

# ShopBot Control Software QUICK REFERENCE GUIDE -- OpenSBP<sup>®</sup> COMMAND Language

The Easy Language of CNC and Digital Fabrication

File Category Commands		
File: execute Part File	<b>FP</b>	<i>fNm, {pX,pY,pZ,Rp,Ofst, plnge, Tb, z0, pA, pB}</i>
File: Edit	<b>FE</b>	<i>fNm</i>
File: New blank Part File	<b>FN</b>	
File: Goto/Single Step	<b>FG</b>	<i>fNm, { pX, pY, pZ, Rp, Ofst, plnge, Tb, z0}</i>
File: Conversion	<b>FC</b>	<i>fNm</i>
File: Set drive/directory	<b>FS</b>	<i>Path, mask</i>
Move Category Commands		
Set Mode to <b>Absolute Distance (SA)</b> or <b>Relative Distance (SR)</b>		
Move <b>X</b> axis	<b>MX</b>	<i>new-X</i>
Move <b>Y</b> axis	<b>MY</b>	<i>new-Y</i>
Move <b>Z</b> axis	<b>MZ</b>	<i>new-Z</i>
Move <b>2</b> axis	<b>M2</b>	<i>new-X, new-Y</i>
Move <b>3</b> axis	<b>M3</b>	<i>new-X, new-Y, new-Z</i>
Move Home	<b>MH</b>	(Move to 0, 0 in X, Y; with Safe-Z pull-up if enabled)
Move Acc axis	<b>MA</b>	<i>new-Acc value</i>
Move <b>B</b> Axis	<b>MB</b>	<i>new-B</i>
Move <b>D</b> istance at Angle	<b>MD</b>	<i>Distance to move, angle, Z move</i>
Move <b>4</b> Axis	<b>M4</b>	<i>new-X, new-Y, new Z, new-A</i>
Move <b>5</b> Axis	<b>M5</b>	<i>new-X, new-Y, new Z, new-A, new-B</i>
Motors OFF	<b>MO or M0</b>	
Move Speeds	<b>MS</b>	<i>X,Y-Move-Speed, Z-Move-Speed (see also [VS])</i>
Jog Category Commands		
Set Mode to <b>Absolute Distance (SA)</b> or <b>Relative Distance (SR)</b>		
Jog <b>X</b> axis	<b>JX</b>	<i>new-X</i>
Jog <b>Y</b> axis	<b>JY</b>	<i>new-Y</i>
Jog <b>Z</b> axis	<b>JZ</b>	<i>new-Z</i>
Jog <b>2</b> axes	<b>J2</b>	<i>new-X, new-Y</i>
Jog <b>3</b> axes	<b>J3</b>	<i>new-X, new-Y, new-Z</i>
Jog Home	<b>JH</b>	(Jog to 0, 0 in X, Y; with Safe-Z pull-up if enabled)
Jog Acc axis	<b>JA</b>	<i>new-Acc value</i>
Jog <b>B</b> Axis	<b>JB</b>	<i>new-B</i>
Jog <b>4</b> Axis	<b>J4</b>	<i>new-X, new-Y, new Z, new-A</i>
Jog <b>5</b> Axis	<b>J5</b>	<i>new-X, new-Y, new Z, new-A, new-B</i>
Jog Speeds	<b>JS</b>	<i>X-Jog-Speed, Z-Jog-Speed (see also [VS])</i>
Cut Category Commands		
CUTS Outside, Inside, or True; Set <b>Cutter Diameter</b> with [VC]		
Cut Circle	<b>CC</b>	<i>Dia {,O-I-T, Dir, B&lt;, E&lt;, Plunge, Rep, pX, pY [1-Tab 2-Pckt 3-Spr 4-SprBp], 1-no pullup, 1-plgfrom0}</i>
Center Point Circle	<b>CP</b>	<i>Dia {x,y, O-I-T, Dir, B&lt;, E&lt;,Plunge, Rep, pX, pY, [1-Tab 2-Pckt 3-Spr 4-SprBp], 1-no pullup,1-plgfrom0}</i>
Cut quick Arch	<b>CA</b>	<i>Width,Height {,O-I-T, Dir, Alignmnt&lt;, Plng, Rep, pX, pY, 1-Tab, 1-no pull-up, 1-plgfrom0}</i>
Cut <b>G</b> -code Circle	<b>CG</b>	<i>Dia, endX, endY, Xcent, Ycent {,O-I-T, Dir,Plg,Rep,pX, pY, [1-Tab 2-Pckt 3-Spr 4-SprB], 1-no-up, 1-plgfrm0}</i>
Cut Rectangle	<b>CR</b>	<i>LengthX {,LengthY, O-I-T, Dr, Strt, Plg, Rp, [1-Tab 2-Pckt], 1-plunge from 0}</i>
Custom Cut Setup	<b>CS</b>	
Zero Category Commands		
<b>Careful!</b> No Parameters Required. Zeroing Happens on 2 <sup>nd</sup> Letter of Command		
Zero <b>X</b> axis	<b>ZX</b>	
Zero <b>Y</b> axis	<b>ZY</b>	
Zero <b>Z</b> axis	<b b="" zz<=""></b>	
Zero Acc Axis	<b>ZA</b>	
Zero <b>B</b> Axis	<b>ZB</b>	
Zero X & Y (2D)	<b>Z2</b>	
Zero X, Y, & Z (3D)	<b>Z3</b>	
Zero All 4 Axes	<b>Z4</b>	
Zero All 5 Axes	<b>Z5</b>	
Zero Table Base Coordinates	<b>ZT</b>	<b>(Resets Location in terms of Base Values)</b>

Settings Category Commands		
Mostly toggles Settings without parameters		
Set to Absolute Distances	<b>SA</b>	
Set to Relative Distances	<b>SR</b>	
Set to PREVIEW Mode	<b>SP</b>	
Set to MOVE/CUT Mode	<b>SM</b>	
Set to Keyboard Arrow Control	<b>SK</b>	(shortcut = 'K')
cLear All Variables	<b>SL</b>	
Set Output Switch	<b>SO</b>	<i>Switch#(1-4), 1-ON, 0-Off (#4 has options)</i>
Set Warning Duration	<b>SW</b>	<i>Secs</i>
Set Continuous Movement Block	<b>SC</b>	(files only) <i>0-OFF, 1-ON, 2-update &amp; reset</i>
revert to Table Base Coordinates	<b>ST</b>	(current location values will be lost)
Set File and Move Limit Check	<b>SF</b>	<i>0-OFF, 1-ON</i>
Values Category Commands		
Values for Cutter, etc	<b>VC</b>	<i>CutterDia, kX, kY, sfZ, dirZplng, pk%, sfA</i>
Values for Preview Screen	<b>VP</b>	<i>grid, tblX, tblY, tblZ, sim, rot, center, show jog, rnd</i>
Variable Define	<b>VV</b>	<i>Name, Value</i>
Values of Speeds	<b>VS</b>	<i>mvXY, mvZ, mvA, mvB, jXY, jZ, jA, jB</i>
Values of Ramp	<b>VR</b>	<i>mrXY, mrZ, mrA, mrB, jrXY, jrZ, jrA, jrB</i>
Values for taBbing	<b>VB</b>	<i>dist pull-up, dist next, size, dist leads,1-ON 0-Off,#</i>
Values of locAtion	<b>VA</b>	<i>NEW value for locX, locY, locZ, locA, locB, NEW value for baseX, baseY, baseZ, baseA, baseB</i>
Values for Units	<b>VU</b>	<i>unX, unY, unZ, unA, CirRes, sCyX, sCyY, SmCir,unB</i>
Values for Display	<b>VD</b>	<i>prmts, #axes, units, unitsA, unitsB, consl, com, fDist, remote, wr part log, wr sys log</i>
Values for table Limits	<b>VL</b>	<i>loX, hiX, loY, hiY, loZ, hiZ, loA, hiA, 0-OFF 1-ON, loB, hiB</i>
Values Input addresses (Change Axis address)	<b>VI</b>	<i>com#, chn1, chn2, chn3, chn4, chn5, spd</i>
Values iNput switch mode	<b>VN</b>	<i>limOn, Stop Switch type, torch/laser, extensive switch function settings tables</i>
Value Height Control	<b>VH</b>	<i>Settings for plasma cutter or laser cutter</i>
Values temp Offset	<b>VO</b>	<i>For temporary offsets within files</i>
Record Category Commands		
Record Replay	<b>RR</b>	<i>{#CommandsBack [blank=1] [A=ALL], #Reps</i>
Replay All	<b>RP</b>	
Record Save & edit	<b>RS</b>	<i>{Filename, #CommandsBack [blank=ALL]}</i>
Record Activate	<b>RA</b>	
Record Inactivate	<b>RI</b>	
Reset Record	<b>RZ</b>	
Utility Category Commands		
Utility: Name Editor	<b>UN</b>	<i>{Path &amp;} filename [default=EDIT] (Notepad OK)</i>
Utility: calcUlator	<b>UU</b>	
Utility: List Variables	<b>UL</b>	<i>(list can be edited and/or saved)</i>
Utility: display Values & settings	<b>UV</b>	
Utility: Reset Defaults	<b>UR</b>	<i>[A=All values including calibration and location]</i>
Utility: Save current config	<b>US</b>	
Utility: Diagnostic display	<b>UD</b>	<i>(UV and UD are automatically saved in PROBLEM.LOG)</i>
Utility: Install Firmware	<b>UI</b>	<i>( Install Control Box Firmware)</i>
Utility: Zero	<b>UZ</b>	<i>Zero all axes and Table Base Coordinate System</i>
Virtual Tools		
<b>Part Wizard</b>	<b>TP</b>	<i>Launch Part Wizard from ShopBot Control Software</i>
<b>Typesetter</b>	<b>TT</b>	<i>V-Carve Fonts on your computer</i>
<b>Copy Machine</b>	<b>TC</b>	<i>Use with Digitizing Probe to copy existing models</i>
<b>Drill Press</b>	<b>TD</b>	<i>Create routines for drilling holes</i>
<b>Header Writer</b>	<b>TH</b>	<i>Insert notes about bits, zeroing locations, etc to .sbp files</i>

