

**Title:** Preliminary Proposal to Encode Characters from the STIX PUA Collection – Part 2: Comprehensive Mapping from STIX PUA to Unicode

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## 1. Introduction

This proposal is to encode characters from the STIX PUA collection and is split in two parts:

- **Part 1: Characters Proposed for Encoding:**  
a separate document, STIXPUAProposal\_1\_ToEncode.doc, comprising only the characters being proposed for encoding;
- **Part 2: Comprehensive Mapping from STIX PUA to Unicode:**  
the current document, STIXPUAProposal\_2\_FullMapping.doc, containing a comprehensive list of all STIX PUA entries and their mapping to Unicode, including those given in Part 1.

The current document contains a comprehensive mapping of all STIX PUA entries to Unicode code points, standardized variation sequences, and (combining) character sequences. The same table includes the characters from Part 1 of the proposal, as well as STIX PUA entries which are deemed unsuitable for encoding in Unicode or which require further investigation.

### The STIX project

The Scientific and Technical Information Exchange (STIX) Fonts Project is an activity of the STI Pub companies [<http://www.stixfonts.org/stipubs.html>]: the [American Institute of Physics](#), the [American Chemical Society](#), the [American Mathematical Society](#), the [Institute of Electrical and Electronics Engineering, Inc.](#), the [American Physical Society](#), and [Elsevier](#).

STIX is a font creation project whose mission is “*the preparation of a comprehensive set of fonts that serve the scientific and engineering community in the process from manuscript creation through final publication, both in electronic and print formats. Toward this purpose, the STIX fonts will be made available, under royalty-free license, to anyone, including publishers, software developers, scientists, students, and the general public.*” [[http://www.stixfonts.org/abt\\_geninfo.html](http://www.stixfonts.org/abt_geninfo.html)]

### Contents of this proposal

The STIX PUA set consists of 336 characters, allocated in the PUA at code points in the range U+E000–U+E153, of which four code points are unassigned (U+E058 and U+E09C–U+E09E). Many of these characters can already be represented in Unicode, some are eligible to be encoded, and others are unsuitable for encoding. Of the characters eligible for encoding, a subset is being proposed at this time (in Part 1 of this proposal). The rest require further investigation and if deemed eligible will be proposed later.

Depending on their nature, different STIX PUA entries either map to Unicode codes or sequences, or do not have a Unicode counterpart. The mapping of a given STIX PUA entry can thus be one of the following:

- STIX PUA characters already encoded as Unicode code points or variation-selector sequences;
- STIX PUA characters that can be represented as Unicode (combining) character sequences;
  - Per UTC recommendations, all negated math characters use only one code per orientation: 0338 for forward slant, 20D2 for vertical, 20E5 for backward slant;

- Cancellation stroke is shorter, but considered a glyph variant;
- Since the entries E061–E067 are combining marks, their representation in Unicode as sequences of two combining diacritics should be adequate;
- STIX PUA characters proposed for encoding as Unicode code points
- STIX PUA characters proposed for encoding as variation-selector;
- STIX PUA characters requiring further investigation;
  - In particular, all tilde characters belong in this group and will be examined later as a set;
- STIX PUA characters, such as glyph pieces, deemed unsuitable for encoding.

## Notes

- The mapping is listed in increasing order by STIX PUA code point;
- The proposed code points and variation sequences are highlighted on yellow background; the characters under investigation are highlighted on blue background;
- The last column of the table (Comments) describes the type of mapping (existing code point, standardized variation sequence, character sequence) or provides comments for the characters remaining under investigation or rejected as ineligible for encoding;
- For characters under investigation or rejected, the last two columns are merged to save space;
- VS1 through VS3 are abbreviations of U+FE00 VARIATION SELECTOR-1 through U+FE02 VARIATION SELECTOR-3;
- Code points are written without the ‘U+’ prefix to save space;
- Code-point sequences are enclosed within angle brackets: <cp1, cp2, ...>;
- STIX descriptions are prefixed with ‘stix-’ and come from the last column in the [STIX] table at <http://www.ams.org/STIX/bnb/stix-tbl.ascii-2006-10-20>;
- The glyphs in the table are from the STIXNonUnicode font. Please refer to the Unicode code charts for comparison to Unicode representative glyphs.

## 2. Comprehensive mapping from STIX PUA to Unicode

STIX Glyph	STIX PUA	STIX Description <i>Comments</i>	Unicode code (sequence)	Unicode name or description	Comments
	E000	stix-radical symbol vertical extender	N/A	Rejected. Glyph piece (extender). See also <a href="http://vt100.net/charsets/technical.html">http://vt100.net/charsets/technical.html</a> , which lists 2502 BOX DRAWINGS LIGHT VERTICAL.	
┐	E001	stix-radical symbol top corner piece	N/A	Rejected. Glyph piece. See also <a href="http://vt100.net/charsets/technical.html">http://vt100.net/charsets/technical.html</a> , which lists 250C BOX DRAWINGS LIGHT DOWN AND RIGHT.	
≡	E002	stix-"shaw": large operator with three parallel vertical lines topped by a horizontal	27CB	N-ARY SHAW (N-ARY because of large size)	Proposed code point
≡	E003	stix-"shaw" (just like E002)	?	Investigate. Unified with STIX E002 as glyph variant. Is a variation sequence needed to distinguish E003 from E002?	
↗	E004	stix-not right arrow-wavy	<219D, 0338>	Negated RIGHTWARDS WAVE ARROW	Combining character sequence
↘	E005	stix-not right arrow-curved	<2933, 0338>	Negated WAVE ARROW POINTING DIRECTLY RIGHT	Combining character sequence
∪	E006	stix-union, serifs	<222A, VS1>	UNION with serifs	Standardized variation sequence
∩	E007	stix-intersection, serifs	<2229, VS1>	INTERSECTION with serifs	Standardized variation sequence
⊔	E008	stix-square union, serifs	<2294, VS1>	SQUARE CAP with serifs	Standardized variation sequence
⊓	E009	stix-square intersection, serifs	<2293, VS1>	SQUARE CAP with serifs	Standardized variation sequence
ℓ	E00A	stix-reverse most positive, line below	?	Investigate. Currently a glyph variant of 22CD. [STIX] glyph name implies <223E, 0332> reversed, which is a typo in [STIX] (cf. next entry in [STIX]). Sequence <223D, 0332> might work, but research disunification as LAZY S EQUALS.	
ℓ	E00B	stix-most positive, two lines below	?	Investigate. [STIX] glyph name implies <223E, 0333>. Consider disunification as INVERTED LAZY S ABOVE EQUALS SIGN.	
≧	E00C	stix-gt, vert, not double equals	<2269, VS1>	GREATER-THAN BUT NOT EQUAL TO with vertical stroke	Standardized variation sequence
≦	E00D	stix-less, vert, not double equals	<2268, VS1>	LESS-THAN BUT NOT EQUAL TO with vertical stroke	Standardized variation sequence
≧	E00E	stix-not greater, double equals	<2267, 0338>	Negated GREATER-THAN OVER EQUAL TO	Combining character sequence

⚮	E00F	stix-not greater-or-equal, slanted	<2A7E, 0338>	Negated GREATER-THAN OR SLANTED EQUAL TO	Combining character sequence
⚭	E010	stix-not less-or-equal, slanted	<2A7D, 0338>	Negated LESS-THAN OR SLANTED EQUAL TO	Combining character sequence
⚮̸	E011	stix-not less, double equals	<2266, 0338>	Negated LESS-THAN OVER EQUAL TO	Combining character sequence
⚮̸	E012	stix-negated short mid	?	Investigate. Glyph variant of 2224 DOES NOT DIVIDE created for compounding in the center of taller fence-posts. Sometimes used in super/subscripts. Explore <2224, VS1>. See E0BA.	
⚮̸	E013	stix-not short parallel	?	Investigate. Glyph variant of 2226 NOT PARALLEL TO created for compounding in the center of taller fence-posts. Sometimes used in super/subscripts. Explore <2226, VS1>.	
⋈	E014	stix-not subset [vertical negation]	<2282, 20D2>	Vertically negated SUBSET OF	Combining character sequence
⋈	E015	stix-/nsubseteq N: not (vert) subset, equals	<2286, 20D2>	Vertically negated SUBSET OF OR EQUAL TO	Combining character sequence
⋈̸	E016	stix-not subset, double equals	<2AC5, 0338>	Negated SUBSET OF ABOVE EQUALS SIGN	Combining character sequence
⋈̸	E017	stix-not superset [vertical negation]	<2283, 20D2>	Vertically negated SUPERSET OF	Combining character sequence
⋈̸	E018	stix-not superset, double equals	<2AC6, 0338>	Negated SUPERSET OF ABOVE EQUALS SIGN	Combining character sequence
⋈̸	E019	stix-/nsupseteq N: not (vert) superset, equals	<2287, 20D2>	Vertically negated SUPERSET OF OR EQUAL TO	Combining character sequence
⋈̸	E01A	stix-subset not double equals, variant	<2ACB, VS1>	SUBSET OF ABOVE NOT EQUAL TO variant with stroke through bottom members	Standardized variation sequence
⋈̸	E01B	stix-subset, not equals, variant	<228A, VS1>	SUBSET OF WITH NOT EQUAL TO variant with overlapping stroke	Standardized variation sequence
⋈̸	E01C	stix-superset, not equals, variant	<228B, VS1>	SUPERSET OF WITH NOT EQUAL TO variant with overlapping stroke	Standardized variation sequence
⋈̸	E01D	stix-superset not double equals, variant	<2ACC, VS1>	SUPERSET OF ABOVE NOT EQUAL TO variant with stroke through bottom members	Standardized variation sequence
⚮̸	E01E	stix-not approximately identical to	<224B, 0338>	Negated TRIPLE TILDE	Combining character sequence
⚮̸	E01F	stix-not, vert, less-than-or-equal	<2264, 20D2>	Vertically negated LESS-THAN OR EQUAL TO	Combining character sequence

⚭	E020	stix-not, vert, greater-than-or-equal	<2265, 20D2>	Vertically negated GREATER-THAN OR EQUAL TO	Combining character sequence
⚮	E021	stix-not, vert, less-than	<003C, 20D2>	Vertically negated LESS-THAN SIGN	Combining character sequence
⚭	E022	stix-not, vert, greater-than	<003E, 20D2>	Vertically negated GREATER-THAN SIGN	Combining character sequence
⚭	E023	stix-not congruent, dot	<2A6D, 0338>	Negated CONGRUENT WITH DOT ABOVE	Combining character sequence
⚭	E024	stix-not, vert, approximate	<2248, 20D2>	Vertically negated ALMOST EQUAL TO	Combining character sequence
⚭	E025	stix-not approximately equal or equal to	<2A70, 0338>	Negated APPROXIMATELY EQUAL OR EQUAL TO	Combining character sequence
⚭	E026	stix-not, vert, double nested less than	<2AA1, 20D2>	Vertically negated DOUBLE NESTED LESS-THAN	Combining character sequence
⚭	E027	stix-not, vert, double nested greater than	<2AA2, 20D2>	Vertically negated DOUBLE NESTED GREATER-THAN	Combining character sequence
⚭	E028	stix-not much less than	<226A, 0338>	Negated MUCH LESS-THAN	Combining character sequence
⚭	E029	stix-not much greater than	<226B, 0338>	Negated MUCH GREATER-THAN	Combining character sequence
⚭	E02A	stix-not triple less than	<22D8, 0338>	Negated VERY MUCH LESS-THAN	Combining character sequence
⚭	E02B	stix-not triple greater than	<22D9, 0338>	Negated VERY MUCH GREATER-THAN	Combining character sequence
⚭	E02C	stix-not, vert, right triangle, equals	<22B5, 20D2>	Vertically negated CONTAINS AS NORMAL SUBGROUP OR EQUAL TO	Combining character sequence
⚭	E02D	stix-not, vert, left triangle, equals	<22B4, 20D2>	Vertically negated NORMAL SUBGROUP OF OR EQUAL TO	Combining character sequence
ℏ	E02E	stix-/hbar – Planck’s over 2pi [STIX] glyph name is "210F.var"	<210F, VS1>	PLANCK CONSTANT OVER TWO PI variant with horizontal stroke	Proposed variation sequence
⚭	E02F	stix-not, vert, angle	<2220, 20D2>	Vertically negated ANGLE	Combining character sequence
⚭	E030	stix-less, equal, slanted, greater	<22DA, VS1>	LESS-THAN EQUAL TO OR GREATER-THAN with slanted equal	Standardized variation sequence
⚭	E031	stix-greater, equal, slanted, less	<22DB, VS1>	GREATER-THAN EQUAL TO OR LESS-THAN with slanted equal	Standardized variation sequence
⚭	E032	stix-smaller than or equal, slanted	<2AAC, VS1>	SMALLER THAN OR EQUAL TO with slanted equal	Standardized variation sequence

⋈	E033	stix-larger than or equal, slanted	<2AAD, VS1>	LARGER THAN OR EQUAL TO with slanted equal	Standardized variation sequence
⋇	E034	stix-negated (vert) contains	<220B, 20D2>	Vertically negated CONTAINS AS MEMBER	Combining character sequence
⋈	E035	stix-negated contains	<220D, 0338>	Negated SMALL CONTAINS AS MEMBER	Combining character sequence
⋈	E036	stix-negated (vert) set membership, variant	<2208, 20D2>	Vertically negated ELEMENT OF	Combining character sequence
⋈	E037	stix-reverse not equal	<003D, 20E5>	Reverse negated EQUALS SIGN	Combining character sequence
⋈	E038	stix-not parallel, slanted	<2AFD, 20E5>	Reverse negated DOUBLE SOLIDUS OPERATOR	Combining character sequence
⋈	E039	stix-not equal, dot	<2250, 0338>	Negated APPROACHES THE LIMIT	Combining character sequence
⋈	E03A	stix-not partial differential	<2202, 0338>	Negated PARTIAL DIFFERENTIAL	Combining character sequence
⋈	E03B	stix-negated set membership, dot above	<22F5, 0338>	Negated ELEMENT OF WITH DOT ABOVE	Combining character sequence
⋈	E03C	stix-negated set membership, two horizontal strokes	<22F9, 0338>	Negated ELEMENT OF WITH TWO HORIZONTAL STROKES	Combining character sequence
⋈	E03D	stix-negated (slash) set membership	<220A, 0338>	Negated SMALL ELEMENT OF	Combining character sequence
⋈	E03E	stix-not, vert, greater, similar	<2273, 20D2>	Vertically negated SMALL ELEMENT OF	Combining character sequence
⋈	E03F	stix-not, vert, less, similar	<2272, 20D2>	Vertically negated LESS-THAN OR EQUIVALENT TO	Combining character sequence
⋈	E040	stix-congruence sign (lazy S)	?	Investigate. Currently a glyph variant of 223D. [STIX] glyph name is "223E.reversed". Research disunification as LAZY S. Barbara commented "this is recorded in the AFII register with the note "not alternate rendition of similar to", so unification with 223D, even via VS1, is not appropriate."	
⋈	E041	stix-modifier letter small h turned, superscript	1DA3	MODIFIER LETTER SMALL TURNED H	Existing code point
⋈	E042	stix-modifier letter small a (one-story) turned, superscript	1D9B	MODIFIER LETTER SMALL TURNED ALPHA	Existing code point
⋈	E043	stix-two-line slanted equal to or less-than - with vertical stroke	<2A9B, 20D2>	Vertically negated DOUBLE-LINE SLANTED EQUAL TO OR LESS-THAN	Combining character sequence
⋈	E044	stix-two-line slanted equal to or greater-than with vertical stroke	<2A9C, 20D2>	Vertically negated DOUBLE-LINE SLANTED EQUAL TO OR GREATER-	Combining character sequence

				THAN	
≠	E045	stix-two-line slanted equal to or less-than - with slash	<2A9B, 0338>	Negated DOUBLE-LINE SLANTED EQUAL TO OR LESS-THAN	Combining character sequence
≧	E046	stix-two-line slanted equal to or greater-than with slash	<2A9C, 0338>	Negated DOUBLE-LINE SLANTED EQUAL TO OR GREATER-THAN	Combining character sequence
~	E047	stix-most positive	?	Investigate. Currently a glyph variant of 223E. [STIX] glyph name is "223E.var". Consider new variation sequence <223E, VS1>. STIX notes imply that it can also be negated.	
˜	E048	stix-not, vert, similar	<223C, 20D2>	Cancelled TILDE OPERATOR	Combining character sequence <i>Cancellation stroke is shorter than 20D2 but considered a glyph variant. Do not use 20D3. See canonical decomposition of 2241.</i>
⌞	E049	stix-vert, low bar to right from base	?	Investigate. [STIX] glyph name implies <2A3D, VS1>. See also: <230A>; <231E>; <23BF>.	
⌟	E04A	stix-vert, low bar to left from base	?	Investigate. [STIX] glyph name implies <2A3C, VS1>. See also: <230B>; <231F>; <23CC>.	
≠	E04B	stix-not precedes, single equals	<2AAF, 0338>	Negated PRECEDES ABOVE SINGLE-LINE EQUALS SIGN	Combining character sequence
≠	E04C	stix-not precedes, double equals	<2AB3, 0338>	Negated PRECEDES ABOVE EQUALS SIGN	Combining character sequence
≠	E04D	stix-not, vert, equal or similar	<2242, 20D2>	Vertically negated MINUS TILDE	Combining character sequence
≠	E04E	stix-not succeeds, double equals	<2AB4, 0338>	Negated SUCCEEDS ABOVE EQUALS SIGN	Combining character sequence
≠	E04F	stix-not succeeds, single equals	<2AB0, 0338>	Negated SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN	Combining character sequence
⊄	E050	stix-not, square subset	<228F, 0338>	Negated SQUARE IMAGE OF	Combining character sequence
⊇	E051	stix-not, square superset	<2290, 0338>	Negated SQUARE ORIGINAL OF	Combining character sequence
≉	E052	stix-not bumpy equals	<224E, 0338>	Negated ASYMPTOTICALLY EQUAL TO	Combining character sequence
Ⓚ	E053	stix-Latin letter small-cap K, reversed	?	Investigate. [STIX] glyph name is "1D0B.reversed". Consider new LATIN LETTER SMALL CAPITAL REVERSED K. [Pullum] turned small capital K. No mapping in [Constable]. Comments from Peter and Lorna: "Not used, but specifically mentioned in <i>Principles</i> as having been suggested for use as a 'general symbol' for any consonant that has no current IPA symbol. For this reason, the symbol is included in the LaserIPA font marketed by Linguist's Software." Update: Lorna is	

				working on encoding the remaining [Pullum] characters and her list includes the small capital reversed K.	
ɑ̥	E054	stix-Latin letter small a (one-story) with rhotic hook	<0251, 02DE>	LATIN SMALL LETTER ALPHA with (rhotic) hook	Character sequence
ɛ̥	E055	stix-Latin letter small open e with rhotic hook	<025B, 02DE>	LATIN SMALL LETTER OPEN E with (rhotic) hook	Character sequence
ɔ̥	E056	stix-Latin letter small open o with rhotic hook	<0254, 02DE>	LATIN SMALL LETTER OPEN O with (rhotic) hook	Character sequence
ω̥	E057	stix-Latin letter small omega, inverted	?	Investigate. Need evidence for encoding a LATIN SMALL LETTER TURNED OMEGA. Otherwise, it's a nonce glyph. Update: Lorna is working on encoding the remaining [Pullum] characters and her list includes the turned omega.	
	E058	(blank entry)			
⋈	E059	stix-not precedes, similar	<227E, 0338>	Negated PRECEDES OR EQUIVALENT TO	Combining character sequence
⋈̸	E05A	stix-not succeeds, similar	<227F, 0338>	Negated SUCCEEDS OR EQUIVALENT TO	Combining character sequence
≠	E05B	stix-stix-not bumpy single equals	<224F, 0338>	Negated DIFFERENCE BETWEEN	Combining character sequence
≠̸	E05C	stix-stix-not equal or similar	<2242, 0338>	Negated MINUS TILDE	Combining character sequence
s̸	E05D	stix-barred ess	?	Investigate. [STIX] glyph name implies <0073, 0336>. Consider <0073, 0335> or a new code point (non-decomposable) LATIN SMALL LETTER S WITH STROKE. Originates from AIP, not phonetics; follow up with Barbara for samples.	
	E05E	stix-double macron	?	Investigate. Non-joining. [STIX] glyph name implies <0304, 0304>. This is a combining diacritic and not the superscript (modifier) equals. Strong textual evidence needed to justify encoding of a combining double macron, instead of using a sequence of two 0304. Glyph needs a dotted circle. Originates from AIP, not phonetics; follow up with Barbara for samples.	
⊖	E05F	stix-two horizontal bars in circle	<229C, VS1>	CIRCLED EQUALS with equal sign touching the circle	Standardized variation sequence
	E060	stix-double underbar	0347 ( <i>after errata</i> )	COMBINING EQUALS SIGN BELOW	Existing code point
	E061	stix-triple underbar	?	Investigate. Non-joining. [STIX] glyph name implies <0331, 0331, 0331>. Strong textual evidence needed to justify encoding of a combining triple macron below, instead of using a sequence of three 0331. Glyph needs a dotted circle. Originates from AIP, not phonetics; follow up with Barbara for samples.	

	E062	stix-quadruple underbar	?	Investigate. Non-joining. [STIX] glyph name implies <0331, 0331, 0331, 0331>. Strong textual evidence needed to justify encoding of a combining quadruple macron below, instead of using a sequence of four 0331. Glyph needs a dotted circle. From AIP, not phonetics; follow up with Barbara for samples.	
	E063	stix-accent caret over dot	<0307, 0302>	COMBINING DOT ABOVE and CIRCUMFLEX ACCENT	Combining character sequence
	E064	stix-tilde over bar over	<0304, 0303>	COMBINING MACRON and TILDE	Combining character sequence
	E065	stix-straight over wavy underline	<0331, 0330>	COMBINING MACRON BELOW and TILDE BELOW	Combining character sequence
	E066	stix-double dot over bar over	<0304, 0308>	COMBINING MACRON and DIAERESIS	Combining character sequence
	E067	stix-wavy over straight underline	<0330, 0331>	COMBINING TILDE BELOW and MACRON BELOW	Combining character sequence
ḥ	E068	stix-hooked h	?	Investigate. [STIX] glyph name implies <0068, 0321>. Barbara said it originates from AIP and is not the same as E0A3 "stix-heng (phonetic symbol)", which is a true heng. See E0A3. Follow up with Barbara for samples.	
≠̣	E069	stix-not, vert, less, greater	<2276, 20D2>	Vertically negated LESS-THAN OR GREATER-THAN	Combining character sequence
≠̣̄	E06A	stix-not, vert, greater, less	<2277, 20D2>	Vertically negated GREATER-THAN OR LESS-THAN	Combining character sequence
≠̣̅	E06B	stix-small not (vert) member <i>"small" explicitly labelled in both Unicode and STIX names</i>	<220A, 20D2>	Vertically negated SMALL ELEMENT OF	Combining character sequence
≠̣̆	E06C	stix-small not (vert) contains <i>"small" explicitly labelled in both Unicode and STIX names</i>	<220D, 20D2>	Vertically negated SMALL CONTAINS AS MEMBER	Combining character sequence
≠̣̇	E06D	stix-not equal to or member	<22F6, 0338>	Negated ELEMENT OF WITH OVERBAR	Combining character sequence
≠̣̈	E06E	stix-not equal to or contains	<22FD, 0338>	Negated CONTAINS WITH OVERBAR	Combining character sequence
≠̣̉	E06F	stix-Not (vert) equals or member	<22F6, 20D2>	Vertically negated ELEMENT OF WITH OVERBAR	Combining character sequence
≠̣̊	E070	stix-not (vert) equals or contains	<22FD, 20D2>	Vertically negated CONTAINS WITH OVERBAR	Combining character sequence
⊕̣	E071	stix-circled plus (with rim)	<2295, VS1>	CIRCLED PLUS with white rim	Standardized variation sequence

⊗	E072	stix-circled times (with rim)	<2297, VS1>	CIRCLED TIMES with white rim	Standardized variation sequence
℞	E073	stix-not (vert) similar or equal	<2243, 20D2>	Vertically negated ASYMPTOTICALLY EQUAL TO	Combining character sequence
℞	E074	stix-not (vert) similar over two-line equals	<2245, 20D2>	Vertically negated APPROXIMATELY EQUAL TO	Combining character sequence
℞	E075	stix-not (slash) similar minus similar	<2A6C, 0338>	Negated SIMILAR MINUS SIMILAR	Combining character sequence
℞	E076	stix-not (vert) similar minus similar	<2A6C, 20D2>	Vertically negated SIMILAR MINUS SIMILAR	Combining character sequence
℞	E077	stix-not (vert) double similar over two-line equals	<2A70, 20D2>	Vertically negated APPROXIMATELY EQUAL OR EQUAL TO	Combining character sequence
℞	E078	stix-not (vert) asymptotically equal to	<224D, 20D2>	Vertically negated EQUIVALENT TO	Combining character sequence
℞	E079	stix-reverse sine wave	?	Investigate. Possible new code point REVERSED SINE WAVE, part of the tilde disunification proposal.	
℞	E07A	stix-not (vert) equals	<003D, 20D2>	Vertically negated EQUALS SIGN	Combining character sequence
℞	E07B	stix-not (vert) three-line equals	<2261, 20D2>	Vertically negated IDENTICAL TO	Combining character sequence
℞	E07C	stix-not (slash) four-line equals (not strictly equivalent to)	<2263, 0338>	Negated STRICTLY EQUIVALENT TO	Combining character sequence
℞	E07D	stix-not (vert) four-line equals	<2263, 20D2>	Vertically negated STRICTLY EQUIVALENT TO	Combining character sequence
℞	E07E	stix-not (vert) less-than slanted equal	<2A7D, 20D2>	Vertically negated LESS-THAN OR SLANTED EQUAL TO	Combining character sequence
℞	E07F	stix-not (vert) greater-than slanted equal	<2A7E, 20D2>	Vertically negated GREATER-THAN OR SLANTED EQUAL TO	Combining character sequence
℞	E080	stix-not (vert) less-than or two-line equal	<2266, 20D2>	Vertically negated LESS-THAN OVER EQUAL TO	Combining character sequence
℞	E081	stix-not (vert) greater-than or two-line equal	<2267, 20D2>	Vertically negated GREATER-THAN OVER EQUAL TO	Combining character sequence
℞	E082	stix-not (slash) equal (slant) or less-than	<2A95, 0338>	Negated SLANTED EQUAL TO OR LESS-THAN	Combining character sequence
℞	E083	stix-not (slash) equal (slant) or greater-than	<2A96, 0338>	Negated SLANTED EQUAL TO OR GREATER-THAN	Combining character sequence
℞	E084	stix-not (vert) equals (slant) or less-than	<2A95, 20D2>	Vertically negated SLANTED EQUAL TO OR LESS-THAN	Combining character sequence

















≧	E085	stix-not (vert) equals (slant) or greater-than	<2A96, 20D2>	Vertically negated SLANTED EQUAL TO OR GREATER-THAN	Combining character sequence
≧	E086	stix-not (slash) two-line equal or less-than	<2A99, 0338>	Negated DOUBLE-LINE EQUAL TO OR LESS-THAN	Combining character sequence
≧	E087	stix-not (slash) two-line equal or greater-than	<2A9A, 0338>	Negated DOUBLE-LINE EQUAL TO OR GREATER-THAN	Combining character sequence
≧	E088	stix-not (vert) two-line equals or less-than	<2A99, 20D2>	Vertically negated DOUBLE-LINE EQUAL TO OR LESS-THAN	Combining character sequence
≧	E089	stix-not (vert) two-line equals or greater-than	<2A9A, 20D2>	Vertically negated DOUBLE-LINE EQUAL TO OR GREATER-THAN	Combining character sequence
≧	E08A	stix-less-than or (contour) similar	<2272, VS1>	LESS-THAN OR EQUIVALENT TO following the slant of the lower leg	Standardized variation sequence
≧	E08B	stix-greater-than or (contour) similar	<2273, VS1>	GREATER-THAN OR EQUIVALENT TO following the slant of the lower leg	Standardized variation sequence
≧	E08C	stix-similar (conforming) or less-than	<2A9D, VS1>	SIMILAR OR LESS-THAN with similar following the slant of the upper leg	Standardized variation sequence
≧	E08D	stix-similar (conforming) or greater-than	<2A9E, VS1>	SIMILAR OR GREATER-THAN with similar following the slant of the upper leg	Standardized variation sequence
≧	E08E	stix-not (vert) precedes	<227A, 20D2>	Vertically negated PRECEDES	Combining character sequence
≧	E08F	stix-not (vert) succeeds	<227B, 20D2>	Vertically negated SUCCEEDS	Combining character sequence
≧	E090	stix-not (vert) precedes or contour equals	<227C, 20D2>	Vertically negated PRECEDES OR EQUAL TO	Combining character sequence
≧	E091	stix-not (vert) succeeds or contour equals	<227D, 20D2>	Vertically negated SUCCEEDS OR EQUAL TO	Combining character sequence
≧	E092	stix-not (vert) equals (contour) or precedes	<22DE, 20D2>	Vertically negated EQUAL TO OR PRECEDES	Combining character sequence
≧	E093	stix-not (vert) equals (contour) or succeeds	<22DF, 20D2>	Vertically negated EQUAL TO OR SUCCEEDS	Combining character sequence
≧	E094	stix-not (slash) equals (contour) or precedes	<22DE, 0338>	Negated EQUAL TO OR PRECEDES	Combining character sequence
≧	E095	stix-not (slash) equals (contour) or succeeds	<22DF, 0338>	Negated EQUAL TO OR SUCCEEDS	Combining character sequence
≧	E096	stix-not (vert) subset or two-line	<2AC5, 20D2>	Vertically negated SUBSET OF	Combining character sequence

		equals		ABOVE EQUALS SIGN	
≠	E097	stix-not (vert) superset or two-line equals	<2AC6, 20D2>	Vertically negated SUPERSET OF ABOVE EQUALS SIGN	Combining character sequence
≡	E098	stix-triple vertical, slash cancellation	<2AF4, 0338>	Cancelled TRIPLE VERTICAL BAR BINARY RELATION	Combining character sequence
∇	E099	stix-narrow sloped nabla <i>Glyph variant from Math Pi fonts.</i>	1D6FB	MATHEMATICAL ITALIC NABLA	Existing code point
()	E09A	stix-parentheses around thin space	<0028, 2009, 0029>	THIN SPACE enclosed within PARENTHESES	Character sequence
(.)	E09B	stix-center dot in parentheses	<0028, 22C5, 0029>	DOT OPERATOR enclosed within PARENTHESES	Character sequence
	E09C	(blank entry)			
	E09D	(blank entry)			
	E09E	(blank entry)			
/	E09F	stix-rising diagonal	?	Investigate. <2215>? <2571>? <29F8>? <002F>? Need usage context.	
\	E0A0	stix-falling diagonal	?	Investigate. <29F5>? <2572>? <29F9>? <005C>? Need usage context.	
€	E0A1	stix-capital C with stroke	?	Investigate. Originates from [Elsevier]. If it is the CAMBRIAN SYMBOL, then encode only an upper-case letter-like symbol. See <a href="http://www.briancoad.com/dictionary/symbols.htm">http://www.briancoad.com/dictionary/symbols.htm</a> and Cambrian on Wikipedia. If it has other semantics, a case pair may be justified due to Unicode case-folding stability policy (LATIN CAPITAL / SMALL LETTER C WITH BAR). Consider also <0043, 0335> and research [Pullum] barred c (no mapping in [Constable]). Update: Lorna is working on encoding the remaining [Pullum] characters and her list might include the lower case. To follow up with Lorna.	
g	E0A2	stix-barred open gee	?	Investigate. [Pullum] crossed g. [Constable] “glyph variant of 01E5 (unless the 0067 vs 0261 distinction should be kept for barred/crossed forms)”. Need (contrastive) usage context to decide between 01E5; <0261, 0337>; or a possible new (non-decomposable) LATIN SMALL LETTER SCRIPT G WITH DIAGONAL STROKE THROUGH DESCENDER. Originates from AIP, not phonetics; follow up with Barbara for samples.	
h	E0A3	stix-heng (phonetic symbol) <i>Contrast with E068 stix-hooked h.</i>	A727	LATIN SMALL LETTER HENG	Existing code point
l	E0A4	stix-Latin letter small r-fishhook, reversed, with descender stem	?	Investigate. 027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK was adjusted in the Unicode code charts to have a longer leg. However, there is no consensus	

				between reviewers whether E0A4 is 027F or a new code point or variation sequence is needed. [Elsevier] lists two different symbols: “fish-hook r, reversed” (entry Pjr) mapped to 027F and “reversed fish-hook r, long leg (variant of Pjr)” (entry Plr). Needs further research and evidence of contrastive use. Ask Barbara.	
ˆ	E0A5	stix-hooktop (phonetic symbol)	N/A	Rejected. Glyph piece. See 0188, 0199, ...	
˘	E0A6	stix-curly tail (phonetic symbol)	N/A	Rejected. Glyph piece. See 0234...0236, ...	
˙	E0A7	stix-modifier letter level-rise contour tone bar	?	Investigate. STIX name indicates not a diacritic. Maybe <0020, 1DC4>.	
˚	E0A8	stix-modifier letter high-rise tone bar	<02E6, 02E5>	MODIFIER LETTER HIGH EXTRA-HIGH CONTOUR TONE BAR	Character sequence
˛	E0A9	stix-retracted (in-line diacritic)	?	Investigate. Seems a glyph variant of 02D7 with larger serifs (unless there is evidence of contrastive use). Recommend 02D7 instead of variation sequence. See [Pullum] minus sign.	
˜	E0AA	stix-modifier letter fall-level contour tone bar	?	Investigate. STIX name indicates not a diacritic. Maybe <0020, 1DC5>.	
˝	E0AB	stix-modifier letter low-rise tone bar	<02E9, 02E8>	MODIFIER LETTER EXTRA-LOW LOW CONTOUR TONE BAR	Character sequence
˞	E0AC	stix-modifier letter fall-rise-fall contour tone bar	?	Investigate. STIX name indicates not a diacritic. Maybe <0020, 1DC8>.	
˟	E0AD	stix-modifier letter rise-fall tone bar	<02E6, 02E5, 02E6>	MODIFIER LETTER HIGH EXTRA-HIGH HIGH CONTOUR TONE BAR	Character sequence
ˠ	E0AE	stix-modifier letter rise tone bar	<02E9, 02E5>	MODIFIER LETTER EXTRA-LOW EXTRA-HIGH CONTOUR TONE BAR	Character sequence
ˡ	E0AF	stix-modifier letter fall tone bar	<02E5, 02E9>	MODIFIER LETTER EXTRA-HIGH EXTRA-LOW CONTOUR TONE BAR	Character sequence
	E0B0	stix-left overangle (combining)	?	Investigate. Is it really "left"? Glyphs looks rather "right". Existing combining angles (031A, 0349, 20E7) do not seem adequate. Propose <1DE7> COMBINING RIGHT ANGLE ABOVE. Glyph needs a dotted circle.	
	E0B1	stix-left underangle (combining)	?	Investigate. Existing combining angles (031A, 0349, 20E7) do not seem adequate. Propose <1DE8> COMBINING INVERTED LEFT ANGLE BELOW. Glyph needs a dotted circle.	
	E0B2	stix-right underangle (combining)	?	Investigate. Existing combining angles (031A, 0349, 20E7) do not seem adequate. Propose <1DE9> COMBINING INVERTED RIGHT ANGLE BELOW. Glyph needs a dotted circle.	
fj	E0B3	stix-small fj ligature	<0066, 200D,	LATIN SMALL LIGATURE FJ	Character sequence













		<i>See notes on p. 540 of TUS 5.0.</i>	006A>		
◂	E0B4	stix-arrow hookleft	N/A	Rejected. Glyph piece. See 21A9, 21AA.	
◃	E0B5	stix-arrow hookright	N/A	Rejected. Glyph piece. See 21A9, 21AA.	
	E0B6	stix-maps-to relation tail	N/A	Rejected. Glyph piece. See 27FC alias "maps to".	
•	E0B7	stix-bold center dot (very small filled square)	?	Investigate. Meant for compatibility with old documents that may have used a square glyph where round was intended. Either 2219 or 22C5 should work; remains only to find out exactly which.	
$\sqrt{2}$	E0B8	stix-square root of 2	?	Investigate. LaTeX distinguishes between <code>\sqrt</code> and <code>\surd</code> : see p. 53 in <a href="http://tobi.oetiker.ch/lshort/lshort.pdf">http://tobi.oetiker.ch/lshort/lshort.pdf</a> (version 4.26 of Sep. 2008). <code>&lt;221A, 0032&gt;</code> should be fine, with no need for a <code>&lt;221A, VS1&gt;</code> . However, Barbara noted that the surd 221A is used without a vinculum, often followed by parenthesized expression, and asked how to distinguish the form with vinculum. Is it a function of mark-up? Follow up with Murray to inform the MathML group. See also E13A.	
$\sqrt{3}$	E0B9	stix-square root of 3	?	Investigate. <code>&lt;221A, 0033&gt;</code> SQUARE ROOT of DIGIT THREE and the same comment as for E0B8.	
⋈	E0BA	stix-short mid negated by backslash	?	Investigate. Glyph variant of 2AEE DOES NOT DIVIDE WITH REVERSED NEGATION SLASH created for compounding in the center of taller fence-posts. Sometimes used in super/subscripts. Explore <code>&lt;2AEE, VS1&gt;</code> DOES NOT ... short variant. See E012.	
⋈	E0BB	stix-equal sign above tilde operator, vertical negation	<code>&lt;2A73, 20D2&gt;</code>	Vertically negated EQUALS SIGN ABOVE TILDE OPERATOR	Combining character sequence
⋈	E0BC	stix-times sign with dash through it <i>Decide which stroke diacritic to use.</i>	<code>&lt;00D7, 0335&gt;</code> or <code>&lt;00D7, 0336&gt;</code>	MULTIPLICATION SIGN with stroke	Combining character sequence
$f$	E0BD	stix-lowercase italic f with horizontal bar touching its upper edge <i>From IEEE, created for convenience.</i>	<code>&lt;1D453, 0304&gt;</code>	MATHEMATICAL ITALIC SMALL F with MACRON	Combining character sequence
$f^T$	E0BE	stix-lowercase italic f with horizontal bar touching its upper edge and superscript u/c italic T <i>From IEEE, created for convenience.</i>	<code>&lt;1D453, 0304, 1D447&gt;</code>	MATHEMATICAL ITALIC SMALL F with MACRON and superscripted MATHEMATICAL ITALIC CAPITAL T	Combining character sequence
≧	E0BF	stix-2 lines falling over 1 line rising	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.	

≧	E0C0	stix-1 line falling over 2 lines rising	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≦	E0C1	stix-2 lines rising over 1 line falling	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≧	E0C2	stix-1 line rising over 2 lines falling	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≡	E0C3	stix-dashed line over line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≡	E0C4	stix-dashed line over two lines	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≡	E0C5	stix-two lines over dashed line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
—	E0C6	stix-single line, medium length	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
⋯	E0C7	stix-dotted (3 dots) line over line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
==	E0C8	stix-two long horizontal lines	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≡	E0C9	stix-three long horizontal lines	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≡	E0CA	stix-four long horizontal lines	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
=	E0CB	stix-two medium horizontal lines	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≡	E0CC	stix-three medium horizontal lines	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
≡	E0CD	stix-four medium horizontal lines	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.
⧵	E0CE	stix-rising line, horizontal line, falling line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME. Cross-reference to 269F THREE LINES CONVERGING LEFT from the ARIB set.
⧻	E0CF	stix-falling line, horizontal line, rising line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME. Cross-reference to 269E THREE LINES CONVERGING RIGHT from the ARIB set.
⧼	E0D0	stix-rising line, falling line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.

	E0D1	stix-falling line, rising line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.	
	E0D2	stix-six carbon ring, corner down, double bonds lower left etc	?	Investigate. Propose <232C, VS1> BENZENE RING reversed variant, unless the shape is significant to justify a new code point.	
	E0D3	stix-six carbon ring, edge down, double bonds bottom edge etc	?	Investigate. Propose <232C, VS2> BENZENE RING horizontal variant with double bonds from bottom, unless the shape is significant to justify a new code point.	
	E0D4	stix-six carbon ring, edge down, double bonds top edge etc	?	Investigate. Propose <232C, VS3> BENZENE RING horizontal variant with double bonds from top, unless the shape is significant to justify a new code point.	
	E0D5	stix-single long chemical bond	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.	
	E0D6	stix-long chemical bond, line over dashed line	N/A	Rejected. Covalent chemical bond. Unsuitable unless potentially useful for a chemistry IME.	
	E0D7	stix-donut	?	Investigate. Originates from AIP; ring weight is 3/5 of diameter. No samples. Unification with 2B58 HEAVY CIRCLE (in FDAM6) seems adequate. Otherwise, propose new HEAVY MEDIUM CIRCLE.	
	E0D8	stix-arc-degrees (degree with dot below)	<00B0, 0323>	DEGREE SIGN with DOT BELOW	Combining character sequence
	E0D9	stix-arc-minutes (prime with dot below)	<2032, 0323>	PRIME with DOT BELOW	Combining character sequence
	E0DA	stix-arc-seconds (double prime with dot below)	<2033, 0323>	DOUBLE PRIME with DOT BELOW	Combining character sequence
	E0DB	stix-boxed communication link	?	Investigate. A unitary non-decomposable symbol is preferred to using 20DE, but not sure what to use for the inside. See E0DC.	
	E0DC	stix-communication link	?	Investigate. Flowcharting symbol, hence probably inadequate for encoding. See p. 10 in <a href="#">Standard ECMA-4 Flow Charts</a> and pp. 241–242 in <a href="#">an IIS paper</a> . 2301 ELECTRIC ARROW is the ISO 2047 graphical symbol for 0004 END OF TRANSMISSION and might not work.	
	E0DD	stix-days (roman d with dot below) <i>Not a phonetic modifier letter.</i>	<0064, 0323>	LATIN SMALL LETTER D with DOT BELOW	Combining character sequence
	E0DE	stix-hours (roman h with dot below) <i>Not a phonetic modifier letter.</i>	<0068, 0323>	LATIN SMALL LETTER H with DOT BELOW	Combining character sequence
	E0DF	stix-minutes (roman m with dot below) <i>Not a phonetic modifier letter.</i>	<006D, 0323>	LATIN SMALL LETTER M with DOT BELOW	Combining character sequence
	E0EO	stix-period (roman p with dot below)	<0050, 0323>	LATIN CAPITAL LETTER P with DOT BELOW	Combining character sequence



















		<i>Not a phonetic modifier letter.</i>			
₰	E0E1	stix-seconds (roman s with dot below) <i>Not a phonetic modifier letter.</i>	<0073, 0323>	LATIN SMALL LETTER S with DOT BELOW	Combining character sequence
Ÿ	E0E2	stix-years (roman y with dot below) <i>Not a phonetic modifier letter.</i>	<0079, 0323>	LATIN SMALL LETTER Y with DOT BELOW	Combining character sequence
☉	E0E3	stix-eclipse	26E7	ECLIPSE	Proposed code point
♅	E0E4	stix-Uranus <i>Disunify and cross-reference 2645 URANUS.</i>	26E2	ASTRONOMICAL SYMBOL FOR URANUS	Proposed code point
⋈	E0E5	stix-dashed solidus <i>This is not 22F0.</i>	2E35	DASHED SOLIDUS	Proposed code point
⋈	E0E6	stix-dashed backslash <i>This is not 22F1.</i>	2E36	DASHED REVERSE SOLIDUS	Proposed code point
▼	E0E7	stix-narrow down-triangle	2B5A 2B5B 2B5C 2B5D	BLACK UP-POINTING POINTER WHITE UP-POINTING POINTER BLACK DOWN-POINTING POINTER WHITE DOWN-POINTING POINTER	Four proposed code points: <i>up/down pointers that form a set with 25BA, 25BB, 25C4, 25C5. See also 22B2, 22B3. Need the other three glyphs.</i>
⋈	E0E8	stix-precedes sign followed by plus sign	?	Investigate. Originates from IEEE. Propose <227A, 002B>. Does it need to be a built-up symbol? Follow up with Barbara for samples.	
⋈	E0E9	stix-outline plus sign	?	OUTLINE PLUS SIGN	Allocation postponed.
⋈	E0EA	stix-diamond with lines from corners	2B5F	WHITE DIAMOND WITH TICKS FROM CORNERS	Proposed code point
⋈	E0EB	stix-square with lines from corners	2B5E	WHITE SQUARE WITH TICKS FROM CORNERS	Proposed code point
⋈	E0EC	stix-equal with exclamation over	27CD	EXCLAIMED EQUAL TO	Proposed code point
⋈	E0ED	stix-five vertical dots	2E37	VERTICAL FIVE DOTS	Proposed code point
⋈	E0EE	stix-I-beam shape with bullet overprinted in middle	?	Investigate. Seems in a set with E0EF. Consider new code point VERTICAL BEAM WITH BULLET OVERLAY. See also <237F>.	
⋈	E0EF	stix-plus with bullet overprinted in middle	?	Investigate. Seems in a set with E0EE. Consider new code point PLUS SIGN WITH BULLET OVERLAY. See also <237F>.	
⋈	E0F0	stix-round space indicator	?	Investigate. From [Wolfram], who distinguishes between 2423 \[SpaceIndicator] and their F3B2 \[RoundSpaceIndicator]. Collect contrastive usage samples and propose <2423, VS1>. Not the 23D1 METRICAL BREVE, which is spacing inline,	












				rather than at or below baseline.	
-	E0F1	stix-short horizontal line <i>This is [Wolfram]’s extensible \[HorizontalLine] they map to 2500.</i>	2500	2500 BOX DRAWINGS LIGHT HORIZONTAL	Existing code point
😱	E0F2	stix-freaked smiley	?	Investigate. [Wolfram]’s \[FreakedSmiley] also typed :-@ and mapped to F721. Propose unification with emoticon 1F602 ASTONISHED FACE or maybe 1F61F FACE SCREAMING IN FEAR from [Emoji].	
😐	E0F3	stix-neutral smiley <i>This is [Wolfram]’s \[NeutralSmiley] that they map to F722 (in the PUA).</i>	1F606	EXPRESSIONLESS FACE (emoticon from [Emoji])	Existing code point
💡	E0F4	stix-light bulb <i>This is [Wolfram]’s \[LightBulb] that they map to F723 (in the PUA).</i>	1F4A1	ELECTRIC LIGHT BULB (pictographic symbol from [Emoji])	Existing code point
●	E0F5	stix-gray-filled circle	?	Investigate. Propose unification with 1F568 or 1F569 [Emoji]. See also <2591>, <2592>, <2593>, and <25A9>. Possibly cross-ref with 25CD CIRCLE WITH VERTICAL FILL.	
⌘	E0F6	stix-KernelIcon	N/A	Rejected. [Wolfram]’s \[KernelIcon] mapped to F756. Logo, a trademark of Wolfram Research.	
⚙	E0F7	stix-Mathematicalcon	N/A	Rejected. [Wolfram]’s \[Mathematicalcon] mapped to F757. Logo, a trademark of Wolfram Research.	
⋮	E0F8	stix-AliasDelimiter	?	Investigate. Fence? <2506>? Unify with E0FA below? Need usage context.	
⚠	E0F9	stix-ErrorIndicator	?	Investigate. This is [Wolfram]’s \[ErrorIndicator] that they map to F767 (in the PUA). Indicates the presence of a syntax error. Consider encoding a unitary symbol rather than <2227, 20DE> or <2303, 20DE>. Unrelated to 2353 APL FUNCTIONAL SYMBOL QUAD UP CARET.	
⋮	E0FA	stix-AliasIndicator	?	Investigate. Fence? <2506>? Unify with E0F8 above? Need usage context.	
⌘	E0FB	stix-ControlKey	?	Investigate. This is [Wolfram]’s \[ControlKey] that they map to F763 (in the PUA). Represents a keycap. Consider new code point CONTROL KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].	
⏎	E0FC	stix-ReturnKey	?	Investigate. This is [Wolfram]’s \[ReturnKey] that they map to F766 (in the PUA). Represents a keycap. Consider new code point RETURN KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].	
⌨	E0FD	stix-EscapeKey	?	Investigate. This is [Wolfram]’s \[EscapeKey] that they map to F769 (in the PUA). Represents a keycap. Consider new code point ESCAPE KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].	

	E0FE	stix-CommandKey	?	Investigate. This is [Wolfram]'s \[CommandKey] that they map to F76A (in the PUA). Represents a keycap. Consider new code point COMMAND KEYCAP. Precedent: 1F546 KEYCAP TEN [Emoji].
	E0FF	stix-TabKey	?	Investigate. This is [Wolfram]'s \[TabKey] that they map to F7BE (in the PUA). Represents a keycap. Consider new code point TAB KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].
	E100	stix-SpaceKey	?	Investigate. This is [Wolfram]'s \[SpaceKey] that they map to F7BF (in the PUA). Represents a keycap. Consider new code point SPACE KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji]. Resize glyph to fit in code chart.
	E101	stix-DeleteKey	?	Investigate. This is [Wolfram]'s \[DeleteKey] that they map to F7D0 (in the PUA). Represents a keycap. Consider new code point DELETE KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].
	E102	stix-AltKey	?	Investigate. This is [Wolfram]'s \[AltKey] that they map to F7D1 (in the PUA). Represents a keycap. Consider new code point ALT KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].
	E103	stix-OptionKey	?	Investigate. This is [Wolfram]'s \[OptionKey] that they map to F7D2 (in the PUA). Represents a keycap. Consider new code point OPTION KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji]. Resize glyph to fit in code chart.
	E104	stix-KeyBar	?	Investigate. This is [Wolfram]'s \[KeyBar] that they map to F7D3 (in the PUA). Not clear if it needs mapping to a character (such as 2578, 257A, 2043, or some other dash) at all.
	E105	stix-EnterKey	?	Investigate. [Wolfram] has two characters with this glyph: \[EnterKey] and \[SystemEnterKey], respectively mapped to F7D4 and F75F. Consider encoding a single new code point ENTER KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji]. Resize glyph to fit in code chart.
	E106	stix-ShiftKey	?	Investigate. [Wolfram]'s \[ShiftKey] mapped to F7D5 (in the PUA). Represents a keycap. Consider new code point SHIFT KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji]. Resize glyph to fit in code chart.
	E107	stix-Mod1Key	?	Investigate. [Wolfram]'s \[Mod1Key] mapped to F7D6 (in the PUA). Represents a keycap. Consider new code point MOD1 KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].
	E108	stix-Mod2Key	?	Investigate. [Wolfram]'s \[Mod2Key] mapped to F7D7 (in the PUA). Represents a keycap. Consider new code point MOD2 KEYCAP. Precedent: 1F546 KEYCAP TEN in [Emoji].
	E109	stix-LeftModified	?	Investigate. This is [Wolfram]'s \[LeftModified] that they map to F76B (in the PUA). Used in documenting control and command characters: key\[LeftModified]char\[RightModified] is used to indicate that char should be

				typed while key is being pressed. Differs from 005B. Not sure if it needs encoding.	
]	E10A	stix-RightModified	?	Investigate. This is [Wolfram]'s \[RightModified] that they map to F76C (in the PUA). Used in documenting control and command characters: key\[LeftModified]char\[RightModified] is used to indicate that char should be typed while key is being pressed. Differs from 005D. Not sure if it needs encoding.	
-	E10B	stix-extender for horizontal solid (normal) arrow	N/A	Rejected. Glyph piece (extender) inappropriate for encoding. Alternatively, use <23AF>.	
\	E10C	stix-extender for se/nw solid (normal) arrow	N/A	Rejected. Glyph piece (extender).	
/	E10D	stix-extender for sw/ne solid (normal) arrow	N/A	Rejected. Glyph piece (extender).	
	E10E	stix-extender for vertical double arrow	N/A	Rejected. Glyph piece (extender).	
=	E10F	stix-extender for horizontal double arrow	N/A	Rejected. Glyph piece (extender).	
◇	E110	stix-extender for se/nw double arrow	N/A	Rejected. Glyph piece (extender).	
◇	E111	stix-extender for sw/ne double arrow	N/A	Rejected. Glyph piece (extender).	
↗	E112	stix-northeast arrow with dashed stem <i>Forms a set with 21E0...21E3.</i>	2B61	NORTH EAST DASHED ARROW	Proposed code point
↘	E113	stix-southeast arrow with dashed stem <i>Forms a set with 21E0...21E3.</i>	2B62	SOUTH EAST DASHED ARROW	Proposed code point
↖	E114	stix-northwest arrow with dashed stem <i>Forms a set with 21E0...21E3.</i>	2B60	NORTH WEST DASHED ARROW	Proposed code point
↙	E115	stix-southwest arrow with dashed stem <i>Forms a set with 21E0...21E3.</i>	2B63	SOUTH WEST DASHED ARROW	Proposed code point
.	E116	stix-extender for vertical dashed arrow	N/A	Rejected. Glyph piece (extender).	
.	E117	stix-extender for horizontal dashed arrow	N/A	Rejected. Glyph piece (extender).	
.	E118	stix-extender for se/nw dashed arrow	N/A	Rejected. Glyph piece (extender).	

·	E119	stix-extender for sw/ne dashed arrow	N/A	Rejected. Glyph piece (extender).	
↑	E11A	stix-up arrow with dotted stem <i>Forms a set with 2911, 2B38.</i>	2B64	UPWARDS ARROW WITH DOTTED STEM	Proposed code point
↓	E11B	stix-down arrow with dotted stem <i>Forms a set with 2911, 2B38.</i>	2B65	DOWNWARDS ARROW WITH DOTTED STEM	Proposed code point
↗	E11C	stix-northeast arrow with dotted stem <i>Forms a set with 2911, 2B38.</i>	2B67	NORTH EAST ARROW WITH DOTTED STEM	Proposed code point
↘	E11D	stix-southeast arrow with dotted stem <i>Forms a set with 2911, 2B38.</i>	2B68	SOUTH EAST ARROW WITH DOTTED STEM	Proposed code point
↖	E11E	stix-northwest arrow with dotted stem <i>Forms a set with 2911, 2B38.</i>	2B66	NORTH WEST ARROW WITH DOTTED STEM	Proposed code point
↙	E11F	stix-southwest arrow with dotted stem <i>Forms a set with 2911, 2B38.</i>	2B69	SOUTH WEST ARROW WITH DOTTED STEM	Proposed code point
⋮	E120	stix-extender for vertical dotted arrow	N/A	Rejected. Glyph piece (extender).	
⋯	E121	stix-extender for horizontal dotted arrow	N/A	Rejected. Glyph piece (extender).	
↖	E122	stix-extender for se/nw dotted arrow	N/A	Rejected. Glyph piece (extender).	
↗	E123	stix-extender for sw/ne dotted arrow	N/A	Rejected. Glyph piece (extender).	
↑	E124	stix-up arrow with dot-dash stem	2B6B	UPWARDS ARROW WITH DOT-DASH STEM	Proposed code point
↓	E125	stix-down arrow with dot-dash stem	2B6D	DOWNWARDS ARROW WITH DOT-DASH STEM	Proposed code point
←	E126	stix-left arrow with dot-dash stem	2B6A	LEFTWARDS ARROW WITH DOT-DASH STEM	Proposed code point
→	E127	stix-right arrow with dot-dash stem (E238)	2B6C	RIGHTWARDS ARROW WITH DOT-DASH STEM	Proposed code point
↗	E128	stix-northeast arrow with dot-dash stem	2B6F	NORTH EAST ARROW WITH DOT-DASH STEM	Proposed code point

	E129	stix-southeast arrow with dot-dash stem	2B70	SOUTH EAST ARROW WITH DOT-DASH STEM	Proposed code point
	E12A	stix-northwest arrow with dot-dash stem	2B6E	NORTH WEST ARROW WITH DOT-DASH STEM	Proposed code point
	E12B	stix-southwest arrow with dot-dash stem	2B71	SOUTH WEST ARROW WITH DOT-DASH STEM	Proposed code point
	E12C	stix-extender for dot-dash up arrow	N/A	Rejected. Glyph piece (extender).	
	E12D	stix-extender for dot-dash down arrow	N/A	Rejected. Glyph piece (extender).	
	E12E	stix-extender for dot-dash left arrow	N/A	Rejected. Glyph piece (extender).	
	E12F	stix-extender for dot-dash right arrow	N/A	Rejected. Glyph piece (extender).	
	E130	stix-extender for nw dot-dash arrow	N/A	Rejected. Glyph piece (extender).	
	E131	stix-extender for se dot-dash arrow	N/A	Rejected. Glyph piece (extender).	
	E132	stix-extender for ne dot-dash arrow	N/A	Rejected. Glyph piece (extender).	
	E133	stix-extender for sw dot-dash arrow	N/A	Rejected. Glyph piece (extender).	
	E134	stix-extender for triple horizontal arrow	N/A	Rejected. Glyph piece (extender).	
	E135	stix-extender for triple vertical arrow	N/A	Rejected. Glyph piece (extender).	
	E136	stix-extender for quadruple horizontal arrow	N/A	Rejected. Glyph piece (extender).	
	E137	stix-extender for quadruple vertical arrow	N/A	Rejected. Glyph piece (extender).	
	E138	stix-horizontal extender for multiple character over accent arrows, harpoons, line	N/A	Rejected. Glyph piece (extender).	
	E139	stix-horizontal extender for multiple character under accent arrows, harpoons, line	N/A	Rejected. Glyph piece (extender).	
	E13A	stix-radical with horizontal (for single character under the radical)	?	Investigate. LaTeX distinguishes between <code>\sqrt</code> and <code>\surd</code> : see p. 53 in <a href="http://tobi.oetiker.ch/lshort/lshort.pdf">http://tobi.oetiker.ch/lshort/lshort.pdf</a> (version 4.26 of Sep. 2008). Maybe a glyph	

				variant of 221A, but Barbara commented that <221A, VS1> would help for MathML. If a variation sequence is acceptable, corresponding sequences would apply to the other roots too: 221B, 221C; 0606, 0607. See E0B8, E0B9.
	E13B	stix-left end of extensible overbrace (CMEX10 x3A rotated 90deg)	N/A	Rejected. Use extensible horizontal brackets 23DC...23E1. However, if text-level compatibility with CMEX10 is needed, it might qualify for addition as "presentation form for vertical *" where * is 239B...23B1; see also blocks FE10 and FE30, and <a href="http://www.math.union.edu/~dpvc/jsMath/symbols/cmex10.html">http://www.math.union.edu/~dpvc/jsMath/symbols/cmex10.html</a> .
	E13C	stix-right end of extensible overbrace (CMEX10 x38 rotated 90deg)	N/A	Rejected. See comment for E31B.
	E13D	stix-left end of extensible underbrace (CMEX10 x3B rotated 90deg)	N/A	Rejected. See comment for E31B.
	E13E	stix-right end of extensible underbrace (CMEX10 x39 rotated 90deg)	N/A	Rejected. See comment for E31B.
	E13F	stix-extensible horizontal for curly over and under braces (CMEX10 x3E rotated 90deg)	N/A	Rejected. See comment for E31B.
	E140	stix-center of extensible overbrace (CMEX10 x3C rotated 90deg)	N/A	Rejected. See comment for E31B.
	E141	stix-center of extensible underbrace (CMEX10 x3D rotated 90deg)	N/A	Rejected. See comment for E31B.
	E142	stix-left end of extensible overparen (CMEX10 x40 rotated 90deg)	N/A	Rejected. See comment for E31B.
	E143	stix-right end of extensible overparen (CMEX10 x30 rotated 90deg)	N/A	Rejected. See comment for E31B.
	E144	stix-left end of extensible underparen (CMEX10 x41 rotated 90deg)	N/A	Rejected. See comment for E31B.
	E145	stix-right end of extensible underparen (CMEX10 x31 rotated 90deg)	N/A	Rejected. See comment for E31B.

┌	E146	stix-left end of extensible over square bracket (CMEX10 x34 rotated 90deg)	N/A	Rejected. See comment for E31B.	
┐	E147	stix-right end of extensible over square bracket (CMEX10 x32 rotated 90deg)	N/A	Rejected. See comment for E31B.	
└	E148	stix-left end of extensible under square bracket (CMEX10 x35 rotated 90deg)	N/A	Rejected. See comment for E31B.	
┘	E149	stix-right end of extensible under square bracket (CMEX10 x33 rotated 90deg)	N/A	Rejected. See comment for E31B.	
—	E14A	stix-extensible horizontal for over paren or square bracket (CMEX10 x42 rotated 90deg)	N/A	Rejected. See comment for E31B.	
—	E14B	stix-extensible horizontal for under paren or square bracket (CMEX10 x43 rotated 90deg)	N/A	Rejected. See comment for E31B.	
⌵	E14C	stix-not left triangle, vertical bar	<29CF, 0338>	Negated LEFT TRIANGLE BESIDE VERTICAL BAR	Combining character sequence
⌴	E14D	stix-not vertical bar, right triangle	<29D0, 0338>	Negated VERTICAL BAR BESIDE RIGHT TRIANGLE	Combining character sequence
⌵	E14E	stix-not double less-than sign	<2AA1, 0338>	Negated DOUBLE NESTED LESS-THAN	Combining character sequence
⌶	E14F	stix-not double greater-than sign	<2AA2, 0338>	Negated DOUBLE NESTED GREATER-THAN	Combining character sequence
┐	E150	stix-horizontal brace, down left piece	N/A	Rejected. See comment for E31B.	
┘	E151	stix-horizontal brace, down right piece	N/A	Rejected. See comment for E31B.	
┐	E152	stix-horizontal brace, upper left piece	N/A	Rejected. See comment for E31B.	
┘	E153	stix-horizontal brace, upper right piece	N/A	Rejected. See comment for E31B.	

### 3. References

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- [Constable] Peter Constable, Lorna Priest, “Symbols in [Pullum] Phonetic Symbol Guide 2<sup>nd</sup> ed. in relation to Unicode 5.1”, <http://scripts.sil.org/PSGSymbolsVsTUS4>.
- [Pullum] Geoffrey K. Pullum, William A. Ladusaw, “Phonetic Symbol Guide”, 2<sup>nd</sup> ed., University of Chicago Press, 1996.
- [STIX] STIX table at <http://www.ams.org/STIX/bnb/stix-tbl.ascii-2006-10-20> containing mapping and font glyph names.
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