AMMERBACH

A Music Font for German Organ Tablature

v. 1.1 / © 2017 John McKean

I. BACKGROUND

Ammerbach is the second font (following Möller) to result from my project to re-create the notation of German Organ Tablature (GOT) in the guise of digital fonts. One of the principal motivations for this project came from the development of SMuFL, the Standard Music Font Layout specification, which aims to provide "a standard way of mapping the thousands of musical symbols required by conventional music notation into the Private Use Area in Unicode's Basic Multilingual Plane for a single (format-independent) font". Although GOT is hardly a conventional notation, SMuFL goes far beyond this basic remit and provides encoding specifications for a staggering array of musical notations, including various Renaissance and Baroque lute tablatures. In light of their presence within the standard, the absence of GOT represented a striking lacuna.

II. ABOUT

The tablature letters (*Buchstaben*), rhythmic stems/grids, and various other glyphs comprising Ammerbach were modelled on those found in the *Orgel oder Instrument Tabulaturbuch*, a collection of keyboard intabulations of dances and madrigals curated by Elias Nikolaus Ammerbach (*c.*1530–1591), which was first published in Leipzig in 1571. Because the *Tabulaturbuch* was printed (rather than copied by hand) using specially produced moveable lead type sorts, the inherently modular nature of the *Buchstaben* and other symbols together with their intended positioning on a spatial grid made the process of digitally re-creating the look of this tablature notation much more straightforward than re-creating calligraphic notation, as in the case of the Möller font. The *Buchstaben* present in the Ammerbach font are largely derived from the letters in Alte Schwabacher, an unlicensed ('freeware') font by German type designer Dieter Steffmann. For an overview of how GOT actually works as a notational language, see *The Notation of Polyphony Music* by Willi Apel, pp. 21–47. A scan of the book can be found at: https://archive.org/details/notationofpolyph1953apel

III. AMMERBACH AND 'NEW' VS. 'OLD' ORGAN TABLATURE

Although Ammerbach is based on 'new' GOT (Ammerbach's *Tabulaturbuch* was, in fact, the first print publication to make use of it), 'old' GOT (in use up through the late 16th century) also can be re-created by using the font in conjunction with a scoring program such as Sibelius. Since the right-hand part in old GOT is written in mensural staff notation, that part will need to be created in the scoring

program using appropriate noteheads; Ammerbach can then be used to provide the *Buchstaben* and rhythmic stems/grids for the left-hand part as text under the right-hand staff. A difference exists between old and new GOT concerning the names of rhythmic durations, with the values of old GOT durations appearing to be double the length they have in new GOT:

	Brevis (ternary)	Brevis (binary)	Semibrevis	Minima	Semiminima	Fusa	Semifusa
Old GOT	…	..	.	𝅗𝅥	𝅘𝅥	𝅘𝅥𝅯	𝅘𝅥𝅰
New GOT	𝅗𝅥	𝅗𝅥	𝅘𝅥	𝅘𝅥	𝅘𝅥𝅯	𝅘𝅥𝅰	𝅘𝅥𝅱

Ammerbach and the GOT range in the SMuFL specification use the naming conventions of new GOT, but, as is clear from the above, this amounts only to a semantic difference, since the same set of rhythmic symbols can be used for both varieties of tablature.

IV. USAGE

Tablatures can be produced with good results using Ammerbach in MS Word (version 2010 or later). **For the font to work correctly, standard ligatures must be enabled in the Font → Advanced submenu.** The template file that accompanies the font provides an example of a table setup for a four-voice piece with ligatures pre-enabled.

- **GENERAL LAYOUT (IN MS WORD)**
  By using tables in MS Word, it is easy to re-create the format used in Ammerbach's *Tabulaturbuch* and other tablatures printed using moveable type. In this idiom, each cell of a table represents one measure, with each polyphonic voice (usually four in total) occupying its own line. Add borders to all cells of your table to mimic the format of the *Tabulaturbuch*. Clever use of 'hard' and 'soft' returns (i.e. Enter vs. ⇧ Shift + Enter) along with specifying a small amount of space between paragraphs in paragraph settings can help visually organize voices by keeping *Buchstaben* close up against the baseline of their rhythmic flags (soft return), with a bit of space between each voice (hard return).
- **TABLATURE LETTERS**
  The *Buchstaben* are input using the corresponding letters on the keyboard. Swash (i.e. sharpened) variants can be created by typing a circumflex ^ directly after C, D, F, or G. On QWERTY keyboards, these variants are also mapped to the keys immediately above and to the right of the note name in question: Dis= R, Fi = T, Gis= Y; Cis is mapped to V, directly to the right of C.
- **OCTAVE DESIGNATION**
  The single and double overline octave designations are mapped to the hyphen - and equal sign keys = respectively. Simply input one or the other immediately following a *Buchstabe* to add the line(s) over the letter. Additional octave overlines (beyond two) can be created by inputting additional hyphens, one after another (e.g. typing = - produces 𝅘𝅥𝅱). The more esoteric octave underline (used by Schlick) can be added in the same way by typing underscore _ immediately after a tablature letter.

- **RHYTHM STEMS FOR INDIVIDUAL NOTES & RESTS**
  Rhythm stems for individual notes are input using ⇧ Shift + 1–4 for minimae–semifusae respectively, e.g. !, @, #, and $ on U.S.-QWERTY keyboards; the semibreve stem is accordingly mapped to ` / ~. Rests are simply notated by including the rhythm symbols in-line alongside the *Buchstaben*, rather than in the row above them; typing the appropriate rhythm symbol followed by p (for 'Pause') will substitute a specially proportioned rhythm flag for use as an in-line rest (e.g. !p = a minim rest). Variant brevis and semibrevis rests (⊤ & ⊥) are created by typing ;p and ,p respectively. To add an augmentation dot to a rhythm flag or a rest, type a period . after inputting the desired stem.
- **RHYTHM GRIDS FOR MULTIPLE NOTES**
  The distinctive 'tic-tac-toe' grids that represent consecutive notes of the same duration in GOT can be accessed using formulaic ligature substitutions. Simply type the number (1–6) of notes to be represented followed immediately by the symbol for their rhythmic duration. To input the grid for four sixteenth notes, for example, type 4$, which will automatically be substituted by .
- **SPACING AND POSITIONING**
  All *Buchstaben* and individual rhythm stems have the same width, which allows tablature letters to be easily positioned in columns. The rhythm grids have a width that corresponds to the number of notes they subsume, which results in them being centered over the sequence of notes a given rhythm grid governs. The space bar produces a space exactly ½ the standard width, so a double space will move the cursor the equivalent of one *Buchstabe*. The tie (mapped to s) and the augmentation dot are zero-width characters, and therefore do not affect spacing. It is possible to add overline(s) to spaces using the same procedure as for letters.

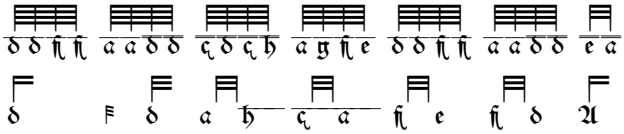
A BRIEF EXAMPLE

Here is the opening motif of Brandenburg Concerto 5 as it would be typed (grey dots denote spaces):

```
4$ 4$ 4$ 4$ 4$ 4$ 2#
d-d-f^-f^- a-a-d=d= c^=d=c^=h= a-g-f^-e- d-d-f^-f^- a-a-d=d= e=a=

@·····#···2#···2#···2#···2#···@
d·····#p·d··a·h-·-·-c^-·-·-a-·-·-f^·e··f^·d··A·
```

Here, along with the music in standard notation, is the same text with the Ammerbach font applied; all substitutions are automatic:



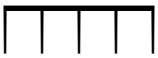
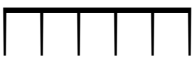
A more extensive example of using Ammerbach in MS Word can be found in the accompanying Ammerbach Example.docx, which includes the first part of 'Die mich erfrewet' from Ammerbach's *Tabulaturbuch*; a facsimile image is included in the file.

V. CHARACTER MAP

𝔈	Great C C
𝔈̂	Great Cis C ^ or V
𝔇	Great D D
𝔇̂	Great Dis D ^ or R
𝔈	Great E E
𝔉	Great F F
𝔉̂	Great Fis F ^ or T
𝔊	Great G G
𝔊̂	Great Gis G ^ or Y
𝔄	Great A A
𝔅	Great B B
𝔥	Great H H
𝔠	Small C c
𝔠̂	Small Cis c ^ or v
𝔡	Small D d
𝔡̂	Small Dis d ^ or r

𝔢	Small E e
𝔣	Small F f
𝔣̂	Small Fis f ^ or t
𝔤	Small G g
𝔤̂	Small Gis g ^ or y
𝔞	Small A a
𝔟	Small B b
𝔥	Small H h
—	Single octave line above -
═	Double octave line above =
—	Single octave line below _
‿	Tie s
·	Rhythm Dot .
⊥	Buxheimer Semibrevis Rest ; p
⊤	Buxheimer Minima Rest , p
|	Semibrevis Rest ~ p

	Minima Rest ! p
	Semiminima Rest @ p
	Fusa Rest # p
	Semifusa Rest $ p
	Buxheimer Brevis (Ternary) :
	Buxheimer Brevis (Binary) ;
	Buxheimer Semibrevis ,
	Semibrevis ` or ~
	Minima !
	Semiminima @
	Fusa #
	Semifusa $
	Two Minimae 2 !
	Two Semiminimae 2 @
	Two Fusae 2 #
	Two Semifusae 2 $

	Three Minimae 3 !
	Three Semiminimae 3 @
	Three Fusae 3 #
	Three Semifusae 3 $
	Four Minimae 4 !
	Four Semiminimae 4 @
	Four Fusae 4 #
	Four Semifusae 4 $
	Five Minimae 5 !
	Five Semiminimae 5 @
	Five Fusae 5 #
	Five Semifusae 5 $
	Six Minimae 6 !
	Six Semiminimae 6 @
	Six Fusae 6 #
	Six Semifusae 6 $

A NOTE ABOUT ENCODING

To facilitate ease of use, Ammerbach has been mapped such that many of the font's glyphs (including all of the *Buchstaben*, the overlines, and the individual rhythm stems) are accessible using the keys of a standard U.S.-QWERTY keyboard. Each of these glyphs is included within the font file a second time, in the appropriate encoding slot based on the proposed GOT range of the SMuFL standard (U+ED60–U+ED9F), where the complete set of characters resides. Should it be necessary to access the rests or rhythmic grids without the use of OpenType ligature substitutions, they can be found in encoding slots U+ED7D–U+ED9F.

TIME SIGNATURES

In version 1.1, two time signatures have been added to Ammerbach based on those found in the *Tabulaturbuch*:

Proportio Dupla
"alla breve"

Proportio Tripla

These glyphs are mapped to the left and right bracket [ ] respectively. To emulate their appearance in the *Tabulaturbuch*, they should be input at a significantly larger type size than that used for *Buchstaben*.