

GRBL	Default	Structure	Description
\$0	5	Step pulse time,microseconds	Sets time length per step. Minimum 3 microseconds.
\$1	100	Step idle delay,milliseconds	Sets a short hold delay when stopping to let dynamics settle before disabling steppers. Value 255 keeps motors enabled.
\$2	0	Step pulse invert,mask	Inverts the step signals (active low).
\$3	6	Step direction invert,mask	Inverts the direction signals (active low).
\$4	0	Invert step enable pin,boolean	Inverts the stepper driver enable signals (active low). If the stepper drivers shares the same enable signal only X is used.
\$5	7	Invert limit pins,mask	Inverts the axis limit input signals.
\$6	1	Invert probe pin,boolean	Inverts the probe input pin signal.
\$10	2047	Status report options,mask	Specifies optional data included in status reports.
\$11	0.05	Junction deviation,mm	Sets how fast Grbl travels through consecutive motions. Lower value slows it down.
\$12	0.002	Arc tolerance,mm	Sets the G2 and G3 arc tracing accuracy based on radial error. Beware: A very small value may effect performance.
\$13	0	Report in inches,boolean	Enables inch units when returning any position and rate value that is not a settings value.
\$14	2	Invert control pins,mask	Inverts the control signals (active low).
\$15	0	Invert coolant pins,mask	Inverts the coolant and mist signals (active low).
\$16	1	Invert spindle signals,mask	Inverts the spindle on, counterclockwise and PWM signals (active low).
\$17	0	Pullup disable control pins,mask	Disable the control signals pullup resistors. Potentially enables pulldown resistor if available.
\$18	0	Pullup disable limit pins,mask	Disable the limit signals pullup resistors. Potentially enables pulldown resistor if available.
\$19	0	Pullup disable probe pin,boolean	Disable the probe signal pullup resistor. Potentially enables pulldown resistor if available.
\$20	1	Soft limits enable,boolean	Enables soft limits checks within machine travel and sets alarm when exceeded. Requires homing.
\$21	1	Hard limits enable,mask	When enabled immediately halts motion and throws an alarm when switch is triggered. In strict mode only homing is possible after switch is triggered.
\$22	1	Homing cycle enable,boolean	Enables homing cycle. Requires limit switches on all axes.
\$23	7	Homing direction invert,mask	Homing searches for a switch in the positive direction. Set axis bit to search in negative direction.
\$24	600	Homing locate feed rate,mm/min	Feed rate to slowly engage limit switch to determine its location accurately.
\$25	3000	Homing search seek rate,mm/min	Seek rate to quickly find the limit switch before the slower locating phase.
\$26	100	Homing switch debounce delay,milliseconds	Sets a short delay between phases of homing cycle to let a switch debounce.
\$27	3	Homing switch pull off distance,mm	Retract distance after triggering switch to disengage it. Homing will fail if switch isn't cleared.
\$28	0.1	G73 Retract distance,mm	G73 retract distance (for chip breaking drilling).
\$29	0	Pulse delay,microseconds	Step pulse delay.
\$30	1000	Maximum spindle speed,RPM	Maximum spindle speed. Sets PWM to maximum duty cycle.
\$31	0	Minimum spindle speed,RPM	Minimum spindle speed. Sets PWM to minimum duty cycle.
\$32	1	Mode of operation,integer	Laser mode: consecutive G1/2/3 commands will not halt when spindle speed is changed. Lathe mode: allows use of G7, G8, G96 and G97.
\$33	1000	PWM frequency,Hz	PWM frequency.
\$34	0	PWM off value,percent	PWM off value in percent (duty cycle).
\$35	0	PWM min value,percent	PWM min value in percent (duty cycle).
\$36	100	PWM max value,percent	PWM max value in percent (duty cycle).

\$37	0	Steppers deenergize ,mask	Specifies which steppers not to disable when stopped.
\$39	1	Enable legacy RT commands,boolean	"Enables ""normal"" processing of ?, ! and ~ characters when part of \$setting or comment. If disabled then they are added to the input string instead."
\$40	1	Limit jog commands,boolean	Limit jog commands to machine limits for homed axes.
\$41	0	Safety Door	Enable Safety Door
\$42	1	Safety Door	Define which axis that performs the parking motion
\$43	1	Homing passes	Number of homing passes. Minimum 1, maximum 128.
\$44	3	Axes homing, first pass,mask	Axes to home in first pass.
\$45	0	Axes homing, second pass,mask	Axes to home in second pass.
\$46	0	Axes homing,third pass,mask	Axes to home in third pass.
\$56	1	Safety Door,boolean	Spindle pull out and plunge distance in mm. Incremental distance.
\$57	1800	Safety Door, integer	Pull out/plunge slow feed rate in mm/min.
\$58	395	Safety Door, integer	Parking axis target. In mm, as machine coordinate [-max_travel,0].
\$59	6000	Safety Door, integer	Parking fast rate after pull out in mm/min.
\$60	0	Restore overrides	Restore overrides to default values at program end.
\$61	0	Ignore door when idle	Enable this if it is desirable to open the safety door when in IDLE mode (eg. for jogging).
\$62	0	Sleep enable,boolean	Enable sleep mode.
\$63	3	Disable laser,boolean	Disable laser during hold.
\$64	1	Force init alarm,boolean	Starts Grbl in alarm mode after a cold reset.
\$65	0	Check limits at init,boolean	If limit switches are engaged after reset this forces Grbl to start in alarm mode.
\$100	80	X-axis travel resolution,step/mm	X-axis travel resolution in steps per millimeter.
\$101	80	Y-axis travel resolution,step/mm	Y-axis travel resolution in steps per millimeter.
\$102	2124	Z-axis travel resolution,step/mm	Z-axis travel resolution in steps per millimeter.
\$110	10200	X-axis maximum rate,mm/min	X-axis maximum rate. Used as G0 rapid rate.
\$111	10200	Y-axis maximum rate,mm/min	Y-axis maximum rate. Used as G0 rapid rate.
\$112	600	Z-axis maximum rate,mm/min	Z-axis maximum rate. Used as G0 rapid rate.
\$120	2200	X-axis acceleration,mm/sec^2	X-axis acceleration. Used for motion planning to not exceed motor torque and lose
\$121	1800	Y-axis acceleration,mm/sec^2	Y-axis acceleration. Used for motion planning to not exceed motor torque and lose
\$122	200	Z-axis acceleration,mm/sec^2	Z-axis acceleration. Used for motion planning to not exceed motor torque and lose
\$130	400	X-axis maximum travel,mm	Maximum X-axis travel distance from homing switch. Determines valid machine space for
\$131	400	Y-axis maximum travel,mm	Maximum Y-axis travel distance from homing switch. Determines valid machine space for
\$132	100	Z-axis maximum travel,mm	Maximum Z-axis travel distance from homing switch. Determines valid machine space for
\$259	0	ORTUR Specific,boolean	Flame Sensor Debug Mode (On/OFF) [0-8192 Scale]
\$260	70	ORTUR Specific, integer	Flame Sensor Trigger Delta Value
\$261	0	ORTUR Specific, integer	Flame Sensor Trigger Count Treshold
\$262	400	ORTUR Specific, integer	Gshock Sensor Treshold
\$263	30	ORTUR Specific, integer	Auto Power Off in Minutes
\$264	0	ORTUR Specific, integer, seconds	Digital Laser Control, Total Laser Duration in Seconds
\$265	50	ORTUR Specific, integer, mm	Digital Laser Control, Calibration Focus for Autofocus
\$266	100	ORTUR Specific, Boulean	Digital Laser Communication Rate
\$267	0	ORTUR Specific, Boulean	Digital Laser Control, Laser-driven mode (Default PWM mode, Digital mode)
\$268	0	ORTUR Specific, integer	Set Echo Debug On Console (Default 0) [Incompatible with LightBurn Versions Under 1.0.0]
\$269	0	ORTUR Specific, integer	Set Debug Output for Output Voltage and Current. Allows diagnostics on input power source
\$270	5120	ORTUR Specific, integer	Set the Baud Rate for offline screen communication x100 (default 512000)