Miscellaneous Technical

Range: 2300–23FF

The Unicode Standard, Version 4.0

This file contains an excerpt from the character code tables and list of character names for
The Unicode Standard, Version 4.0.

Characters in this chart that are new for The Unicode Standard, Version 4.0 are shown in conjunction with any
existing characters. For ease of reference, the new characters have been highlighted in the chart grid and in the
names list.

This file will not be updated with errata, or when additional characters are assigned to the Unicode Standard.
See http://www.unicode.org/charts for access to a complete list of the latest character charts.

Disclaimer

These charts are provided as the on-line reference to the character contents of the Unicode Standard, Version
4.0 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 excerpt file, please
consult the appropriate sections of The Unicode Standard, Version 4.0 (ISBN 0-321-18578-1), as well as
Unicode Standard Annexes #9, #11, #14, #15, #24 and #29, the other Unicode Technical Reports and the
Unicode Character Database, which are available on-line.

See http://www.unicode.org/Public/UNIDATA/UCD.html and http://www.unicode.org/unicode/reports

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

Fonts

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Standard since the publication of Version 4.0 as well as on characters currently being considered for addition
to the Unicode Standard can be found on the Unicode web site.


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Miscellaneous technical

2300 ø DIAMETER SIGN
→ 2205 Ø empty set
2301 ↖ ELECTRIC ARROW
• from ISO 2047
• symbol for End of Transmission
2302 ⊐ 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
→ 22B8 ↘ nand
2306 ↙ PERSPECTIVE
2307 ⌋ WAVY LINE
→ 3030 — wavy dash

Corner brackets

The ceiling and floor characters are recommended for general-purpose corner brackets, rather than the CJK corner brackets, which are wide quotation marks.

2308 ⌈ LEFT CEILING
= APL upstile
→ 300C ⌈ left corner bracket
2309 ⌉ RIGHT CEILING
→ 20E7 ⌉ combining annuity symbol
230A ⌈ LEFT FLOOR
= APL downstile
230B ⌉ RIGHT FLOOR
→ 300D ⌉ right corner bracket

Crops

230C ⌅ BOTTOM RIGHT CROP
• set of four “crop” corners, arranged facing outward
230D ⌄ BOTTOM LEFT CROP
230E ⌃ TOP RIGHT CROP
230F ⌂ TOP LEFT CROP

Miscellaneous technical

2310 ↘ REVERSED NOT SIGN
= beginning of line
→ 00AC ← not sign
2311 □ SQUARE LOZENGE
= Kissen (pillow)
• used as a command delimiter in some very old computers
2312 ◀ ARC
→ 25E0 ◀ upper half circle
2313 ◁ SEGMENT
2314 ◀ SECTOR
2315 ◁ TELEPHONE RECORDER

2316 † POSITION INDICATOR
2317 # VIEWDATA SQUARE
→ 22D5 # equal and parallel to
2318 △ PLACE OF INTEREST SIGN
= COMMAND KEY
2319 ¬ TURNED NOT SIGN
= line marker

GUI icons

231A ø WATCH
231B ⊔ HOURGLASS

Quine corners

231C ⊐ TOP LEFT CORNER
• set of four “quine” corners, for quincuncial arrangement
231D ⊑ TOP RIGHT CORNER
231E ⊒ BOTTOM LEFT CORNER
231F ⊓ BOTTOM RIGHT CORNER

Integral pieces

2320 ⌞ TOP HALF INTEGRAL
→ 23AE ⌞ integral extension
2321 ⌧ BOTTOM HALF INTEGRAL

Frown and smile

2322 — FROWN
→ 2040 — character tie
2323 — SMILE
→ 203F — undertie

Keyboard symbols

2324 ▼ UP ARROWHEAD BETWEEN TWO HORIZONTAL BARS
= ENTER KEY
2325 － OPTION KEY
2326 ⊥ ERASE TO THE RIGHT
= DELETE TO THE RIGHT KEY
2327 ⊧ X IN A RECTANGLE BOX
= CLEAR KEY
2328 ⊨ KEYBOARD

Angle brackets

These are 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 ( logical left 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
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
2340 ☐ APL FUNCTIONAL SYMBOL BACKSLASH BAR
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 ☐ 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
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 QUAD QUOTE UNDERBAR
2359 ▼ APL FUNCTIONAL SYMBOL DELTA UNDERBAR
235A ☐ APL FUNCTIONAL SYMBOL DIAMOND UNDERBAR
2391

Miscellaneous Technical

235B  ☞  APL FUNCTIONAL SYMBOL JOT UNDERBAR
235C  ☛  APL FUNCTIONAL SYMBOL CIRCLE UNDERBAR
235D  ◐  APL FUNCTIONAL SYMBOL UP SHOE JOT
   → 2440  ☐  intersection with dot
235E  ☑  APL FUNCTIONAL SYMBOL QUOTE QUAD
235F  ☔  APL FUNCTIONAL SYMBOL CIRCLE QUAD COLON
2361  ↑  APL FUNCTIONAL SYMBOL UP TACK DIAERESIS
=  down tack diaeresis
→ 2244  ⊤  down tack
2362  ↳  APL FUNCTIONAL SYMBOL DEL DIAERESIS
2363  ⋆  APL FUNCTIONAL SYMBOL STAR DIAERESIS
2364  ⓞ  APL FUNCTIONAL SYMBOL JOT DIAERESIS
=  hoot
2365  ☋  APL FUNCTIONAL SYMBOL CIRCLE DIAERESIS
=  holler
2366  ☊  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
2371  ⇥  APL FUNCTIONAL SYMBOL DOWN CARET TILDE
2372  ^=  APL FUNCTIONAL SYMBOL UP CARET TILDE
2373  ↓  APL FUNCTIONAL SYMBOL IOTA
2374  ρ  APL FUNCTIONAL SYMBOL RHO
2375  ω  APL FUNCTIONAL SYMBOL OMEGA UNDERBAR
2376  α  APL FUNCTIONAL SYMBOL ALPHA UNDERBAR
2377  ε  APL FUNCTIONAL SYMBOL EPSILON UNDERBAR
2378  Ʌ  APL FUNCTIONAL SYMBOL IOTA UNDERBAR
2379  ω  APL FUNCTIONAL SYMBOL OMEGA UNDERBAR
237A  α  APL FUNCTIONAL SYMBOL ALPHA

Graphics for control codes

237B  ¬  NOT CHECK MARK
•  from ISO 2047
•  symbol for Negative Acknowledge

Miscellaneous technical

237C  ⊤  RIGHT ANGLE WITH DOWNWARDS ZIGZAG ARROW

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
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
2386  ⊖  ENTER SYMBOL
2387  ◦  ALTERNATIVE KEY SYMBOL
2388  ◦  HELM SYMBOL
 =  control
→ 2638  ◦  wheel of dharma
2389  ◦  CIRCLED HORIZONTAL BAR WITH NOTCH
238A  ◦  CIRCLED TRIANGLE DOWN
238B  ◦  BROKEN CIRCLE WITH NORTHWEST ARROW
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
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

Vertical brackets
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

Terminal graphic characters
23B7 Ɒ RADICAL SYMBOL BOTTOM
23B8 ⱹ LEFT VERTICAL BOX LINE
23B9 ⱺ 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. Even-numbered scan lines are unified with box-drawing graphics.
23BA ⱳ HORIZONTAL SCAN LINE-1
23BB ⱴ HORIZONTAL SCAN LINE-3
23BC Ⱶ HORIZONTAL SCAN LINE-7
23BD ⱶ HORIZONTAL SCAN LINE-9

Dentistry notation symbols
23BE Ⱶ DENTISTRY SYMBOL LIGHT VERTICAL AND TOP RIGHT
     → 2308 ⬅ top half integral
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 ⊤ 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 symbol
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
23CF  ↵  EJECT SYMBOL
      • UI symbol to eject media

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