file dump - v66/08/20

Directory / File list follow:

```
Resources/
/Resources/Ext
/Resources/AES
config.g
config.h
setup.g
setup.h
/Resources/PL
config.g
config.h
setup.g
setup.h
/Resources/Hashing
./config
hashtbl.g.in
hashtbl.h.in
./setup
./setup.g
/Resources/PL
hashtbl.g
hashtbl.h
./setup
./setup.g
/Resources/Hashing
./setup
./setup.g
/Resources/Ext
/Resources/Ext/Hashing
./setup
./setup.g
/Resources/Maintenance
```

```
; !!! If using Pinda, comment-out the following two lines
M280 P0 S160                                        ; BLTouch, alarm release
G4 P100                                             ; BLTouch, delay for release command

G91                                                 ; relative positioning
G1 Z3 F800 H2                                       ; lift Z relative to current position

; HOME X
G1 H0 X5 F1000                                      ; move slowly away
G1 H1 X-255 F3000                                   ; move quickly to X endstop
G1 H0 X5 F1000                                      ; move slowly away
G1 H1 X-255 F3000                                   ; move quickly to X endstop, second check

; HOME Y
G1 H0 Y5 F1000                                      ; move slowly away
G1 H1 Y-215 F3000                                   ; move quickly to Y endstop
G1 H0 Y5 F1000                                      ; move slowly away
G1 H1 Y-215 F3000                                   ; move quickly to Y endstops, second check

; HOME Z
G1 H2 Z2 F2400                                      ; raise head 2mm to ensure it is above the Z probe
trigger height
G90                                                 ; back to absolute mode
G1 X15 Y15 F6000                                    ; go to first probe point
G30                                                 ; home Z by probing the bed

G90                                                 ; absolute positioning
G1 H0 Z5 F400                                       ; lift Z relative to current position
```

/sys/homex.g

```
; 0:/sys/homex.g
; home the x axis

M98 P"current-sense-homing.g"                       ; Ensure current and sensitivity is set for homing
routines

G91                                                 ; relative positioning

G1 Z3 F800 H2                                       ; lift Z relative to current position

G1 H0 X5 F1000                                      ; move slowly away
G1 H1 X-255 F3000                                   ; move quickly to X endstop

G1 H0 X5 F1000                                      ; move slowly away
G1 H1 X-255 F3000                                   ; move quickly to X endstop, second check

G1 Z-3 F800 H2                                      ; place Z back to starting position
```

/sys/homey.g

```
; 0:/sys/homey.g
; home the y axis

M98 P"current-sense-homing.g"                       ; Ensure current and sensitivity is set for homing
routines

G91                                                 ; relative positioning

G1 Z3 F800 H2                                       ; lift Z relative to current position
G1 H0 Y5 F1000                                      ; move slowly away
G1 H1 Y-215 F3000                                   ; move quickly to Y endstop
G1 H0 Y5 F1000                                      ; move slowly away
G1 H1 Y-215 F3000                                   ; move quickly to Y endstop, second check

G1 Z-3 F800 H2                                      ; place Z back to starting position
```

/sys/homez.g

```
; 0:/sys/homez.g
; home the z axis

M98 P"current-sense-homing.g"                       ; Ensure current and sensitivity is set for homing
routines

; !!! If using Pinda, comment-out the following two lines
M280 P0 S160                                        ; BLTouch, alarm release
G4 P100                                             ; BLTouch, delay for release command

G91                                                 ; relative positioning
G1 H0 Z3 F6000                                      ; lift Z relative to current position
G90                                                 ; absolute positioning

G1 X15 Y15 F6000                                    ; go to first probe point
G30                                                 ; home Z by probing the bed

G90                                                 ; absolute positioning
G1 H0 Z5 F400                                       ; lift Z relative to current position
```

/sys/pause.g

```
; 0:/sys/pause.g
; called when a print from SD card is paused

M120                                                ; Push the state of the machine onto a stack

if sensors.filamentMonitors[0].filamentPresent = false
   G1 E-3 F1000                                     ; if filament has run out, retract 6mm of filament

M83                                                 ; relative extruder moves
G1 E-3 F3000                                        ; retract 3mm of filament
G91                                                 ; Relative Positioning
G1 Z10 F360                                         ; Raise Z
G90                                                 ; Absolute Values
G1 X10 Y0 F6000                                     ; Parking Position
M300 S80 P2000                                      ; play beep sound
```

/sys/primeline.g

```
; 0:/sys/primeline.g
; Print prime-line at a 'randomized' Y positon from -1.1 to -2.9
; Prime line routine from second line down ref: http://projects.ttlexceeded.com

G1 X0 Z0.6 Y{-2+(0.1*(floor(10*(cos(sqrt(sensors.analog[0].lastReading * state.upTime)))))) F3000.0;
G0 Z0.15                                            ; Primeline nozzle position
G92 E0.0                                            ; Reset extrusion distance
G1 E2 F1000                                         ; De-retract and push ooze
G1 X20.0 E6 F1000.0                                 ; Fat 20mm intro line # 0.30
G1 X60.0 E13.2 F1000.0                              ; Thin +40mm intro line # 0.08
G1 X100.0 E6 F1000.0                                ; Fat +40mm intro line # 0.15
G1 E-0.8 F3000                                      ; Retract to avoid stringing
G1 S39.5 E0 F1000.0                                 ; -0.5mm wipe action to avoid string
G1 X110.0 E0 F1000.0                                ; +10mm intro line # 0.00
G1 E0.6 F1500                                       ; De-retract
G92 E0.0                                            ; Reset extrusion distance
M400                                                ; Finish all current moves / clear the buffer
```

/sys/resume.g

```
; 0:/sys/resume.g
; called before a print from SD card is resumed

M98 P"current-sense-normal.g"                       ; Ensure current and sensitivity is set for normal
routines
G1 E3 F400                                          ; extract 3mm of filament
G1 R1 X0 Y0 Z5                                      ; go back to the last print position with Z 5mm above
G1 R1 E0                                            ; go to Z position of the last print move
M121                                                ; Recover the last state pushed onto the stack
```

/sys/retractprobe.g

```
; 0:/sys/retractprobe.g
; called to retract a physical Z probe

M280 P0 S90                                         ; retract BLTouch
```

/sys/sleep.g

```
; 0:/sys/sleep.g
; called when M1 (Sleep) is being processed

M104 S-273                                          ; turn off hotend
M140 S-273                                          ; turn off heatbed
M107                                                ; turn off fan
M18 XEEY                                            ; unlock all axis
```

/sys/start.g

```
; 0:/sys/start.g
; Executed before each print - BEFORE ANY SLICER CODE IS RAN
; Alternative Start.g - This loads the heightmap from the system's set filament
; type directory (0:/filaments/PETG/heightmap.csv), if the heightmap does not
; exist, create one, and then save in the filament's directory.

T0                                                  ; Ensure tool is selected
;M280 P0 S160                                       ; BLTouch, alarm release
;G4 P100                                            ; BLTouch, delay for release command
M572 D0 S0.0                                        ; clear pressure advance
M220 S100                                           ; Set speed factor back to 100% in case it was
changed
M221 S100                                           ; Set extrusion factor back to 100% in case it was
changed
M290 R0 S0                                          ; Clear babystepping
M106 S0                                             ; Turn part cooling blower off if it is on
M703                                                ; Execute loaded filement's config.g
G28                                                 ; Home all

; if using BLTouch probe, use the following line:
G1 Z100                                             ; Last chance to check nozzle cleanliness
; if using Pinda type probe, use the following line to place probe center of bed to heat the probe
;G1 Z5 X100 Y100                                    ; Place nozzle center of bed, 5mm up

M300 S4000 P100 G4 P200 M300 S4000 P100 G4 P200 M300 S4000 P100 ; Give a triple beep
M116                                                ; wait for all temperatures
G4 S30                                              ; wait additional 30 seconds for bed to stabilize
G32                                                 ; Level bed
G29 S1 {P{"0:/filaments/" ^ move.extruders[0].filament ^ "/heightmap.csv"}} ; Load bed mesh for the system's set
filament type
if result > 1                                       ; If file doesn't exist, perform mesh and save
   G29                                              ; Perform mesh now
   G29 S3 {P{"0:/filaments/" ^ move.extruders[0].filament ^ "/heightmap.csv"}} ; Save heightmap.csv to filament
type's directory
G90                                                 ; Absolute Positioning
M83                                                 ; Extruder relative mode
M98 P"0:/sys/current-sense-normal.g"                ; Ensure that motor currents and sense are set for
printing
G1 X0 Y0 Z2                                         ; Final position before slicer's temp is reached and
primeline is printed.

; The primeline macro is executed by the slicer goode to enable direct printing
; of the primeline at the objects temp and to immediately print the object
; following primeline completion.

; Slicer generated goode takes it away from here
```

/sys/stop.g

```
; 0:/sys/stop.g
; called when M0 (Stop) is run (e.g. when a print from SD card is cancelled)

M83                                                 ; Set extruder to relative mode
M106 S255                                           ; Turn fan fully on
G1 E-2                                              ; Retract 2mm
M104 S-273                                          ; Turn off hotend
M140 S-273                                          ; Turn off heatbed
G1 F1000.0                                          ; Set feed rate
M98 P"current-sense-homing.g"                       ; Adjust current and sensitivity for homing routines

; Let cool and wiggle for bit to reduce end stringing
M300 S4000 P100 G4 P200 M300 S4000 P100             ; Give a double beep
G91                                                 ; Set to Relative Positioning
G1 E2 F400                                          ; Move E up 2mm
G4 S10                                              ; Wait for 10 seconds for filament to solidify
M300 S4000 P100                                     ; Give a single beep
G1 X2 Y2 F1000                                      ; Wiggle +2mm
G4 S1                                               ; Wait for 1 second
G1 X-2 Y-2 F1000                                    ; Wiggle -2mm
G4 S1                                               ; Wait for 1 second
G1 X2 Y2 F1000                                      ; Wiggle +2mm
G4 S1                                               ; Wait for 1 second
G1 X-2 Y-2 F1000                                    ; Wiggle -2mm
G4 S1                                               ; Wait for 1 second
G1 X0 Y0 F1000                                      ; Wiggle back
G4 S1                                               ; Wait for 1 second
G90                                                 ; Set to Absolute Positioning
; End of wiggle routine

G1 X0 Y215 Z205 F1000                               ; Place nozzle to left side, build plate to front, Z
at top
M400                                                ; Clear queue
M107                                                ; Turn off fan
M18 YXE                                             ; Unlock X, Y, and E axis

; Play a triumphant tune to celebrate a successful print.
G4 S1
M300 P250 S750
G4 P251
M300 P200 S1250
G4 P201
M300 P250 S750
G4 P251
M300 P200 S1250
G4 P201
M300 P250 S2500
G4 P251
M300 P150 S2000
G4 P151
M300 P150 S2500
G4 P151
M300 P150 S3700
G4 P351
M400
```