ShopBot Control Software QUICK REFERENCE GUIDE -- OpenSBP® COMMAND Language

The Easy Language of CNC and Digital Fabrication

File Category Commands

File: execute **P**art File	**FP**	*fNm,{pX,pY,pZ,Rp,Ofst, plnge, Tb, z0, pA, pB}*
File: **E**dit	**FE**	*fNm*
File: **N**ew blank Part File	**FN**	
File: **G**oto/Single Step	**FG**	*fNm, { pX, pY, pZ, Rp, Ofst, plnge, Tb, z0}*
File: **C**onversion	**FC**	*fNm*
File: **S**et drive/directory	**FS**	*Path, mask*

Move Category Commands

Set Mode to **Absolute Distance (SA)** or **Relative Distance (SR)**

Move **X** axis	**MX**	*new-X*
Move **Y** axis	**MY**	*new-Y*
Move **Z** axis	**MZ**	*new-Z*
Move **2** axis	**M2**	*new-X, new-Y*
Move **3** axis	**M3**	*new-X, new-Y, new-Z*
Move **H**ome	**MH**	(Move to 0, 0 in X, Y; with Safe-Z pull-up if enabled)
Move Acc axis	**MA**	*new-Acc value*
Move **B** Axis	**MB**	*new-B*
Move **D**istance at Angle	**MD**	*Distance to move, angle , Z move*
Move **4** Axis	**M4**	*new-X, new-Y, new Z, new-A*
Move **5** Axis	**M5**	*new-X, new-Y, new Z, new-A, new-B*
Motors **OFF**	**MO or M0**	
Move Speeds	**MS**	*X,Y-Move-Speed, Z-Move-Speed* (see also [**VS**])

Jog Category Commands

Set Mode to **Absolute Distance (SA)** or **Relative Distance (SR)**

Jog **X** axis	**JX**	*new-X*
Jog **Y** axis	**JY**	*new-Y*
Jog **Z** axis	**JZ**	*new-Z*
Jog **2** axes	**J2**	*new-X, new-Y*
Jog **3** axes	**J3**	*new-X, new-Y, new-Z*
Jog **H**ome	**JH**	(Jog to 0, 0 in X, Y; with Safe-Z pull-up if enabled)
Jog Acc axis	**JA**	*new-Acc value*
Jog **B** Axis	**JB**	*new-B*
Jog **4** Axis	**J4**	*new-X, new-Y, new Z, new-A*
Jog **5** Axis	**J5**	*new-X, new-Y, new Z, new-A, new-B*
Jog Speeds	**JS**	*X-Jog-Speed, Z-Jog-Speed* (see also [**VS**])

Cut Category Commands

CUTS Outside, Inside, or True; Set **Cutter Diameter** with [**VC**]

Cut Circle	**CC**	*Dia {,O-I-T ,Dir, B<, E<, Plunge, Rep, pX ,pY [1-Tab 2-Pckt 3-Spr 4-SprBp], 1-no pullup, 1-plgfrom0}*
Center **P**oint Circle	**CP**	*Dia {x,y, O-I-T, Dir, B<, E<,Plunge, Rep, pX, pY, [1-Tab 2-Pckt 3-Spr 4-SprBp], 1-no pullup, 1-plgfrom0}*
Cut quick **A**rch	**CA**	*Width,Height {,O-I-T, Dir, Alignmnt<, Plng, Rep, pX, pY, 1-Tab, 1-no pull-up, 1-plgfrom0}*
Cut **G**-code Circle	**CG**	*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}*
Cut **R**ectangle	**CR**	*LengthX {,LengthY, O-I-T, Dr, Strt, Plg, Rp, [1-Tab 2-Pckt], 1-plunge from 0}*
Custom Cut **S**etup	**CS**	

Zero Category Commands

Careful! No Parameters Required. Zeroing Happens on 2nd Letter of Command

Zero **X** axis	**ZX**	
Zero **Y** axis	**ZY**	
Zero **Z** axis	**ZZ**	
Zero **Acc** Axis	**ZA**	
Zero **B** Axis	**ZB**	
Zero X & Y (**2**D)	**Z2**	
Zero X, Y, & Z (**3**D)	**Z3**	
Zero All **4** Axes	**Z4**	
Zero All **5** Axes	**Z5**	
Zero **T**able Base Coordinates	**ZT**	(**Resets Location** in terms of Base Values)

Settings Category Commands

Mostly toggles Settings without parameters

Set to **A**bsolute Distances	**SA**	
Set to **R**elative Distances	**SR**	
Set to **PREVIEW** Mode	**SP**	
Set to **MOVE/CUT** Mode	**SM**	
Set to **K**eyboard Arrow Control	**SK**	(shortcut = 'K')
c**L**ear All Variables	**SL**	
Set **O**utput Switch	**SO**	*Switch#(1-4), 1-ON, 0-Off* (#4 has options)
Set **W**arning Duration	**SW**	*Secs*
Set **C**ontinuous Movement Block	**SC**	(files only) *0-OFF, 1-ON, 2-update & reset*
revert to **T**able Base Coordinates	**ST**	(current location values will be lost)
Set **F**ile and Move Limit Check	**SF**	*0-OFF, 1-ON*

Values Category Commands

Values for **C**utter, etc	**VC**	*CutterDia, kX, kY, sfZ, dirZplng, pk%, sfA*
Values for **P**review Screen	**VP**	*grid, tblX, tablY, tblZ, sim, rot, center, show jog, rnd*
Variable Define	**VV**	*Name, Value*
Values of **S**peeds	**VS**	*mvXY, mvZ, mvA, mvB, jXY, jZ, jA, jB*
Values of **R**amp	**VR**	*mrXY, mrZ, mrA, mrB, jrXY, jrZ, jrA, jrB*
Values for ta**B**bing	**VB**	*dist pull-up, dist next, size, dist leads,1-ON 0-Off,#*
Values of loc**A**tion	**VA**	*NEW value for locX, locY, locZ, locA, locB, NEW value for baseX, baseY, baseZ, baseA, baseB*
Values for **U**nits	**VU**	*unX, unY, unZ, unA,CirRes, sCyX, sCyY, SmCir,unB*
Values for **D**isplay	**VD**	*prmpts, #axes, units, unitsA, unitsB, consl, com, fDist, remote, wr part log, wr sys log*
Values for table **L**imits	**VL**	*loX, hiX, loY, hiY, loZ, hiZ, loA, hiA, 0-OFF 1-ON, loB, hiB*
Values **I**nput addresses (Change Axis address)	**VI**	*com#, chn1, chn2, chn3, chn4, chn5, spd*
Values i**N**put switch mode	**VN**	*limOn, Stop Switch type, torch/laser, extensive switch function settings tables*
Value **H**eight Control	**VH**	*Settings for plasma cutter or laser cutter*
Values temp **O**ffset	**VO**	*For temporary offsets within files*

Record Category Commands

Record **R**eplay	**RR**	*[#CommandsBack [blank=1] [A=ALL], #Reps*
Replay **A**ll	**RP**	
Record **S**ave & edit	**RS**	*[Filename, #CommandsBack [blank=ALL]}*
Record **A**ctivate	**RA**	
Record **I**nactivate	**RI**	
Reset **R**ecord	**RZ**	

Utility Category Commands

Utility: **N**ame Editor	**UN**	*{Path &} filename* [default=EDIT] (Notepad OK)
Utility: calc**U**lator	**UU**	
Utility: **L**ist Variables	**UL**	*(list can be edited and/or saved)*
Utility: display **V**alues & settings	**UV**	
Utility: **R**eset Defaults	**UR**	*{A=All values including calibration and location}*
Utility: **S**ave current config	**US**	
Utility: **D**iagnostic display	**UD**	(UV and UD are automatically saved in PROBLEM.LOG)
Utility: **I**nstall Firmware	**UI**	(Install Control Box Firmware)
Utility: **Z**ero	**UZ**	*Zero all axes and Table Base Coordinate System*

Virtual Tools

Part Wizard	**TP**	*Launch Part Wizard from ShopBot Control Software*
Typesetter	**TT**	*V-Carve Fonts on your computer*
Copy Machine	**TC**	*Use with Digitizing Probe to copy existing models*
Drill Press	**TD**	*Create routines for drilling holes*
Header Writer	**TH**	*Insert notes about bits, ,zeroing locations, etc to .sbp files*