Raspberry Pi imager

Confirm WiFi and IP settings wanted with CTRL + Shift + X

For OS choose Mainsail OS

Choose the storage

Put MicroSD into Pi

sudo apt-get update && sudo apt-get upgrade && sudo apt-get clean

@After this operation, 5,329 kB of additional disk space will be used.

Do you want to continue? [Y/n]

Y

sudo apt-get install git -y

git clone https://github.com/th33xitus/kiauh.git

./kiauh/kiauh.sh

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| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |

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| ~~~~~~~~~~~~~~~ [ Main Menu ] ~~~~~~~~~~~~~~~ |

|------------------------------------------------------- |

| 0) [Log-Upload] | Klipper: Not installed! |

| | Repo: - |

| 1) [Install] | |

| 2) [Update] | Moonraker: Not installed! |

| 3) [Remove] | |

| 4) [Advanced] | Mainsail: Not installed! |

| 5) [Backup] | Fluidd: Not installed! |

| | KlipperScreen: Not installed! |

| 6) [Settings] | Telegram Bot: Not installed! |

| | Crowsnest: Not installed! |

| | Obico: Not installed! |

| | OctoEverywhere: Not installed! |

| | Mobileraker: Not installed! |

| | OctoApp: Not installed! |

| | Spoolman: Not installed! |

| | |

| | Octoprint: Not installed! |

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| v5.0.0-88 | Changelog: https://git.io/JnmlX |

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| Q) Quit |

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####### Perform action:

1

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| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |

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| ~~~~~~~~~~~ [ Installation Menu ] ~~~~~~~~~~~ |

|------------------------------------------------------- |

| You need this menu usually only for installing |

| all necessary dependencies for the various |

| functions on a completely fresh system. |

|------------------------------------------------------- |

| Firmware & API: | Other: |

| 1) [Klipper] | 7) [PrettyGCode] |

| 2) [Moonraker] | 8) [Telegram Bot] |

| | 9) [Obico for Klipper] |

| Klipper Webinterface: | 10) [OctoEverywhere] |

| 3) [Mainsail] | 11) [Mobileraker] |

| 4) [Fluidd] | 12) [OctoApp for Klipper] |

| | 13) [Spoolman] |

| Touchscreen GUI: | |

| 5) [KlipperScreen] | Webcam Streamer: |

| | 14) [Crowsnest] |

| 3rd Party Webinterface: | |

| 6) [OctoPrint] | |

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| B) Â« Back |

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####### Perform action:

1

/===================================================\

| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |

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###### Initializing Klipper installation ...

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| Please select your preferred Python version. |

| The recommended version is Python 3.x. |

|------------------------------------------------------- |

| 1) [Python 3.x] (recommended) |

| 2) [Python 2.7] (legacy) |

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###### Select Python version: 1

enter

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| Please select the number of Klipper instances to set |

| up. The number of Klipper instances will determine |

| the amount of printers you can run from this host. |

| |

| WARNING: |

| Setting up too many instances may crash your system. |

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###### Number of Klipper instances to set up: 1

enter

(Wait)

/===================================================\

| WARNING: Your current user is not in group: |

| â— tty |

| |

| It is possible that you won't be able to successfully |

| connect and/or flash the controller board without |

| your user being a member of that group. |

| If you want to add the current user to the group(s) |

| listed above, answer with 'Y'. Else skip with 'n'. |

| |

| INFO: |

| Relog required for group assignments to take effect! |

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###### Add user 'Bill' to group(s) now? (Y/n):

Y

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| ~~~~~~~~~~~ [ Installation Menu ] ~~~~~~~~~~~ |

|------------------------------------------------------- |

| You need this menu usually only for installing |

| all necessary dependencies for the various |

| functions on a completely fresh system. |

|------------------------------------------------------- |

| Firmware & API: | Other: |

| 1) [Klipper] | 7) [PrettyGCode] |

| 2) [Moonraker] | 8) [Telegram Bot] |

| | 9) [Obico for Klipper] |

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| 3) [Mainsail] | 11) [Mobileraker] |

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| | 13) [Spoolman] |

| Touchscreen GUI: | |

| 5) [KlipperScreen] | Webcam Streamer: |

| | 14) [Crowsnest] |

| 3rd Party Webinterface: | |

| 6) [OctoPrint] | |

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####### Perform action:

2

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| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |

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###### Initializing Moonraker installation ...

[âœ“ OK] Klipper installation found!

###### Install Moonraker? (Y/n):

Y

/===================================================\

| ~~~~~~~~~~~ [ Installation Menu ] ~~~~~~~~~~~ |

|------------------------------------------------------- |

| You need this menu usually only for installing |

| all necessary dependencies for the various |

| functions on a completely fresh system. |

|------------------------------------------------------- |

| Firmware & API: | Other: |

| 1) [Klipper] | 7) [PrettyGCode] |

| 2) [Moonraker] | 8) [Telegram Bot] |

| | 9) [Obico for Klipper] |

| Klipper Webinterface: | 10) [OctoEverywhere] |

| 3) [Mainsail] | 11) [Mobileraker] |

| 4) [Fluidd] | 12) [OctoApp for Klipper] |

| | 13) [Spoolman] |

| Touchscreen GUI: | |

| 5) [KlipperScreen] | Webcam Streamer: |

| | 14) [Crowsnest] |

| 3rd Party Webinterface: | |

| 6) [OctoPrint] | |

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####### Perform action:

3

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| It is recommended to use special macros in order to |

| have Mainsail/Fluidd fully functional and working. |

| |

| The recommended macros for Fluidd can be found here: |

| https://github.com/fluidd-core/fluidd-config |

| |

| If you already use these macros skip this step. |

| Otherwise you should consider to answer with 'yes' to |

| download the recommended macros. |

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###### Download the recommended macros? (Y/n):

Y or N

/===================================================\

| ~~~~~~~~~~~ [ Installation Menu ] ~~~~~~~~~~~ |

|------------------------------------------------------- |

| You need this menu usually only for installing |

| all necessary dependencies for the various |

| functions on a completely fresh system. |

|------------------------------------------------------- |

| Firmware & API: | Other: |

| 1) [Klipper] | 7) [PrettyGCode] |

| 2) [Moonraker] | 8) [Telegram Bot] |

| | 9) [Obico for Klipper] |

| Klipper Webinterface: | 10) [OctoEverywhere] |

| 3) [Mainsail] | 11) [Mobileraker] |

| 4) [Fluidd] | 12) [OctoApp for Klipper] |

| | 13) [Spoolman] |

| Touchscreen GUI: | |

| 5) [KlipperScreen] | Webcam Streamer: |

| | 14) [Crowsnest] |

| 3rd Party Webinterface: | |

| 6) [OctoPrint] | |

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####### Perform action:

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###### Installing KlipperScreen ...

Checking Python version > 3,8

Python 3.11.2

Install standalone?

It will create a service, enable boot to console and install the graphical dependencies.

Say no to install as a regular desktop app that will not start automatically

Press enter for default (Yes)

[Y/n]

ENTER

Choose graphical backend

Default is Xserver

Wayland is EXPERIMENTAL needs kms/drm drivers doesn't support DPMS and may need autologin

Press enter for default (Xserver)

Backend Xserver or Wayland (cage)? [X/w]

ENTER

Virtual environment created

Installing KlipperScreen PolicyKit Rules

adduser: The user `Bill' is already a member of `netdev'.

adduser: The user `Bill' is already a member of `network'.

PolicyKit Version 122 Detected

Installing PolicyKit Rules to /usr/share/polkit-1/rules.d/KlipperScreen.rules...

Press enter for default (Yes)

ENTER

Install NetworkManager for the network panel [Y/n]y

Installing NetworkManager for the network panel

==== AUTHENTICATING FOR org.freedesktop.login1.reboot ====

Authentication is required to reboot the system.

Authenticating as: ,,, (Bill)

Password:

==== AUTHENTICATION COMPLETE ====

(REBOOT)

./kiauh/kiauh.sh

14

Do you want to add 'update manager' entry to your moonraker.conf? [Y/n]: Y

Y

Reboot your machine for the changes to take effect!

Reboot NOW? [y/N]:

Y

(REBOOT)

./kiauh/kiauh.sh

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| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |

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| ~~~~~~~~~~~~~~~ [ Main Menu ] ~~~~~~~~~~~~~~~ |

|------------------------------------------------------- |

| 0) [Log-Upload] | Klipper: Installed: 1(py3) |

| | Repo: Klipper3d/klipper |

| 1) [Install] | |

| 2) [Update] | Moonraker: Installed: 1 |

| 3) [Remove] | |

| 4) [Advanced] | Mainsail: Installed! |

| 5) [Backup] | Fluidd: Not installed! |

| | KlipperScreen: Installed! |

| 6) [Settings] | Telegram Bot: Not installed! |

| | Crowsnest: Installed! |

| | Obico: Not installed! |

| | OctoEverywhere: Not installed! |

| | Mobileraker: Not installed! |

| | OctoApp: Not installed! |

| | Spoolman: Not installed! |

| | |

| | Octoprint: Not installed! |

|------------------------------------------------------- |

| v5.0.0-88 | Changelog: https://git.io/JnmlX |

|------------------------------------------------------- |

| Q) Quit |

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####### Perform action:

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| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |

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| ~~~~~~~~~~~~~ [ Advanced Menu ] ~~~~~~~~~~~~~ |

|------------------------------------------------------- |

| Klipper & API: | Mainsail: |

| 1) [Rollback] | 6) [Theme installer] |

| | |

| Firmware: | System: |

| 2) [Build only] | 7) [Change hostname] |

| 3) [Flash only] | |

| 4) [Build + Flash] | Extras: |

| 5) [Get MCU ID] | 8) [G-Code Shell Command] |

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####### Perform action:

2

# This file contains common pin mappings for the BIGTREETECH SKR mini

# E3 v3.0. To use this config, the firmware should be compiled for the

# STM32G0B1 with a "8KiB bootloader" and USB communication/USART.

# The "make flash" command does not work on the SKR mini E3. Instead,

# after running "make", copy the generated "out/klipper.bin" file to a

# file named "firmware.bin" on an SD card and then restart the SKR

# mini E3 with that SD card.

# See docs/Config\_Reference.md for a description of parameters.

Set parameters

[\*] Enable extra low-level configuration options

Micro-controller Architecture (STMicroelectronics STM32) --->

Processor model (STM32G0B1) --->

Bootloader offset (8KiB bootloader) --->

Clock Reference (8 MHz crystal) --->

Communication interface (USB (on PA11/PA12)) --->

USB ids --->

() GPIO pins to set at micro-controller startup (NEW)

Q

Y

/===================================================\

| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ |

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| ~~~~~~~~~~~~~ [ Advanced Menu ] ~~~~~~~~~~~~~ |

|------------------------------------------------------- |

| Klipper & API: | Mainsail: |

| 1) [Rollback] | 6) [Theme installer] |

| | |

| Firmware: | System: |

| 2) [Build only] | 7) [Change hostname] |

| 3) [Flash only] | |

| 4) [Build + Flash] | Extras: |

| 5) [Get MCU ID] | 8) [G-Code Shell Command] |

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####### Perform action:

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| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

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| Make sure that the controller board is connected now! |

|------------------------------------------------------- |

| |

| How is the controller board connected to the host? |

| 1) USB |

| 2) UART |

| 3) USB (DFU mode) |

| |

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| B) Â« Back | H) Help [?] |

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###### Connection method:

1

###### Identifying MCU connected via USB ...

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| ~~~~~~~~~~~~~~~~~ [ KIAUH ] ~~~~~~~~~~~~~~~~~ |

| Klipper Installation And Update Helper |

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| ~~~~~~~~~~~~~ [ Advanced Menu ] ~~~~~~~~~~~~~ |

|------------------------------------------------------- |

| Klipper & API: | Mainsail: |

| 1) [Rollback] | 6) [Theme installer] |

| | |

| Firmware: | System: |

| 2) [Build only] | 7) [Change hostname] |

| 3) [Flash only] | |

| 4) [Build + Flash] | Extras: |

| 5) [Get MCU ID] | 8) [G-Code Shell Command] |

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####### Perform action:

After finished installing:

https://www.klipper3d.org/BLTouch.html

How to calculate the X and Y offsets:

Put a post-it with a dot on it under BLTouch pointer

PROBE

GET\_POSITION

move the nozzle over the dot

GET\_POSITION

The x\_offset is then the nozzle\_x\_position - probe\_x\_position and y\_offset is similarly the nozzle\_y\_position - probe\_y\_position.

Update the printer.cfg file with the given values, remove the tape/marks from the bed, and then issue a RESTART command so that the new values take effect.

How to calculate the Z offsets:

PROBE\_CALIBRATE

Do the paper test

ACCEPT

https://www.youtube.com/watch?v=APAbl5PGEh0

Add to printer.cfg

[screws\_tilt\_adjust]

screw1: x1, y1 #screw coordinates need to be measure for YOUR specific printer

screw1\_name: front left screw

screw2: x2, y1

screw2\_name: front right screw

screw3: x1, y2

screw3\_name: rear right screw

screw4: x2, y2

screw4\_name: rear left screw

horizontal\_move\_z: 10

speed: 50 #speed of travel moves between screws

screw\_thread: CW-M4

https://www.obico.io/blog/klipper-pid-tuning/

Enter in CONSOLE

PID\_CALIBRATE HEATER=extruder TARGET=210

SAVE\_CONFIG

PID\_CALIBRATE HEATER=heater\_bed TARGET=70

SAVE\_CONFIG

Add to printer.cfg

# DEFAULT code can be found here: https://github.com/bigtreetech/BIGTREETECH-SKR-mini-E3/blob/master/firmware/V3.0/Klipper/SKR-mini-E3-V3.0-klipper.cfg

[gcode\_macro M600]

gcode:

{% set X = params.X|default(50)|float %}

{% set Y = params.Y|default(0)|float %}

{% set Z = params.Z|default(10)|float %}

SAVE\_GCODE\_STATE NAME=M600\_state

PAUSE

G91

G1 E-.8 F2700

G1 Z{Z}

G90

G1 X{X} Y{Y} F3000

G91

G1 E-50 F1000

RESTORE\_GCODE\_STATE NAME=M600\_state

Create START\_PRINT Macro:

Add Display for Klipperscreen:

Add webcam: