

DOC TYPE: Working Group Document  
TITLE: Comments on L2/10-358R (N3913) Proposal to encode Metrical Symbols and related characters in the UCS  
SOURCE: U.S. National Body, UTC, and Script Encoding Initiative (UC Berkeley)  
ACTION: For consideration by WG2  
DISTRIBUTION: ISO/IEC JTC1/SC2/WG

This document is intended to help advance work on metrical symbols, based on the proposal L2/10-358R (=“N3913” hereafter) by Martin Schrage and Karl Pentzlin.

## 1. Format of this Document

The attached pages discuss all the characters proposed in N3913, although in a slightly modified order.

The characters are presented in a format similar to that used by the TLG proposal for new characters (L2/02-273r, pp. 215ff.). Different from N3913, this document adds in fields for TLG Beta Code values (if available), and Definitions and Comments. This additional information – presented in a chart form – tries to pull together the relevant information so the committees can make an informed encoding decision. The TLG Beta Code value is provided in order to supplement the TLG Beta Guide Manual,<sup>1</sup> which is a default standard used by Classicists. The last field in the chart is a recommendation to the UTC. (Ideally, text samples with bibliographic citations should be added as another field, making it possible to have all the information regarding a given character on a single page. However, time constraints prevented this.)

In short, this document presents the same basic information as in N3913, but with additions in the new fields. Because the original proposal did not have a separately designated “definition,” the definitions contained herein must be viewed as tentative and should be double-checked, as should the potential unifications.

## 2. Overall Approach





The approach adopted was to identify the core elements needed to create the metrical symbols, and to rely on the font to build up shapes. Based on a study of the proposed characters, most of the shapes can be created with currently encoded characters. However, font designers should review the unifications and identify any potential problems.

This approach means, however, that users will require a specialized font; it is felt that Classicists working with metrics would require such a font in any event. It is also acknowledged that creating such fonts will take some (perhaps considerable) time and effort. Still, relying on currently encoded characters allows the set of symbols to be extensible, and prevents users from waiting over two years for a character to be approved, and then incorporated into fonts. (Indeed, because a number of the historic symbols in N3913

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<sup>1</sup> The TLG ® Beta Guide Manual 2010 <http://www.tlg.uci.edu/encoding/BCM2010.pdf>

were unknown to Classicists I contacted, it seems likely there are even more symbols not contained in this proposal that could be added.)

Fonts today are more advanced than in the past, and are capable of creating many of the requested symbols. For example, David Perry, using his Cardo font, was able to construct two of the requested shapes, using OpenType's <ccmp>: 2B89  and 2B8D . In order to adjust of the height of a glyph, the OpenType stylistic set feature can be used. David Perry altered the dovetail shape to match the vertical bar, and lowered the longum and breve, as shown in the following test image: . Use of fonts to create combinations is already used, to some extent, in the TLG Beta Guide. For example, to create a metrical breve and combining long stroke overlay (glyph , Beta code %144), TLG recommends use of 23D1 + 0301.

### 3. Comments on Encoding Considerations

a. N3913 states:

However, the unification of some of the very basic metrical symbols with existing characters does not have passed the test of time. Especially, the unification of the longum with the en or em dash and the anceps with the multiplication sign is consigned inadequate by several designers of fonts for linguistic or general audience. This is shown by the fact that these fonts contain private use characters for longum and breve, [image of four fonts' code points in the PUA and their glyphs]

The fact that longum and breve are still contained in the PUA for these fonts is, I believe, not a sign of a fundamental inadequacy or dissatisfaction with the unification, but rather a wish to provide backwards compatibility.<sup>2</sup> These fonts support the MUFI recommendations<sup>3</sup>, which recommend use of 2012 figure dash or en dash 2013 for a long syllable (MUFI character recommendation, p. 161), multiplication sign 00D7 for anceps (ibid., p. 162), and logical and 2227 for “metrical symbol pause” (ibid., p. 165).

b. N3913 also states:

The metrical symbols form a closed set for which the font designer must be able to design the relative sizes of the symbols to retain the appearance of this closed set, independent of considerations which apply to other items like similar punctuation marks which may appear in the same font.

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<sup>2</sup> Confirmed by email correspondence with David Perry (Cardo font developer) and Juan-José Marcos (Alphabetum font developer).

<sup>3</sup> MUFI character recommendation: Characters in the official Unicode Standard and in the Private Use Area for Medieval texts written in the Latin alphabet. Part 1: Alphabetical order. Version 3.0 (5 July 2009), compliant with the Unicode Standard 5.1. Medieval Unicode Font Initiative, ed. by Odd Einar Haugen: <http://www.mufi.info/specs/MUFI-Alphabetic-3-0.pdf>

The set of metrical symbols already spans various blocks in Unicode<sup>4</sup>, so a font for metrics will need to be specialized anyway, if the set is to maintain a similar design.

c. As possible further support for the disunification with em or en dash, N3913 mentions the UNCIA sign:

Regarding the longum, it shall be noted that e.g. the recently encoded dash-like character U+10191 ROMAN UNCIA SIGN is not unified with the em or en dash, possibly for similar considerations (to enable harmonizing of appearance with the other Roman currency signs).

David Perry, the author of the UNCIA proposal, has noted that harmonizing the appearance of the UNCIA with other Roman signs was not a concern.<sup>5</sup> Rather, he writes, the horizontal line was the most common shape for the uncial sign, which had at least four other glyph variants of different shapes. Because none seemed reasonable variations on an em dash, he decided to propose a new character. As a result of D. Perry's note, the comment in N3913 should not be cited as support for disunification.

d. An important issue the proposal should discuss is the effect the proposed disunifications will have on current data, particularly for basic symbols like the longum and anceps. As noted in the attached sheets, the en dash was recommended for the longum, and 00D7 for anceps by TLG Beta Guide and MUFI from at least 2003, and by Brill<sup>6</sup> since at least 2008. It is probably prudent to seek the support of various groups, such as TLG and MUFI, whose users have followed their guidelines for many years, before putting forward a proposal for such disunifications.

#### 4. Suggestions

- The authors of N3913 are welcome to use this document as a base to continue work on metrics symbols, which could end up being a useful document for students of metrics (particularly those interested in early annotation systems of 19C).
- Key to the document is to provide:
  - a definition for each symbol(s)
  - a note identifying if the symbol is historical and no longer in use (with a comment on what the current equivalent is, if applicable)
  - Unicode code points, if the symbol can be unified/handled by currently encoded characters
  - An example or two showing the symbols in context (with bibliographic citation) on the same page as the symbols (as opposed to having the text images in appendices after the chart); this makes the material about a character accessible on a single page.





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<sup>4</sup> The following characters from various blocks are used in metrics but are not requested in the proposal (see 1957a-2, 1968a-3, 1982a-XI, 1993a-3a, 1993b-107, *TLG Beta Code Manual*): General Punctuation (|| 2016, \* 203B, ∴ 205D, † 205E); Miscellaneous Technical (√ 23D1 ∽ 23D2 ≅ 23D3 ∽ 23D4 ∽ 23D5 ∽ 23D6 ∽ 23D7 ∽ 23D8 ∽ 23D9); Math operators (⊕ 2295, ⊗ 2297); Basic Latin (| 00A6, | 007C, ~ 007E); Combining Diacritical Marks (̄ 0361); Aegean Numbers (= 10111, = 10112). There are also various combinations of characters that appear in the blocks above, such as ∴, ∴, etc.

<sup>5</sup> Personal communication, October 2010.

<sup>6</sup> Brill = Metrical Notation: A Guide to the most frequently-used symbols in Unicode, Version 1.0.3, August 26, 2008/ by Pim Rietbroek. <http://brill.nl/downloads/Metrical-Characters-Unicode-updated.pdf>





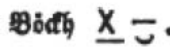



- If a possible unification is considered problematic, discuss the issues and provide examples.
- Seek support from other groups, such as TLG and MUFI.
- Work with other groups to collect together all the various symbols, listing the agreed-upon Unicode code points (if unified), and post this information on a publicly accessible website, with other background information on the characters.

Proposed character	Glyph	Possible Unicode unifications	TLG Beta code	Definition and comments	Recommendation
<b>ANCEPS &amp; CHARS. BASED ON ANCEPS</b>					
2B7C METRICAL ANCEPS		00D7 MULTIPLICATION SIGN	%43	<b>Definition:</b> syllable ambiguous between long and short <b>Comments:</b> Anceps character was proposed by TLG in 2002 but later dropped. TLG Beta Guide (TLG) <sup>1</sup> now recommends 00D7, as does MUFI <sup>2</sup> . TLG proposal had counted 1642 instances by 31 authors, pointing to significant legacy data <sup>3</sup> . This character is not being requested by M. Pantelia of TLG.	Use existing character and annotate its usage.
2B87 METRICAL SHORT OVER ANCEPS		00D7 + 0306		<b>Definition:</b> <b>Comments:</b> Renders fine with the Calibri font: x̄ (00D7 + 0306)	Use existing characters.
2B88 METRICAL TWO SHORTS OVER ANCEPS		00D7 + 0306 + 0306		<b>Definition:</b> anceps/double short (“teibares Anceps”) <b>Comments:</b> Are shorts joined? (Not joined in 1993a-18 but touching in 1997a-360a; see comment below for 20F9 combining metrical 2 shorts joined above)	Use existing characters.
2B89 METRICAL TURNED SHORT OVER TWO		00D7 + 0306 + 0306 + 0311		<b>Definition:</b> <b>Comments:</b> Only 1 example, 1997a-350, and it shows the shorts joined:  . Are they	Use existing characters.






<sup>1</sup> TLG = The TLG ® Beta Guide Manual 2010: <http://www.tlg.uci.edu/encoding/BCM2010.pdf>

<sup>2</sup> MUFI character recommendation: Characters in the official Unicode Standard and in the Private Use Area for Medieval texts written in the Latin alphabet. Part 1: Alphabetical order. Version 3.0 (5 July 2009), compliant with the Unicode Standard 5.1. Medieval Unicode Font Initiative, ed. by Odd Einar Haugen: <http://www.mufl.info/specs/MUFI-Alphabetic-3-0.pdf>

<sup>3</sup> TLG Unicode Proposal, draft 13 August 2002: <http://www.unicode.org/L2/L2002/02273r-tlg-greek.pdf>

SHORTS OVER ANCEPS				joined? Using OpenType's <ccmp>, David Parry created the following, which matches the representative glyph: 	
2B8A METRICAL LONG OVER ANCEPS		00D7 + 0304 or 00D7 + 0305		<b>Definition:</b> long syllable in anceps position <b>Comments:</b> Renders fine in Calibri: $\bar{x}$ / $\bar{x}$ (00D7 + 0304 / 00D7 + 0305)	Use existing characters.
2B98 METRICAL ANCEPS OVER LONG		00D7 + 0332 (or 0331, if deemed more appropriate) or 2A31 multiplication sign with underbar or 2013 en dash + 033D combining x above		<b>Definition:</b> <b>Comments:</b> Are the 2 examples below the same or are they different? 1848a-84:  1843a-114:  Are these characters x above a longum or anceps with mark below, or is only one of them? (This affects which existing characters should be used. If they are both anceps with mark below, 00D7 + 0332 would be consistent with other recommendations.)	Use existing characters.
<b><i>INVERTED BREVE SHAPES</i></b>					
2B7D METRICAL INVERTED BREVE		2312 arc		<b>Definition:</b> "syllable which would be short if the next syllable belonged to the same verse" <b>Comment:</b> Brill <sup>4</sup> recommends its authors use 2312 arc, which New Athena Unicode font uses (NAU glyph:  ).	Use existing character.







<sup>4</sup> Brill = Metrical Notation: A Guide to the most frequently-used symbols in Unicode, Version 1.0.3, August 26, 2008 / by Pim Rietbroek.  
<http://brill.nl/downloads/Metrical-Characters-Unicode-updated.pdf>


2B7E METRICAL CORONA				<p><b>Definition:</b> metrical indifference symbol; last position in verse</p> <p><b>Comments:</b> Difficult to render from currently encoded characters; both M Pantelia of TLG and ML West are in favor of this char.</p>	Worth considering encoding.
<b>LONGUMS</b>					
2B7F METRICAL LONGUM		2013 en dash	%41	<p><b>Definition:</b> long vowel or syllable</p> <p><b>Comments:</b> TLG recommends 2013 en dash for long vowel or syllable. The proposed character 2B7F is based on premise em or en dash never appears on baseline, but Brill recommends its authors use en dash for Greek metrical longum and en dash is used in New Athena Unicode font. Note that MUFI recommends 2012 figure dash or 2013 en dash for longum.</p>	Use existing character.
2B80 METRICAL EXTENDED LONGUM		2014 em dash	(#12; #730?)	<p><b>Definition:</b> extra long syllable?</p> <p><b>Comments:</b> Only 1 example, 1868a-145, is the first character in following:  </p> <p>First 2 chars could well be: ' - .</p>	More information needed.
<b>TRISEMES AND TRISEME-BASED CHAR.</b>					
2B81 METRICAL REVERSED TRISEME				<p><b>Definition:</b> 3 beats, equivalent to ~-</p> <p><b>Comments:</b> ML West uses the reversed triseme contrastively with triseme, and the 2 appear in table in 1982a-XI. West</p>	Worth considering encoding.




				recommends supports this char., as does D. Mastronarde <sup>5</sup> .	
2B9C METRICAL LONG TWO AND ONE SHORTS OVER TRISEME	⏏			<b>Comment:</b> UCS has U+1D242 combining greek musical triseme, but UCS has no combining greek triseme that goes under 2 characters. Propose combining greek triseme below? Are there other characters where such a character appears?	More information needed
<b>CATALEXIS &amp; CHARS. BASED ON CATALEXIS</b>					
2B83 METRICAL CATALEXIS	^	2227 logical and (MUFI) or 0020 + 032D combining circumflex accent below (Brill and TLG,)		<b>Definition:</b> absence of 1 or more syllables in a metrical line, especially in the last foot <b>Comments:</b> Use of 2227 from Math Operators would be in line with use of other characters from math blocks used for metrics. M. Pantelia of TLG and D. Mastronarde are not opposed to separation of catalexis and 2227. Catalexis is rare in TLG data but probably appears in thousands of instances in secondary sources in 20C. (Note: Two examples, 1869a-28 and 1869a-35 are cited on p. 5 as exs. of 2B83, but are identified as “subscript catalexis” in captions. Is this an error? Cf. 2BA8 metrical subscript catalexis.)	Use existing character. Discuss use of systematic subscripting.
2B9D METRICAL SHORT OVER CATALEXIS	⏏	2227 logical and + 0306		<b>Definition:</b> <b>Comments:</b> Should render ok with 2227 + 0306. Note: The 1 example, at 1957a-15 (below), seems to show 2B9D as part of an abbreviation, in which case the catalexis is	Use existing characters. Discuss use of systematic subscripting.

<sup>5</sup> Donald Mastronarde is maintainer of New Athena Unicode font and GreekKeysUnicode keyboard, distributed by the American Philological Association. He is also Melpomene Professor of Classics at UC Berkeley.


















				rich text and should be subscripted: 4 da <sub>α</sub> <sub>α</sub>	
2B9E METRICAL LONG OVER CATALEXIS		2227 + 0304 [or 0305]		<b>Definition:</b> <b>Comments:</b> Use 2227 + 0304 (/0305).	Use existing characters.
2B9F METRICAL TRISEME OVER CATALEXIS		2227 + 1D242 combining greek musical triseme		<b>Definition:</b> <b>Comments:</b> Use 2227 + 1D242.	Use existing characters.
2BA0 METRICAL REVERSED TRISEME OVER CATALEXIS				<b>Definition:</b> <b>Comments:</b> If this character is clearly a reversed triseme above a catalexis (and not the spacing reversed triseme + subscript catalexis), then a combining greek reversed triseme (+ 2227) would be needed. It would correspond to the spacing version, 2B81 metrical reversed triseme. ML West would like to be able to create this symbol.	More info needed, might need new character.
2BA1 METRICAL TETRASEME OVER CATALEXIS		2227 + 1D243 combining greek musical tetraseme		<b>Definition:</b> <b>Comments:</b> Use 2227 + 1D243.	Use existing characters.
2BA2 METRICAL PENTASEME OVER CATALEXIS		2227 + 1D244 combining greek musical pentaseme		<b>Definition:</b> <b>Comments:</b> Use 2227 + 1D244.	Use existing characters.
2BA3 METRICAL TWO LONGS OVER CATALEXIS		2227 + 0304 + 0304 (with font to show correct rendering)		<b>Definition:</b> <b>Comments:</b> Similar to 2B9D anceps with breve, but this character has two longs and should use a font to manage rendering. (Note: The 1 example, 1957a-15, seems to show this symbol as part of an abbreviation, in which case the catalexis should be handled as rich	Use existing characters.

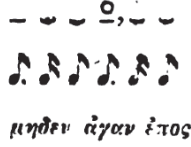



				text, using subscript: 4 da(̂̂.)	
<b>OTHER CHARS.</b>					
2B82 METRICAL CIRCLE	○	26AA medium white circle	%110 WHITE CIRCLE	<b>Definition:</b> two circles indicates a foot where 1 of the 2 syllables may be either long or short in Aeolian meter; metrical half Aeolian base <b>Comments:</b> See p. 19 of UTR #19, which lists the array of circles by size. While Brill suggests its authors use 25EF large circle and TLG recommends 25CB white circle, a smaller circle that might be more appropriate is 26AA medium white circle. 25EF is likely too large. M. Pantelia of TLG and D Mastronarde are not opposed to 2B82, and ML West would like to render a circle symbol, but several options are available.	Use existing character.
2B84 METRICAL TWO DOT BASE	..	2025 two dot leader		<b>Definition:</b> ? <b>Comments:</b> Without a definition it is not possible to tell if this might be a variant of another, more common character. Is this precursor of an “aeolic base” (25EF 25EF)? Is this in use today?	Use existing character, but provide additional info.
2B85 METRICAL DOVETAIL	∫	0283 latin small letter esh or 222B integral	(cf. #451, #476)	<b>Definition:</b> word-end one position later <b>Comments:</b> TLG recommends 0283, Brill 222B. Proposal states that the glyph usually has the height of 007C vertical line, but use of style sets can allow adjustment on height (cf. David Perry’s  ). Alternatively, one can use a metrics-specific font with the expected height.	Use existing character.
2B86 METRICAL DOWNWARDS		0020 + 0361 combining double	=%182? cf. <3, >3	<b>Definition:</b> a bridge (word-end avoided) <b>Comments:</b> This is a variant of a bridge, but	Use existing characters.

TIE		inverted breve		with the tie is angled because of the height of the 2 components: 	
2E3E LARGE LESS-THAN SIGN	<	003C		<b>Definition:</b> derives from <b>Comments:</b> No contrast provided vs. 003C	Use existing character.
2E3F LARGE GREATER-THAN SIGN	>	003E		<b>Definition:</b> evolves to <b>Comments:</b> No contrast provided vs. 003E	Use existing character.
2E48 TRIPLE VERTICAL LINE		2980 triple vertical bar delimiter or 2AF4 triple vertical bar binary relation	%105 (cf. #841)	<b>Definition:</b> stanza/strophe end <b>Comments:</b> TLG currently recommends 007C (x3) for the triple vertical line, 2016 as double bar. M. Pantelia (TLG) and D Mastronarde do not object to 2E48, but two options are already available (and consistent with use of math symbols for metric marks): 2980 triple vertical bar delimiter (and is part of the set of 007C and 2016, per UTR #25) or 2AFC.	Use existing character.
2E49 SHORT VERTICAL LINE		Two characters: 02C8 modifier letter vertical line (for meaning 1)  02CC modifier letter low vertical line (for meaning 2)		<b>Definition:</b> “(between consonants) the preceding vowel is short, but the syllable containing it is scanned long” (from Dover, K., <i>Aristophanes Frogs</i> , Oxford 1993, p. 107) <b>Comments:</b> 2E49 appears to have collapsed two different characters: (1) a high vertical line, which can be represented with 02C8, used as in the definition above, and (2) a low short vertical line indicating the limits of separate subunits within a colon of verse, and can be represented with 02CC. The latter can also be represented by an extra space, a comma, or nothing. An example of (1) is 1993b-107 (on left, beside blue arrow):	Use existing characters, but provide additional information.

				<p>(between consonants) the preceding vowel is short, but the syllable containing it is scanned long</p> <p>02C8 is used in the TLG encoding of the Teubner text of Pindar, per D. Mastronarde, and appears in the Teubner edition of Biehl's Eur. Troades and Eur. Cyclops. Examples of (2) are shown in 1970a-91 and 1989b-460, two works by W. Biehl.</p> <p>1970a-91:</p> <p>u _ _   i u u _   u _ u _   </p> <p>Are there other authors using low line in this way besides Biehl, or is this his idiosyncratic way of showing subunits?</p>	
2E4A LOW PRIME	'	02CF modifier letter low acute accent	(cf. #22 greek lower numeral sign)	<p><b>Definition:</b> ?</p> <p><b>Comments:</b> Unclear what this is being used for; seems to appear in the work of Hermann and to mark off subunits of a metrical scheme, a comma-like mark. More information needed. Is this in use today?</p>	More information needed.
2E4B LOW DOUBLE PRIME	''	02CF + 02CF		<p><b>Definition:</b> ?</p> <p><b>Comments:</b> see 2E4A low prime</p>	More information needed.
2E4C LOW TRIPLE PRIME	'''	02CF + 02CF + 02CF		<p><b>Definition:</b> ?</p> <p><b>Comments:</b> see 2E4A low prime.</p>	More information needed.
2E4D DOUBLE TWO-EM DASH	====			<p><b>Definition:</b></p> <p><b>Comments:</b> Sole ex., at 2001b-54, marks a different strophe separation from that shown by an em dash.</p>	More information needed.
<b>CHARS. BASED ON BREVE OR LONGUM</b>					
2B8B METRICAL TWO	ϝ	23D1 + 0306+ 0306		<p><b>Definition:</b> single short/double short ("teilbares Breve")</p>	Use existing characters.







SHORTS OVER SHORT				<b>Comments:</b> Use already encoded chars.	
2B8C METRICAL TURNED SHORT OVER LONG OVER SHORT		23D2 + 0311		<b>Definition:</b> half 'biceps' <b>Comments:</b> Appears in Anaxiphorminx font list. Provide example in use.	Need example of use. Use existing characters.
2B8D METRICAL TWO SHORTS OVER LONG OVER SHORT		23D2 + 0306 + 0306		<b>Definition:</b> short replaceable by resolvable long <b>Comments:</b> Can be created through glyph composition. Sample by David Parry, using Cardo font: 	Use existing characters.
2B8E METRICAL SHORT OVER TWO SHORTS		23D6? + 0306		<b>Definition:</b> <b>Comments:</b> No examples are provided; 1834a-61 and 1993a-3a both have two shorts over a short (2B8B). Is 23D6 (metrical 2 joined shorts) appropriate here?	Need examples of 2B8E.
2B8F METRICAL TURNED SHORT OVER TWO SHORTS		23D6? + 0311		<b>Definition:</b> <b>Comments:</b> 23D6 appropriate here?	Need more info.
2B90 METRICAL TIE OVER TWO SHORTS		23D1 + 23D1 + 0361?		<b>Definition:</b> <b>Comments:</b> If the two breves are to be considered 2 characters, use 0361?	Need more info.
2B91 METRICAL LONG OVER SHORT OVER TWO SHORTS		23D6 + 0306 + 0304?		<b>Definition:</b> <b>Comments:</b> Use already encoded chars	Use existing characters.
2B92 METRICAL SHORTENED LONG OVER TWO SHORTS		23D6 + 0304?		<b>Definition:</b> <b>Comments:</b> This is differentiated from macron extending over two shorts, cf. example 1826a-77:  .	Use already encoded chars?











2B94 METRICAL SHORT OVER LONG OVER TWO SHORTS		23D4 + 0306		<b>Definition:</b> <b>Comments:</b> Use already encoded chars. Note: Two of the examples are cited in error (1834a-61 and 1993a-3a show 2B8D, not 2B94).	Use existing characters.
2B95 METRICAL TWO TURNED SHORTS OVER LONG OVER TWO SHORTS		23D3 + 0311? + 23D3 + 0311?		<b>Definition:</b> biceps <b>Comments:</b> Ok for this be handled as two characters? Current convention is to handle this as longum and 0308 combining diaeresis. Possibly of interest to TLG per M Pantelia (TLG).	Worth discussion, but more information needed
2B96 METRICAL LONG OVER THREE SHORTS		23D1 + 0305 + 23D1 + 0305 + 23D1 + 0305		<b>Definition:</b> <b>Comments:</b> Sole example is 1834a-XIII with 3 non-joining breves and combining macron; New Athena Unicode renders this: $\overline{\text{v}\text{v}\text{v}}$ (23D1 + 0305 [x3]), just as in example 1834a-XIII	Use 23D1 + 0305 (x3).
2B97 METRICAL LONG AND SHORT JOINED		00AF + 200D ZWJ+ 23D1		<b>Definition:</b> <b>Comments:</b> According to D. Mastronarde, this was used in an old system, now abandoned. Use already encoded characters.	Use existing characters.
2B9A METRICAL TURNED SHORT OVER TWO SHORTS OVER LONG		23D5 metrical two shorts over long + 0311 combining inverted breve		<b>Definition:</b> <b>Comments:</b> Use already encoded characters.	Use existing characters.
2B9B METRICAL CIRCLE OVER LONG				<b>Definition:</b> ? <b>Comments:</b> Need information on the meaning of this character. Is this used currently? The base character seems to be a longum, cf. 1834a-492:	More information needed.





				 <p>μηδεν ἀγαν ἔπος</p>	
2B93 METRICAL LONG OVER TWO SHORTS WITH VERTICAL BAR				<p><b>Definition:</b> double short/long with word boundary</p> <p><b>Comments:</b> appears in Anaxiphorminx font; no example of use beyond chart; apparently created by caesura line through 23D4 metrical long over two shorts. One approach might be to request a combining vertical solidus.</p>	More information needed showing usage.
2B99 METRICAL TWO SHORTS OVER LONG WITH VERTICAL BAR				<p><b>Definition:</b> long/double short with word boundary</p> <p><b>Comments:</b> appears in Anaxiphorminx font; no example of use beyond chart; apparently created by caesura line through 23D5 metrical two shorts over long. One approach might be to request a combining vertical solidus.</p>	More information needed showing usage.
<b>SUPERSCRIPT CHARACTERS</b>					
2BA4 METRICAL SUPERSCRIPT ANCEPS	x	<super> 00D7		<p><b>Definition:</b> syllable which may either be long or short</p> <p><b>Comments:</b> The anceps, which is superscripted, is part of abbreviation in the example 1968a-79b:   4 da<sup>x</sup>+   . Is 1992a-VIII, below, a true anceps or is it an “x”?</p> <p> A ante vel post correctionem (incertum utrum)</p> <p>Provide discussion on systematic superscripting.</p>	Provide more information and justification for this superscript to appear in plain text.
2BA5 METRICAL SUPERSCRIPT		<super> 23D1		<p><b>Definition:</b></p> <p><b>Comments:</b> Superscripting indicates the breve is part of the abbreviation in the</p>	Provide more information and justification for this superscript to appear in plain

BREVE	˘			examples cited, e.g., 1968a-79a: $\text{˘˘ 5 da}^{\text{˘}}$ Provide discussion on systematic superscripting.	text.
2BA6 METRICAL SUPERSCRIP TWO SHORTS JOINED	˘˘	<super> 23D6		<b>Definition:</b> two shorts considered a resolved form of a long <b>Comments:</b> All the examples of 2BA6 appear as part of an abbreviation, e.g., 1982a-146: <b>tetrameters in the form</b> $\text{˘cr}^{\text{˘}}\text{˘cr}^{\text{˘}}\text{˘cr}^{\text{˘}}\text{cr}$ (cr="cretic"; "˘cr" means the cretic begins with a resolved element). Provide discussion on systematic superscripting.	Provide more information and justification for this superscript to appear in plain text.
2BA7 METRICAL SUPERSCRIP LONGUM	—	<super>2013/2014		<b>Definition:</b> <b>Comments:</b> Like superscript breve, this occurs as part of an abbreviation in all the examples cited, e.g., 1968a-79a: $\text{˘˘ 5 da}^{\text{˘}}$ Provide discussion on systematic superscripting.	Provide more information and justification for this superscript to appear in plain text.
209D SUPERSCRIP QUESTION MARK	?	<super> 003F		<b>Definition:</b> "doubt mark" <b>Comment:</b> Need justification for use of this in plain text	Need justification for use of this in plain text.
209E SUPERSCRIP COMMERCIAL AT SIGN	@	<super> 0040		<b>Definition:</b> metrical symbol antilabe <b>Comment:</b> Need justification for use of this in plain text. Used only by one author?	Need justification for use of this in plain text.
<b>SUBSCRIPT CHARACTERS</b>					
2BA8 METRICAL SUBSCRIPT CATALEXIS	˘	<sub>2227		<b>Definition:</b> <b>Comments:</b> All the examples are of a catalexis as part of an abbreviation, but no discussion is provided. Ex. 1997a-354: $\text{5 da}_\text{˘}$    ("da" = dactyl).	Provide discussion on use of subscript catalexis in abbreviations and requirement for subscripts in plain text.
<b>COMBINING</b>					



<b>CHARACTERS</b>					
1AB0 COMBINING DIGIT ZERO ABOVE [0-9]				<b>Definition:</b> <b>Comments:</b> Need to show justification for these combining digits in plain text. Are these interlinear?	Need justification for use of this in plain text.
1ABA COMBINING QUESTION MARK ABOVE				<b>Definition:</b> “doubt mark” <b>Comments:</b> Need to show justification for this combining question mark in plain text	Need justification for use of this in plain text.
1ABB COMBINING LONG VERTICAL LINE ABOVE		030D combining vertical line above		<b>Definition:</b> used to mark the secondary ictus on classical Greek verses in contrast to the tonal accents (from proposal, p. 11) <b>Comments:</b> According to D. Mastronarde, this symbol was an old metrical notation mark, which is no longer in use. Use 030D.	Use existing character.
1ABC COMBINING DOUBLE LONG VERTICAL LINE ABOVE		030E combining double vertical line above		<b>Definition:</b> used to mark the primary ictus on classical Greek verses in contrast to the tonal accents (from proposal, p. 11) <b>Comments:</b> According to D. Mastronarde, this symbol was an old metrical notation mark, which is no longer in use. Use 030E.	Use existing character.
1DFA COMBINING DOUBLE RIGHTWARDS ARROW ABOVE				<b>Definition:</b> indicates “rising” (metrical phrase starts with short, before the first long) <b>Comments:</b> Only 1 example provided (1993a-3a), where it appears in a listing of metrical symbols; could this character ever go over 3 chars.? More information (with examples) needed. Seems to be companion to 0362 combining double rightwards arrow below.	More information needed showing usage.
1DFB COMBINING DOTTED DOUBLE INVERTED				<b>Definition:</b> indicates a word boundary is usually avoided <b>Comment:</b> 2 examples come from charts, but no examples over actual words, which would clarify its usage more clearly	More information needed showing usage.

BREVE					
20F4 COMBINING ACUTE ACCENT ABOVE LEFT		0301 combining acute accent?		<b>Definition:</b> <b>Comment:</b> As with 20F5 and the combining above right/left “x” below, this character need feedback from font implementers re: if the font can handle the placement of the accents, as in 1834a-24:  (Note: See comment at 2B80, which explains why 1868a-145 is not a good example.)	Need feedback from font implementers if this can be handled by fonts.
20F5 COMBINING ACUTE ACCENT ABOVE RIGHT		0301 combining acute accent?		<b>Definition:</b> <b>Comments:</b> See note above at 20F4.	More info needed. Need feedback from font implementers if this can be handled by fonts.
20F6 COMBINING TRIPLE ACUTE ACCENT		0301 combining acute accent + 0301 + 0301		<b>Definition:</b> <b>Comments:</b> More info needed on meaning and use. Is this used currently?	More info needed. Need feedback from font providers if this can be handled by fonts.
20F7 COMBINING X ABOVE LEFT		033D combining x above?		<b>Definition:</b> <b>Comments:</b> See note above at 20F4. Is this used currently?	More info needed. Need feedback from font implementers if this can be handled by fonts.
20F8 COMBINING X ABOVE RIGHT		033D combining x above?		<b>Definition:</b> <b>Comments:</b> See note above at 20F4. Is this used currently?	More info needed. Need feedback from font implementers if this can be handled by fonts.
20F9 COMBINING METRICAL TWO SHORTS JOINED ABOVE		0306 + 0306?		<b>Definition:</b> <b>Comments:</b> What is the relationship between this char., shown in 1982a-61  - x, vs. proposed 2B88 metrical two shorts over anceps  ? Note that the example in 1982a-147, 20F9 is part of an abbreviation: 	More information needed.

				which needs discussion.	
20FA COMBINING METRICAL DOWNWARDS TIE ABOVE		0361		<b>Definition:</b> a bridge (variant) <b>Comment:</b> A variant of the bridge, but angled to tie a higher component to one below it, as shown in 1997a-350: 	Use existing character.
<b>MODIFIER LETTERS</b>					
ABA2 MODIFIER LETTER SMALL GREEK LAMDA		<sup> 03BB		<b>Definition:</b> <b>Comment:</b> Need justification for use in plain text	Need justification for use in plain text.
ABA3 MODIFIER LETTER SMALL GREEK RHO		<sup> 03C1		<b>Definition:</b> “used together with U+1D5E modifier letter small greek gamma to form the editorial symbol ‘raised gamma+rho’ used for classical Greek” (p. 12 of proposal) <b>Comment:</b> Need justification for use in plain text. Note: In the definition above, rather than using this with 1D5E, the raised gamma should be handled as <sup> 03B3.	Need justification for use in plain text.