Unicode request for additional tremoli

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This request is for additional tremoli, extending the range U+1D167–1D16C already encoded. It is partly motivated by a reviewer of our *Request for new Supplemental block for musical symbols* (issue #396), Rich Gillam, who said, "I've definitely seen the four-slash tremolo used in real music (e.g., the climactic timpani roll in introduction of the fourth movement of Brahms's first symphony, which I just played recently). ... Same goes for the 'Z' to notate a 'buzz roll.' I'm not a fan of that notation, but as a percussionist, I can say it's definitely out there and in fairly common use."

Thanks to the International Music Score Library Project (https://imslp.org) for facilitating access to public-domain music scores.

Characters

- U+1D25B MUSICAL SYMBOL COMBINING TREMOLO-4 [SMuFL U+E223]
  Figures 1–8
- U+1D25C MUSICAL SYMBOL COMBINING TREMOLO-5 [SMuFL U+E224]
  Figure 2.
- U+1D25D MUSICAL SYMBOL FINGERED TREMOLO-4 [SMuFL U+E228]
  Figures 3, 8.
- U+1D25E MUSICAL SYMBOL FINGERED TREMOLO-5 [SMuFL U+E229]
  Figure 9.
- U+1D25F MUSICAL SYMBOL BUZZ ROLL [SMuFL U+E22A]
  Figures 2, 10–11.

Properties

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1D25B;MUSICAL SYMBOL COMBINING TREMOLO-4;Mn;1;NSM;;;;;N;;;;;
1D25C;MUSICAL SYMBOL COMBINING TREMOLO-5;Mn;1;NSM;;;;;N;;;;;
1D25D;MUSICAL SYMBOL FINGERED TREMOLO-4;So;0;L;;;;;N;;;;;
1D25E;MUSICAL SYMBOL FINGERED TREMOLO-5;So;0;L;;;;;N;;;;;
1D25F;MUSICAL SYMBOL BUZZ ROLL;Mn;1;NSM;;;;;N;;;;;
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Chart

Characters in grey cells are proposed elsewhere.

Musical Symbols Supplement

1D250   1D28F

	1D25	1D26	1D27	1D28
0	𝉐			
1	𝉑			
2	𝉒			
3	𝉓			
4	𝉔			
5	𝉕			
6	𝉖			
7	𝉗			
8	𝉘			
9	𝉙			
A	𝉚			
B	𝉛			
C	𝉜			
D	𝉝			
E	𝉞			
F	𝉟			

Background

The shortest tremolo supported in Unicode has three slashes. This is often taken to mean an unmeasured tremolo, indicating repetition as fast as possible.

However, if the tempo is slow, a three-slash tremolo is ambiguous between a true 32nd-note tremolo and unmeasured repetition, since the former becomes physically possible. A common solution is to add another slash – possibly more, as even slower tempi would make a true 64th-note tremolo possible as well. So far, only four- and five-slash tremoli are attested.

Percussion parts also sometimes use a special tremolo sign, a ⟨Z⟩ through the stem, to mark the buzz roll.

Figures

Figure 1. Elaine Gould (2011) *Behind Bars: The Definitive Guide to Musical Notation.* Faber Music, London, p. 219. Four-slash tremolo.

Figure 2. Sibelius keypad, including four- and five-slash tremoli and the buzz roll.

Figure 3. A. Dvořák, Symphony No. 9 (Op. 95) (pub. Breitkopf & Härtel, Wiesbaden, 1990). Four-slash tremoli (one-note and two-note) near the beginning of the first movement. Note that Dvořák writes "16" to count the number of 64th notes he expected in the tremoli, showing that he intended a measured tremolo.

Figure 4. F. Schubert, *Fierabras*, D 796 (Op. 76) (pub. Breitkopf & Härtel, Leipzig, 1886). Four-slash one-note tremoli. Schubert writes out the first beat, making his intention of a measured tremolo clear.

Figure 5. A. Schoenberg, *Variations for Orchestra*, Op. 31 (pub. Universal Edition, Vienna, 1929). Four-slash one-note tremoli.

Figure 6. J. Sibelius, Symphony No. 4, Op. 63 (pub. Breitkopf & Härtel, Leipzig, 1912; reprinted by Dover, Mineola, NY, 2003). Four-slash one-note tremoli.

Figure 7. V. d'Indy, *Jour d'été à la montagne*, Op. 61 (pub. A. Durand & Fils, Paris, 1906; reprinted by Edwin F. Kalmus, Boca Raton, n.d.). Four-slash tremoli.

Figure 8. Ertuğrul Sevsay, *The Cambridge Guide to Orchestration* (Cambridge University Press, 2013). Four-slash combining tremoli and four-bar fingered tremoli.

Figure 9. F. Schubert, *Wanderer-Fantaisie*, D 760 (Op. 15) (pub. Breitkopf & Härtel, Leipzig, 1888). Five-bar two-note tremolo (unmeasured).

Buzz rolls

Buzz rolls, or "closed" rolls, are used in many situations, and are the predominant roll of orchestral music. This type of roll produces a sustained buzzing sound, with the strokes of the sticks so close (or closed) together that, when executed well, disguises when one hand is taking over for another. Buzz rolls are often time played on a context-based assumption (like orchestral snare drumming), though there is a way of making it more clear: the "z" stem.

The "z" stem

This notation is reserved for buzz rolls, alleviating any question of what style should be used. While mostly reserved for instruments such as snare drums and toms, it can be employed elsewhere. Which leads me to…

Figure 10. Adam Holmes, "Notating rolls" (adamholmesmusic.com/blog-notating-rolls/).

B. Multiple Bounce Roll Rudiments

4. Multiple Bounce Roll

5. Triple Stroke Roll

R R R L L L R R R L L L

C. Double Stroke Open Roll Rudiments

6. Double Stroke Open Roll *

R R L L R R L L

Figure 11. Percussive Arts Society International Drum Rudiments (pas.org/docs/default-source/default-document-library/pas-drum-rudiments-2018dcccc96de1726e19ba7fff00008669d1.pdf).

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[1]
Please fill all the sections A, B and C below.
Please read Principles and Procedures Document (P & P) from std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html for guidelines and details before filling this form.
Please ensure you are using the latest Form from std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html.
See also std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html for latest *Roadmaps*.

A. Administrative

1. **Title:** *Unicode request for additional tremoli*
2. Requester's name: *Gavin Jared Bala, Kirk Miller*
3. Requester type (Member body/Liaison/Individual contribution): *individual*
4. Submission date: *2024 July 29*
5. Requester's reference (if applicable):
6. Choose one of the following:
   This is a complete proposal: *yes*
   (or) More information will be provided later:

B. Technical – General

1. Choose one of the following:
   a. This proposal is for a new script (set of characters): *yes*
      Proposed name of script: *Musical Symbols Supplement*
   b. The proposal is for addition of character(s) to an existing block: *no*
      Name of the existing block:
2. Number of characters in proposal: *5*
3. Proposed category (select one from below - see section 2.2 of P&P document):

   A-Contemporary ___   B.1-Specialized (small collection) ___   B.2-Specialized (large collection) ___
   C-Major extinct ___   D-Attested extinct ___   E-Minor extinct ___
   F-Archaic Hieroglyphic or Ideographic ___   G-Obscure or questionable usage symbols ___

   B.1-Specialized (small collection): **x**

4. Is a repertoire including character names provided? *yes*
      a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document? *yes*
   b. Are the character shapes attached in a legible form suitable for review? *yes*
5. Fonts related:
   a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
      Kirk Miller
   b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
      Kirk Miller
6. References:
      a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? *yes*
      b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? *yes*
7. Special encoding issues:
   Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? *no*

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the

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1. Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

Unicode standard at www.unicode.org for such information on other scripts. Also see Unicode Character Database (www.unicode.org/reports/tr44/) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? *no*
   If YES explain
2. Has contact been made to members of the user community (for example: National Body,
   user groups of the script or characters, other experts, etc.)? *yes*
   If YES, with whom? *Author is a member of the user community*
   If YES, available relevant documents:
3. Information on the user community for the proposed characters (for example:
   size, demographics, information technology use, or publishing use) is included? *no*
   Reference:
4. The context of use for the proposed characters (type of use; common or rare) *music scores*
   Reference:
5. Are the proposed characters in current use by the user community? *yes*
   If YES, where? Reference: *See figures*
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely
   in the BMP? *no*
       If YES, is a rationale provided?
       If YES, reference:
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? *yes*
8. Can any of the proposed characters be considered a presentation form of an existing
   character or character sequence? *no*
       If YES, is a rationale for its inclusion provided?
       If YES, reference:
9. Can any of the proposed characters be encoded using a composed character sequence of either
   existing characters or other proposed characters? *no*
       If YES, is a rationale for its inclusion provided?
       If YES, reference:
10. Can any of the proposed character(s) be considered to be similar (in appearance or function)
    to, or could be confused with, an existing character? *no*
        If YES, is a rationale for its inclusion provided?
        If YES, reference:
11. Does the proposal include use of combining characters and/or use of composite sequences? *no*
    If YES, is a rationale for such use provided?
        If YES, reference:
    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
        If YES, reference:
12. Does the proposal contain characters with any special properties such as
    control function or similar semantics? *no*
        If YES, describe in detail (include attachment if necessary)

13. Does the proposal contain any Ideographic compatibility characters? *no*
    If YES, are the equivalent corresponding unified ideographic characters identified?
        If YES, reference: