abctab2ps User's Guide

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describes abctab2ps version 1.8.19

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Abstract

This document describes the features of the abc language for describing musical information. The language was originally invented by Chris Walshaw. In the meantime, it has been extended by the interaction between many people. Ideally, the abc language would be completely standardized. Actually there are differences between implementations in different programs. The description here is specifically for abctab2ps. In contrast to the abc standard, abctab2ps offers additional support for lute and guitar tablature.

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1 Version and history

The following table shows the changes in this user's guide. For changes in abctab2ps itself, see the file CHANGES.

Version	Date	Author	Changes
0.1	1999.08.20	CD	first creation
0.2	1999.09.05	CD	fermata in music added
0.3	1999.10.22	CD	tablature format parameters, tablature decorations, new meters M:none and M:3
0.4	1999.12.01	CD	slurs in tablature
0.5	2000.03.10	CD	new font loading scheme, encoding for italian fonts
0.7	2000.04.28	CD	new format parameter ”tabledgeabove”, new decorations in tablature
0.8	2000.06.12	CD	tab decorations can apply to individual notes of a chord; new decorations; command line options in input file
0.9	2000.07.29	CD	new format parameter ”tabflagspace”, new clef ”banjo5tab”, new tabrhstyle ”none”, new tabdeco ”L”, ”guitar chords” in tablature added
0.9.5	2000.09.13	CD	new format parameter ”tabfontscale”
1.0.0	2000.10.17	CD	first and second repeat in tab supported, new decoration ”segno”, new clef ”banjo4tab” or ”ukuleletab”
1.0.5	2000.11.17	CD	new clefs ”french4tab”, ”french5tab”, ”italian4tab”, ”italian5tab”, ”spanish4tab”, ”spanish5tab”
1.1.0	2001.01.06	CD	new tabdeco ”V”; right aligned text with *%%right*; new page layout parameters ”barnumbers” and ”barnumberfirst”; scope of layout parameters documented
1.2.0	2001.06.30	CD	guitar chords: up to eight line breaks and accidental signs supported; new tabrhstyle ”grid”
1.3.0	2002.01.01	CD	more clefs supported; better documentation of clef specification; more meter specifications supported
1.3.1	2002.03.19	CD	standard Postscript fonts documented
1.4.0	2002.05.30	CD	multi bar rests; coda sign; empty tab chords
1.4.2	2002.08.15	CD	invisible bars documented
1.5.0	2003.02.20	CD	ASCII codes greater ’o’ allowed in tabfonts; ’y’ as anchor for unplucked courses; !...! decorations; new clef ”italian8tab”
1.5.3	2003.07.20	CD	header field F: added; new format parameter ”squarebrevis”
1.6.0	2003.12.28	CD	more than one gchord per note possible; more decorations; decorations on barlines
1.6.2	2004.03.20	CD	new music deco !breath!, new format parameter ”endingdots”

Version	Date	Author	Changes
1.6.3	2004.08.20	CD	new tab decos !strumup!, !strumdown!; new keyword 'display' in M: filed; new format parameter *meterdisplay*
1.6.4	2005.01.02	CD	new rhythmstyle "modernbeams", format parameter "taballflags"
1.6.5	2005.02.16	CD	ligatura support
1.6.7	2005.11.18	CD	new format parameters "gchordspace", "historicstyle" and "nobeams"
1.6.8	2006.04.18	CD	voice parameter "octave" ignored
1.7.0	2006.07.31	CD	tenuto signs in tablature
1.7.1	2007.04.07	CD	new format parameter "nogracestroke"
1.8.0	2007.04.21	CD	new format parameter "printmetronome"; support for german lute tablature
1.8.1	2007.05.11	CD	explained print position when label on last bar in line
1.8.3	2007.11.17	CD	new music deco !wedge!
1.8.4	2008.02.21	CD	grace notes can have length (long appogiaturas)
1.8.5	2008.08.15	CD	new format parameters "nostems" for stemless notes (e.g. for chant notation) and "tabgermansepline" for suppressing separator line between German tablature systems; new dynamic marks !sf! and !sfz!
1.8.7	2009.03.10	CD	new format parameter "tabgchordspace"
1.8.9	2009.12.27	CD	new clef "treble8up"
1.8.10	2011.03.08	CD	grace notes (appogiaturas) tied to first chord note; new format parameter "stafflinethickness"
1.8.11	2011.26.04	CD	new format parameter "tabfirstflag"
1.8.12	2019.11.05	CD	tabbourdons encoding until "O" (15)
1.8.18	2022.03.17	CD	tabtype "neapoltab" added
1.8.19	2022.03.18	CD	option "tab8underline" added

2 General structure

2.1 Program options

If the very first line of an abc file starts with the two magic characters "%!", abctab2ps parses that line for command line options (see the man page for a detailed list of all possible command line options). This can be useful for options which cannot be specified otherwise in the abc file, eg.

```
%!abctab2ps -noitaliantab -k 5 -tabsize 14 -paper letter
```

On an older Macintosh, this is the only way to pass command line options to abctab2ps because old MacOs' ship without a command line.

Immediately after "%!", the program must follow for which the options are intended. Currently only abctab2ps supports this feature, other programs will interpret this line as comment.

If the same option is specified both on the command line and in the first line of the abc file, the "%!"-line wins because it is interpreted *after* the command line.

2.2 abc input

Each abc input file can contain one or more *tunes*. Each tune starts with an "X:" (reference number) info field and is terminated by a blank line or the end of the file. Thus, no blank lines are permitted within a tune.

Each block describing one single tune is subdivided into a header and the musical data. The header consists of various info fields which specify things like title, composer, key signature and time signature. The header ends when the first musical information is encountered. (Remark: previously, and according to the standard abc specifications, the header ends with the

K: (key) line, used to specify the key. However, most people are not conscious of this, leading to considerable confusion for multi-stave music. Therefore a new convention was used in abc2ps from version 1.3.3.) After the header, the music follows.

A percentage sign (%) starts a comment and causes the remainder of the line to be ignored. Comments may appear everywhere in an abc file.

An example for a valid tune block is as follows:

```
X:1    % here begins a header
T:Sample Tune
M:4/4
L:1/4
K:C
% here begins the music
abcd | ABCD |
abcd | ABCD |
```

3 Information fields

3.1 Overview

Any line beginning with a letter followed by a colon (:) is interpreted as an information field. These fields carry information like title, meter, key, clef etc.

Most of the information fields are used in the header, but some may also occur in the tune body. If you need an information filed inside of a line (e.g. a clef change) you must enclose the field in brackets (e.g. "[K:bass]").

The following table summarizes names and scopes of all information fields.

Field	Meaning	Scope	Example
A:	area	header	A:Hintertupfingen
B:	book	header	B:Manuscript Siena
C:	composer	header	C:P.D.Q. Bach
D:	discography	header	
E:	layout parameter	header, body	(see sec. *Format fine tuning*)
F:	file name	header	F:http://www.abc.org/bla.abc
G:	group	header	G:Passiontide
H:	history	header	H:bla fasel....
K:	key and clef	header (last entry), body	K:D treble
L:	default note length	header, body	L:1/8
M:	meter	header, body	M:3/4
N:	notes	header	N:see also EKG 280
O:	origin	header	O:Jiddish
P:	parts	header, body	P:A
Q:	tempo	header	Q:"Andante"
S:	source	header	S:Zupfgeigenhansel 1908
T:	title	header	T:Yesterday
V:	voice	header, body	V: Vc clef=bass
w:	lyrics	body	w:Ye-ster-day all my troub-les
W:	words	body	W: 2. Yesterday life was such an
X:	reference number	header (first entry)	X:1
Z:	transcription note	header	Z:from photocopy

3.2 Particular fields

T: Tune title. Some tunes have more than one title and so this field can be used more than once per tune - the first time will generate the title whilst subsequent usage will generate the alternatives in small print. The T: field can also be used within a tune to name parts of a tune - in this case it should come before any key or meter changes.

K: Key and clef. See section sec:KeyAndClef for more details.

L: Default note length. Examples are "L:1/4" (quarter note), "L:1/8" (eighth note), "L:1/16" (sixteenth). If not specified, the default note length is calculated automatically from the meter field: the time signature is converted to its decimal value; if the value is 0.75 or higher, the default is L:1/8; if the value is less than 0.75, the default is L:1/16. Beware however that it is generally not a good idea to use implicit defaults.

M: Meter. Apart from the normal meters, e.g. "`M:6/8`" or "`M:4/4`", the symbols "`M:C`"and "`M:C|`" give common time and cut time respectively. The denominator can be ommitted, in which case "4" is assumed for the denominator and only the numerator is printed in the music; this is most often used for triple time "`M:3`".
To avoid the printing of a meter notation you can specify "`M:none`", which implicitly assumes 4/4 for the calculation of the default note length. "`M:none`" is the default meter value.
In case the printed meter specification differs from the mathematical meter (eg. "`C|`" is used for 2/2, 2/1 or any other even time), you can add the parameter *display*, eg. "`M:2/1 display=C|`" which will print "`C|`", but use 2/1 for internal bar numbering. Note that this is incompatible to the abc standard; for a compatible way, use the format parameter sec:FormatFineTuning.

P: Parts. Can be used in the header to state the order in which the tune parts are played, i.e. "P:ABABCDCD", and then inside the tune to mark each part, i.e. "P:A" or "P:B".

Q: Tempo. Prints out tempo denotations. General form is Q: w1 w2 w3 ... where each word is either string in double quotes such as *"Andante"* or *"Bossa Nova"* or a metronome mark such as *C* or *C=120* or *120*. Strings are printed directly, metronome marks are translated to the form note=100. When you only need metronome marks for *abc2midi*, but do not want them printed, use the format parameter sec:FormatFineTuning.

G: Group. To group together tunes for indexing purposes.

H: History. Can be used for multi-line stories/anecdotes, all of which will be ignored until the next field occurs.

V: Voice. See section *Scores* for details on how to specify and address different voices.

4 Music

4.1 Key and Clef

Key and clef are usually specified in the K: field. In sec:MultiStaveMusic the clef is specified in the V: field. For a key change inmidst a music line, use the inline version `[K:]`.

The general form of a K: field is:

```
K:<key and mode> <global accidentals> [clef=]<clef and octave>
```

Every option in the K: field may be omitted, but the order must not be permutated. The meaning of the individual options is:

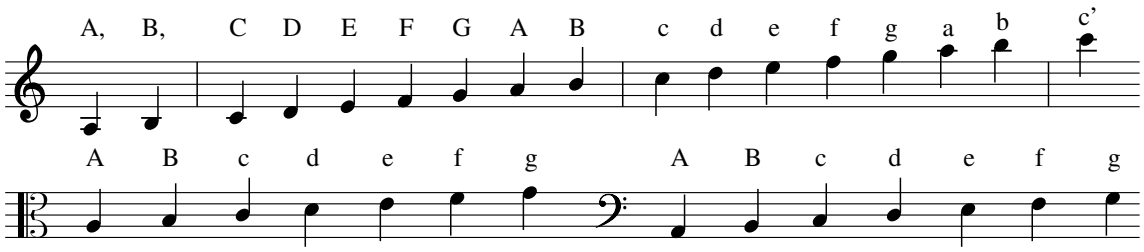
key and mode: The key signature should be specified with a capital letter (major mode) which may be followed by a "#" or "b" for sharp or flat respectively. The mode determines the accidentals and can follow immediately after the key letter or with white spaces separated; possible mode names are *maj(or)* (this is the default), *min(or), m(inor), ion(ian), mix(olydian), dor(ian), phr(ygian), lyd(ian), loc(rian), aeo(lian)*. Mode names are not case sensitive.
When key and mode are omitted *C major* is assumed.

global accidentals: Global accidentals are accidentals that always override key specific accidentals. For example, "K:D =c" would write the key signature as two sharps (key of D) but then mark every c as natural (which is conceptually the same as D mixolydian). Note that the there can be several global accidentals, separated by spaces and each specified with an accidental, __, _, =, ^ or ^^, followed by a letter in lower case. Global accidentals are overridden by accidentals attached to notes within the body of the abc tune and are reset by each change of signature.

clef and octave: The clef specification must be the last word in the key field. Optionally it may start with a ”clef=” prefix. Classical Western music notation has only three clef signs (G, F and C) which can appear on different music lines. abctab2ps supports the following clef names: *treble* (G on line 2; this is the default), *treble8* (like *treble*, but with an ”8” printed below), *treble8up* (like *treble*, but with an ”8” printed above), *frenchviolin* (G on line 1), *bass* (F on line 4), *varbaritone* (F on line 3), *subbass* (F on line 5), *alto* (C on line 3), *tenor* (C on line 4), *baritone* (C on line 5), *soprano* (C on line 1), *mezzosoprano* (C on line 2).
Optionally the clef may contain an appended octave modifier (eg. ”treble-8”), which changes the pitch interpretation (see next section).

4.2 Pitch

Pitches are specified by the letters A-G and a-g, optionally followed by an apostrophe or a comma. Capital letters denote the lower octave on the staff. An apostrophe raises the pitch by one octave, a comma lowers the pitch by one octave. These codes are illustrated below:

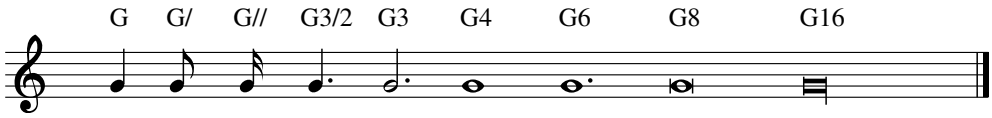


Note how the clef influences the default octave. The default octave can be lowered or raised with the modifier ”-8” or ”+8” after the clef in the K: field, e.g. ”K:D treble-8”. To reset the octave modifier, use ”[K:treble+0]”.

The symbols =,^ and _ are used (before a note) to generate respectively a natural, sharp or flat. Double sharps and flats are available with ^^ and __ respectively.

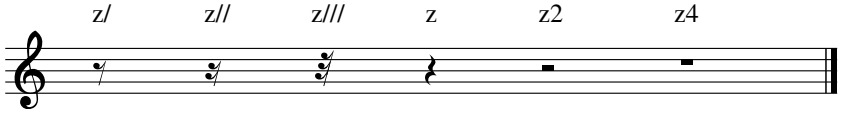
4.3 Rhythm

By default, a letter generates a note with the default length, specified in the L: info field. If a the letter is followed by / or /2, the length is halved. If the letter is followed by an integer, the length is multiplied. Both modifiers can be combined, so that the multiplier 3/2 produces a dot.



For dotted rhythms there is a shorthand notation: ”>” means ‘the previous note is dotted, the next note halved’ and ”<” means ‘the previous note is halved, the next dotted’. Similarly, ”>>” and ”<<” can be used for double dotting.

Rests are generated with a *z* and can be modified in length in exactly the same way as notes can.



Invisible rests are generated with a *x*. These count like regular rests, but they are not printed. This can be useful in multistave music, eg. if one voice has a longer pickup than another voice.

Multi bar rests are generated with a capital *Z* followed by the number of bars. When using bar numbering (command line option “-k” or format parameter *%%barnumbers*), abctab2ps takes care of multi bar rests.

Triplets can be simply coded with the notation ”(3abc”. Similarly, ”(2ab” makes a duplet, ”(4abcd” a quadruplet, etc., up to ”(9”. The musical meanings are:

Notation	Meaning
(2	2 notes in the time of 3
(3	3 notes in the time of 2
(4	4 notes in the time of 3
(5	5 notes in the time of n
(6	6 notes in the time of 2
(7	7 notes in the time of n
(8	8 notes in the time of 3
(9	9 notes in the time of n

If the time signature is compound (3/8, 6/8, 9/8, 3/4, etc.) then *n* is three, otherwise *n* is two.

More general tuplets can be specified using the syntax *(p:q:r* which means 'put *p* notes into the time of *q* for the next *r* notes'. If *q* is not given, it defaults as above. If *r* is not given, it defaults to *p*. For example, "(3:2:2" is equivalent to "(3::2" and "(3:2:3" is equivalent to "(3:2", "(3" or even "(3::". This can be useful to include notes of different lengths within a tuplet, for example "(3:2:2G4c2" or "(3:2:4G2A2Bc" and also describes more precisely how the simple syntax works in cases like "(3D2E2F2" or even "(3D3EF2". The number written over the tuplet is *p*.

The notation of nonmetric music like plainchant requires *stemless notes*. These can be enforced with the format parameter *%%nostems*. Note that notes still have lengths, so that it is in principle possible to notate nonmetric music with more than one part (like medieval organa). To adjust the notes vertically, use invisible rests (*x*). Invisible rests can also be used for separating note groups in monophonic stemless notation.

4.4 Bars and repeats

Bar lines are specified with a "`|`". abctab2ps does no plausibility check whether a bar is over or underfull, so you can put bar lines where you please. The following symbols are supported:

Notation	Meaning
`|`	bar line
`|]`	thin-thick double bar line
`||`	thin-thin double bar line
`[|`	thick-thin double bar line
`:|`	left repeat
`|:`	right repeat
`::`	left-right repeat
`[|]`	invisible bar line

Invisible bars lines are workarounds if you need labels on the first bar or put a line break in the middle of a bar.

First and second repeats can be generated with the symbols "`[1`" and "`[2`", e.g.

```
faf gfe|[1 dfe dBA:|[2 d2e dcB|]
```

When adjacent to bar lines, these can be shortened to "`|1`" and "`:|2`", but with regard to spaces, i.e. "`| [1`" is legal, "`| 1`" is not. If you want a dot after the number in first and second repeats, use the format parameter *%%endingdots*.

4.5 Beams, ties and slurs, ligaturae

To group notes together under one beam they should be grouped together without spaces. Thus in 2/4, "A2BC" will produce an eighth note followed by two sixteenth notes under one beam whilst "A2 B C" will produce the same notes separated. It is possible to put rests (z) under a beam, e.g "aza". The beam slopes and the choice of upper or lower staffs are generated automatically.

You can tie two notes together either across or within a bar with a "-" symbol, e.g. "`abc-|cba`" or "`abc-cba`". More general slurs can be put in with "()" symbols. Thus "(DEFG)" puts a slur over the four notes. Spaces within a slur are ok, e.g. "(D E F G)", but the open bracket should come immediately before a note (and its accents/accidentals, etc.) and the close bracket should come immediately after a note (and its octave marker or length). Thus "(=b c'2)" is correct but (=b c'2) is not.

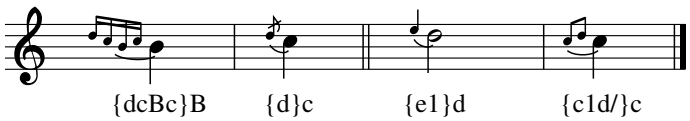
To abctab2ps, slurs outside chords and slurs within chords are different kinds of animals. A slur outside of chord brackets always applies to the top notes of the enclosed chords and it may span several notes. A slur within chord brackets however

must be closed in the immediately following chord. E.g. in order to tie the top note of a chord to the next single note, you may write ”([afd] b)” or ”[(afd] [b)]”, but not ”[(afd] b)” (in the last version, the slur is opened inside chord but closed outside which is not allowed).

In transcriptions of mensural notation into common music notation *ligaturae* are often indicated by square brackets. This is possible with the pseudocomment *%%slurisligatura*, which prints ligatura brackets instead of slurs. Note that this only applies to slurs outside chords and not to ties.

4.6 Graces and decorations

Grace notes can be written by enclosing them in curly braces ({ }):



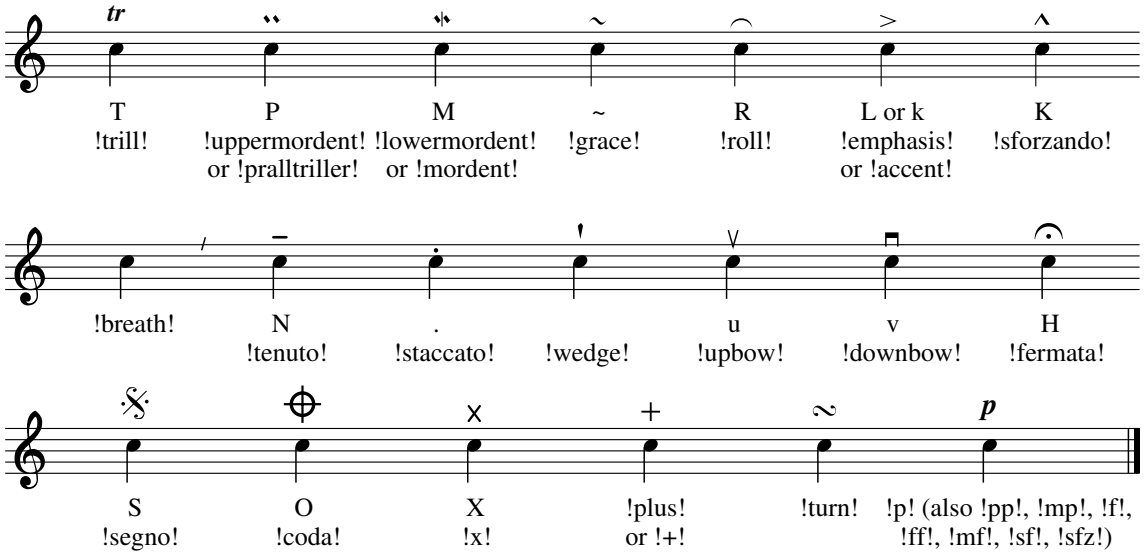
The first two examples show the meaning of grace notes according to the abc standard, which specifies that grace notes have no explicit time values and the following meaning:

- A single grace note is an accacciatura (see the second example above). In *abctab2ps*, the stroke through the flag can optionally be suppressed with the format parameter *%%nogracestroke*.
- Multiple grace notes are drawn as beamed sixteenth notes.

This does not allow for the notation of long appoggiaturas. To overcome this limitation, *abctab2ps* allows for a length specifier in the grace notes (see the third example above). The length applies to all grace notes within the same pair of braces; when more than one length is specified, the last length holds (see the last example above).

When the following note is a chord, appogiaturas and accacciaturas are tied to the first note given in the chord.

Other decorations are indicated either by a magic character (e.g. ”T” for a trill) or by their name in exclamation marks (e.g. ”!trill!”). The decoration signs must appear immediately before a note, e.g. ”TG” or ”!trill!G” for a trill above middle G. If notes are grouped in chords, the decoration sign must appear outside and immediately before the chord. abctab2ps currently supports the following decorations:



4.7 Chords

Chords (i.e. more than one note head on a single stem) can be coded with brackets ([]) around the notes, e.g. ”[CEGc]” produces the chord C major. They can be grouped in beams, e.g. ”[d2f2][ce][df]” but there should be no spaces within a chord. A chord with two identical notes makes a unison (one head with stems going both up and down), eg: ”[AA]”.

Important notice: The old style chord notation with plus signs, eg. ”+ac+”, which was an undocumented non standard abc feature of *abc2ps* is no longer supported in abctab2ps.

The abc notation formally permits notes with different durations on the same stem: ”[a/bc2]” and so on. However, abctab2ps assigns all notes in a chord the duration of the first note in the bracket. If you are looking for *polyphonie*, see the remark on sec:PolyphonicMusic.

Slurs and ties within chords are possible:

`[(a(b] [c)d)]`	slurs a to c, b to d
`[a-b] [ac]`	ties a to a

5 Text

In the tune body, there may be three different types of text:

- text above the staff (bar labels, guitar chords, bass figures...)
- text below the staff (lyrics)
- free text between staffs (stanzas, remarks...)

Any text may contain characters with dieresis (umlauts) or accents in IsoLatin1 decoding. If you are using a different character set you can emulate these characters with Tex-style escape sequences:

`\'e`	acute accent: é
`\`e`	grave accent: è
`\^e`	circumflex accent: ê
`\"e`	dieresis: ë
`\ss`	sz (obsolete): ß
`\o \O`	o slash: ø Ø
`\aa \AA`	a ring: å Å
`\ae \AE`	ae ligatura: æ Æ
`\cc \cC`	c cedilla: ç Ç
`\~n \~N`	n twiddle: ñ Ñ

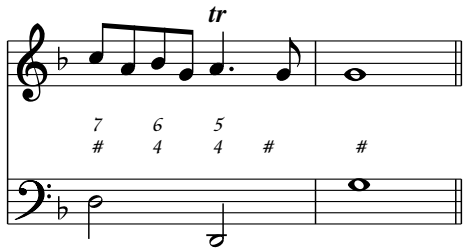
5.1 Text above notes and bars

Guitar chords can be placed over a note or rest by setting the chord in double quotes (`"`) immediately before the note, eg. ”"Am"ab c2”. Guitar chords are centred above the note unless they are especially wide.

Figured bass notation can also be achieved with the guitar chord notation. In order to stack figures, you can use the escape sequence `\n` for line breaks, eg. ”"6\n4"”. Currently up to eight line breaks are supported, which should be sufficient for all practical purposes. Please note, that abctab2ps does not automatically add vertical space for guitar chords with an insane number of line breaks; if the figures interfere with the preceding stave, you can add extra space with the voice parameter *space*.

It is possible to have more than one guitar chord over one note. In that case the guitar chords are equally spaced over the width of the note. This is useful for harmony changes over a long note, as in the following example:

```
V:1 clef=treble
c/A/B/G/ TA>G | G4 ||
V:2 clef=bass
"7\n#""6\n4"d2 "5\n4""#"D2 | "#"g4 ||
```



Accidentals in guitar chords can be achieved with the backslash sequences ”\#” (sharp), ”\b” (flat) and ”\=” (natural). Beware that the natural sign is ambiguous in figured bass notation and is avoided in most historic sources. It is better to always use *flat* for a minor interval and *sharp* for a major interval; this makes sure that the figures remain valid in case of transposition.

If you do not like the default gchordfont *Helvetica*, you can set it with *%%gchordfont*. A nice font for continuo figures is *ZapfChancery-MediumItalic*.

Bar labels like large letters A, B, C... usually mark specific points in the music. They are coded in a syntax similar to guitar chords, but placed before a bar line instead of a note or rest. For instance "`| abcd "A"| ABCD |`" places the letter A over the second bar line. Just in case somebody wants a label on the first bar (which is often not preceded by a bar line), the symbol `[|]` means an invisible bar line. When a label is on the last bar in a line, it is moved to the beginning of the next line.

Although bar numbers can also be written manually over bar lines, it is more convenient to use abctab2ps' command line option -k or the pseudocomment *%%barnumbers* for automatic bar numbering.

Decoration signs are also allowed on bar lines. Although this does not make much sense for decorations like *!trill!* or *!mordent!* it is useful for *!segno!* and *!coda!*.

5.2 Lyrics

Aligned lyrics under the staff are specified using a line directly below the staff, starting with "w:". For example:

```
edc2 edc2 |
w: Three blind mice, three blind mice
```

Each blank-delimited word in the w: line is associated with one note, in sequence. The following special symbols are available to modify this behaviour:

- `*` skips one note (melisma)
- `-` split a word into two syllables, associated with two notes, with '-' drawn between them
- `|` tabs forward to the next bar line.
- `~` is drawn as a space, but contracts words to be written under one note. That is, "`hey~ho`" gives two words under one note.
- `_` draws a thin underscore from the previous note to this one.

For more than one line of lyrics, just use several w: lines. To draw a '-' without breaking the word there, escape it as "`\-`".

Note that "`\\`" in the abc music line defines a staff break. This is useful when typesetting vocals, because it is tedious to split the line explicitly when shifting a staff break about when there are lines with vocals.

If a word starts with a digit, this is interpreted as numbering of a stanza and is pushed forward a bit. In other words, use something like "`w: 1.~~Three blind mice`" to put a number before "Three".

5.3 Free text

Free text between the music can be inserted either with W: lines (capital "W" versus lower "w" for lyrics) or with *pseudo comments* (a line starting with %%) in two different ways.
First:

```
%%text This text line is left aligned.
%%center This text line is centered.
%%right This text line is right aligned.
```

writes one line into the output. The alignment is given by the pseudo comment.
Second:

```
%%begintext
%%First line of text
%%Second line
%%And yet another line.
%%endtext
```

will write a block of several lines. To avoid conflict with other programs, the text lines themselves are (optionally) prefaced with %%.

The statement "%%begintext" may have a parameter to determine how the output is done, namely:

%%begintext obeylines	keeps lines as they are (default)
%%begintext ragged	puts in own line breaks to fill the line
%%begintext align	puts in own breaks and aligns right margin
%%begintext skip	skips the whole block, no output

For ”ragged” and ”align”, the program has to estimate the number of lines needed in the current font, since the typesetting is done using the Postscript ”widthshow” operator by the printer. The estimate should be reasonably reliable for Times-Roman, but might be more dodgy for some other fonts. Also, note that the Ghostview fonts can be quite different than the fonts used by the printer. Strangely, a 13pt font can be smaller than a 12pt font.

An empty line in a block ends a paragraph (see parskipfac below). In any case, \\ can be used in a line of text to add line breaks. Thus, two centred lines result from this:

```
%%center First line\\second line
```

As with the other pseudo comments (see section *Format fine tuning*), the text is associated with a specific tune if it is within that tune's block. In that case, it will only be printed if that tune is selected. If the text is outside all tune blocks, it will always be printed. The exception is if the command line flag -E is used to to make a separate EPS file for each tune. In this case all text outside the blocks is ignored.

To learn how the font for text output is changed, see the section *Format fine tuning*.

6 Scores

6.1 Multi stave music

abctab2ps supports multi stave music (scores). There are two different ways for the notation of scores. You can either define the different voices in V: lines at the end of the header just before the first music line and use inline V: references ”[V:...]” to associate music lines with specific voices, as in the following example:

```
X:1
T:Sonata II
C:B. Marcello, 1712
M:C
L:1/8
K:DDorian
%
V:F clef=treble    name=Flauto space=+5pt
V:B clef=bass      name=Basso
%
Q:"Adagio"
[V:F] ad fe/d/ eA z A | dd d/e/f/g/ aA z a |
[V:B] d2 d'2 ^c'2 =c'2 | =b2 _b2 aa/g/ fd |
```

Alternatively, you can write all music of a specific voice immediately after its voice definition. In this notation the above example reads:

```
X:1
T:Sonata II
C:B. Marcello, 1712
M:C
L:1/8
K:DDorian
%
Q:"Adagio"
V:F clef=treble    name=Flauto space=+5pt
ad fe/d/ eA z A | dd d/e/f/g/ aA z a |
%
V:B clef=bass      name=Basso
d2 d'2 ^c'2 =c'2 | =b2 _b2 aa/g/ fd |
```

The syntax of a voice definition is

```
V: <label> <par1>=<value1> <par2>=<value2>  ...
```

where <*label*> is used to switch to the voice in later V: lines. Each <*par*> = <*value*> pair sets one parameter for the current voice. <*par*> can be any of the following parameters or abbreviations:

Parameter	Abbrev.	Example	Description
name	nm	`nm="Violin I"`	This sets the long version of the voice name, to be written before the staves at the start of a piece. If the string contains \\, this is interpreted as a line break and the pieces are writen above each other.
sname	snm	`snm="Vl. I"`	Short version of the name, written before subsequent staves.
clef	cl	`clef=bass`	Chooses the clef (treble, alto, or bass). It can also be bass+8 and so on.
staves	stv	`stv=2`	This is the number of staves (starting from the current one) to connect by tall vertical bar lines.
brace	brc	`brace=2`	This is the number of staves (starting from the current one) to be grouped together with a brace. When this option is used, the name defined in the same V: line is written at the centre of the brace.
bracket	brk	`brk=4`	The number of staves to be grouped together by a bracket. This option does not change the way in which the names are written.
space	spc	`spc=40`	This defines or modifies the vertical space between this staff and the one below it. The space can be given in pt (default) or with a unit in the form 1cm or 0.4in. Furthermore: if a + or - sign comes after the start of the number, the value is an increment to be added to or subtracted from the default setting.
gchords	gch	`gch=0`	This controls whether any guitar chords embedded in the current voice are actually written. True/false are specified as for the %% formats.
stems	stm	`stems=up`	This is parsed but not yet used in the program.
octave		`octave=-2`	Silently ignored by abctab2ps for compatibility with abc2midi.

The various settings (key, default length, etc) are maintained for each voice separately. Guitar chords, first and second endings, and line breaks are taken from the top voice only. Vocals can be set under each voice separately.

6.2 Polyphonic music

More than one voice on a single stave (polyphonie) is currently not supported by abctab2ps. However, there is Jean F. Moine's version of abc2ps named *abcm2ps* which handles up to two voices per stave. This does not sound too exciting, but if you consider that each voice can consist of chords, you will realize that almost all kind of music can be written in two voices.

In abcm2ps, a pseudo comment of the form

```
%%staves <definition>
```

determines on which staves the voices go. <*definition*> must contain all the voice names with any pair of "[]", "{}" and "()":

- when not enclosed by special characters, the voices go on separate staves.
- when enclosed by brackets "[]", a bracket is displayed at the beginning of each line.
- when enclosed by braces "{}", the voices go on a single couple of staves (keyboard score). There cannot be more than 4 voices between the braces.

- when enclosed by parenthesis "()", the voices go on the same staff (no more than two voices).

When this pseudo comment appears inside a tune, the postscript generation is restarted as if there was a new tune.

Since abcm2ps is based on an older version of abc2ps, it only accepts the voice parameters *clef*, *name* or *nm*, *snm*. The other definitions are ignored.

7 Tablature

Lines of lute or guitar tablature are distinguished from music lines by the particular clefs *frenchtab, french4tab, french5tab, italiantab, italian7tab, italian8tab, italian4tab, italian5tab, spanishtab, guitartab, spanish4tab, spanish5tab, banjo4tab, ukuleletab, germantab, neapoltab* or *banjo5tab*. Like usual clefs, they can be specified in the K: field or in the clef parameter of a voice definition. The different clefs specify the following types of tablature:

frenchtab In french tablature, the top line stands for the highest course. The frets at which the courses are stopped are given by *letters*: *a* stands for an empty string, *b* for the first fret etc. The letters are printed *between* the lines.

french4tab, french5tab Like *frenchtab*, but with four resp. five tablature lines; one more course than tab lines is supported.

spanishtab, guitartab In spanish tablature, the top line stands for the highest course. The frets at which the courses are stopped are given by *numbers*: *0* stands for an empty string, *1* for the first fret etc. The numbers are printed *on* the lines. This tablature was used by spanish vihuelists; nowadays it is quite common as *guitar tablature*. Spanish tablature does not support more than six courses.

spanish5tab, banjo5tab Similar to *spanishtab*, but five tablature lines; not more than five courses.

spanish4tab, banjo4tab, ukuleletab Similar to *spanishtab*, but four tablature lines; not more than four courses.

neapoltab Similar to *spanishtab*, but fret numbers start with 1 instead of 0.

italiantab, italian7tab In italian tablature, the top line stands for the lowest course, which makes this tablature more difficult to learn in the beginning. The frets at which the courses are stopped are given by *numbers*: *0* stands for an empty string, *1* for the first fret etc. The numbers are printed *on* the lines. If you want to notate bourdon strings in italian tablature, you must specify *italian7tab* rather than *italiantab*.

italian8tab Additionally to *italian7tab*, stopped courses on the eighth course are possible. This results in more space between tabstaff and flags, which might be compensated with a negative value for sec:TabFormatParameters.

italian4tab, italian5tab Like *italiantab*, but with four resp. five tablature lines; not more than four resp five courses.

germantab German lute tablature without staff lines and unique letters for each fret/course combination. Historically, German tablature only supports six courses; higher courses are drawn by abctab2ps like in *frenchtab*.

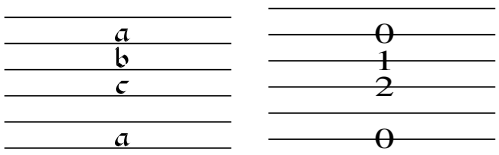
7.1 Course and fret

As for music, simultanously plucked strings are written within chord brackets "[]". Each position in the bracket marks a specific course: the first character refers to the first course, the second character to the second course etc. If the specific course is unplucked, write a comma ","; is it unstopped write *a*; is it stopped in the first fret write *b* etc. If all subsequent courses are unplucked, you can end the chord.

If a tablature chord consists of only one plucked string the chord brackets can be omitted. If a chord only contains commas (eg. ",1" or "[,2]"), only the rhythm flag is printed.

The following example shows the notation of a tablature chord and its output in frenchtab and spanishtab (guitartab):

```
[,abc,a]
```



Remarks:

1. This ”french tablature notation” with letters for the frets is the same for *all* tablature styles. Depending on the chosen tabstyle in the clef specification, the output will differ. Numbers for the frets in the input format cannot be used for two reasons:
   - numbers are already used in the abc language for rhythm
   - frets higher than ten would not be accessible because the numbers were two characters wide
2. In french tablature, the letter ”j” is not used. Consequently, the letter ”k” means the 9th fret etc.

Bourdon strings or *”diapasons”* are written in braces ”{}”. You can use both the ledger line notation for courses 7 to 10 and the number notation; eg. ”{,,,a}” and ”{10}” both mean the tenth course, where the first notation results in an ”a” with three ledger lines and the second results in an ”X”.

Please note that braces indicate grace notes in music lines. Since grace notes are not supported in tablature, braces are abused in tablature notation.

In german lute tablature, the symbols used for the sixth course (“Brummer”) vary from print to print: some use `A B C D ...`, some `1 A B C ...` and others `1 2 3 4 ...`, where the numbers are crossed through. You can choose the style with teh format parameter *%%tabbrummer* which can be one of *ABC*, *1AB* or *123*.

7.2 Rhythm

As for music, the length of a note is specified by a factor with respect to the default length (L: field). In contrast to music chords which require the length factor after the *first* note in a chord, tablature chords require the length factor after the *last* note of a chord.

An other important difference concerns the interpretation of chords without any note length factor. In music, these chords inherit their length from the default length specified in the L: field. In tablature, these chords inherit their length from the length of the previous chord and the rhythm flag is omitted in the printed output (unless you explicitly ask for a flag on every note with *%%taballflags*). This means that you must specify the length factor ”1” if you want a flag above a chord of the default length.

The shortcuts ”>” and ”<” for dotting work like in music lines.

The code for triplets and general *n*-plets is the sec:MusicRhythm, eg. ”(3[a,bc1]cd”.

There is no consistent way for the notation of rests in tablature: most historic sources draw a flag with no fret letters, while modern editions often use modern rest signs. Which rests abctab2ps draws depends on the sec:TabFormatParameters: in “modern” and “modernbeams” style, abctab2ps draws modern style rests; in all other style old style rests are drawn. If you need an flag without letter in tabrhstyle modern, you can use empty chords, eg. “,1” or “[,2]”.

Like tablature chords, rests inherit their length from the previous chord or rest and they are only drawn if they explicitly have a rhythm factor. Moreover, invisible rests are indicated by *x*.

7.3 Decorations

In music, the abc language only knows graces that affect an *entire chord*. While this is ok for most decorations, there are some tablature grace signs (eg. appoggiatura) that apply to a *single note of a chord*. Thus there are two ways to specify a tablature decoration:

- If the magic character (eg. ’H’ for fermata) stands *outside* and *immediately before* a chord, the decoration applies to the entire chord. If that decoration usually is associated to a single note (eg. appoggiatura or vibrato), it applies to the *top note* of the chord.
- If the magic character (eg. ’#’ for vibrato) stands *inside* chord brackets, it applies to the note immediately following that magic character. Beware however, that some decorations like fermata cannot be applied to single notes; these decorations are ignored when they appear within chord brackets.

The following table lists all graces supported in tablature and whether they may appear within chord brackets (”applies to chord/note”):

Input char	Meaning	Applies to
`H` (upper H)	fermata (also `!fermata!`)	chord

Input char	Meaning	Applies to
`S` (upper S)	segno sign (also `!segno!`)	chord
`O` (upper O)	coda sign (also `!coda!`)	chord
`!p! !pp! !mp!`	dynamic marks (also `!f! !ff! !mf! !sf! !sfz!`)	chord
`.` (dot)	right hand fingering: index finger. Is drawn as a single dot under lowest plucked course.	chord
`:` (colon)	right hand fingering: middle finger. Is drawn as a double dot under lowest plucked course.	chord
`;` (semicolon)	right hand fingering: ring finger. Is drawn as a triple dot under lowest plucked course.	chord
`+` (plus)	right hand fingering: thumb. Representation depends on tablature type: in spanishtab/guitartab it is drawn as a plus, in frenchtab or italiantab it is drawn as a vertical stroke.	chord
`'` (quote)	an accent after the note. In historic sources often used for an appoggiatura or trill from above.	note
`X` (upper X)	an 'x' after the note. In historic sources often used for a trill or vibrato.	note
`U` (upper U)	an U-shaped arc after the note. In historic sources often used for an appoggiatura or trill from below.	note
`V` (upper V)	an U-shaped arc below the note. The only difference to "U" is that the arc is drawn below the tabletter rather than behind.	note
`#` (sharp)	an '#' after the note. In historic sources used for a trill or vibrato.	note
`*` (asterisque)	an '*' after the note. In historic sources used for a vibrato or bass note damping.	note
`T` (upper T)	prints 'tr.' below the chord in italiantab. (also `!trill!`) In frenchtab, it is drawn as an accent on the top note of the chord, because the 'tr.' symbol would interfere with bourdons.	chord
`L` (upper L)	An oblique line under the note; when applied to a chord, it is drawn under the *bottom* note of the chord. In banjo tablature used to indicate longer notes; in baroque french tablature used to indicate an arpeggio.	note
`!strumup!`	An arrow indicating a chord strummed bottom up	chord
`!strumdown!`	An arrow indicating a chord strummed top down	chord

7.4 Text below notes

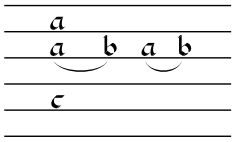
The "guitar chord" notation of text enclosed in double quotes (`"`) can be used in tablature too. In tablature however, the text is printed *below* the tablature system rather than *above*, because otherwise it would interfere with the rhythm flags.

"Guitar chords" in tablature typically are not used for actual guitar chord symbols, but for other stuff eg. left/right hand fingering. Like in music, "guitar chords" can contain line breaks, indicated by `\n`.

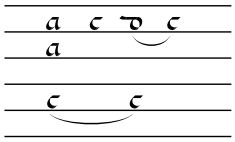
7.5 Beams, ties and slurs

Like in music, ties to the next note can be notatetd with a dash "-" and more general slurs with parenthesis "()". There is a significant difference however: in music, slur bows are also used to indicate phrasing and more than one slur can start at a single note. In tablature, slur bows always mean "slur" and not more than one slur may start on a single note, nor may slurs be stacked. Like in music however, slurs inside and outside of chords are different kinds of animals.

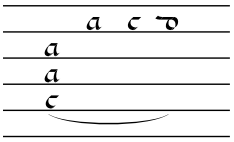
Here are some examples for tablature slurs: Please note, that the first tie in the second example is not possible in music because the opening parenthesis in the chord is not immediately closed in the next note.



```
[,a(a,c] [,,b)] (,,a ,,b)
```



```
[,aa,(c] ,c ([,d,,c)] ,c)
```



```
[,,aa(c] ,a ,c [,d,,y)]
```

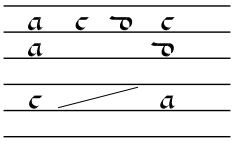
Remarks:

- The first tie in the second example is not possible in music because the opening parenthesis in the chord is not immediately closed in the next note.
- In the third example the slur ends on an unplucked course. This is achieved by using the letter 'y' (which is not implemented in the tablature font) as an anchor for the slur.

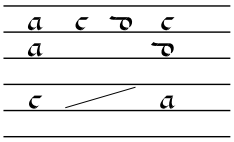
Beams in the tablature rhythm flags are only drawn when the rhythm style is set to *%%tabrhstyle grid* or *modernbeams* (see sec:TabFormatParameters). When this rhythm style is set, the rhythm flags of notes which are grouped together without white space are connected with beams. This results in grid shaped rhythm flags as used in some english 16c manuscript sources.

7.6 Tenuto strokes

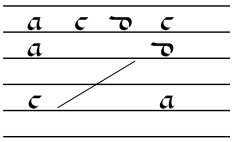
Tenuto strokes indicating held notes are drawn with `!ten(!` for the start of a tenuto and `!ten)!` for the end of a tenuto. These marks are only allowed *inside chord brackets*. To let them start or end on an unplucked course, use the invisible fret symbol *y*. Here are some examples which also show the use of the invisible fret symbol:



```
[,aa,!ten(!c] ,c \
  ,d [,cd,!ten)!a]
```



```
,aa,c] [,c,,!ten(!y] \
  [,d,,!ten)!y] [,cd,a]
```



```
[,aa,!ten(!c] ,c \
  [,d,!ten)!y] [,cd,a]
```

7.7 Format parameters

Like various aspects of the page layout, some parameters of the tablature format can be specified via pseudocomments or a format paramter file. The parameters apply to the entire abc file; if the same parameter is specified more than once, the last value overwrites the previous specifications.

In addition to the sec:LayoutParams, tablature format parameters can be of the type *keyword* which means a value from a list of special keywords.

The following parameters are supported:

Parameter	abctab2ps option	Type	Description
tabfontsize	-tabsize	integer	distance (in pt) between tablature lines and (if tabfontscale=1.0) size of tablature font
tabfontscale		decimal	scale factor for tablature font. If greater than one, tablature letters/numbers are larger than the tablature line distance. Can be useful for fonts, which are too large or to small (eg. frFrancisque) for your taste.
tabfontfrench		keyword	font file from which the font for french tablature is loaded. (see sec:TablatureFonts)

Parameter	abctab2ps option	Type	Description
tabfontitalian		keyword	font file from which the font for italian tablature is loaded. (see sec:TablatureFonts)
tabfontgerman		keyword	font file from which the font for german tablature is loaded. (see sec:TablatureFonts)
tabaddflags		integer	how many flags shall be added to tab rhythm signs. Eg. a value of 2 means that a quarter note (no flag) in music is printed as sixteenth (two flags) in tablature. Negative values are possible but probably not very useful.
tabflagspace		dimension	additional space between rhythm flags and tablature system. Only necessary when the chosen tablature font exceeds its bounding box.
tabgchordspace		dimension	space between gchord text and tablature system.
tabrhstyle		keyword	style of the rhythm signs. Possible values are *simple* (headless 16c french style), *grid* (same as simple, but with support for beams), *modern* (17c french style with heads), *modernbeams* (same as modern, but with support for beams), *diamond* (italian 16c style with diamond shaped heads) or *none* (no rhythm flags at all).
taballflags		logical	when true, rhythm flags are printed above all notes, even on those without a length factor
tabfirstflag		logical	when true, rhythm flags are only printed when the rhythm changes or after a bar line
tabledgeabove		logical	when true, ledger lines for french bourdons are printed above the note rather than before.
tab8underline		logical	when true, the 8th course is marked with an underline in frenchtab and all following courses are drawn with one slash less.
tabbrummer		keyword	style for the sixth course (“Brummer”) in german tablature. Possible values are *ABC*, *1AB* or *123*.
tabgermansepline		logical	when false, separator lines between german tablature systems are suppressed.

Remarks:

1. The font parameters *tabfont** are *global* settings which cannot be changed between different tunes (X:) within a single abc file.
2. The choice of *tabrhstyle* affects the implicit default value of *tabaddflags*: for ”simple” tabrhstyle the latter is 2, otherwise it defaults to 0. To override these defaults, simply set *tabaddflags* explicitly.
3. In case of *tabrhstyle none* you might want to set a negative value for *tabflagspace*.

7.8 Tablature Fonts

abctab2ps reads the font files for tablature letters or numbers from the directory specified by the environment variable *ABCTABFONTS*. Font file names consist of the name of the composer who used this font and the prefix *fr* (like ”french”) for letter fonts, *it* (like ”italian”) for number fonts or *de* (like ”deutsch”) for german tablature fonts. Font file names are case sensitive and only the third character is uppercase. Valid font names are eg.

```
frFrancisque
itBorrono
deFraktur
```

In the abc file you can specify the desired font files with the pseudocomments *%%tabfontfrench*, *%%tabfontitalian* and *%%tabfontgerman*, where the prefix in the font file name optionally may be omitted. Note that different fonts look best at

different sizes: eg. *frFrancisque* should be at least 14pt, while *itBorrono* looks better at 13pt. Thus, when experimenting with different fonts you should experiment with different values for *%%tabfontsize* and *%%tabfontscale* too.

If you you have some minimal postscript knowledge, you can easily define your own tablature font: start with a given font file and replace the drawing routines for the individual letters or numbers with your own postscript routines. A font file with the prefix *fr* must define the postscript font *FrenchTabfont*, which is used in the drawing routines for french tablature. A font file with the prefix *it* must define the postscript font *ItalianTabfont*, which is used in the drawing routines for italian and spanish tablature.

The drawing routines in the default fonts are defined in a 20x20 system, you can change this with a different */FontBBox* statement. For each character symbol, you should leave some top space in order to prevent the letters from touching each other. Additional bottom space for French fonts is not necessary because abctab2ps puts one point space between tablature lines and the symbols.

In order to make abctab2ps interpret your self defined font correctly, you must adhere to the following encoding scheme for frenchtab and italiantab (spanishtab):

Character Codes	**Symbols**
97-119 (ASCII 'a'-'w')	FrenchTabFont: letters for french tablature. ItalianTabFont: numbers for italian tablature. Please note that 106 ('j') is not used; thus the eigth fret is code 105 ('i') and the nineth fret is 107 ('k'). There is no need to implement all codes; 97-111 ('a'-'o') should suffice for almost all purposes.
121 (ASCII 'y')	should not be used, because it is reserved as an invisible anchor for slurs or decorations on unplucked courses.
68-71 (ASCII 'D'-'G')	Numbers '4'-'7' for the french habit of numbering bourdons
72-78 (ASCII 'H'-'O')	Numbers '8'-'15' for the italian habit of numbering bourdons

If you need special tablature symbols like signs for tenuto signs or damping, you can use the high code lower case letters 'p'-'w' (112-119) for this purpose.

For germantab, you must adhere to the following encoding scheme:

Character Codes	**Symbols**
32-97	symbols for courses 1-5, starting with course 5, fret 0 (c5f0, the symbol '1' in germantab) and then c4f0, c3f0, c2f0, c1f0, c5f1, c4f1 etc. There is no need to implement all codes; 32-87 (up to fret 12) should suffice for most purposes.
128-143	symbols for course 6 ("Brummer") for *%%tabbrummer* = 'ABC'
144-159	symbols for course 6 ("Brummer") for *%%tabbrummer* = '1AB'
160-176	symbols for course 6 ("Brummer") for *%%tabbrummer* = '123'

7.9 Unsupported Features

The following features are currently not supported in tablature lines:

- lyrics; is there any need for this feature?

8 Format fine tuning

Some layout parameter can be set by command line options (see the man page of abctab2ps or for details), but most are set via *pseudo comments*. Pseudo comments are lines beginning with two percentage signs %%. The syntax of a pseudo comment is

```
%%<parameter> <value>
```

This changes the layout parameter <*parameter*> to <*value*> in subsequent lines.

These layout settings may also be collected in a *format file* with the extension ".fmt", which can be included with the command line option -F. This is useful eg. for a songbook because the layout of all songs can be maintained in a single

file. Layout parameter in a format file must not start with %%. A line consisting of the word "end" in a fmt file skips the rest of the file.

To see the settings for all the parameters, use flag -H. When used in conjunction with other flags such as -p, -P, or -F, the corresponding parameters are shown. If you redirect the output to a file and edit out the header line, you immediately have a prototype fmt file which specifies all the parameters.

There are some parameters which can also be set in the E: info field. These are

shrink	set glue mode to compress
space	set to natural glue widths
stretch	stretched glue mode
fill	normal mode to fill staffs
break	ignore continuations
xref	write xref numbers to output
one	write one tune per page.
newpage	start new page for next tune
lw *ppp*	set local staff width to *ppp* points.

For example, to output a single tune in a narrower format, put "E:lw 400" into the header of this tune. If this is put after the header but within the tune body, only the music is set with a different width and the title is written as before.

8.1 Staff breaking

Generally one line of abc notation will produce one line of music, although if the music is too long it will overflow onto the next line. You can counteract this by changing either the note spacing with the E: field or break the line of abc notation. If, however, you wish to use two lines of input to generate one line of music then simply put a backslash (\) at the end of the first line.

The best output is usually obtained if the staff breaks are chosen explicitly by suitable line breaks in the input file. In this standard usage, the program tries to set the music as well as possible for each line separately. The symbols "*" and "**" at the end of a line are ignored, as well as the field "E:" for the elementary length.

If a line is too long to fit onto one staff, the overhang is spilled onto the next staff in this version. This makes it possible to get reasonable output even when the input is one long logical line. In practice, this is equivalent to automatic line breaking.

To control line breaking, the following command line options to abctab2ps are available:

-b	break at all line ends, even if they end with the continuation symbol "\".
-c	consider the input as one long line, ie., implicitly append a backslash to every line of music.
-B *n*	try to typeset with *n* bars on each line.
-a α	set the maximal amount of permitted shrinking to α, where α lies between 0 and 1.

8.2 Fonts

Fonts are specified in pseudo comments of the form

```
%%<itemfont> <postscript font> <size>
```

<*postscript font*> must be a valid postscript font. The standard postscript fonts that are supported by all postscript devices are: *AvantGarde-Demi, AvantGarde-DemiOblique, AvantGarde-Book, AvantGarde-BookOblique, Bookman-Light, Bookman-LightItalic, Bookman-Demi, Bookman-DemiItalic, Courier, Courier-Oblique, Courier-Bold, Courier-BoldOblique, Helvetica, Helvetica-Oblique, Helvetica-Bold, Helvetica-BoldOblique, Helvetica-Narrow, Helvetica-NarrowOblique, Helvetica-NarrowBold, Helvetica-NarrowBoldOblique, NewCenturySchlbk-Roman, NewCenturySchlbk-Italic, NewCenturySchlbk-Bold, NewCenturySchlbk-BoldItalic, Palatino-Roman, Palatino-Italic, Palatino-Bold, Palatino-BoldItalic, Symbol, Times-Roman, Times-Italic, Times-Bold, Times-BoldItalic, ZapfChancery-MediumItalic, ZapfDingbats.*

<*size*> is the font size in points (eg. 14). Note however that the font size (like the size of the music) will be effected by the parameter *scale* (see next section); eg. if *scale* is set to 0.7 (which is the default) a font size of 14 will actually result in a $0.7 * 14\text{pt} \approx 10\text{pt}$ font.

<*itemfont*> specifies the scope of the font like title, guitar chords etc. It can be any of the following values (values without explanation are deemed obvious):

titlefont	
subtitlefont	
composerfont	
partsfont	for part labels (P: filed)
tempofont	for tempo marks (Q: filed)
vocalfont	for lyrics or vocals under a staff (w: field)
gchordfont	for guitar chords
textfont	for text under the tune, or between tunes
wordsfont	for words under the tune (W: field)
voicefont	for voice names (V: field)
barnumberfont	
barlabelfont	
indexfont	

In printed music, the bar numbers are often made more visible by putting a box around them. This is also possible. In fact, a box can be put around most bits of text by adding the word "box" to the font specification, e.g.:

```
%%barnumberfont Times-Italic 11 box
```

This can be done for the title, guitar chords, vocals, etc. To switch on the box without changing the font style and/or size, the character * can be used, as in:

```
%%titlefont * * box
```

Because ISO fonts are needed for special characters and accents, all fonts must be known when the header of the PS file is written. The program tries to be as clever as it can about this, but a font might be undefined if it is invoked for the first time further down in a file. For this reason, a line like this can be put into the fmt file:

```
font Palatino-Bold
```

or alternatively at the top of the abc file:

```
%%font Palatino-Bold
```

Either of these will define the corresponding ISO font in the header. To make things even easier, the program always looks for a file "fonts.fmt" and loads it if it exists. So, the often-used fonts can be defined there once and for all.

8.3 Page layout parameters

Page layout parameter are usually specified by pseudo comments. Beside dimensionless factors (decimals) or integer values, the parameter value can be of the type "logical" or "dimension". Logicals must be one of *1, yes, true* for "true" or one of *0, no, false* for "false"; if nothing is specified, this is equivalent to true. Dimensions can be given in *mm*, *cm*, *in*, or *pt*, where *pt* is the default. Examples:

```
%%pageheight 29cm             % height of page
%%staffwidth 5in              % width of staff
%%leftmargin 1.8cm            % left margin
%%titlespace 1cm              % vertical space before the title
%%scale 0.9                   % size of musical symbols
%%staffsep  60pt              % space between staves
```

The following table lists all possible parameters and their equivalent command line option (if there is one). Parameters without explanation are deemed obvious.

Parameter	**Type**	**abctab2ps option**	**Description**
pageheight	dimension		
staffwidth	dimension	-w	
topmargin	dimension		
botmargin	dimension		
leftmargin	dimension	-m	

Parameter	Type	abctab2ps option	Description
topspace	dimension		vertical space at the top of a tune. (see remark 1.)
titlespace	dimension		space before the title. (see remark 1.)
subtitlespace	dimension		space before the subtitle.
composerspace	dimension		space before the composer.
musicspace	dimension		space between the composer and the music.
partsspace	dimension		space (”up”) between the ”parts” and the music.
vocalspace	dimension		space above a line of vocals.
wordsspace	dimension		space above the words at the end of a tune.
textspace	dimension	-n	space above the text such as history.
gchordspace	dimension		space between staff and guitar chords (music only).
staffsep	dimension	-d	separation between staves. One-half of this distance is added above and below each staff.
sysstaffsep	dimension		in multi stave music separation between staves within one system.
systemsep	dimension		in multi stave music separation between systems.
stafflinethickness	decimal		thickness of a single music and tablature staffline.
indent	dimension		amount to indent the first staff. Indentation is done at the start of the piece and after a T: field, but not after a P: field.
scale	decimal	-s	symbol size; eg. 1.0 is used in the ”pretty” output.
maxshrink	decimal	-a	how much to compress horizontally when staff breaks are chosen automatically. Between 0 and 1.
strictness1	decimal	-X	strictness for single stave music.
strictness2	decimal	-X	strictness for multi stave music. In multi stave music, it is often a good idea to space the notes somewhat more strictly according to their duration than in single stave music. For strictness=1, the spacings for notes with short durations is reasonably strictly proportional to their duration. For strictness=0, they are spaced about equally. Good defaults are strictness1=0.5 and strictness2=0.8.
lineskipfac	decimal		factor for spacing between lines of text: 1.0 gives single-space output, 2.0 double etc.
parskipfac	decimal		similar factor for space after a paragraph of text.
barsperstaff	integer	-B	try to put as many bars per staff.
barnumbers	integer	-k	write bar number every *n*-th bar. *n=0* writes bar number on the first bar in each staff.
barnumberfirst	integer		Start barnumbering with this number instead of *1*.
landscape	logical	-l	landscape orientation if true
titleleft	logical		title flushed left if true.
titlecaps	logical		title in capital letters
musiconly	logical	-M	no lyrics if true
stretchstaff	logical		stretches underfull staves across page
stretchlast	logical		stretches last staff if underfull.
writehistory	logical	-n	writes notes, history etc if true.
continueall	logical	-c	continue all lines if true.
breakall	logical	-b	break at all line ends.
oneperpage	logical	-1	each tune on separate page.
withxrefs	logical	-x	print out X: xref number in title.
squarebrevis	logical		draw square brevis (|=|) instead of round (|○|).
slurisligatura	logical		draw ligatura brackets instead of slurs.
historicstyle	logical		draw diamond shaped note heads music in order to emulate historic prints. Mostly used in connection with *nobeams*

Parameter	Type	abctab2ps option	Description
nobeams	logical		do not draw beams in music
nogracestroke	logical		do not draw stroke through flag of single grace notes
printmetronome	logical		set to *false* or *no* when metronome marks in `Q:` fields shall not be printed
endingdots	logical		draw a dot after the number in first/second endings.
meterdisplay	text		for printing different meter specification, eg. *%%meterdisplay 3/2=3* will print "3" when "M:3/2" is given.

Remarks:

1. Usually, one only sees the sum of *topspace* and *titlespace*. However, if text is written preceeding a tune, it will come after *topspace* and before *titlespace*.
2. *vocalspace, wordsspace* and *textspace* count to the top of a line of text. That is, the relevant text size (eg. "12pt") is added.

8.4 Scope of parameters

Generally, layout parameters only affect the current tune in which they are declared. To make a layout parameter global for all tunes, declare it before the first X: field or use a separate sec:FormatFineTuning.

Several parameters (eg. *titlefont*, *barnumbers*, *barnumberfirst*) will only have any effect when they are declared before the T: field. It is generally the safest bet to declare format parameters between the X: and T: field.

There is one notable exception from this general scope rules: sec:TabFormatParameters are global and must be set before or in the first tune.

8.5 Spontaneous alignment

If you do not want to change a layout parameter, but simply want to insert some space or a page break a single position, you can use the following pseudo comments (all parameters are of the type "dimension"):

%%sep	draws a short centred line as a separator
%%sep *h1 h2 len*	draws a separator of length *len* with space *h1* above, space *h2* below.
%%vskip *h*	adds vertical space of height *h*
%%newpage	writes a page break

8.6 Historic layout

If you prefer the look of historic 16th century prints over modern prints, you can obtain diamond shaped note heads with *%%historicstyle* and suppress beaming with *%%nobeams*. Note that both parameters only effect music, so that it is still possible to use grid rhythm flags in tablature in combination with a historic music layout.

9 Other utilities

9.1 abc

Although abctab2ps supports some command line options for the selection of voices or tunes for output, it is often desirable to write such selections into another abc file. This is achieved with *abcselect*, which is also available from the abctab2ps homepage *abcselect* is a platform independent Perl script.

A graphical editor for abc files with syntax highlighting and automatic invocation of abctab2ps and other third party software (like ghostview) is available as *flabc* from the abctab2ps homepage.

If you do not like to edit plain text files for the abc input but prefer some GUI stuff, you can try Jean F. Moine's *tclabc*. As it based upon Tcl/Tk, it runs on almost every platform. However, *tclabc* only supports music, no tablature.

9.2 Postscript

As abctab2ps produces postscript output, you also need some tools for processing postscript files (ok, you do not need them necessarily if you have a postscript printer, but even then some of the following tools are useful). If you run Linux, all of these tools should already be installed on your system; on other operating systems you possibly need to download, build and install them yourself.

In order to print postscript files on a non postscript printer, you need *ghostscript*. Ghostcript can not only convert postscript into almost all printer languages, it even can produce output formats which may be viewed on the screen. This capability is utilised by the online previewers *ghostview* and *gv* (same as ghostview, but more polished GUI).

There is a number of PS-utilities for manipulating postscript files. Useful are *psselect* (for extracting particular pages, e.g. all odd or even pages or pages 1 to 7), *psresize* (e.g. for converting EU A4 to US letter and vice versa) and *psbook* (reorders pages for book printing).

WYSIWIG text processors generally do not allow direct import of plain postscript files. In order to display the image in their editor window, they need a particular version of *encapsulated postscript* named EPSI. EPSI contains a (low quality) bitmap used by the text processor for its online preview; on printing the original (high quality) postscript is used. The tool *ps2epsi* converts postscript to EPSI.

10 References and credits

The latest and greatest version of abctab2ps and its easy to use graphical user interface (*flabc*) is always avilable from the *abctab2ps homepage*, hosted by the German Lute Society:

http://www.lautengesellschaft.de/cdmm/

Since *abctab2ps* is built upon *abc2ps*, it owes a lot to Michael Methfessel, the author of *abc2ps*. Moreover, significant parts of this user's guide have been copied from the Readmes of the abc2ps distribution. The current version of abc2ps is available from

http://www.ihp-ffo.de/~msm/.

Jean F. Moine's *abcm2ps*, which can handle more than one voice per stave, and the GUI-Editor *tclabc*, is available from

http://moinejf.free.fr/

The *abc* language was originally invented by Chris Walshaw. On his abc home page

http://abcnotation.org.uk/

you can find links to the official abc standard definition and to a wide variety of abc related software. Beware however that *abctab2ps* deviates considerably from the abc standard, because the standard does not support tablature at all.