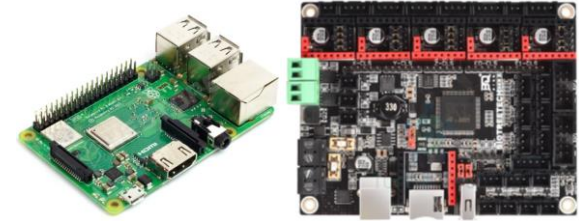
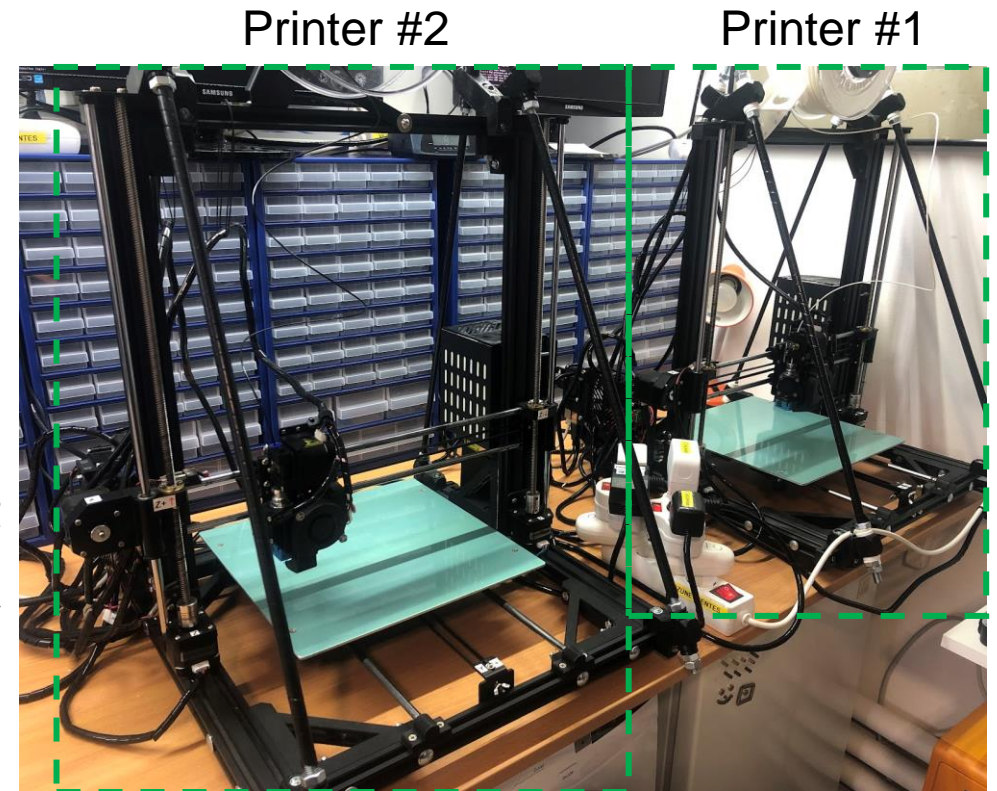


Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

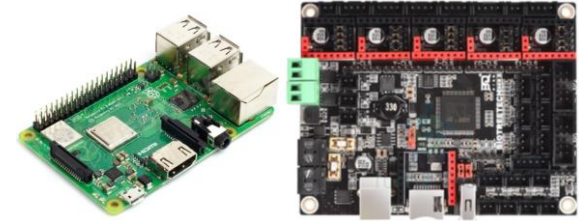


Originally, Printer #1 was operating with Marlin firmware and OctoPrint. However, it frequently encountered issues with adhesion and temperature, which resulted in inconsistent and poor print quality. These issues often led to failed prints, and while the bed height calibration was regularly adjusted, this did not resolve the majority of the problems. The recurring issues were significantly impacting the overall reliability of the printer.

In contrast, Printer #2 had been operating smoothly and reliably for several years, using Klipper firmware paired with the Mainsail interface. Given the stability of Printer #2, it was decided to migrate Printer #1 to the same platform. After carefully separating the IP addresses and Raspberry Pi system names for both printers, Printer #1 was successfully transitioned to the Klipper-Mainsail setup. Following the migration, Printer #1 has been operating stably, showing no further issues with adhesion or temperature, and its performance has improved significantly.



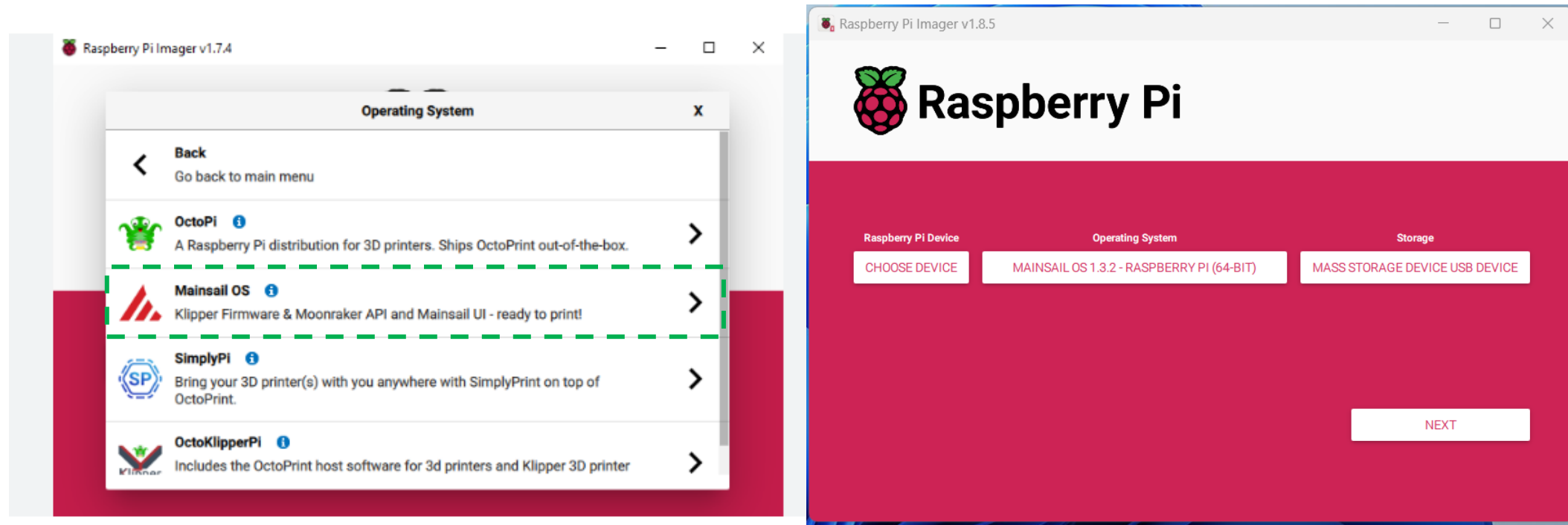
Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2



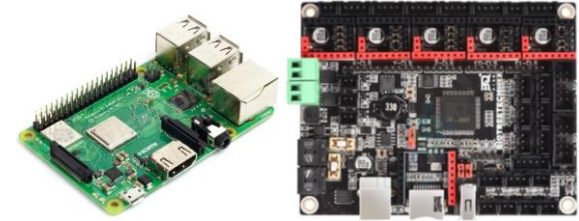
Installation of MainsailOS on Raspberry 3B+ with raspberry imager, SD card needed.
->Other spec OS Mainsail 64 bit

Set wifi and password, hostname

[Configuring Multiple 3D Printers on Mainsail? Raspberry Pi x2 and Mainsail x2](#)

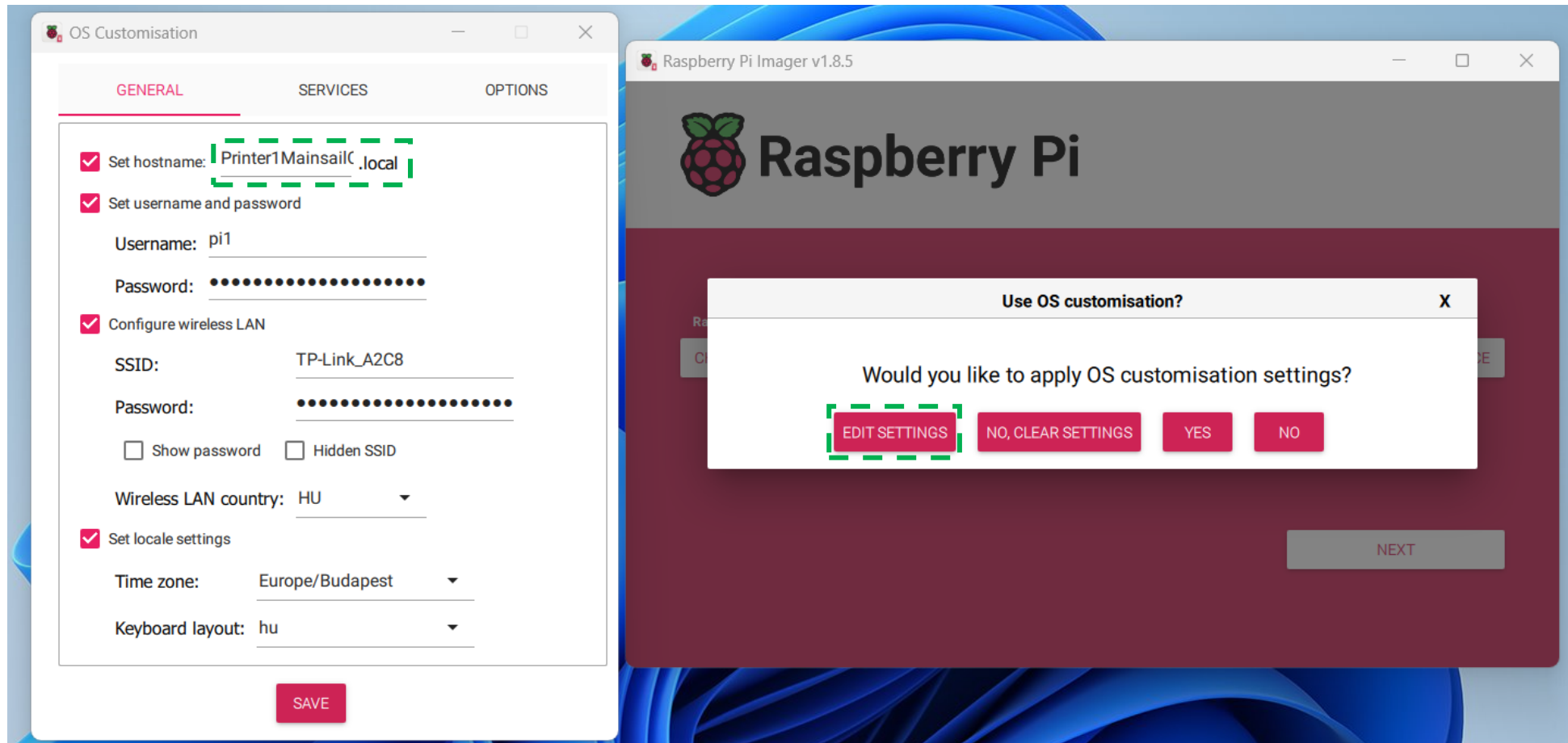


Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

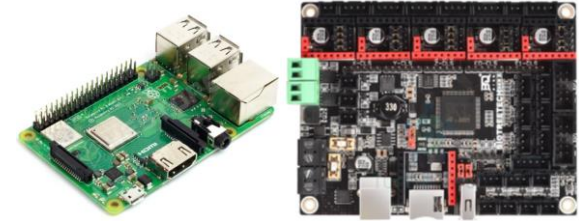


Set wifi and password, hostname

[Configuring Multiple 3D Printers on Mainsail? Raspberry Pi x2 and Mainsail x2](#)



Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

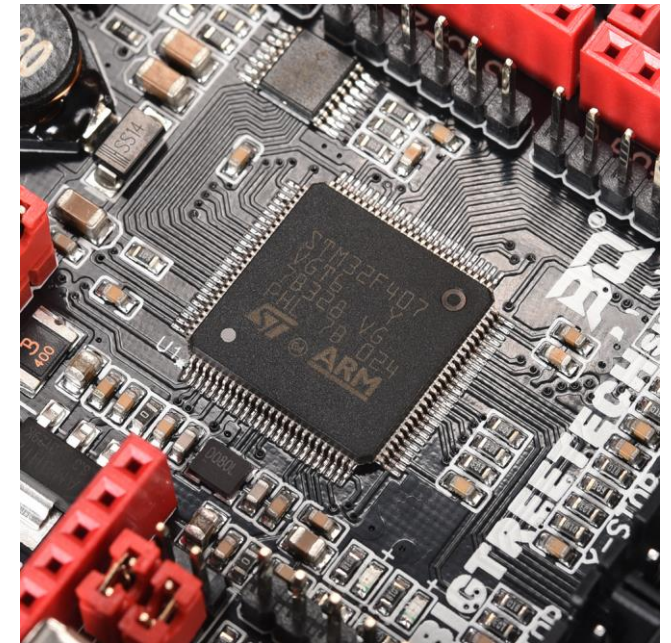


Login to Raspberry 3B+ with pi1 and password
cd klipper
make menuconfig

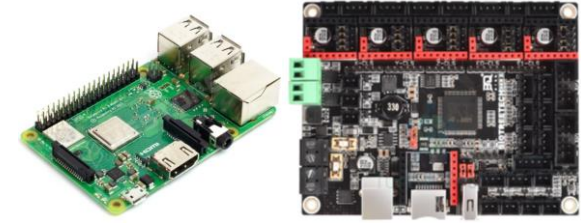
```
pi@mainsailos:~ $ cd klipper  
pi@mainsailos:~/klipper $ make menuconfig
```

```
[*] Enable extra low-level configuration options  
Micro-controller Architecture (STMicroelectronics STM32) --->  
Processor model (STM32F407) --->  
Bootloader offset (32KiB bootloader) --->  
Clock Reference (8 MHz crystal) --->  
Communication interface (USB (on PA11/PA12)) --->  
USB ids  
[ ] Specify a custom step pulse duration (NEW)  
<> GPIO pins to set at micro-controller startup (NEW)
```

Make -> klipper.bin file -> SKR2

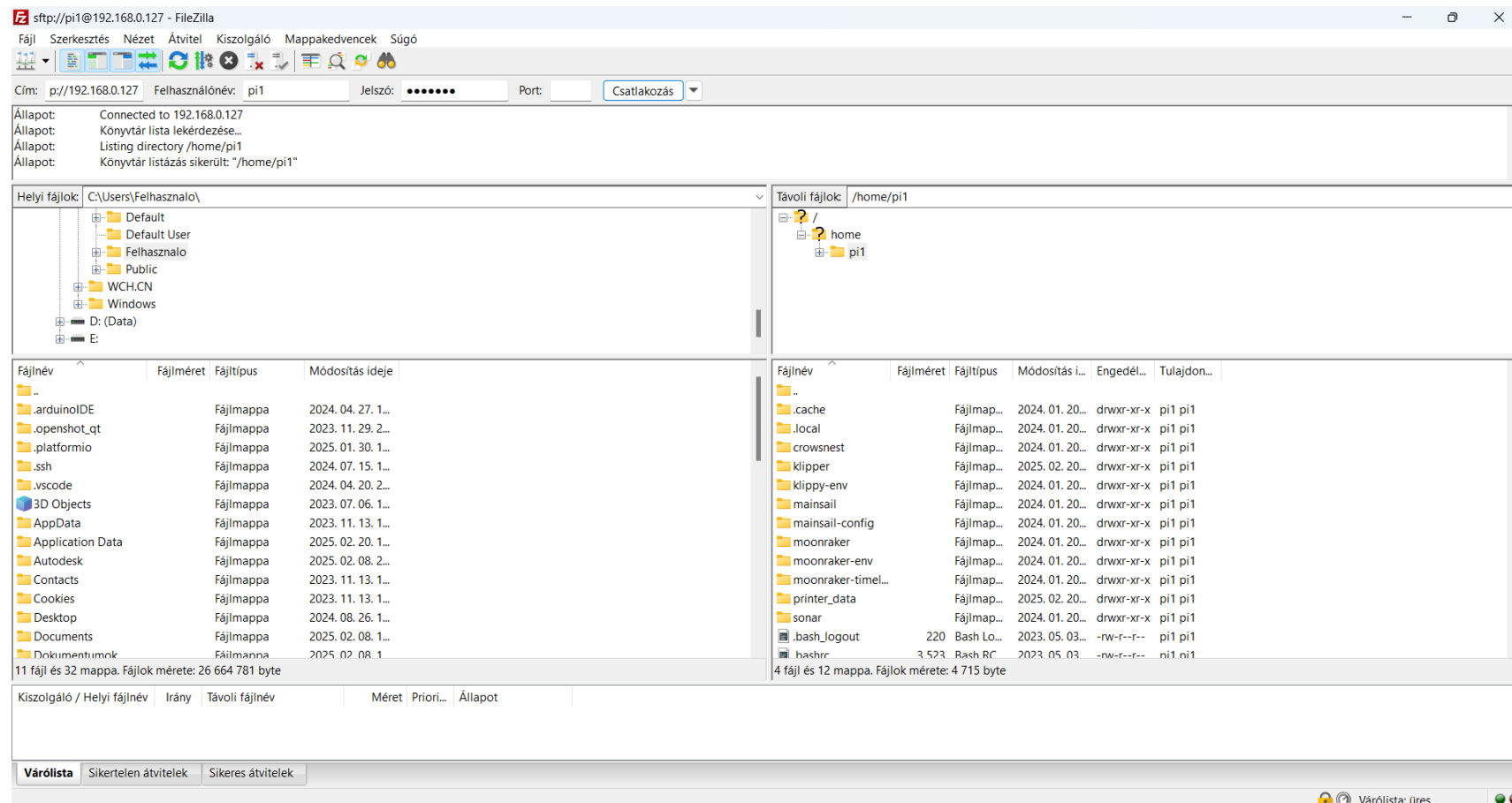


Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

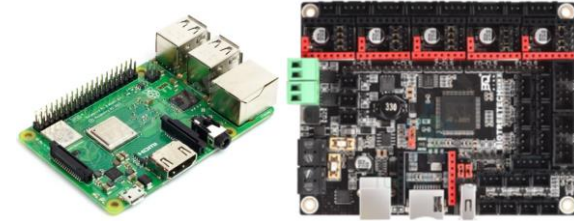


Download FileZilla and connect to Raspberry 3B+

Rename Klipper.bin to firmware.bin and copy to SD card -> power on SKR2
Get firmware.cur if FW update is OK (SKR2 jumper need to be set to 5v mode of course)



Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2



FileZilla - Copy printer.cfg and upload to Mainsail

FileZilla interface showing a local file explorer on the left and a remote file explorer on the right. The local explorer shows the contents of the C:\Users\Felhasznalo\OneDrive\Asztali gép\ directory. The remote explorer shows the contents of the /home/pi1 directory.

Local File Explorer (Left):

- Asztali gép
- Dokumenter
- Képek
- Mellékletek
- Pictures
- PrintHood
- Recent
- Sablonok

Remote File Explorer (Right):

- /
- home
- pi1
- .cache
- .local
- crownsnest
- klipper
- .git
- .github
- config
- docs

Local File List:

Fájlnév	Fájl méret	Fájl típus	Módosítás ideje
..			
Budapest_Költségek...	36 273	Microsoft Exce...	2025. 02. 17. 1...
CV_Gábor_Dernóczy...	63 140	Microsoft Wor...	2025. 02. 04. 1...
Dereske_Költségek...	367 546	Microsoft Exce...	2025. 02. 03. 1...
desktop.ini	282	Konfigurációs ...	2025. 02. 10. 1...
HU_Hays_Salary Gui...	3 610 871	Microsoft Edg...	2025. 02. 11. 2...
Kisszoba Aljzat.docx	1 339 079	Microsoft Wor...	2024. 12. 28. 1...
Mainsail and Klippe...	2 537 038	Microsoft Pow...	2025. 02. 20. 1...
Printer1_ANET A8 Pl...	30 719	BIN fájl	2025. 02. 20. 1...
Printer2_ANET A8 Pl...	30 719	BIN fájl	2025. 02. 20. 1...
Veszprém_Költsége...	451 402	Microsoft Exce...	2025. 02. 20. 7...

10 fájl. Fájlok mérete: 8 467 069 byte

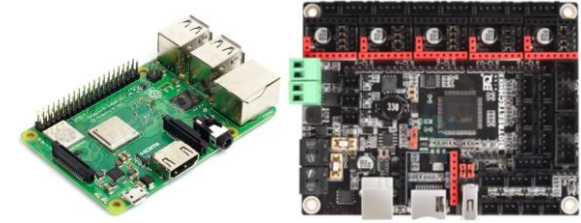
Remote File List:

Fájlnév	Fájl méret	Fájl típus	Módosítás i...	Engedél...	Tulajdon...
mainsail-config		Fájlmap...	2024. 01. 20...	drwxr-xr-x	pi1 pi1
moonraker		Fájlmap...	2024. 01. 20...	drwxr-xr-x	pi1 pi1
moonraker-env		Fájlmap...	2024. 01. 20...	drwxr-xr-x	pi1 pi1
moonraker-timel...		Fájlmap...	2024. 01. 20...	drwxr-xr-x	pi1 pi1
printer_data		Fájlmap...	2025. 02. 20...	drwxr-xr-x	pi1 pi1
sonar		Fájlmap...	2024. 01. 20...	drwxr-xr-x	pi1 pi1
.bash_history	244	BASH_HI...	2025. 02. 20...	-rw-----	pi1 pi1
.bash_logout	220	Bash Lo...	2023. 05. 03...	-rw-r--r--	pi1 pi1
.bashrc	3 523	Bash RC ...	2023. 05. 03...	-rw-r--r--	pi1 pi1
.profile	807	Profile f...	2023. 05. 03...	-rw-r--r--	pi1 pi1
.wget-hsts	165	WGET-H...	2024. 01. 20...	-rw-r--r--	pi1 pi1
printer.cfg	3 296	Configur...	2025. 02. 20...	-rw-r--r--	pi1 pi1

6 fájl és 12 mappa. Fájlok mérete: 8 255 byte

Bottom status bar: Várólista, Sikertelen átvitelek, Sikeres átvitelek

Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2



Copy printer.cfg and upload to Mainsail

Printer1MainsailOS

DASHBOARD

WEBCAM

CONSOLE

G-CODE FILES

G-CODE VIEWER

HISTORY

MACHINE

Config Files

Root config

Current path: /config Free disk: 8.7 GB

Name	Filesize	Last modified
crowsnest.conf	2.8 kB	2023. jún. 18. 16:57
mainsail.cfg	15.3 kB	2024. jan. 20. 20:16
moonraker.conf	2.1 kB	2024. jan. 20. 20:25
printer.cfg	3.4 kB	2025. febr. 20. 15:40
sonar.conf	0.8 kB	2024. jan. 20. 20:25
timelapse.cfg	22.0 kB	2024. jan. 20. 20:16

System Loads

mcu (stm32f407xx)
Version: v0.12.0-85-gd785b396a
Load: 0.00, Awake: 0.00, Freq: 168 MHz,

Host (aarch64, 64bit)
Version: v0.12.0-85-gd785b396a
OS: Debian GNU/Linux 11 (bullseye)
Distro: MainsailOS 1.3.2 (bullseye)
Load: 0.08, Mem: 195.5 MB / 859.7 MB, Temp: 36°C
eth0 (192.168.0.127) : Bandwidth: 2.6 kB/s , Received: 1.8 MB , Transmitted: 104.3 MB
wlan0 (192.168.0.120) : Bandwidth: 0.1 kB/s , Received: 93.6 kB , Transmitted: 4.2 kB

Update Manager

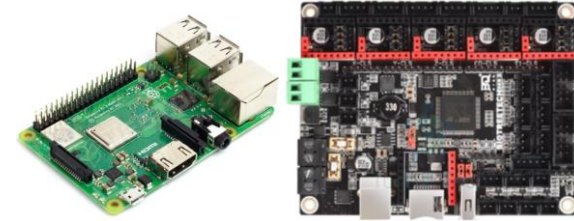
crowsnest
v4.1.3-1 > v4.1.11-1
UPDATE

klipper
v0.12.0-85 > v0.12.0-439
UPDATE

mainsail
v2.9.1 > v2.13.2
UPDATE

mainsail-config
UPDATE

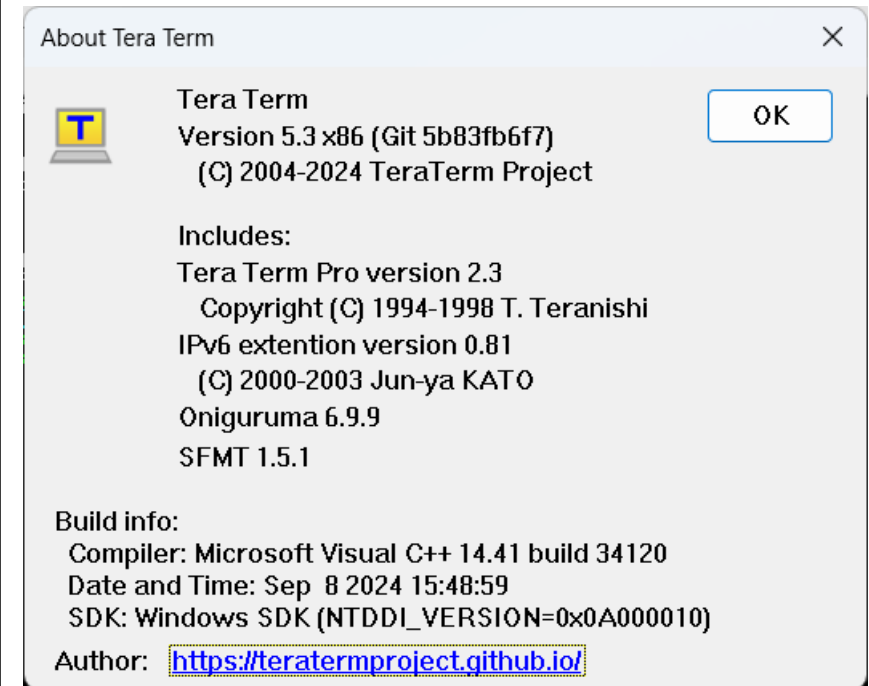
Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2



Download Tera Term and -> host -> 192.168.0.127 -> pi1 and password
Get USB ID: `ls /dev/serial/by-id/*`

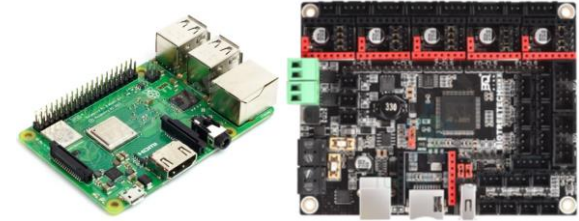
[Release Tera Term 5.3 · TeraTermProject/teraterm](https://github.com/TeraTermProject/teraterm)

```
192.168.0.127 - pi1@Printer1MainsailOS: ~ VT
File Edit Setup Control Window Help
Linux Printer1MainsailOS 6.1.21-v8+ #1642 SMP PREEMPT Mon Apr 3 17:24:16 BST 20
23 aarch64
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Thu Feb 20 11:31:22 2025
pi1@Printer1MainsailOS:~$ ls /dev/serial/by-id/*
/dev/serial/by-id/usb-Klipper_stm32f407xx_2D0027000C47393437303337-if00
pi1@Printer1MainsailOS:~$ ^C
pi1@Printer1MainsailOS:~$
```



Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

Copy USB address into printer.cfg



```
printer.cfg  ψ DEVICES  ? CONFIG REFERENCE

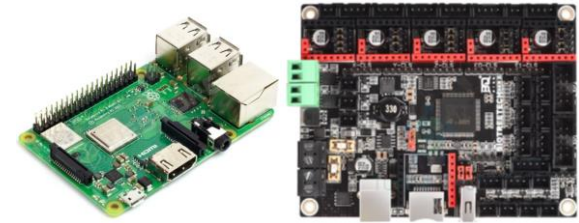
11 # file named "firmware.bin" on an SD card and then restart the SKR 2
12 # with that SD card.
13
14 # See docs/Config_Reference.md for a description of parameters.
15
16 # Note: The initial revision of this board has a flaw that can cause
17 # damage to itself and other boards. Be sure to verify the board is
18 # not impacted by this flaw before using it.
19
20 ##### PRINTER_1 Raspberry 3b+ & SKR2 #####
21 [include mainsail.cfg]
22 [mcu]
23 serial: /dev/serial/by-id/usb-Klipper_stm32f407xx_2D0027000C47393437303337-if00
24
25 [stepper_x]
26 step_pin: PE2
27 dir_pin: !PE1
28 enable_pin: !PE3
29 microsteps: 16
30 rotation_distance: 40
31 endstop_pin: ^!PC1
32 position_endstop: 0
33 position_max: 300
34 homing_speed: 50
35
36 [stepper_y]
37 step_pin: PD5
38 dir_pin: !PD4
39 enable_pin: !PD6
40 microsteps: 16
```

```
[stepper_x]
step_pin: PE2
dir_pin: !PE1
enable_pin: !PE3
microsteps: 16
rotation_distance: 40
endstop_pin: ^!PC1
position_endstop: 0
position_max: 300
homing_speed: 50
```

```
[stepper_y]
step_pin: PD5
dir_pin: !PD4
enable_pin: !PD6
microsteps: 16
rotation_distance: 40
endstop_pin: ^!PC3
position_endstop: 0
position_max: 300
homing_speed: 50
```

Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

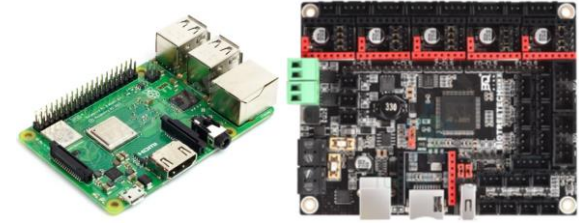
Enable TMC2209 and set Z microsteps to 16 in printer.cfg



```
printer.cfg
20     EAP2_2-PA3, EAP2_4-PA4, EAP2_0-PA7, EAP2_0-PA12, EAP2_10-PA17
29
30 # See the sample-lcd.cfg file for definitions of common LCD displays.
31
32 #####
33 # TMC2209 configuration
34 #####
35
36 [tmc2209 stepper_x]
37   uart_pin: PE0
38   run_current: 0.800
39   #diag_pin:
40
41 [tmc2209 stepper_y]
42   uart_pin: PD3
43   run_current: 0.800
44   #diag_pin:
45
46 [tmc2209 stepper_z]
47   uart_pin: PD0
48   run_current: 0.800
49   #diag_pin:
50
51 [tmc2209 extruder]
52   uart_pin: PC6
53   run_current: 0.600
54   #diag_pin:
55
56 #[tmc2209 extruder1]
57 #uart_pin: PD12
58 #run_current: 0.600
59 #diag_pin:
```

```
printer.cfg
37
38 [stepper_y]
39   step_pin: PD5
40   dir_pin: !PD4
41   enable_pin: !PD6
42   microsteps: 16
43   rotation_distance: 40
44   endstop_pin: ^!PC3
45   position_endstop: 0
46   position_max: 300
47   homing_speed: 50
48
49 [stepper_z]
50   step_pin: PA15
51   dir_pin: !PA8
52   enable_pin: !PD1
53   microsteps: 16
54   rotation_distance: 8
55   endstop_pin: ^!PC0
56   position_endstop: 0.5
57   position_max: 300
58
59 [extruder]
60   step_pin: PD15
61   dir_pin: PD14
62   enable_pin: !PC7
63   microsteps: 16
64   rotation_distance: 33.500
65   nozzle_diameter: 0.400
66   filament_diameter: 1.750
67   heater_pin: PB3
68   sensor_type: EPCOS 100K B57560G104F
```

Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2



Printer1MainsailOS

DASHBOARD

WEBCAM

CONSOLE

G-CODE FILES

G-CODE VIEWER

HISTORY

MACHINE







Config Files

Root

config

Current path: /config

Free disk: 8.6 GB

	Name ↑	Filesize	Last modified
<input type="checkbox"/>	 crowsnest.conf	2.8 kB	2023. jún. 18. 16:57
<input type="checkbox"/>	 mainsail.cfg	15.3 kB	2024. jan. 20. 20:16
<input type="checkbox"/>	 moonraker.conf	2.1 kB	2024. jan. 20. 20:25
<input type="checkbox"/>	 printer.cfg	3.4 kB	2025. febr. 20. 15:40
<input type="checkbox"/>	 sonar.conf	0.8 kB	2024. jan. 20. 20:25
<input type="checkbox"/>	 timelapse.cfg	22.0 kB	2024. jan. 20. 20:16

Files

10

1-6 of 6

<

>

System Loads

mcu (stm32f407xx)

Version: v0.12.0-85-gd785b396a

Load: 0.00, Awake: 0.00, Freq: 168 MHz,

Host (aarch64, 64bit)

Version: v0.12.0-439-g1fc6d214f

OS: Debian GNU/Linux 11 (bullseye)

Distro: MainsailOS 1.3.2 (bullseye)

Load: 0.03, Mem: 221.8 MB / 859.7 MB , Temp: 38°C

eth0 (192.168.0.127) : Bandwidth: 2.6 kB/s , Received: 47.8 M

Transmitted: 107.9 MB

wlan0 (192.168.0.120) : Bandwidth: 0.1 kB/s ,

Received: 162.5 kB , Transmitted: 4.9 kB

Update Manager

crowsnest

v4.1.11-1-g87669ccd

klipper

v0.12.0-439-g1fc6d214

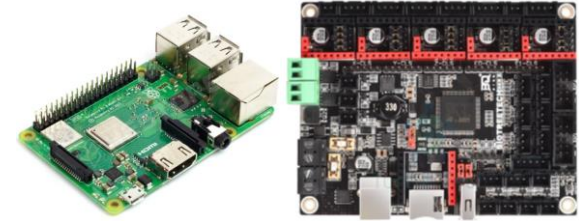
mainsail

v2.13.2

mainsail-config

11

Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2



Router status

tp-link

Quick Setup Basic Advanced

Network Map

Internet

Wireless

Parental Controls

Guest Network

Wired Clients

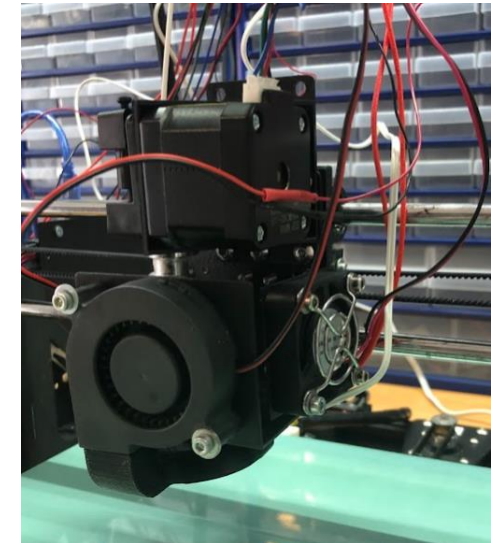
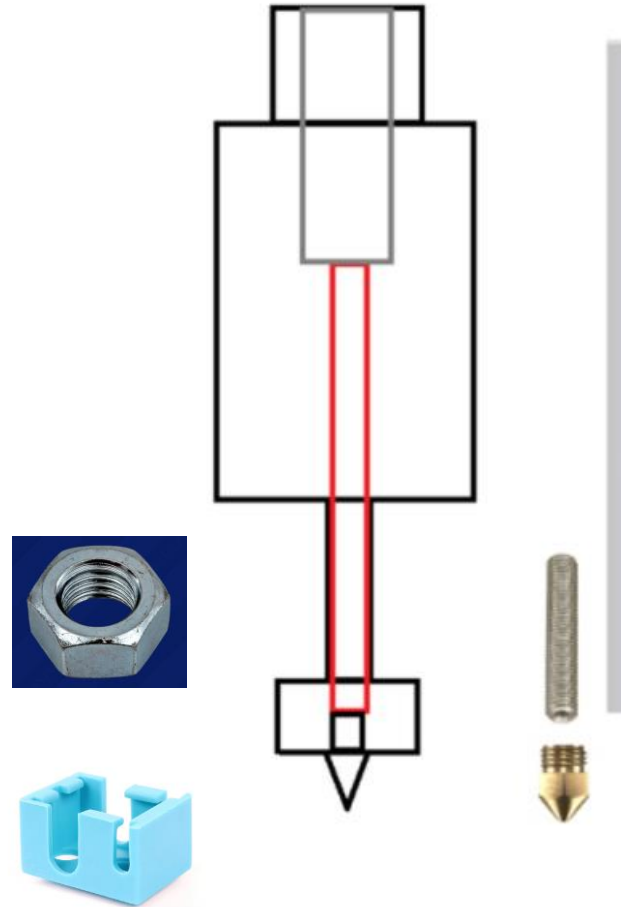
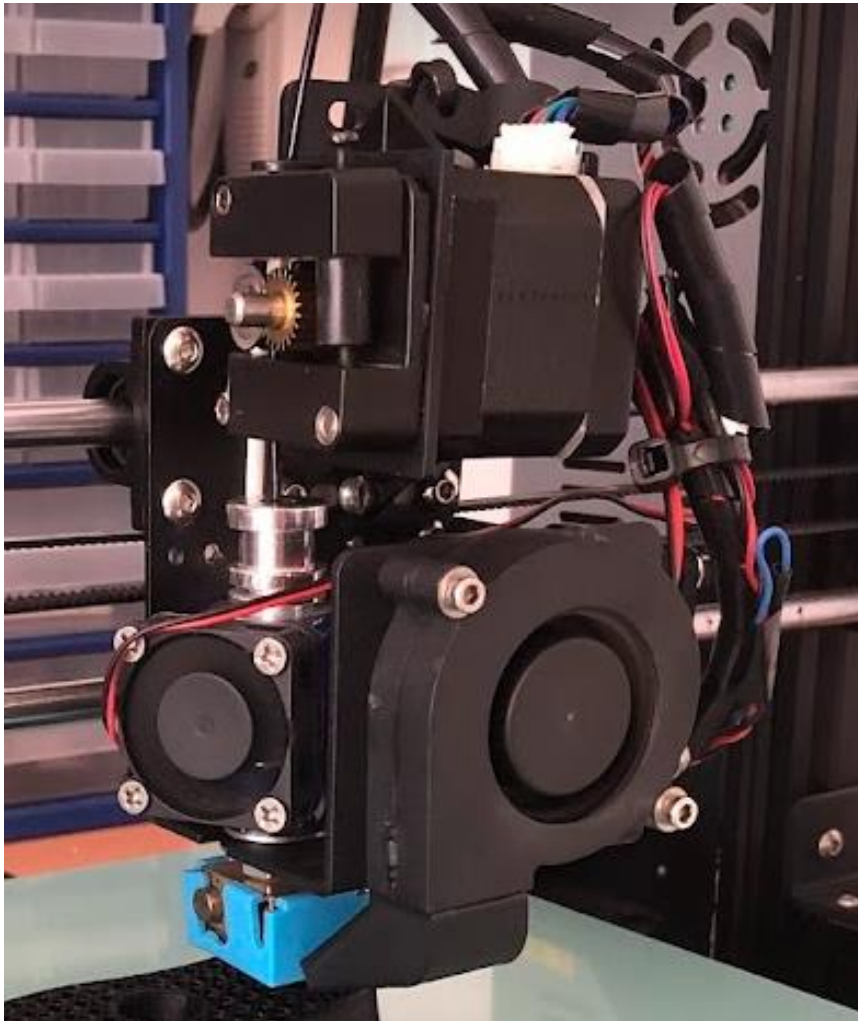
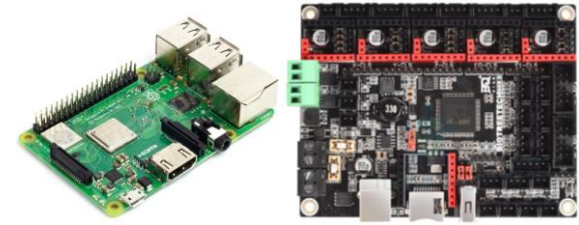
Wireless Clients

Wired Clients

ID	Name	IP Address
1	Printer1_ANET A8 Plus RPI3 SKR2	192.168.0.127
2	Printer2_ANET A8 Plus RPI4 SKR3	192.168.0.195

Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

Individual solution of Volcano V6 Extruder



Upgrading Anet A8 Plus to Klipper with MainsailOS Printer #1 with RPI3B+ & SKR2

