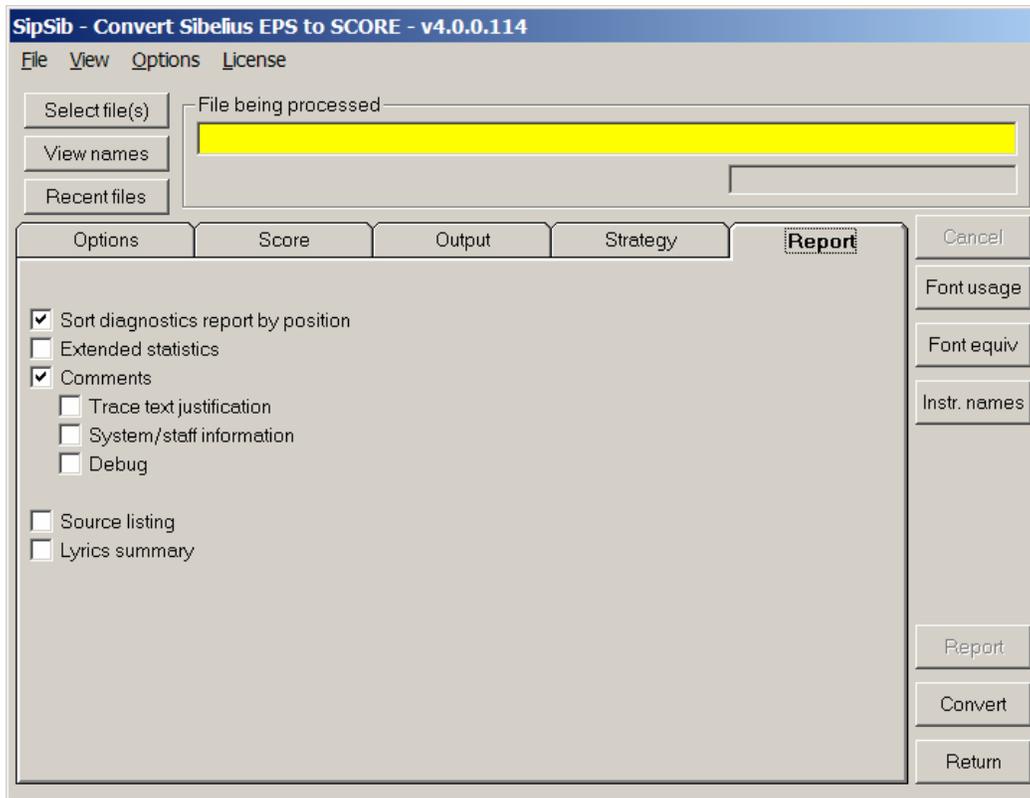
4.1.3 Execute
Belonging to this group is the 'Convert' button which starts the actual conversion. 'Return' brings you back to the Control Center. The 'Cancel' button can be pressed during conversion to terminate the process (even when the cursor has the shape of an hourglass). When this is done, no report is generated and the status of generated Score music files is unreliable.
The report can be reviewed by the 'Report' button. Once exited, the report is no longer available, unless you had the 'copy' option set in the 'Output' tab.
Progress of a conversion is shown in the frame 'File being processed'.

Font usage
This analyzes the input for font/size definitions in the selected files and generates a report which might be needed to adapt the font equivalence data.
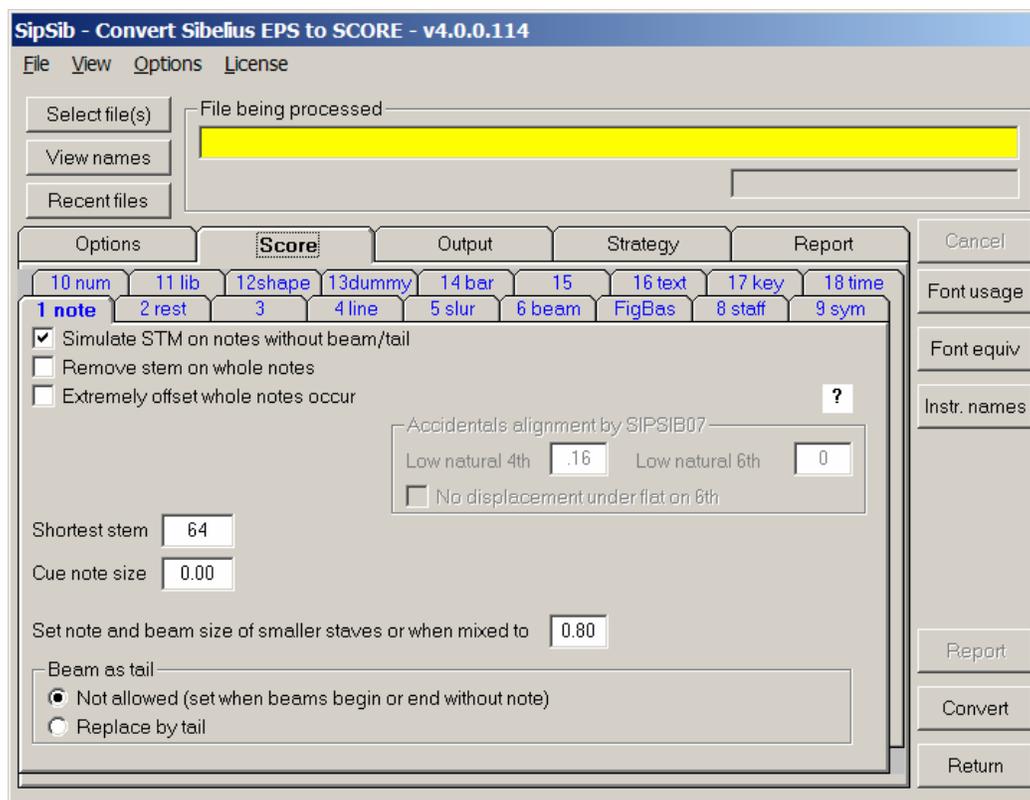
Font equiv
This button allows the inspection and update of the font/size equivalent file.

Instr. names
By default, the instrument name table contains a few English names. Names which appear in this table will control the vertical positioning if they occur in the left margin of a score.

5. Score item details

5.1 Code1 (notes)

Stem length
The stem length is normalized, meaning that it is set to what would be default in Score. The STM option can be set to shorten stems if protruding as in Score. This has effect only on notes without a tail or a beam.
The stem length to cross-staff beams cannot be set and requires manual intervention (Example Bach Fuga II, measure 20). Stems which are shared by two staves are assumed to belong to the lower staff. The stem length in such situation is set to Par8=10 (Example Bach Fuga II, measure 31).

Whole notes
Whole notes by default get their stem set. This is not desirable incase there are slurs and ties on them and an option is provided to remove the stem indicator of Par5.
Sometimes, whole notes in polyphonic notation can occur in one chord with left and right offsets. If this occurs, you need to tell SipSib that extremely wide offset is being used.

Articulation
Score notes can have one articulation in Par11 (called a mark in Score parlance) while Sibelius has no practical limit. When more than one articulation is given on a note, SipSib generates an additional note on top of itself with the vertically displaced additional articulation and without stem and duration. There is no limit to this stacking, however the order may not be the one from the original.
Some articulations exist in Sibelius but not in Score. In such case, a comparable symbol is generated over or under the note. Some characters do not exist and generate a replacement character with a warning message.
Articulation is adjusted as in Score. Staccato dots on the stem side are adjusted sideways to the stem. Some articulations are vertically moved from the note head by a half step in order to avoid collision.

Stemless notes
The duration of black stemless notes is set to Par7=1. Therefor, the LJ of the Plainsong example over 3 staves will not work (Sibelius example Church music).

Beam as tail
When a beam is applied as a tail (flag), the user has the option to translate the beam to a flag. When this occurs and the option is not set, a thick line is generated rather than a beam. In the latter case, the duration will be incorrect.

Accidentals
Sibelius and Score apply different algorithms for placement of accidentals. Standard with SipSib comes a module called SIPSIB07 which places accidentals in a primitive way. The user can set a few options for this module.
When a user has a license for the superior ACCS, it is suggested to use that for alignment of accidentals. When SIPSIB07 is absent or when ACCS is activated to be called by SipSib, then the option setting is disabled. Move the cursor to the question mark to reveal explanatory text.
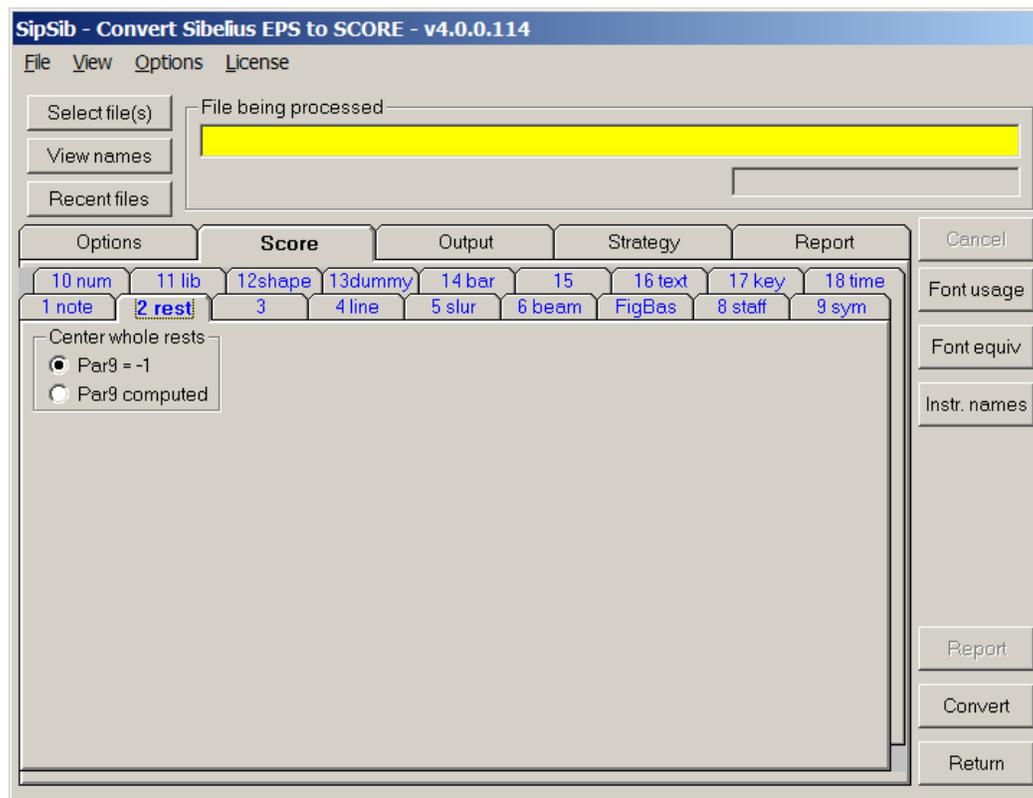
Shortest stem
When music has beamed grace notes, the stems are usually shorter than for normal stems. When your stems do not properly convert, set this to a lower value, for example 45.

Cue note size
While zero is a good default for most conversions, you may want to set the size to .8 which is also valid for rests and beams in cues.

5.2 Code2 (rests)

Whole rests are positioned at the left of a bar and to force centering, Par9 is set to –1 or optionally computed. The setting of –1 has no effect until Score executes the CW99 (center whole rests). There is a traditional error in Score: When you do an OS (order by staff), the whole rest gets stacked a couple of times. The CW normalizes this.

The duration of whole rests depends on the preceding meter. See Code18 description. The multi-rest sets the duration to the meter times the rest count.

5.3 Code3 (not used)

5.4 Code4 (lines)

While lines come in all forms and shapes with a multitude of functions, this is one of the more complex features in the converter. Many lines fall into a specific category, such as staff lines, barlines, ledger lines, bracket lines, stems, acciacaturas, hairpins, lyrics dashes, arrows, etc. When a line is encountered which does not fit in any of those categories, it is converted as a line, connected to the staff closest to the lowest point of the line. Line thickness is set to default for thin lines, to 3 for thick lines.
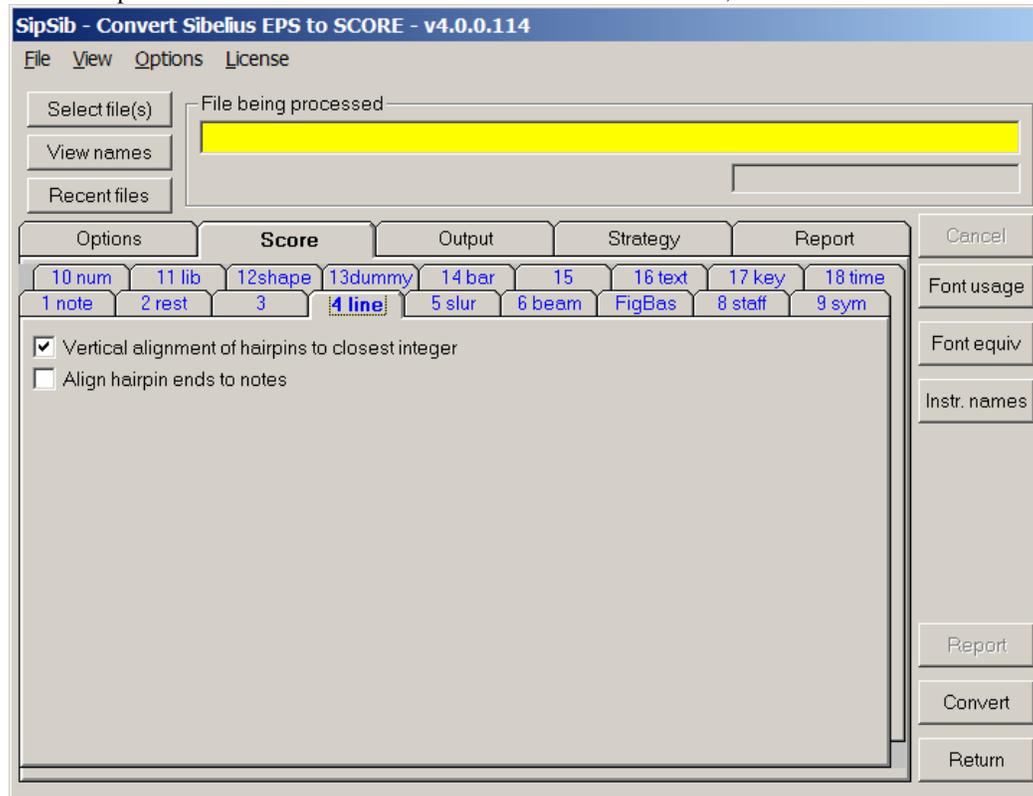
Arrows
Since the choice of arrows in Score is less abundant than in Sibelius, choices had to be made. Sibelius has filled and open arrow heads, Score does not. All arrow heads in Score become the simple two line shape with size 2 for normal arrows, size 4.5 for big arrows. Arrows are connected to the staff closest to the left bottom arrow end. Shorter arrows for which the user prefers the Code9 Par5=69 symbol can replace Code4 arrows easily since the rotation is the same. Note that the shape of the arrow head of the symbol is influenced by the size in Par6. Therefor preference is given to the Code4 arrow.

Hairpins
Whole and partial hairpins are recognized as such if their center is horizontal and they have normal lines. When the line of a hairpin consists of dashes or dots, or if the center of the hairpin is not horizontal, two lines are generated. Note that Score has no symbol for dashes or dotted hairpins.
The normal hairpin can be aligned to the nearest integer vertical position.
Horizontal alignment to notes is another option.

Arpeggio
The vertical arpeggio wiggle is aligned to the note(s) immediately to the right, setting the distance as the negative offset in Par15 and the horizontal position to that of the note(s).

5.5 Code5 (slurs, ties, tuplet brackets, endings)

Ties and slurs

The curvature of ties and slurs is always standard, meaning that Par7 is set to the Score default (close to the CR command result). Curvature is increased when necessary in those cases that SipSib finds notes potentially hitting the top of a slur/tie. Flattening and off-center top is not supported.

Par3 and Par 6 are set to the Par3 value of the notes being tied or slurred. Very short slurs can use the Par8 percentage setting.

When curves consist of dashes or dots, this is optionally simulated by SipSib.
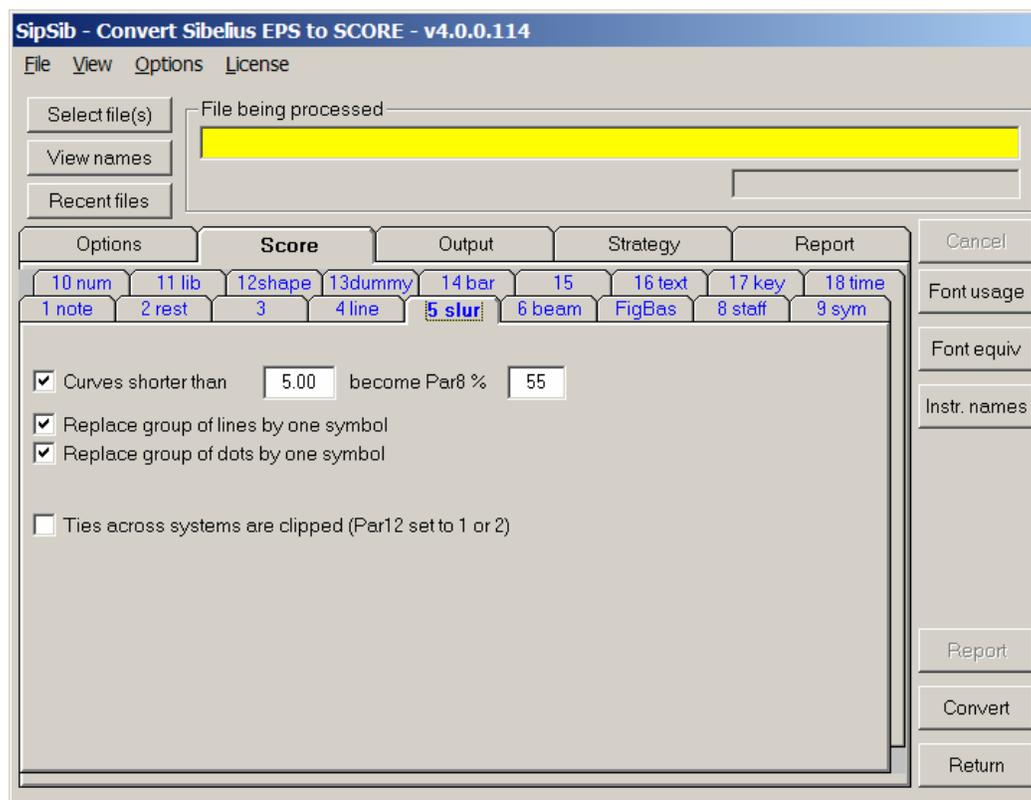
Slur

Par8 is normally set to –1 even if the Sibelius slur is horizontal. Par4 and Par5 are set relative to the slurred notes. Par8 is set to –5 if a note with an up stem is slurred to a note with a down stem. Par8 is set to –7 when it is the other way around.

Tie

Par8 is set to –2 except when the distance between two tied notes is less than 6 steps. Then Par8 is set to .55 (Example Bach Fuga II measure 29). Note that Sibelius ties between single notes or at the outside chord notes look like slurs.

Score has no Par 8 setting for ties on offset notes and manual intervention will be required in this case. An option is provided to clip ties at the staff extremes.
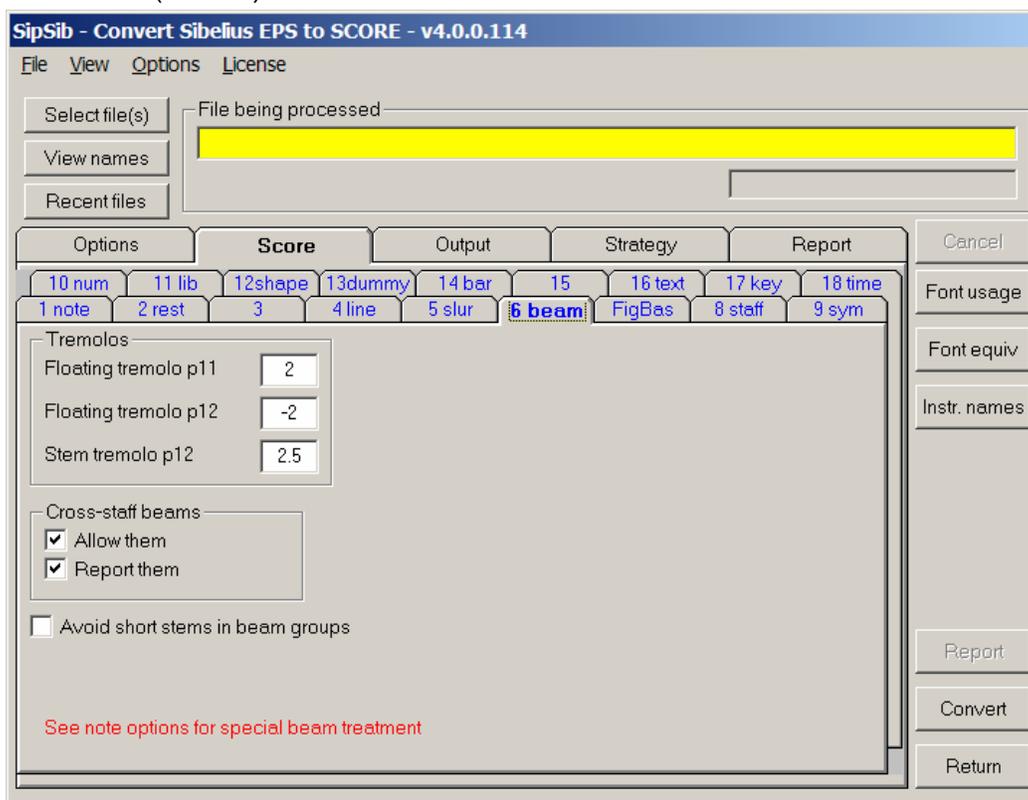
Endings

The vertical size in Par7 is always set to 4.5

Tuplet bracket

The width of the space for a ratio notation (5:4) is subject to the width of the character string.

5.6 Code6 (beams)

A tuplet bracket will be generated when the tuplet in the original has no bracket and there is a combination of notes and rests subject to the bracket (Example Ornaments measure 1, piano right hand).

Tuplet value
The tuplet value in Score output is always on the side of the beam.

Compound beam
Like Score, SipSib makes multiple overlaying main beam groups if there are more than 3 groups in total. Score does not allow offsets of subgroups and a warning message is provided if manual intervention is required.

Cross-staff beam
Stem lengths for beams owned by the staff are set properly but lengths for notes on the other staff are not adjusted. Note that this is also a restriction in Score (AD does not work for these notes) while Score makes mistakes when there are more than one voice in a measure (Example Bach Fuga II measure 15). SipSib is not very good at recognizing cross-staff beaming. Sometimes it will inadvertently link a stemmed note to the other staff when a stem of one staff is close to the beam of the other. To maximize the chance of proper processing, cross-staff beaming is only inspected on staves joined by an accolade (curved brace in SCORE parlance). The user can switch off this inspection altogether. When switched on, there is an option to provide a warning to the report when a situation is encountered to facilitate visual inspection.

Tremolo
The width of the floating tremolo and of the stem tremolo can be defined.

5.7 Code7 (trills)

The 8va, 8ba, 15ma ottavas are translated to the proper item but Score has no equivalent for 15mb. It generates an 8ba with a warning message. 8vb becomes 8ba. Ottava are always made into Code7 items, with or without a dashed line. The Code9 symbols are not generated by SipSib.

5.8 Code8 (staves)

The horizontal staff size has three options to control the width conversion. 'Fit to page' maps the leftmost and rightmost items on the page to positions 0 – 200. 'Longest staff 0 – 200' means that the longest staff on the page will map to positions 0 – 200. When there are no items left and right of the longest staff on a page, those two options are identical. 'Force staff positions' allows the user to define mapping to other positions within the 0 – 200 range, for example 20 – 180. The longest staff on a page defines the mapping to these positions.

The indented system may be set to a value lower than 100. The value 999 means that the indented system will be aligned to the closest integer position on the left.

Sibelius House style settings for staff line thickness have no influence on Score staff line thickness. Distance between staves is controlled by a user selection. By default the original distance is simulated by setting Code8 Par10 in inches. The user can force a standard distance for all staves by setting 'default space between staves' with a Code8 Par4 value. Note that when the input has staves horizontally next to each other, only the default setting will cause the output to have identical results. Staves are numbered left to right, bottom to top. Staves on the right will not show the staff number as to avoid overlap (Code8 Par12=1).
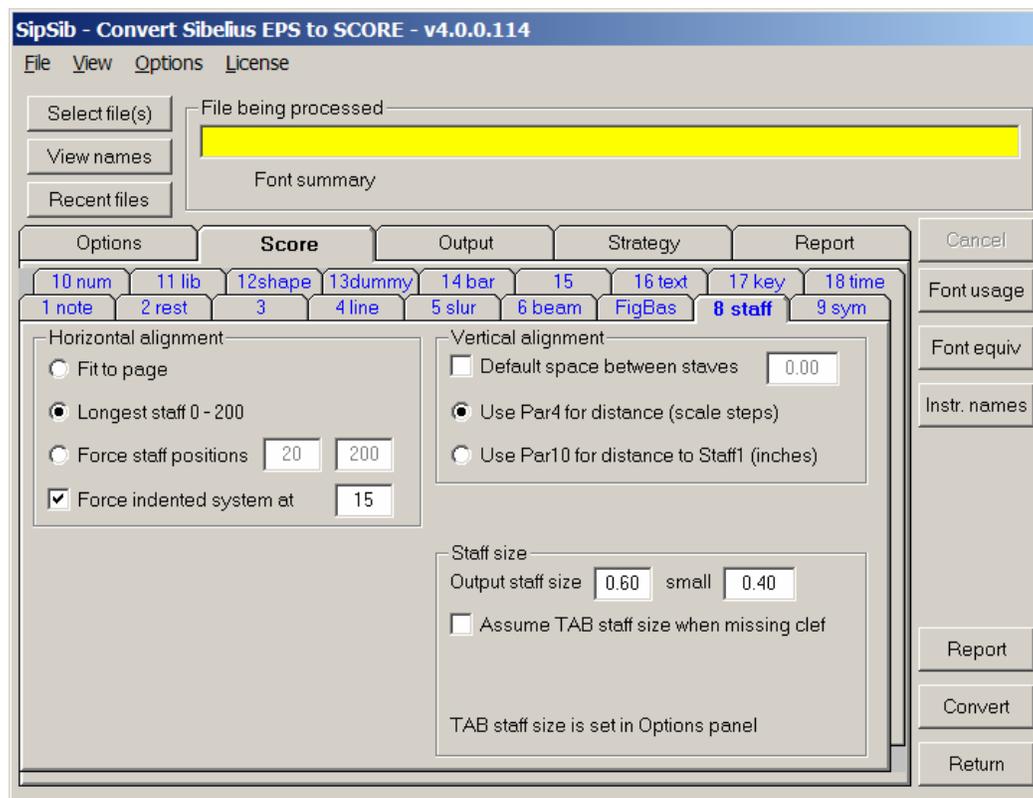
5.9 Code9 (symbols)
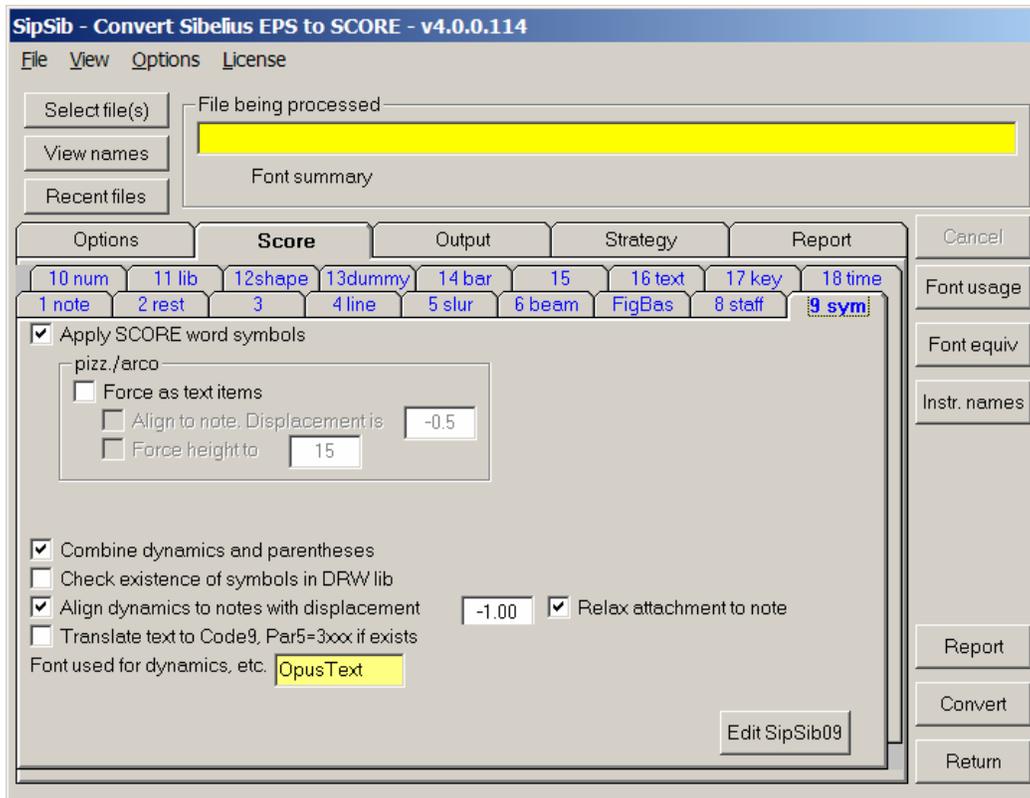
For dynamics to be distinguished from ordinary text, the OpusText, InkpenText, or Null font has to be selected in the Sibelius House Style.

Only those dynamics are recognized as such that are defined in file SIPSIB09.TXT. The user may update this file if required.

By default, parentheses and dynamics such as *(pp)* are separate items but they can be made one symbol. Optionally, character strings for which a Score symbol exists can be replaced by the equivalent Code9 item ('cresc.' etc.). The disadvantage of these Code9 items is that they cannot be passed/suppressed in an extraction as text items can.

Optionally, dynamics can be aligned to the closest note with a user displacement setting.

For every Code9 item which is generated it can optionally be checked if the corresponding DRW library module is existing (this is not a guarantee that the symbol is defined, since one DRW file may not use the ten symbols. Use SipAnlib when in doubt).

When you want the CODE9.DAT file definitions to be generated for text, the option can be set.
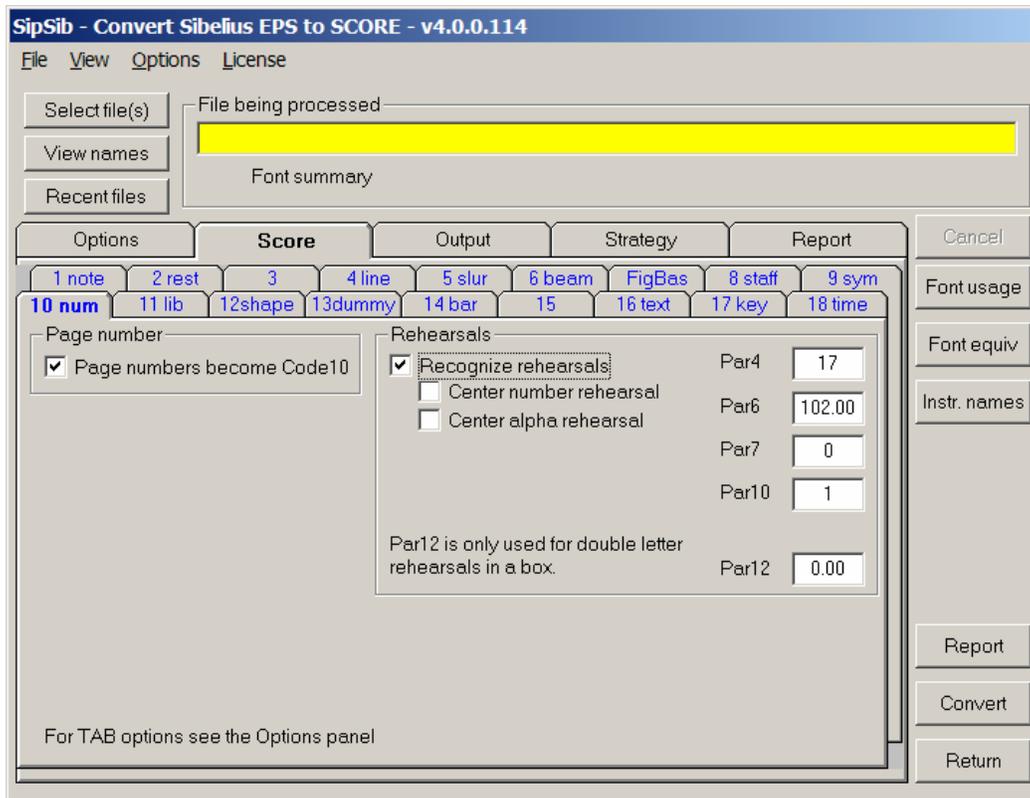
5.10 Code10 (numbers)

Bar numbers

SipSib will recognize bar numbers and generate real Score bar numbers according to the global setting for font and size (Par7 and Par6). The user must allow recognition of Sibelius bar numbers in the text classification panel.

Page numbers

There is an option to request translation of a page number to a Code10 item. SipSib will find the extreme top or extreme bottom numeric value on a page and convert it according to the global setting for font and size (Par7 and Par6).

Rehearsals

SipSib can create real Score rehearsal numbers from encircled numbers or capital letters in a box. The user has the option to define size (with the indicator to pass the rehearsal to extracted parts), vertical position, font and line thickness (Par4, 6, 7 and 10), as well as centering above the nearest barline.

Note that letter rehearsals need to be capital letters to be recognized. Double letter rehearsals in a box, though not supported by Score, are properly converted. They can however not be centered.

5.11 Code11 (not used)

5.12 Code12 (shapes)
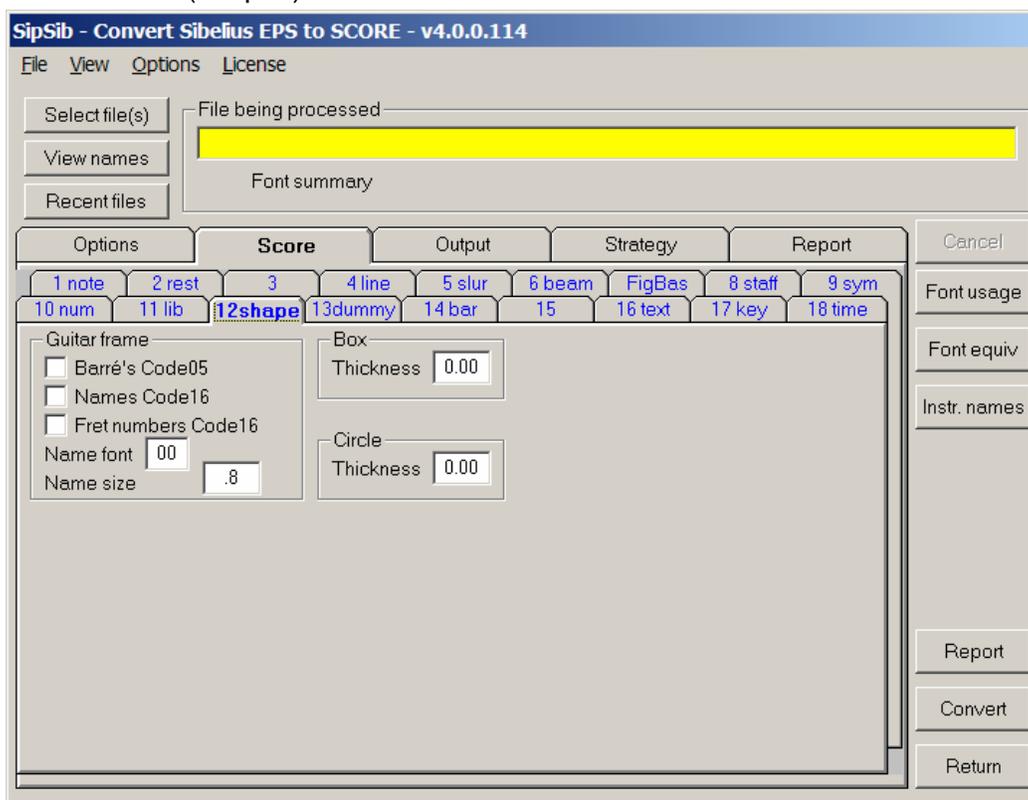
Guitar frame

Since Score only allows one barré per frame, as many frames are overlaid as there are barré's in the original.

The chord name is integrated into the frame, so is the fret value if specified on the right of the frame. When a piece has chord names with and without frames, the names of those without frame will be considered as normal text.

Score has no character for '6/9' and when this occurs in a chord name, it is translated to three separate characters.

Circle

The circle will be positioned around the number if there is one. Thickness can be controlled by a SipSib option for output: if set to zero, the input thickness will be used, otherwise the set thickness will be generated.

Box

Boxes become shapes when their sides are horizontal and vertical. Thickness can be controlled by a SipSib option for output.

Note that there are two kinds of boxes in Sibelius: those created as a line and those around text. The latter type takes the size of its text.

5.13 Code13 (dummies)

In some cases, and usually when SipSib tries to combine elements in a post-processing phase, dummy items are created. The creation of such dummy items can be suppressed but it modifies the item count. Very few messages refer to the item count, but when there are, you do not want the dummy items suppressed because the count will be off.

5.14 Code14 (barlines)
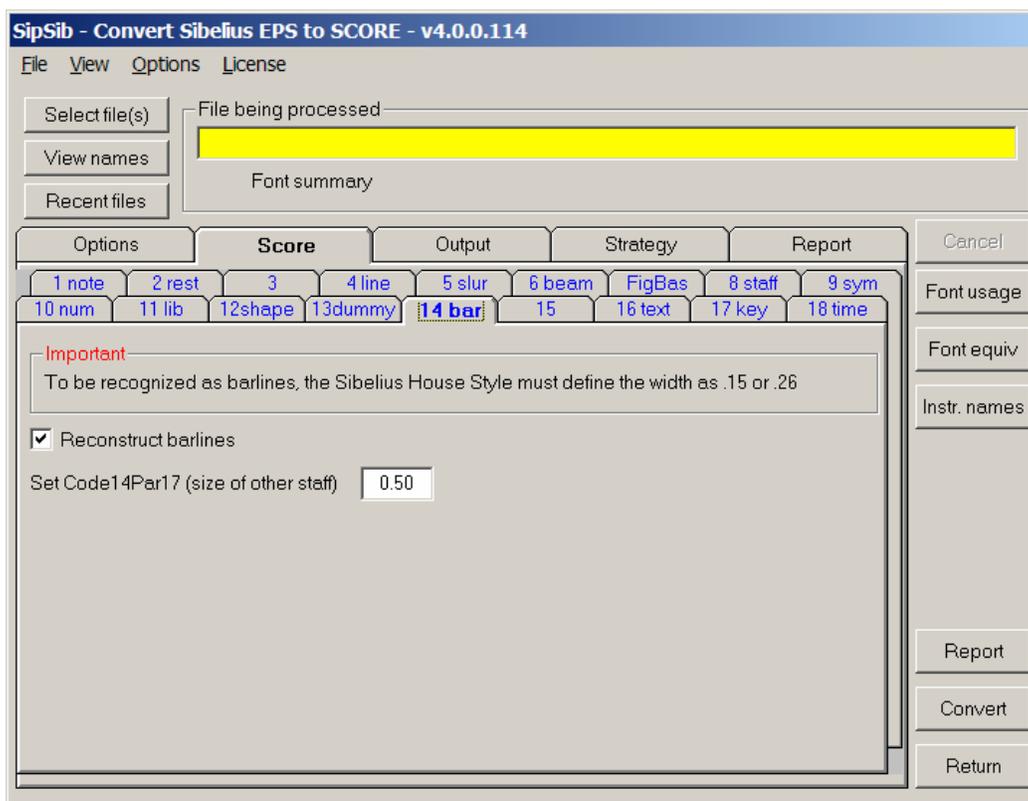
There is an option to reconstruct barlines for those which are partly out of the staff scope. Suppose you have 40 instruments in an orchestral score and select the lower portion to be converted (instruments 1-25), then the system barline will protrude. This line can be set to a staves-up value of 25. When instruments 26-40 are selected, the system barline will be missing and can be reconstructed by the same option. Note that the option only has effect when a staff scope is defined.
Make sure to set the proper House Style value for the sub-bracket thickness. If incorrect, these brackets will be translated as lines. Score sub-bracket thickness is not influenced.
Short barlines as used in plainsong are converted to a Code4 vertical line of equal height.
Invisible barlines cannot be converted as they do not figure in the input.

5.14 Code15 (not used)

5.16 Code16 (texts)
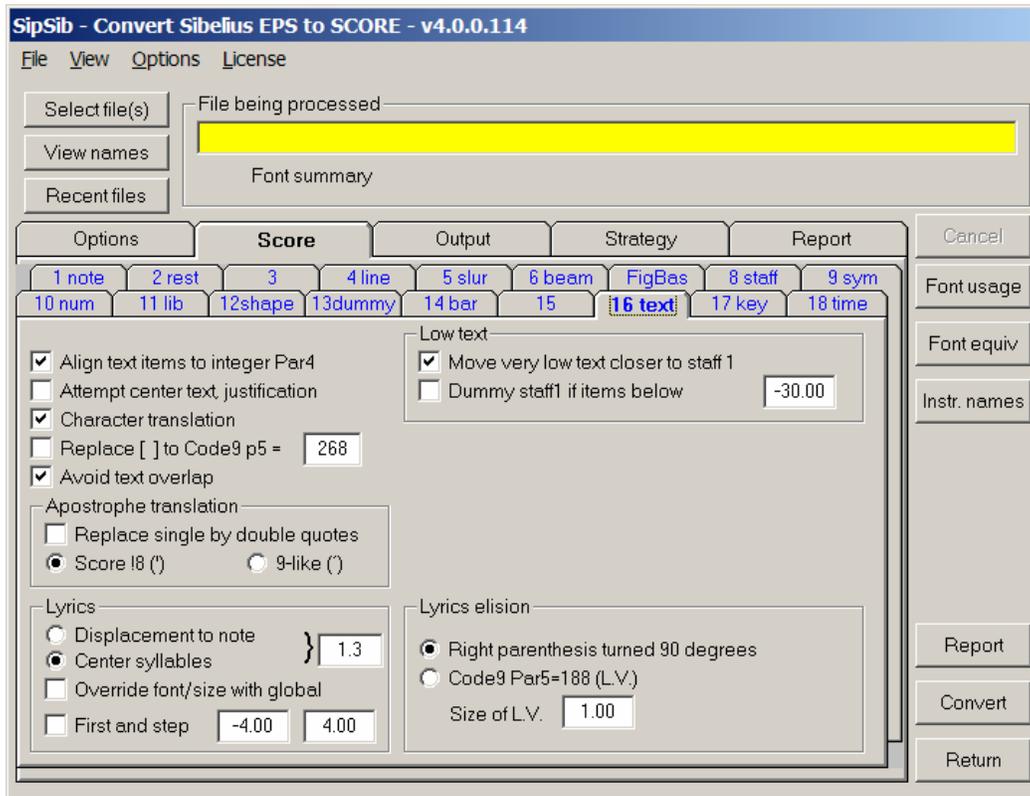
Since in Score every item needs to be attached to a staff, the distance between visibly unconnected items and a staff is not something a computer is good at. The musician will recognize the lyrics under a staff even if it is physically closer to the staff below. To help SipSib classify which text is lyrics and which text is not, a separate panel appears after a pre-scan of the input.

This is a sample text classification panel (in reduced size. By default it will take all of the physical screen):
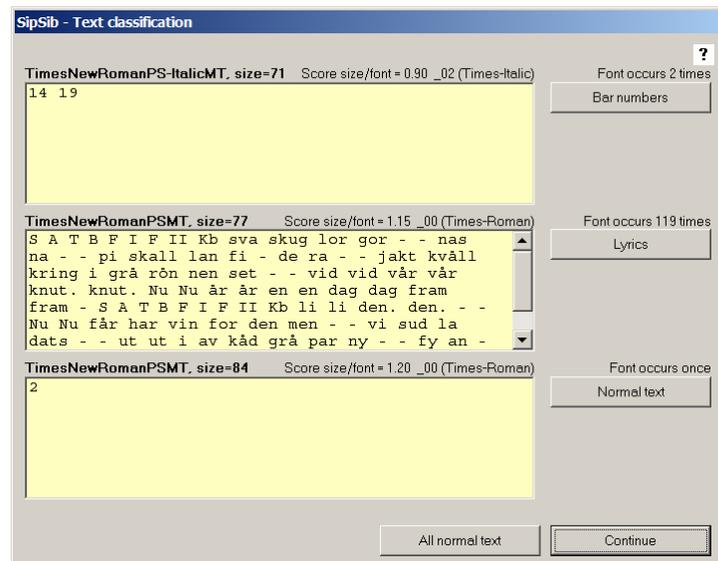
SipSib does a proposal to what it thinks the different font/size combinations mean. It is reflected in the buttons on the right. By pushing the buttons, the user can decide otherwise. The possibilities are 'Normal text', 'Lyrics', Bar numbers (numeric texts only), and 'Ignore'.

Sometimes Sibelius has lyrics dashes of a different font than the syllables, and it is necessary to classify them as such.

This example shows that the same font/size is used for instrument names (S, A, T, B, Kb, etc.) as for the syllables. Because these fall outside the horizontal staff, SipSib knows that they are not lyrics and treats them as normal text. It is however suggested not to use the same font/size for different kinds of text items.

Point to the question mark for additional information. Use the 'View' button on the main panel to obtain the minimal size panel.

Character translation

There are many characters which are represented differently between the two systems. To instruct the converter to generate the proper Score code, such as <<e for é, the translation option must be set. The option is provided for those situations where the same font was selected for ordinary text and for dynamics – a working method which should be avoided.

Note that when a string contains octal characters or symbols such as '[' for a note, the justification and centering cannot work properly.

For the uncommon characters, there is not always a one-to-one translation. When no equivalent is available, a warning is issued and the character is translated to 'X'. Translated text can contain the three variants of special Score characters such as 'é' (<<e), '–' or m dash (!m), and '\\176'.

The width of such characters is estimated by SipSib, i.e. the width of É is assumed to be the same as E, and the yen sign is the same as the Y etc. All octal values are assumed to be one space wide.

When the Polish font Lausanne-RegularBoldItalic is defined, all characters with diacriticals from that language are properly translated. The user requires replacing the file FONTINIT.PSC by the Polish variant with that name (delivered with SipSib as FONTINITPOLISH.PSC) and downloading the font file to the printer before printing the converted result.

Lyrics

Lyrics are always generated under a staff no matter how close a lower staff is.

Dashes which occur in lyrics to connect syllables come in two ways. The Sibelius user can either provide hyphens or a special line character. Both are handled the same way. Vertically, dashes are generated as in Score at the text height plus .8. Horizontally, the dash is generated exactly between two syllables while setting the dash length in Par8 to 1.29 or whatever value is specified in the DASH parameter in the PREFerence file.

Extenders are translated to normal lines at the height of the lyrics.

The user has control over the vertical placement.

Elisions are either turned parentheses or the Code9 symbol for LV.

Multiple fonts may be used for lyrics, i.e. refrain 1 in Times-Romans, refrain 2 in Helvetica.

An option allows for the printing of lyrics in the conversion summary report.

Words for symbols

Text which is to be translated to Score symbols such as **pp** become Code9 items. However, some texts for which a symbol exists may be left as text under user control. Examples are 'pizz.', 'cresc.', etc. Note that the exact string is compared, thus "dim." is not equal to "(dim.)". See Code9 explanation above.

Text overlap

When converting Sibelius text to Score text, the user may have selected a bigger font for Score output. This means that adjacent words may overlap on output. By setting an option, the user can instruct SipSib to avoid text collision by shifting the text. Another reason why text may overlap is when the input is landscape and the output in portrait (Example Ornaments).

When a collision is detected, and the overlap avoidance option is set, the word on the left is moved in front of the word on the right. Since every text is checked for collision with any other text, one text item may be shifted left multiple times.

Lyrics are sensitive to this option as well.

Justification
Words which would extend the left or right margin (position 0 and 200) will be left or right justified by default. Words left of the staff in the margin are moved left of the accolade or bracket.

Centering
When instructed to do so by a user option, texts may be centered. Centered text follows an algorithm based on the point width of character sets. The result is close to the one used by Score but not identical. Text items subject to centering are those which have their center close to the middle of the page and are above the highest staff of a movement. A movement is identified by an indented staff. If all staves on a page have equal lengths, only the top staff is considered.
Some other texts obviously being copyright clauses are also centered.
The plate number (if specified) is subject to centering as well.

Reporting on text adjustment
With the above rule it still possible that unwanted text gets centered, or in extreme cases that to avoid text overlap, a word is shifted to the far left. Therefor, comments trace the decision process when centering and justification have taken place. This reporting can be suppressed but it is not suggested.

Page Number
While this is a text item in Sibelius, Score users may prefer a Code10 item with the 200 value set in Par6 as to have it ignored by part extraction. The Par6 setting is a Global Option.
A page number is recognized if it is the highest or lowest numeric text item on a page.

Low text
When an input page has a poem under the lowest staff and text lines are exceedingly low, Score has a problem to vertically adjust (VJ will not work). The user can set the option to generate an invisible dummy staff in such case.

5.17 Code17 (key signatures)

The Sibelius House Style allows the setting of the distance between the elements of key signatures. By default, SipSib will generate a standard Score signature but the user has the option to simulate the Sibelius House Style.
Always check the key signatures generated by SipSib since it has in some cases difficulties deciding if a single accidental at the beginning of a bar is a normal accidental or a key signature.
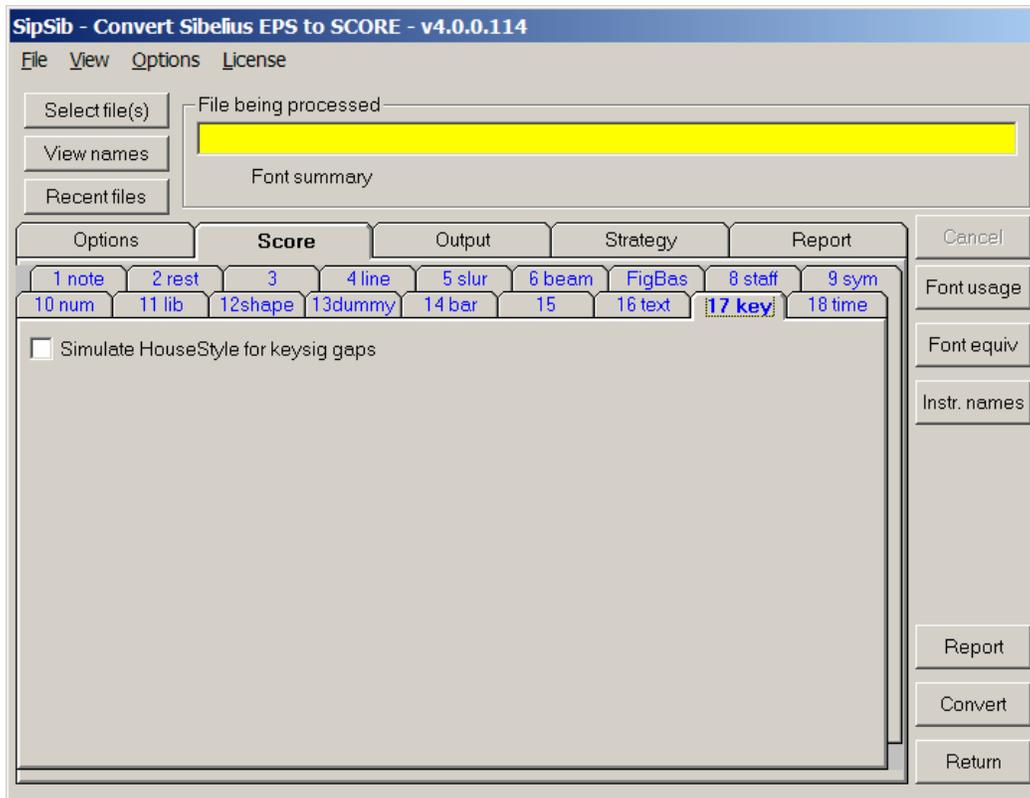
5.18 Code18 (time signatures)

For the generation of whole rests, it is necessary that a time signature preceded the rest so that the proper Code2 Par7 value can be generated. SipSib remembers the last time signature from the last system of a previous page such that it can assign the proper value on whole rests on the continuation page. When the user wants to convert a page without the previous page which has a time signature, the length of a whole rest is undefined. With an option, this initial meter can be set. When the file has no meter prior to a whole rest (per system, top to bottom, and left to right) and no initial meter option is specified, SipSib assumes 4/4 and raises a warning.
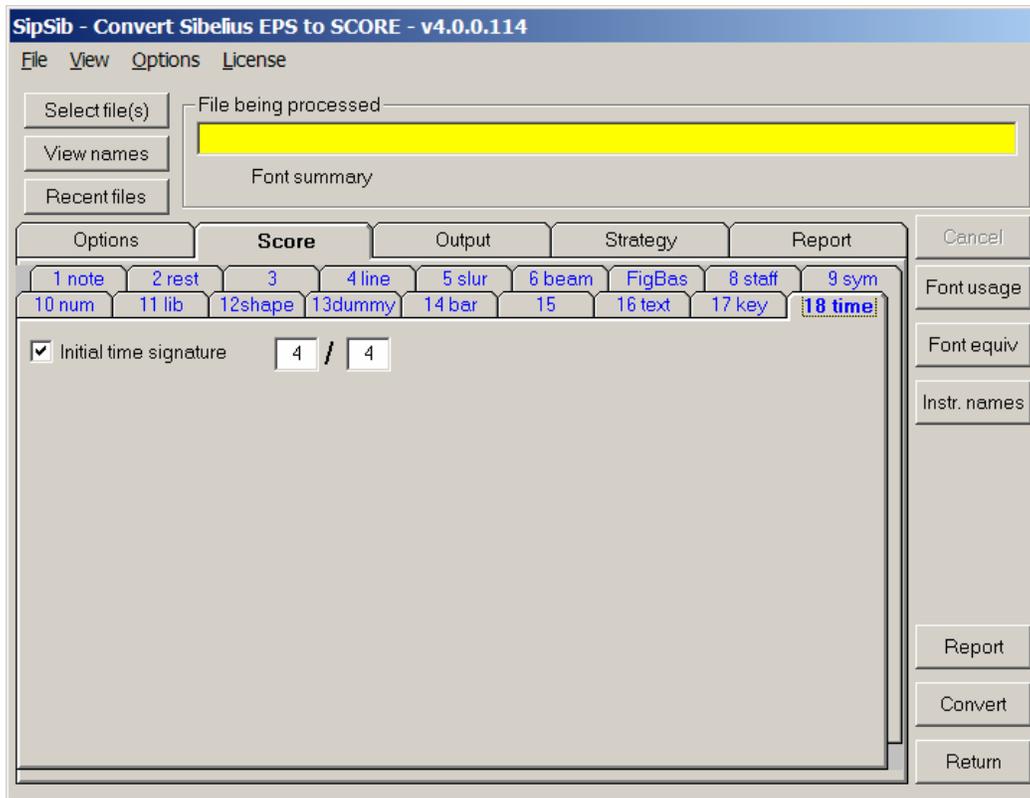
5.19 Fingering

Fingering options are in a separate panel. Open it via the Options menu.

When instructed to do so, SipSib will translate fingering symbols in the source to Score fingering.

Both numeric (0 through 5) and alphabetic fingers (guitar right hand letters) are supported.

When the fingering conversion option is not set, digits and letters are translated as text as controlled by the text conversion rules.

The fingering options require the setting of the Sibelius size for those characters. You need to generate the 'Font usage' report in order to find out. SipSib cannot decide for itself.

When fingering is recognized as such, the user has the possibility to suppress it on output.

Numeric fingering can generate Code16 items, Code 10 items, or set the Code01 Par11. Alphabetic fingering can only generated Code16 items. A size and a horizontal offset can be set in all cases while a font can be defined for all cases but the Code01 Par11 feature.

Specific for fingering is that the characters are aligned to the closest note. Code01 is special in that when there are more than one finger on a chord, or a note already has a mark, copies of the note are generated to hold the additional finger.

Circled numbers which are used to indicate strings are converted as Code10 items with the size of the numeric finger as defined by a project option.

The panel to set fingering options is shown below:

SipSib - additional options

| Fingers | TAB | ... |

Numeric fingers
☑ Process numeric fingers

Allow
- ☑ 0
- ☑ 1
- ☑ 2
- ☑ 3
- ☑ 4
- ☐ 5

Input
Sibelius `64`

Output
- ○ Code16
- ● Code10
- ○ Code1 Par11
- ○ Suppress

Horizontal offset `0.2`

Global options

Font	Size
0	0.75

Alphabetic fingers
☑ Process alphabetic fingers

Allow
- ☑ p
- ☑ i
- ☑ m
- ☑ a
- ☐ x
- ☐ c

Input
Sibelius `64`

Output
- ☐ Suppress
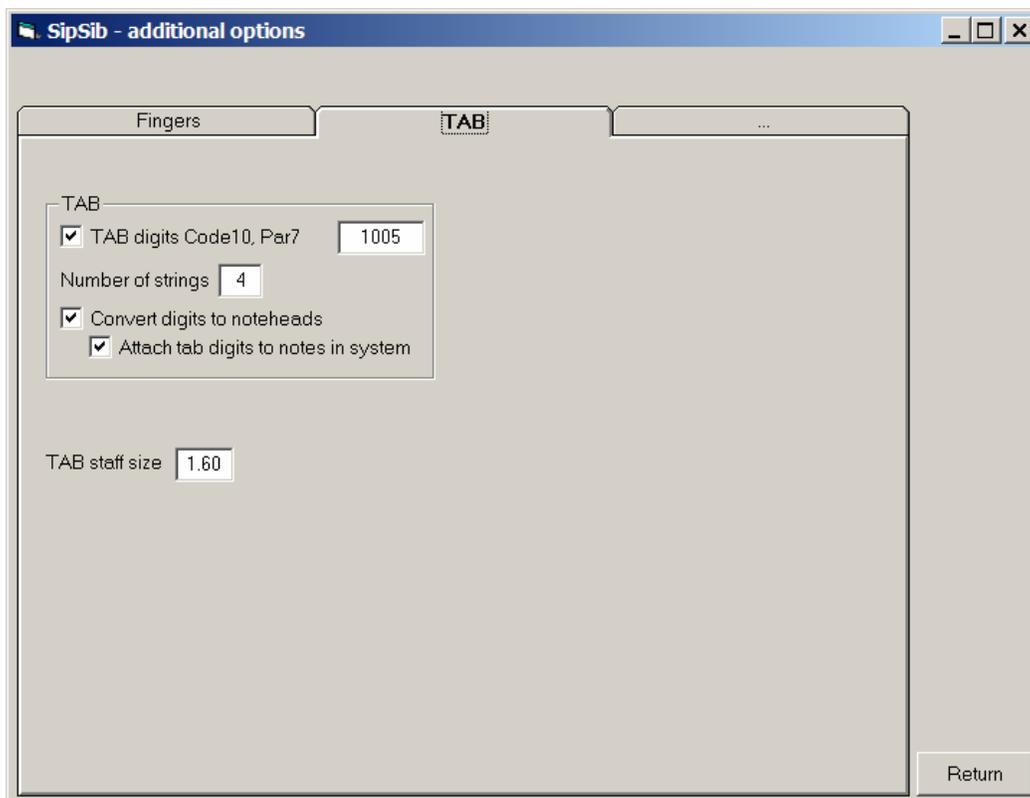
Horizontal offset `0`

Global options

Font	Size
_26	0.75

Return

5.20 Tablature

The options to set TAB conversion are now in a separate panel opened by the Options menu.
The options are self-explanatory.

5.21 Figured bass

When figured bass notation is being used, best results are obtained with the specific Sibelius font which has been foreseen. The user needs to assure a couple of things:
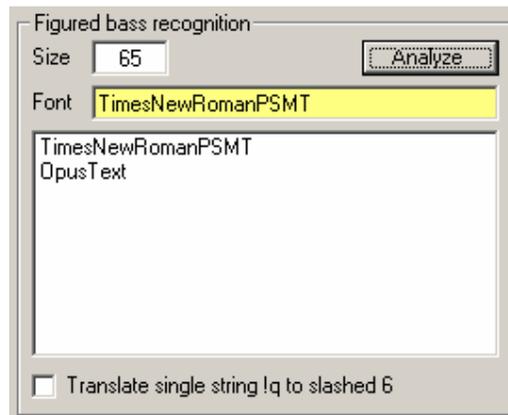- The Sibelius original needs to have a single font/size for figured bass representation, i.e. size 65 and OpusFiguredBass-SibeliusEncoding;
- Communicate to the converter that indeed figured bass is being used.

For some specific figured bass symbols such as the 2 with the incorporated plus sign through the base line, there is no SCORE equivalent. The converter will give a warning on such situation and assume the closest translation.

To tell SipSib how to recognize figured bass, use the tab sheet in >Score>16 text. The partial control panel looks like this:

Figured bass recognition

Size 65   Analyze

Font OpusFiguredBass

☐ Translate single string !q to slashed 6
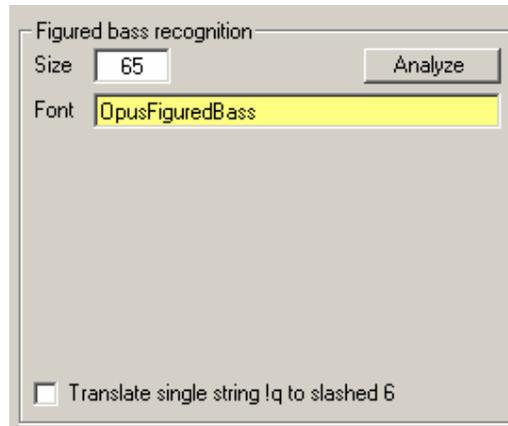
Use the 'Font usage' function to detect which size and font are used for figured bass text items. Then enter the size in the appropriate field. Then push the 'Analyze' button. This will cause a pass through the selected Sibelius EPS file(s) and find all items with this size. When an item matches the size and the text is most likely a figured bass item, then the font is put in a table. The table of potential fonts is then displayed in a list such as:

Figured bass recognition

Size 65   Analyze

Font TimesNewRomanPSMT

TimesNewRomanPSMT
OpusText

☐ Translate single string !q to slashed 6

From this list select the font which you know is being used for the figured bass. After selection, the list disappears and the selected font is put in the Font field. Both size and font are kept in a profile until a next execution of SipSib, since most likely, your shop uses this setting all the time.
Before pushing the 'Analyze' button, be sure that:
  -   one or more files were selected for conversion
  -   the selected file or files have text items for figured bass
  -   the size was defined in Sibelius points

Note that in the above example, the font name as defined by Sibelius has a suffix '-SibeliusEncoding' which is always removed by SipSib.
If you do not want SipSib to act specifically on figured bass, just set the size in the above panel to zero and none of the text items will get this special treatment – the items will be handled as in the older versions.
Remember that best results are obtained when single symbols are used. Sibelius has one symbol for 4# but you could make this with two symbols rather than one. The converter recognizes all single symbols but may have difficulty to qualify the 4 and the sharp as figured bass when expressed in two characters.

When not using OpusFiguredBass, the following may be of interest:
When the Sibelius symbol for a slashed 6 is used, this translates to an inverted question mark (!q in Score). To intercept this character and translate it to a real slashed 6, set the option in the bottom of the panel. This only works for the text item which just has this single character.
When not set, and the symbol is encountered, a warning message is given.

6. Installation guidelines

The program is being developed on and for a Windows 9 XP environment. Installation on Windows2000 and Windows98 works perfectly. At least 64 MB RAM is required. SipSib cannot be called by itself. It is called from the SIP Control Center. This Center has some other functions which come with SipSib at no additional cost. Other functions are disabled when not included in the license. There are a few environmental conditions:

The target system must have Score installed. SipSib can work without the Score program although one added value is that converted files can be immediately inspected if Score is linked to the SIP Control Center.

SipSib cannot work without the font definition files in the LIB directory which have the PSC suffix. Also, the PREFerence file is consulted by SipSib.

When Sibelius is installed on the same system, an immediate link is provided.

When ACCS is installed on the same system, a dynamic link is provided.

How Score and text processors are linked to SIP is explained at first execution of SIP. While the Control Center leaves a choice between NotePad and WordPad, SipSib always uses NotePad.

7. Error reporting

When errors are reported or quality improvements requested, these need to be accompanied by:

The SipSib generated MUS file. The file may not have been updated by Score;

The input Sibelius EPS file – preferably without the TIFF header;

The file SIPSIB.PRO, for errors only.

Optionally, a graphical file (EMF, BMP, JPG, PDF, TIF or GIF) may be added to facilitate the handling of the request.

8. Quality handling policy and distribution

The product comes on an as-is basis. The product is not linked to either Sibelius or Score product policy. New versions of either may be incompatible with SipSib. All reasonable requests for fixing of problems or feature improvements will be considered.

New versions will be announced on www.dekloe.be. Licensed users can download new versions from the website.

Initial delivery is on compact disk. Additional deliveries on compact disk require a small handling fee (i.e. when you need a new installation after changing the Windows Operating System). The upgrade for Sibelius 5 conversion comes as a mail attachment.

9. Copyright and asset protection

Given the relatively narrow market for SipSib and that the user community is rather small, the product is not copyrighted. It is however an immoral act to copy the product for reasons other than for backup. SipSib contains a lightweight asset protection scheme to discourage or obstruct its application by users other than the licensee and to make the life of hackers miserable. Unlicensed use will be reported to the Score forum.

10. Acknowledgment

Pictures of converted Sibelius samples here are published in agreement with the Sibelius makers. I thank Alice, Daniel, Deb, Krzysztof, Marc, Matanya, Timo, Peter and Alfonso for their help providing test material and their support.

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SCORE is a registered trademark of San Andreas Press, P.O. Box 60247, Paolo Alto, California 94306, USA. (http://ace.acadiau.ca/score/SCORPREV/SCORPREV.HTM).

ACCS is a Score utility by Tom Brodhead, USA.

11. Ordering details

Contact the author by email (Jan.de.Kloe@telenet.be) for ordering SipSib.

When you are in the United Kingdom, contact New Notations London, who is the sole distributor for SipSib in the United Kingdom at 93, Wellmeadow Rd., London SE6 1HL, England (http://www.newnotations.com/)

11. Appendices

These are available at the website: www.dekloe.be

Example 1: Bach fuga II (Page 1 of the converted Sibelius sample file)

Example 2: Hymn, Plainsong and Psalm chant (Page 1 of the converted Church music sample file)
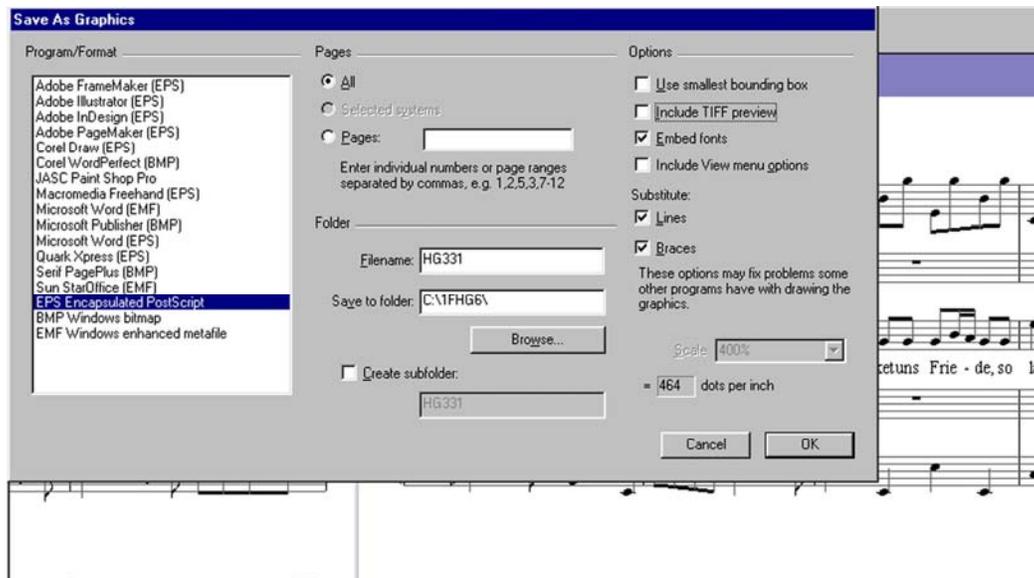
Example 3: Exam paper (Page 1 of the converted Sibelius sample file)

Example 4: Ecco ridente in cielo (Page 1 of the converted Ornaments sample file)

Example 5: Two staves from a string quartet sample (note that only 2 staves were extracted)
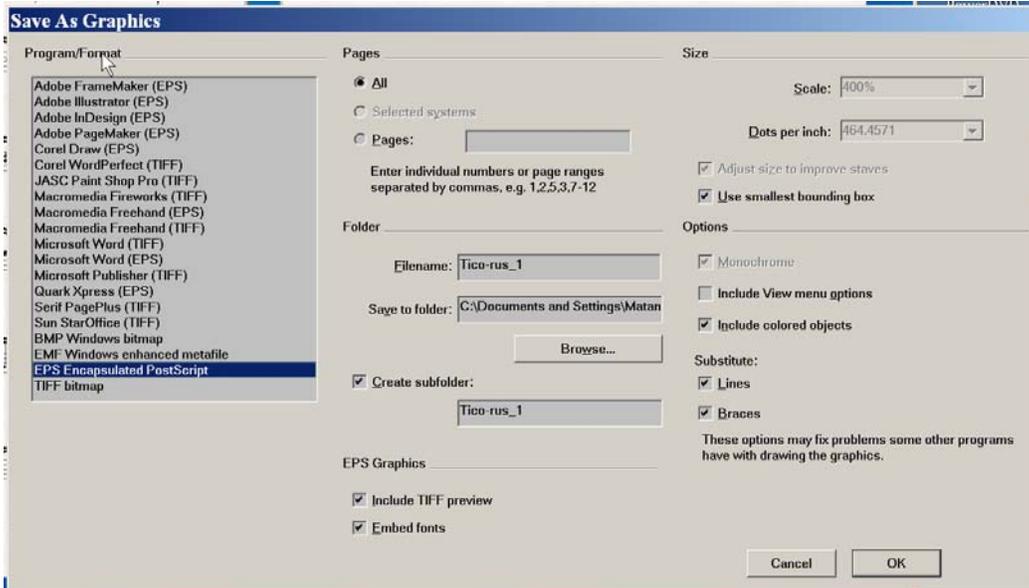
12. Setting up Sibelius 2 to create EPS

The following depicts the panel setup to create EPS which SipSib takes as input.

13. Setting up Sibelius 3 and 4 to create EPS

The following depicts the panel setup to create EPS which SipSib takes as input.

13b. Setting up Sibelius 5 to create EPS

Sample requested.

14. SipSib profile

The options which you have selected are kept between executions of SipSib. When you have conversions of entirely different option setups, you may want to keep more than one profile. The file name where this information is kept is SIPSIB.PRO and it is a plain text file. Copy this file and temporarily rename it for subsequent use.

The filenames which have been selected are kept in a file named NAMESEPS.SIP. The global options of SIP are kept in SIPPROJ.PRO.

15. Update history

Document version	Date	Reason
1.14	May 12, 2005	New version panel examples Added the LIBSJ feature in 2.4.2 Horizontal hairpin alignment in 5.4 Added figured bass text in 5.16 Fingering and TAB option panels included TAB option added (5.20)
1.15	August 26, 2005	Panel for font equivalence table maintenance
1.16	September 30, 2005	Figured bass description revised, added new SIP panel and "notes" tab
2.00	December 2, 2005	Adaptations for Sibelius4, Instrument name table, strategy includes Schott font option
2.01	January 11, 2006	-
2.02	August 20, 2006	New report tab graphic, Sibelius 3 EPS instruction
3.00	December 27, 2006	Major update, inclusion of text classification, ACCS integration and long filenames
3.01	January 2, 2007	Font equivalence table rewrite
3.02	January 5, 2007	Build 105 conformity
4.00	August 10, 2007	Build 114 conformity