Repetier-Firmware configuration tool for version 0.92.9 version

Stepper

- [ ] Enable backlash compensation (ENABLE_BACKLASH_COMPENSATION)
- [x] Allow quad stepping. Required for frequencies larger 24000 Hz on AVR systems and for frequencies larger 200000 Hz on ARM based systems. (ALLOW_QUADSTEPPING)

Disable steppers after inactivity of STEPPER_INACTIVE_TIME	360	[s]	Info about Steppers
Disable as much as possible after inactivity of MAX_INACTIVE_TIME	0	[s, 0 = disabled]	
Delay stepper high signal STEPPER_HIGH_DELAY	0	[microseconds] Needed for gantry systems and due boards.	
Delay stepper direction signal DIRECTION_DELAY	0	[microseconds] Needed only for slow stepper drivers.	
Jerk XY moves MAX_JERK	20	[mm/s]	Info about Jerk
Z-Jerk MAX_ZJERK	0,5	[mm/s]	

X axis stepper motor

Stepper socket
X_(STEP|DIR|ENABLE)_PIN
X motor

Resolution
XAXIS_STEPS_PER_MM
160 [steps per mm]

Max. travel speed
MAX_FEEDRATE_X
200 [mm/s]

Homing speed
HOMING_FEEDRATE_X
40 [mm/s]

Travel acceleration
MAX_TRAVEL_ACCELERATION_UNITS_PER_SQ_SECOND_X
1000 [mm/s^2]

Print acceleration
MAX_ACCELERATION_UNITS_PER_SQ_SECOND_X
1000 [mm/s^2]

- [x] Invert direction (INVERT_X_DIR)
- [ ] Invert enable signal (X_ENABLE_ON)
- [ ] Disable when unused (DISABLE_X)
- [ ] Mirror motor signals to other stepper driver (FEATURE_TWO_XSTEPPER)
- [ ] Dual X Axis (0 = ext 0, 1 = ext 1) (DUAL_X_AXIS)

Y axis stepper motor

Stepper socket
Y_(STEP|DIR|ENABLE)_PIN
Y motor

Resolution
YAXIS_STEPS_PER_MM
160 [steps per mm]

Max. travel speed
MAX_FEEDRATE_Y
200 [mm/s]

Homing speed
HOMING_FEEDRATE_Y
40 [mm/s]

Travel acceleration
1000

MAX_TRAVEL_ACCELERATION_UNITS_PER_SQ_SECOND_Y [mm/s^2]

Print acceleration
MAX_ACCELERATION_UNITS_PER_SQ_SECOND_Y: 1000 [mm/s^2]

- [ ] Invert direction (INVERT_Y_DIR)
- [ ] Invert enable signal (Y_ENABLE_ON)
- [ ] Disable when unused (DISABLE_Y)
- [ ] Mirror motor signals to other stepper driver (FEATURE_TWO_YSTEPPER)

Z axis stepper motor

Stepper socket
Z_(STEP|DIR|ENABLE)_PIN: Z motor

Resolution
ZAXIS_STEPS_PER_MM: 6400 [steps per mm]

Max. travel speed
MAX_FEEDRATE_Z: 2 [mm/s]

Homing speed
HOMING_FEEDRATE_Z: 2 [mm/s]

Travel acceleration
MAX_TRAVEL_ACCELERATION_UNITS_PER_SQ_SECOND_Z: 100 [mm/s^2]

Print acceleration
MAX_ACCELERATION_UNITS_PER_SQ_SECOND_X: 100 [mm/s^2]

- [x] Invert direction (INVERT_Z_DIR)
- [ ] Invert enable signal (Z_ENABLE_ON)
- [ ] Disable when unused (DISABLE_Z)
- [ ] Prevent z stepper disabling on stepper timeout. (PREVENT_Z_DISABLE_ON_STEPPER_TIMEOUT)
- [ ] Mirror motor signals to other stepper driver (FEATURE_TWO_ZSTEPPER)

☐ Mirror motor signals to third stepper driver (FEATURE_THREE_ZSTEPPER)

Modify acceleration with increasing z position
INTERPOLATE_ACCELERATION_WITH_Z: Don't interpolate

Endstops

☑ Always check endstops. Only enable if you have no cross talk from your motors, which could trigger wrong signals causing the print to skew. (ALWAYS_CHECK_ENDSTOPS)

☑ X homing in negative direction direction (towards min endstop). (X_HOME_DIR)

☑ Y homing in negative direction direction (towards min endstop). (Y_HOME_DIR)

☑ Z homing in negative direction direction (towards min endstop). (Z_HOME_DIR)

Homing order
HOMING_ORDER: X, Y then Z

X min ENDSTOP_PULLUP_X_MIN/ENDSTOP_X_MIN_INVER	Switch on GND, normally clos	**Pin** X_MIN_PIN	X min endstop
Y min ENDSTOP_PULLUP_Y_MIN/ENDSTOP_Y_MIN_INVER	Switch on GND, normally clos	**Pin** Y_MIN_PIN	Y min endstop
Z min ENDSTOP_PULLUP_Z_MIN/ENDSTOP_Z_MIN_INVER	Switch on GND, normally clos	**Pin** Z_MIN_PIN	Z min endstop
X max ENDSTOP_PULLUP_X_MAX/ENDSTOP_X_MAX_INVE	Not installed	**Pin** X_MAX_PIN	Disabled / No pin assigned
Y max ENDSTOP_PULLUP_Y_MAX/ENDSTOP_Y_MAX_INVE	Not installed	**Pin** Y_MAX_PIN	Disabled / No pin assigned
Z max ENDSTOP_PULLUP_Z_MAX/ENDSTOP_Z_MAX_INVE	Not installed	**Pin** Z_MAX_PIN	Disabled / No pin assigned

You can test the endstops with the M119 command. As long as they are not triggered, the returned message should show "L" as signal state.

Endstop distance after homing
ENDSTOP_(X|Y|Z)_BACK_ON_HOME

1 | 1 | 0 [mm for X,Y and Z]

This is the distance, that the extruder will have to endstops after homing is finished. Use this if you want to prevent triggering when you are near endstops or for delta printers to go a bit lower, so you can select between extruders without hitting the endstop.

Pause handling

Retract on pause
RETRACT_ON_PAUSE

2 [mm]

Pause start script
PAUSE_START_COMMANDS

Pause end script
PAUSE_END_COMMANDS

Jam detection and out of filament detection

You can compare filament moves with extruder moves to detect if the extruder is jamming, the spool is knotted or if you are running out of filament. You need a movement tracker, that changes a digital signal every x extrusion steps. There are three steps defined for signaling. Regular steps is what number of steps a complete on/off cycle of the signal should take. While debugging this is the reference for the percent output. Next stage is slowdown steps. When we measure this step amount, we will reduce speed multiplier to a lower factor. Then, when we exceed the steps for jam detection we take a defined action - preferrably a pause giving the user a chance to fix the jam and continue printing. See documentation for more informations.

Regular steps for a cycle
JAM_STEPS

220 [steps]

Slowdown steps
JAM_SLOWDOWN_STEPS

320 [steps]

Slowdown to JAM_SLOWDOWN_TO	70	[%]
Steps for jam detection JAM_ERROR_STEPS	500	[steps]
Min. steps for signal change JAM_MIN_STEPS	10	[steps]
Jam action JAM_ACTION	Show jam/out of filament dialog and block communication (requires LCD) ▾	

Previous step Next step