

## Miscellaneous Technical

### Range: 2300–23FF

This file contains an excerpt from the character code tables and list of character names for *The Unicode Standard, Version 17.0*

This file may be changed at any time without notice to reflect errata, or other updates to the Unicode Standard.

See <https://www.unicode.org/errata/> for an up-to-date list of errata.

See <https://www.unicode.org/charts/> for access to a complete list of the latest character code charts. See <https://www.unicode.org/charts/PDF/Unicode-17.0/> for charts showing only the characters added in Unicode 17.0. See <https://www.unicode.org/Public/17.0.0/charts/> for a complete archived file of character code charts for Unicode 17.0. See <https://www.unicode.org/charts/About.html#Conventions> for conventions used in these code charts, and other general information.

### Disclaimer

These charts are provided as the online reference to the character contents of the Unicode Standard, Version 17.0 but do not provide all the information needed to fully support individual scripts using the Unicode Standard. For a complete understanding of the use of the characters contained in this file, please consult the appropriate sections of The Unicode Standard, Version 17.0, online at <https://www.unicode.org/versions/Unicode17.0.0/>, as well as the Unicode Standard Annexes, the other Unicode Technical Reports and Standards, and the Unicode Character Database, which are available online.

See <https://www.unicode.org/ucd/> and <https://www.unicode.org/reports/>

A thorough understanding of the information contained in these additional sources is required for a successful implementation.

### Fonts

The shapes of the reference glyphs used in these code charts are not prescriptive. Considerable variation is to be expected in actual fonts.

See <https://www.unicode.org/charts/fonts.html> for a list.

### Terms of Use

































































































































































































































































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F	 230F	 231F	 232F	 233F	 234F	 235F	 236F	 237F	 238F	 239F	 23AF	 23BF	 23CF	 23DF	 23EF	 23FF

**Miscellaneous technical**

- 2300 ∅ DIAMETER SIGN  
→ 00F8 ø latin small letter o with stroke  
→ 2205 ∅ empty set
- 2301 ↘ ELECTRIC ARROW  
• from ISO 2047  
• symbol for End of Transmission
- 2302 𐀀 HOUSE
- 2303 ͡ UP ARROWHEAD  
→ 005E ͡ circumflex accent  
→ 02C4 ͡ modifier letter up arrowhead  
→ 2038 ͡ caret  
→ 2227 ͡ logical and
- 2304 ͣ DOWN ARROWHEAD  
→ 02C5 ͣ modifier letter down arrowhead  
→ 2228 ͣ logical or  
→ 2335 ͣ countersink
- 2305 ̸ PROJECTIVE  
→ 22BC ̸ nand
- 2306 ̨ PERSPECTIVE
- 2307 〰 WAVY LINE  
→ 2E3E 〰 wiggly vertical line  
→ 3030 〰 wavy dash

**Ceilings and floors**

*These characters are tall and narrow mathematical delimiters, in contrast to the quine corners or half brackets. They are also distinct from CJK corner brackets, which are wide quotation marks.*

- 2308 ㄐ LEFT CEILING  
= APL upstile  
→ 2E22 ㄐ top left half bracket  
→ 300C ㄐ left corner bracket
- 2309 ㄑ RIGHT CEILING  
→ 20E7 ㄑ combining annuity symbol  
→ 2E23 ㄑ top right half bracket
- 230A ㄒ LEFT FLOOR  
= APL downstile  
→ 2E24 ㄒ bottom left half bracket
- 230B ㄓ RIGHT FLOOR  
→ 300D ㄓ right corner bracket  
→ 2E25 ㄓ bottom right half bracket

**Crops**

- 230C ㄔ BOTTOM RIGHT CROP  
• set of four “crop” corners, arranged facing outward
- 230D ㄕ BOTTOM LEFT CROP
- 230E ㄖ TOP RIGHT CROP
- 230F ㄗ TOP LEFT CROP

**Miscellaneous technical**

- 2310 ͜ REVERSED NOT SIGN  
= beginning of line  
→ 00AC ͜ not sign
- 2311 𐀀 SQUARE LOZENGE  
= Kissen (pillow)  
• used as a command delimiter in some very old computers  
→ 2BCF 𐀀 rotated white four pointed cusp
- 2312 ͞ ARC  
= position of any line  
→ 25E0 ͞ upper half circle
- 2313 ͟ SEGMENT  
= position of a surface

- 2314 ͠ SECTOR
- 2315 ͡ TELEPHONE RECORDER
- 2316 ͢ POSITION INDICATOR  
= true position  
→ 2BD0 ͢ square position indicator
- 2317 ͣ VIEWDATA SQUARE  
→ 22D5 ͣ equal and parallel to
- 2318 ͤ PLACE OF INTEREST SIGN  
= command key (1.0)  
= operating system key (ISO 9995-7)
- 2319 ͥ TURNED NOT SIGN  
= line marker

**User interface symbols**

- 231A 𐀀 WATCH  
→ 23F0 𐀀 alarm clock  
→ 1F550 𐀀 clock face one oclock
- 231B 𐀀 HOURGLASS  
= alchemical symbol for hour

**Quine corners**

*These form a set of four quine corners, for quincuncial arrangement. They are also used in upper and lower pairs in mathematics, or more rarely in editorial usage as alternatives to half brackets.*

- 231C ㄒ TOP LEFT CORNER  
→ 2E00 ㄒ right angle substitution marker  
→ 2E22 ㄒ top left half bracket
- 231D ㄓ TOP RIGHT CORNER
- 231E ㄔ BOTTOM LEFT CORNER
- 231F ㄕ BOTTOM RIGHT CORNER

**Integral pieces**

- 2320 ㄒ TOP HALF INTEGRAL  
→ 23AE ㄒ integral extension
- 2321 ㄓ BOTTOM HALF INTEGRAL

**Frown and smile**

- 2322 ㄒ FROWN  
→ 2040 ㄒ character tie
- 2323 ㄓ SMILE  
→ 203F ㄓ undertie

**Keyboard symbols**

- 2324 ㄒ UP ARROWHEAD BETWEEN TWO HORIZONTAL BARS  
= enter key
- 2325 ㄓ OPTION KEY
- 2326 ㄔ ERASE TO THE RIGHT  
= delete to the right key
- 2327 ㄕ X IN A RECTANGLE BOX  
= clear key  
→ 2612 ㄕ ballot box with x
- 2328 ㄖ KEYBOARD  
→ 1F5A6 ㄖ keyboard and mouse  
→ 1F5AE ㄖ wired keyboard

**Deprecated angle brackets**

*These characters are deprecated and are strongly discouraged for mathematical use because of their canonical equivalence to CJK punctuation.*

- 2329 < LEFT-POINTING ANGLE BRACKET  
 → 003C < less-than sign  
 → 2039 ‹ single left-pointing angle quotation mark  
 → 27E8 ‹ mathematical left angle bracket  
 ≡ 3008 ‹ left angle bracket
- 232A > RIGHT-POINTING ANGLE BRACKET  
 → 003E > greater-than sign  
 → 203A › single right-pointing angle quotation mark  
 → 27E9 › mathematical right angle bracket  
 ≡ 3009 › right angle bracket

**Keyboard symbol**

- 232B ☒ ERASE TO THE LEFT  
 = delete to the left key

**Chemistry symbol**

- 232C ⬡ BENZENE RING

**Drafting symbols**

- 232D ⌢ CYLINDRICITY  
 232E ⌘ ALL AROUND-PROFILE  
 232F ⌘ SYMMETRY  
 2330 ⌘ TOTAL RUNOUT  
 2331 ⌘ DIMENSION ORIGIN  
 2332 ⌘ CONICAL TAPER  
 2333 ⌘ SLOPE  
 → 25FA ⌘ lower left triangle
- 2334 ⌘ COUNTERBORE  
 → 2423 ⌘ open box
- 2335 ⌘ COUNTERSINK  
 → 2304 ⌘ down arrowhead

**APL**

- 2336 ⊥ APL FUNCTIONAL SYMBOL I-BEAM
- 2337 □ APL FUNCTIONAL SYMBOL SQUISH QUAD  
 → 2395 □ apl functional symbol quad  
 → 25AF □ white vertical rectangle  
 → 2AFF □ n-ary white vertical bar
- 2338 □ APL FUNCTIONAL SYMBOL QUAD EQUAL
- 2339 □ APL FUNCTIONAL SYMBOL QUAD DIVIDE
- 233A □ APL FUNCTIONAL SYMBOL QUAD DIAMOND  
 → 26CB □ white diamond in square
- 233B □ APL FUNCTIONAL SYMBOL QUAD JOT  
 → 29C7 □ squared small circle
- 233C □ APL FUNCTIONAL SYMBOL QUAD CIRCLE
- 233D ○ APL FUNCTIONAL SYMBOL CIRCLE STILE
- 233E ○ APL FUNCTIONAL SYMBOL CIRCLE JOT  
 → 229A ○ circled ring operator  
 → 29BE ○ circled white bullet
- 233F ⁄ APL FUNCTIONAL SYMBOL SLASH BAR  
 → 1019A ⁄ roman as sign
- 2340 ⁄ APL FUNCTIONAL SYMBOL BACKSLASH BAR  
 → 29F7 ⁄ reverse solidus with horizontal stroke
- 2341 □ APL FUNCTIONAL SYMBOL QUAD SLASH  
 → 29C4 □ squared rising diagonal slash
- 2342 □ APL FUNCTIONAL SYMBOL QUAD BACKSLASH  
 → 29C5 □ squared falling diagonal slash
- 2343 □ APL FUNCTIONAL SYMBOL QUAD LESS-THAN

- 2344 □ APL FUNCTIONAL SYMBOL QUAD GREATER-THAN
- 2345 + APL FUNCTIONAL SYMBOL LEFTWARDS VANE
- 2346 + APL FUNCTIONAL SYMBOL RIGHTWARDS VANE
- 2347 □ APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW
- 2348 □ APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW
- 2349 ○ APL FUNCTIONAL SYMBOL CIRCLE BACKSLASH  
 → 29B0 ○ reversed empty set
- 234A ⊥ APL FUNCTIONAL SYMBOL DOWN TACK UNDERBAR  
 = up tack underbar  
 • preferred naming for APL tack symbols now follows the London Convention in ISO/IEC 13751:2000 (APL Extended)  
 → 22A5 ⊥ up tack
- 234B Δ APL FUNCTIONAL SYMBOL DELTA STILE
- 234C □ APL FUNCTIONAL SYMBOL QUAD DOWN CARET
- 234D □ APL FUNCTIONAL SYMBOL QUAD DELTA
- 234E ⊥ APL FUNCTIONAL SYMBOL DOWN TACK JOT  
 = up tack jot  
 → 22A5 ⊥ up tack
- 234F + APL FUNCTIONAL SYMBOL UPWARDS VANE
- 2350 □ APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW
- 2351 ⊥ APL FUNCTIONAL SYMBOL UP TACK OVERBAR  
 = down tack overbar  
 → 22A4 ⊥ down tack  
 → 3012 ⊥ postal mark
- 2352 ▼ APL FUNCTIONAL SYMBOL DEL STILE
- 2353 □ APL FUNCTIONAL SYMBOL QUAD UP CARET  
 → 2BB9 □ up arrowhead in a rectangle box
- 2354 □ APL FUNCTIONAL SYMBOL QUAD DEL
- 2355 ⊥ APL FUNCTIONAL SYMBOL UP TACK JOT  
 = down tack jot  
 → 22A4 ⊥ down tack
- 2356 + APL FUNCTIONAL SYMBOL DOWNWARDS VANE
- 2357 □ APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW
- 2358 ' APL FUNCTIONAL SYMBOL QUOTE UNDERBAR
- 2359 Δ APL FUNCTIONAL SYMBOL DELTA UNDERBAR
- 235A ◇ APL FUNCTIONAL SYMBOL DIAMOND UNDERBAR
- 235B ○ APL FUNCTIONAL SYMBOL JOT UNDERBAR
- 235C ○ APL FUNCTIONAL SYMBOL CIRCLE UNDERBAR
- 235D ○ APL FUNCTIONAL SYMBOL UP SHOE JOT  
 → 2A40 ○ intersection with dot
- 235E □ APL FUNCTIONAL SYMBOL QUOTE QUAD
- 235F ★ APL FUNCTIONAL SYMBOL CIRCLE STAR  
 → 229B ★ circled asterisk operator
- 2360 : APL FUNCTIONAL SYMBOL QUAD COLON
- 2361 ⊥ APL FUNCTIONAL SYMBOL UP TACK DIAERESIS  
 = down tack diaeresis  
 → 22A4 ⊥ down tack
- 2362 ∇ APL FUNCTIONAL SYMBOL DEL DIAERESIS
- 2363 ★ APL FUNCTIONAL SYMBOL STAR DIAERESIS
- 2364 ö APL FUNCTIONAL SYMBOL JOT DIAERESIS  
 = hoot
- 2365 Ö APL FUNCTIONAL SYMBOL CIRCLE DIAERESIS  
 = holler
- 2366 Ψ APL FUNCTIONAL SYMBOL DOWN SHOE STILE

2367	⌘	APL FUNCTIONAL SYMBOL LEFT SHOE STILE
2368	˜	APL FUNCTIONAL SYMBOL TILDE DIAERESIS = smirk
2369	➤	APL FUNCTIONAL SYMBOL GREATER-THAN DIAERESIS
236A	⸢	APL FUNCTIONAL SYMBOL COMMA BAR
236B	⸣	APL FUNCTIONAL SYMBOL DEL TILDE
236C	⸤	APL FUNCTIONAL SYMBOL ZILDE
236D	⸥	APL FUNCTIONAL SYMBOL STILE TILDE
236E	⸦	APL FUNCTIONAL SYMBOL SEMICOLON UNDERBAR
236F	⸧	APL FUNCTIONAL SYMBOL QUAD NOT EQUAL
2370	⸨	APL FUNCTIONAL SYMBOL QUAD QUESTION → 2BD1 ⬢ uncertainty sign
2371	⸩	APL FUNCTIONAL SYMBOL DOWN CARET TILDE
2372	⸪	APL FUNCTIONAL SYMBOL UP CARET TILDE
2373	⸬	APL FUNCTIONAL SYMBOL IOTA
2374	⸭	APL FUNCTIONAL SYMBOL RHO
2375	⸮	APL FUNCTIONAL SYMBOL OMEGA
2376	ⸯ	APL FUNCTIONAL SYMBOL ALPHA UNDERBAR
2377	⸰	APL FUNCTIONAL SYMBOL EPSILON UNDERBAR
2378	⸱	APL FUNCTIONAL SYMBOL IOTA UNDERBAR
2379	⸲	APL FUNCTIONAL SYMBOL OMEGA UNDERBAR
237A	⸴	APL FUNCTIONAL SYMBOL ALPHA

**Graphics for control codes**

237B	✓	NOT CHECK MARK • from ISO 2047 • symbol for Negative Acknowledge
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**Miscellaneous technical**

237C	⌵	RIGHT ANGLE WITH DOWNWARDS ZIGZAG ARROW
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**Graphics for control codes**

237D	⌵	SHOULDERED OPEN BOX • from ISO 9995-7 • keyboard symbol for No Break Space → 2423 ⌵ open box
237E	🔔	BELL SYMBOL • from ISO 2047 → 1FBFA 🔔 alarm bell symbol
237F	⋮	VERTICAL LINE WITH MIDDLE DOT • from ISO 2047 • symbol for End of Medium

**Keyboard symbols from ISO 9995-7**

2380	⌵	INSERTION SYMBOL
2381	⌵	CONTINUOUS UNDERLINE SYMBOL
2382	⌵	DISCONTINUOUS UNDERLINE SYMBOL
2383	≡	EMPHASIS SYMBOL
2384	⌵	COMPOSITION SYMBOL
2385	⌵	WHITE SQUARE WITH CENTRE VERTICAL LINE = center
2386	⌵	ENTER SYMBOL
2387	⌵	ALTERNATIVE KEY SYMBOL
2388	⌵	HELM SYMBOL = control → 2638 ⌵ wheel of dharma
2389	⌵	CIRCLED HORIZONTAL BAR WITH NOTCH = pause
238A	⌵	CIRCLED TRIANGLE DOWN = interrupt, break

238B	⌵	BROKEN CIRCLE WITH NORTHWEST ARROW = escape
238C	⌵	UNDO SYMBOL

**Electrotechnical symbols from IR 181**

238D	⌵	MONOSTABLE SYMBOL
238E	⌵	HYSTERESIS SYMBOL
238F	⌵	OPEN-CIRCUIT-OUTPUT H-TYPE SYMBOL
2390	⌵	OPEN-CIRCUIT-OUTPUT L-TYPE SYMBOL
2391	⌵	PASSIVE-PULL-DOWN-OUTPUT SYMBOL
2392	⌵	PASSIVE-PULL-UP-OUTPUT SYMBOL
2393	⌵	DIRECT CURRENT SYMBOL FORM TWO
2394	⌵	SOFTWARE-FUNCTION SYMBOL → 2B21 ⬡ white hexagon

**APL**

2395	⌵	APL FUNCTIONAL SYMBOL QUAD → 2337 ⌵ apl functional symbol squish quad → 25AF ⌵ white vertical rectangle
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**Keyboard symbols from ISO 9995-7**

2396	⌵	DECIMAL SEPARATOR KEY SYMBOL
2397	⌵	PREVIOUS PAGE → 1F519 ⌵ back with leftwards arrow above
2398	⌵	NEXT PAGE
2399	⌵	PRINT SCREEN SYMBOL
239A	⌵	CLEAR SCREEN SYMBOL → 20E2 ⌵ combining enclosing screen

**Bracket pieces**

239B	⌵	LEFT PARENTHESIS UPPER HOOK
239C	⌵	LEFT PARENTHESIS EXTENSION
239D	⌵	LEFT PARENTHESIS LOWER HOOK
239E	⌵	RIGHT PARENTHESIS UPPER HOOK
239F	⌵	RIGHT PARENTHESIS EXTENSION
23A0	⌵	RIGHT PARENTHESIS LOWER HOOK
23A1	⌵	LEFT SQUARE BRACKET UPPER CORNER
23A2	⌵	LEFT SQUARE BRACKET EXTENSION
23A3	⌵	LEFT SQUARE BRACKET LOWER CORNER
23A4	⌵	RIGHT SQUARE BRACKET UPPER CORNER
23A5	⌵	RIGHT SQUARE BRACKET EXTENSION
23A6	⌵	RIGHT SQUARE BRACKET LOWER CORNER
23A7	⌵	LEFT CURLY BRACKET UPPER HOOK
23A8	⌵	LEFT CURLY BRACKET MIDDLE PIECE
23A9	⌵	LEFT CURLY BRACKET LOWER HOOK
23AA	⌵	CURLY BRACKET EXTENSION
23AB	⌵	RIGHT CURLY BRACKET UPPER HOOK
23AC	⌵	RIGHT CURLY BRACKET MIDDLE PIECE
23AD	⌵	RIGHT CURLY BRACKET LOWER HOOK

**Special character extensions**

23AE	⌵	INTEGRAL EXTENSION → 2320 ∫ top half integral → 2321 ∫ bottom half integral
23AF	⌵	HORIZONTAL LINE EXTENSION • used for extension of arrows → 23D0 ⌵ vertical line extension

**Bracket pieces**

23B0	⌵	UPPER LEFT OR LOWER RIGHT CURLY BRACKET SECTION = left moustache
23B1	⌵	UPPER RIGHT OR LOWER LEFT CURLY BRACKET SECTION = right moustache

**Summation sign parts**

- 23B2 ∑ SUMMATION TOP  
 23B3 ∑ SUMMATION BOTTOM  
 → 2211 ∑ n-ary summation

**Horizontal brackets**

*These characters are also used as delimiters of vertical text in non-CJK terminal emulation.*

- 23B4 ⌈ TOP SQUARE BRACKET  
 → FE47 ⌈ presentation form for vertical left square bracket  
 23B5 ⌋ BOTTOM SQUARE BRACKET  
 → FE48 ⌋ presentation form for vertical right square bracket  
 23B6 ⌋ BOTTOM SQUARE BRACKET OVER TOP SQUARE BRACKET  
 • only used for terminal emulation

**Terminal graphic characters**

- 23B7 ↓ RADICAL SYMBOL BOTTOM  
 23B8 | LEFT VERTICAL BOX LINE  
 23B9 | RIGHT VERTICAL BOX LINE

**Scan lines for terminal graphics**

*The scan line numbers here refer to old, low-resolution technology for terminals, with only 9 scan lines per fixed-size character glyph.*

- 23BA - HORIZONTAL SCAN LINE-1  
 23BB - HORIZONTAL SCAN LINE-3  
 • scan line-5 is unified with the box-drawing graphic character 2500 —  
 23BC - HORIZONTAL SCAN LINE-7  
 23BD - HORIZONTAL SCAN LINE-9

**Dentistry notation symbols**

- 23BE ⌈ DENTISTRY SYMBOL LIGHT VERTICAL AND TOP RIGHT  
 → 2308 ⌈ left ceiling  
 23BF ⌋ DENTISTRY SYMBOL LIGHT VERTICAL AND BOTTOM RIGHT  
 → 230A ⌋ left floor  
 23C0 ⌀ DENTISTRY SYMBOL LIGHT VERTICAL WITH CIRCLE  
 23C1 ⌀ DENTISTRY SYMBOL LIGHT DOWN AND HORIZONTAL WITH CIRCLE  
 23C2 ⌀ DENTISTRY SYMBOL LIGHT UP AND HORIZONTAL WITH CIRCLE  
 23C3 ⚴ DENTISTRY SYMBOL LIGHT VERTICAL WITH TRIANGLE  
 23C4 ⚴ DENTISTRY SYMBOL LIGHT DOWN AND HORIZONTAL WITH TRIANGLE  
 23C5 ⚴ DENTISTRY SYMBOL LIGHT UP AND HORIZONTAL WITH TRIANGLE  
 23C6 ⚴ DENTISTRY SYMBOL LIGHT VERTICAL AND WAVE  
 23C7 ⚴ DENTISTRY SYMBOL LIGHT DOWN AND HORIZONTAL WITH WAVE  
 23C8 ⚴ DENTISTRY SYMBOL LIGHT UP AND HORIZONTAL WITH WAVE  
 23C9 ⌋ DENTISTRY SYMBOL LIGHT DOWN AND HORIZONTAL  
 → 22A4 T down tack  
 → 252C ⌋ box drawings light down and horizontal

- 23CA ⊥ DENTISTRY SYMBOL LIGHT UP AND HORIZONTAL  
 → 22A5 ⊥ up tack  
 → 2534 ⊥ box drawings light up and horizontal  
 23CB ⌈ DENTISTRY SYMBOL LIGHT VERTICAL AND TOP LEFT  
 → 2309 ⌈ right ceiling  
 23CC ⌋ DENTISTRY SYMBOL LIGHT VERTICAL AND BOTTOM LEFT  
 → 230B ⌋ right floor

**Miscellaneous technical**

- 23CD □ SQUARE FOOT

**Keyboard and UI symbols**

- 23CE ↵ RETURN SYMBOL  
 • may be shown with either hollow or filled glyph  
 → 21B5 ↵ downwards arrow with corner leftwards  
 → 2B90 ↵ return left  
 23CF ⏏ EJECT SYMBOL  
 • UI symbol to eject media

**Special character extension**

- 23D0 | VERTICAL LINE EXTENSION  
 • used for extension of arrows  
 → 23AF — horizontal line extension

**Metrical symbols**

- 23D1 ∩ METRICAL BREVE  
 23D2 ∩ METRICAL LONG OVER SHORT  
 23D3 ∩ METRICAL SHORT OVER LONG  
 23D4 ∩ METRICAL LONG OVER TWO SHORTS  
 23D5 ∩ METRICAL TWO SHORTS OVER LONG  
 23D6 ∩ METRICAL TWO SHORTS JOINED  
 23D7 ⌋ METRICAL TRISEME  
 → 1D242 ⌋ combining greek musical triseme  
 23D8 ⌋ METRICAL TETRASEME  
 → 1D243 ⌋ combining greek musical tetraseme  
 23D9 ⌋ METRICAL PENTASEME  
 → 1D244 ⌋ combining greek musical pentaseme

**Electrotechnical symbols**

- 23DA ⊥ EARTH GROUND  
 23DB ⚡ FUSE

**Horizontal brackets**

*These are intended for bracketing terms of mathematical expressions where their glyph extends to accommodate the width of the bracketed expression.*

- 23DC ⌈ TOP PARENTHESIS  
 → FE35 ⌈ presentation form for vertical left parenthesis  
 23DD ⌋ BOTTOM PARENTHESIS  
 → FE36 ⌋ presentation form for vertical right parenthesis  
 23DE ⌋ TOP CURLY BRACKET  
 → FE37 ⌋ presentation form for vertical left curly bracket  
 23DF ⌋ BOTTOM CURLY BRACKET  
 → FE38 ⌋ presentation form for vertical right curly bracket  
 23E0 ⌋ TOP TORTOISE SHELL BRACKET  
 → FE39 ⌋ presentation form for vertical left tortoise shell bracket

23E1  BOTTOM TORTOISE SHELL BRACKET  
→ FE3A  presentation form for vertical right tortoise shell bracket

#### Miscellaneous technical


23E2  WHITE TRAPEZIUM

#### Chemistry symbol

23E3  BENZENE RING WITH CIRCLE


#### Miscellaneous technical

23E4  STRAIGHTNESS

23E5  FLATNESS

23E6  AC CURRENT

23E7  ELECTRICAL INTERSECTION

23E8  DECIMAL EXPONENT SYMBOL  
• Algol-60 token for scientific notation literals


#### User interface symbols


23E9  BLACK RIGHT-POINTING DOUBLE TRIANGLE  
= fast forward

23EA  BLACK LEFT-POINTING DOUBLE TRIANGLE  
= rewind, fast backwards

23EB  BLACK UP-POINTING DOUBLE TRIANGLE


23EC  BLACK DOWN-POINTING DOUBLE TRIANGLE


23ED  BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR  
= skip to the end or next file/track/chapter



23EE  BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR  
= skip to the start or previous file/track/chapter





23EF  BLACK RIGHT-POINTING TRIANGLE WITH DOUBLE VERTICAL BAR  
= play/pause toggle





23F0  ALARM CLOCK  
→ 231A  watch  
→ 1F550  clock face one o'clock  
→ 1F570  mantelpiece clock





23F1  STOPWATCH





23F2  TIMER CLOCK



23F3  HOURGLASS WITH FLOWING SAND  
→ 231B  hourglass



23F4  BLACK MEDIUM LEFT-POINTING TRIANGLE  
= reverse, back  
• preferred to 25C0  black left-pointing triangle  
→ 2BC7  black medium left-pointing triangle centred  
→ 1F780  black left-pointing isosceles right triangle

23F5  BLACK MEDIUM RIGHT-POINTING TRIANGLE  
= forward  
• preferred to 25B6  black right-pointing triangle  
→ 2BC8  black medium right-pointing triangle centred  
→ 1F782  black right-pointing isosceles right triangle

23F6  BLACK MEDIUM UP-POINTING TRIANGLE  
= increase  
• preferred to 25B2  black up-pointing triangle  
→ 2BC5  black medium up-pointing triangle centred  
→ 1F781  black up-pointing isosceles right triangle


23F7  BLACK MEDIUM DOWN-POINTING TRIANGLE  
= decrease  
• preferred to 25BC  black down-pointing triangle  
→ 2BC6  black medium down-pointing triangle centred  
→ 1F783  black down-pointing isosceles right triangle


23F8  DOUBLE VERTICAL BAR  
= pause  
→ 2016  double vertical line




23F9  BLACK SQUARE FOR STOP  
= stop  
→ 25FC  black medium square

23FA  BLACK CIRCLE FOR RECORD  
= record  
→ 26AB  medium black circle  
→ 1F534  large red circle



#### Power symbols from ISO 7000:2012

23FB  POWER SYMBOL  
• IEC 5009 standby symbol  
• IEEE 1621 power symbol

23FC  POWER ON-OFF SYMBOL  
• IEC 5010 power on-off symbol

23FD  POWER ON SYMBOL  
• use 2B58  for power off symbol  
→ 2B58  heavy circle

#### Power symbol from IEEE 1621-2004

23FE  POWER SLEEP SYMBOL  
→ 263E  last quarter moon

#### Miscellaneous symbol

23FF  OBSERVER EYE SYMBOL