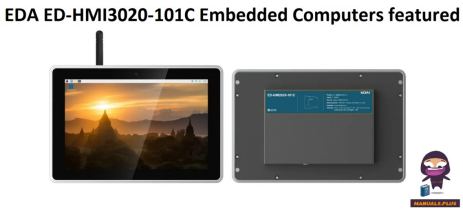


EDA ED-HMI3020-101C Embedded Computers Installation Guide

Contents

1 EDA ED-HMI3020-101C Embedded Computers
2 Foreword
3 Safety Instructions
4 Installing OS
5 Steps:
6 Firmware Update
7 Documents / Resources
7.1 References

EDA ED-HMI3020-101C Embedded Computers

Contact Us
Thank you very much for purchasing and using our products, and we will serve you wholeheartedly.
As one of the global design partners of Raspberry Pi, we are committed to providing hardware solutions for IOT, industrial control, automation, green energy and artificial intelligence based on Raspberry Pi technology platform.

You can contact us in the following ways:
EDA Technology Co.,LTD
Address: Building 29, No.1661 Jialuo Highway, Jiading District, Shanghai

Mail: sales@edatec.cn
Phone: +86-18217351262
Website: https://www.edatec.cn

Technical Support:

- **Mail**: support@edatec.cn
- **Phone**: **+86-18627838895**
- **Wechat: zzw_1998-**

Copyright Statement
ED-HMI3020-101C and its related intellectual property rights are owned by EDA Technology Co.,LTD. EDA Technology Co.,LTD owns the copyright of this document and reserves all rights. Without the written permission of EDA Technology Co.,LTD, no part of this document may be modified, distributed or copied in any way or form.

Disclaimer
EDA Technology Co.,LTD does not guarantee that the information in this manual is up to date, correct, complete or of high quality. EDA Technology Co.,LTD also does not guarantee the further use of this information. If the material or non-material related losses are caused by using or not using the information in this manual, or by using incorrect or incomplete information, as long as it is not proved that it is the intention or negligence of EDA Technology Co.,LTD, the liability claim for EDA Technology Co.,LTD can be exempted. EDA Technology Co.,LTD expressly reserves the right to modify or supplement the contents or part of this manual without special notice.

Foreword

Related Manuals
All kinds of product documents contained in the product are shown in the following table, and users can choose to view the corresponding documents according to their needs.

Documents	Instruction
ED-HMI3020-101C Datasheet	This document introduces the product features, software and hardware specifications, dimensions and ordering code of ED-HMI3020-101C to help users understand the overall system parameters of the products.
ED-HMI3020-101C User Manual	This document introduces the appearance, installation, startup and configuration of ED-HMI3020-101C to help users use the product better.
ED-HMI3020-101C Application Guide	This document introduces downloading OS file, flashing to SD card, Firmware Update, and Configuring booting from SSD of ED-HMI3020-101C to help users use the product better.

Users can visit the following website for more information: **https://www.edatec.cn**

Reader Scope
This manual is applicable to the following readers:

- Mechanical Engineer
- Electrical Engineer
- Software Engineer
- System Engineer

Safety Instructions

- This product should be used in an environment that meets the requirements of design specifications, otherwise it may cause failure, and functional abnormality or component damage caused by non-compliance with relevant regulations are not within the product quality assurance scope.
- Our company will not bear any legal responsibility for personal safety accidents and property losses caused by illegal operation of products.
- Please do not modify the equipment without permission, which may cause equipment failure.
- When installing equipment, it is necessary to fix the equipment to prevent it from falling.
- If the equipment is equipped with an antenna, please keep a distance of at least 20cm from the equipment during use.
- Do not use liquid cleaning equipment, and keep away from liquids and flammable materials.
- This product is only supported for indoor use.

Installing OS

This chapter introduces how to download OS file and flash to SD card.

- Downloading OS File

- Flashing to SD Card

Downloading OS File
If the operating system is damaged during use, you need to re-download the latest version of OS file and flash to SD card. The download path is: ED-HMI3020-101C/raspios.

Flashing to SD Card
ED-HMI3020-101C starts the system from the SD card by default. If you want to use the latest OS, you need flash OS to the SD card. It is recommended to use the Raspberry Pi tool, and the download path is as follows:

Raspberry Pi Imager: https://downloads.raspberrypi.org/imager/imager_latest.exe

Preparation:

- The download and installation of Raspberry Pi Imager tool to the computer has been completed.
- A card reader has been prepared.
- The OS file has been obtained.
- The SD card of ED-HMI3020-101C has been obtained.

NOTE:
Please turn off the power before inserting or removing the SD card.

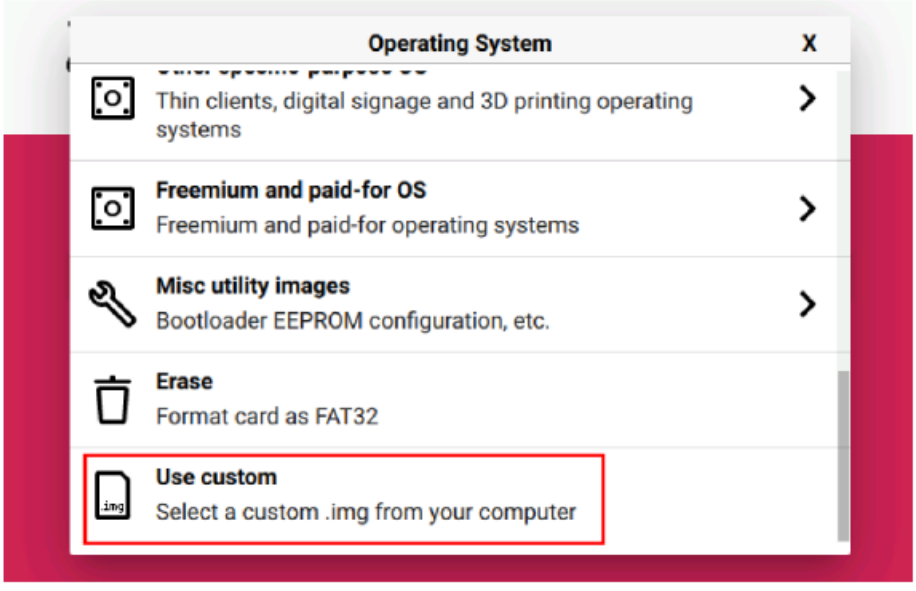
1. Find the location of the SD card, as shown in red mark of figure below.

2. Hold the SD card and pull it out.

Steps:

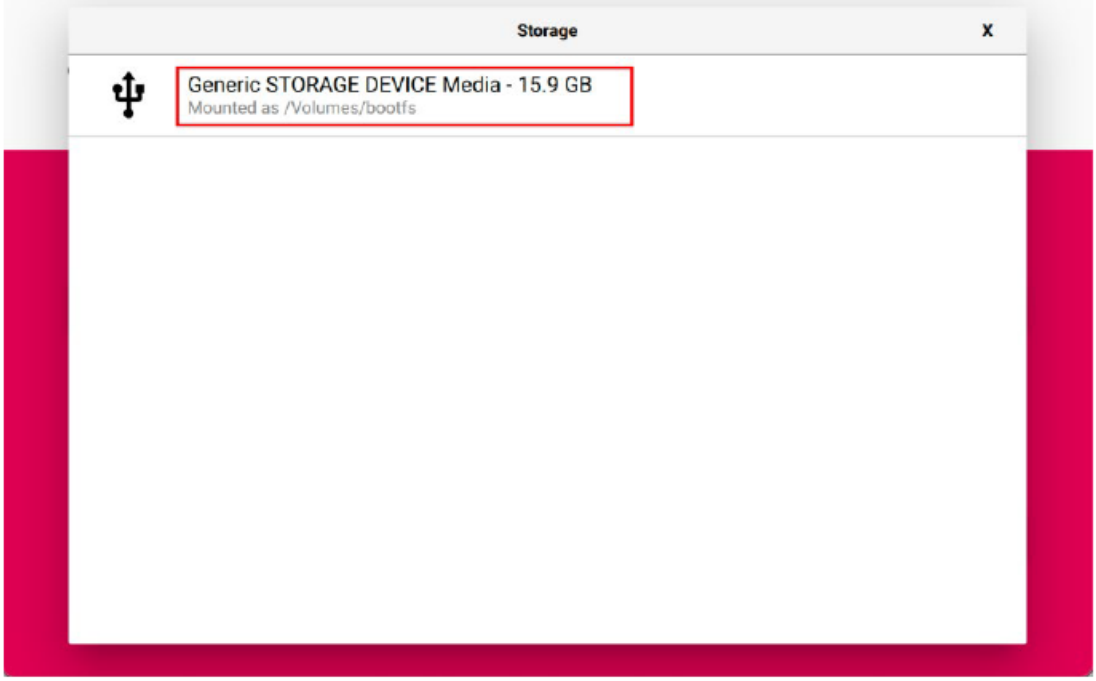
The steps are described using Windows system as an example.

1. Insert the SD card into the card reader, and then insert the card reader into the USB port of PC.
2. Open Raspberry Pi Imager, select “CHOOSE OS” and select “Use Custom ” in the pop-up pane.

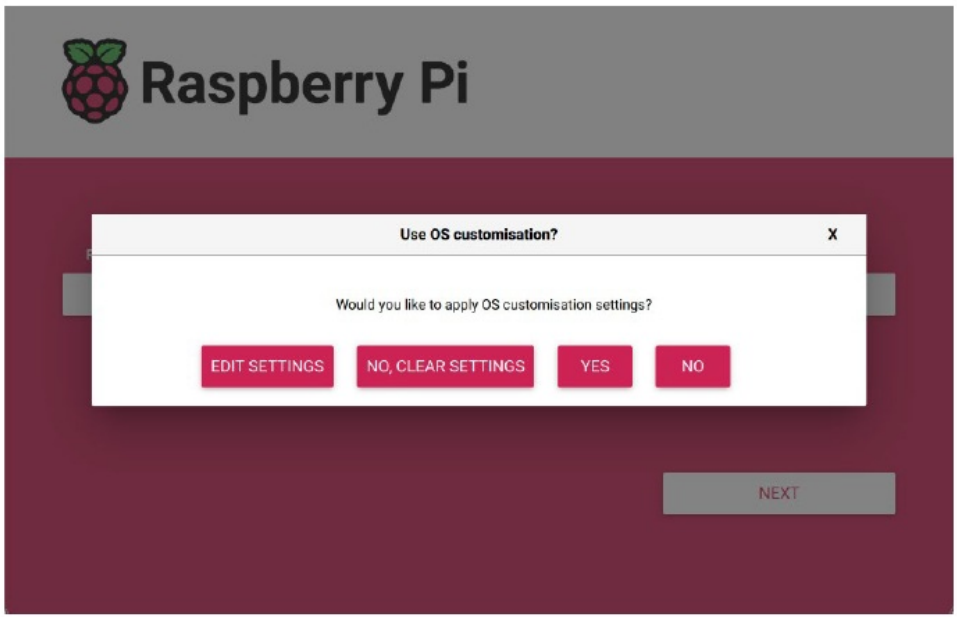


3. According to the prompt, select the downloaded OS file under the user-defined path and return to the main page.
4. Click “CHOOSE STORAGE”, select the SD card of ED-HMI3020-101C in the “Storage” pane, and return to the

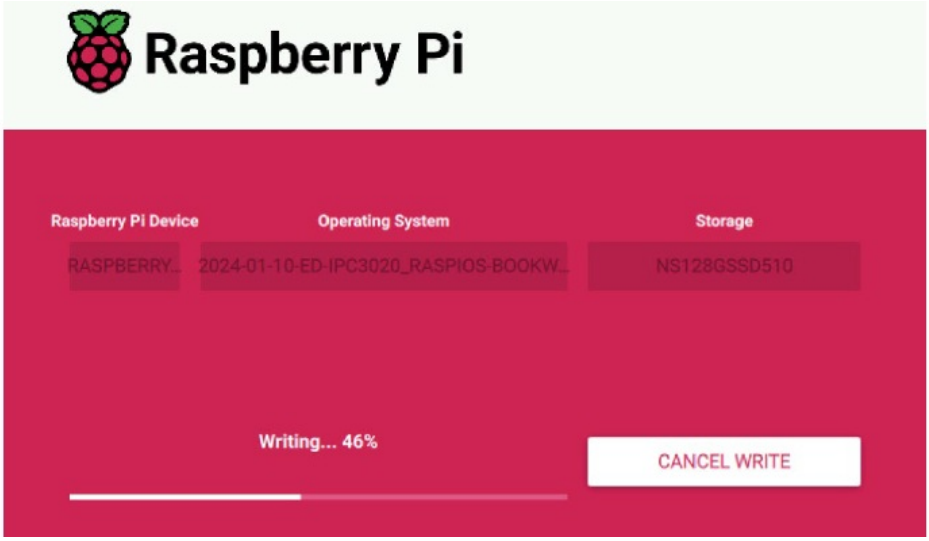
main page



5. Click “NEXT”, select “NO ” in the pop-up “Use OS customization?” pane.



6. Select “YES” in the pop-up “Warning” pane to start writing the image.



7. After the OS writing is completed, the file will be verified.

8. After the verification is completed, click “CONTINUE” in the pop-up “Write Successful” box.
9. Close Raspberry Pi Imager, remove the card reader.
10. Insert the SD card into ED-HMI3020-101C, and power on again.

Firmware Update

After the system starting normally, you can execute the following commands in the command pane to upgrade the firmware and optimize the software functions.

- sudo apt update
- sudo apt upgrade

Configuring booting from SSD (optional)

This chapter introduces the steps to configure booting from SSD.

- Flashing to SSD
- Setting BOOT_ORDER

Flashing to SSD
ED-HMI3020-101C supports optional SSD. If users need to boot the system from SSD, they need to flash the image to SSD before using.

NOTE:
If there is an SD card in ED-HMI3020-101C, the system will boot from the SD card by default.

Flashing through an SSD box
You can flash to SSD through an SSD box on a windows PC. It is recommended to use the Raspberry Pi tool and the download path is as follows:
Raspberry Pi Imager: https://downloads.raspberrypi.org/imager/imager_latest.exe

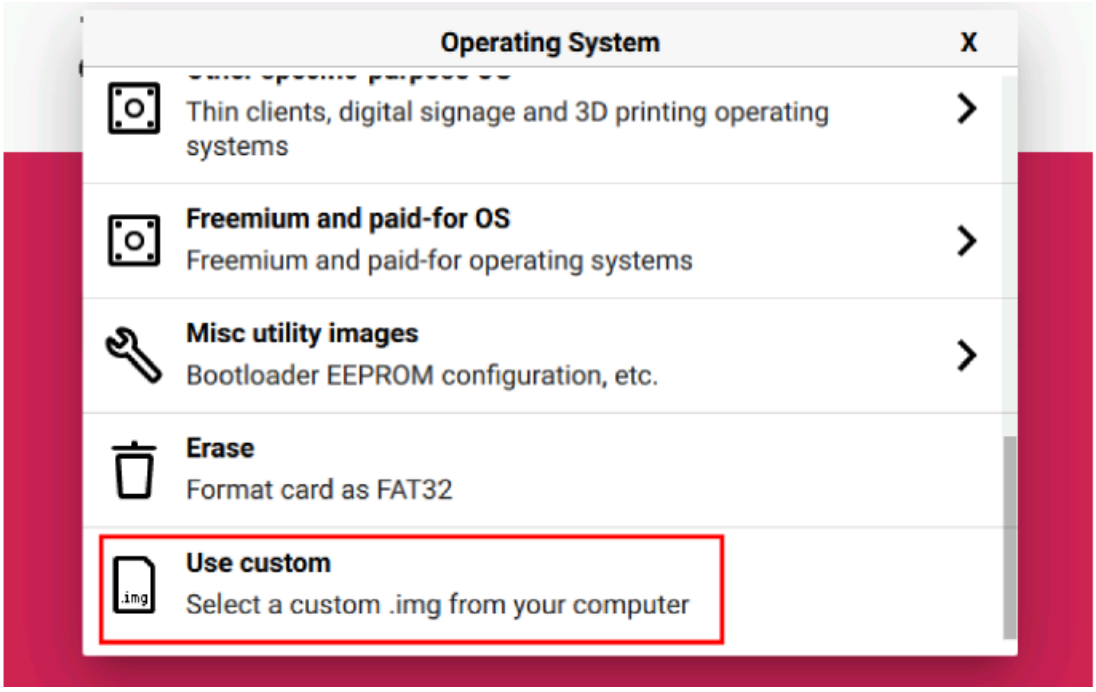
Preparation:

- An SSD box has been prepared

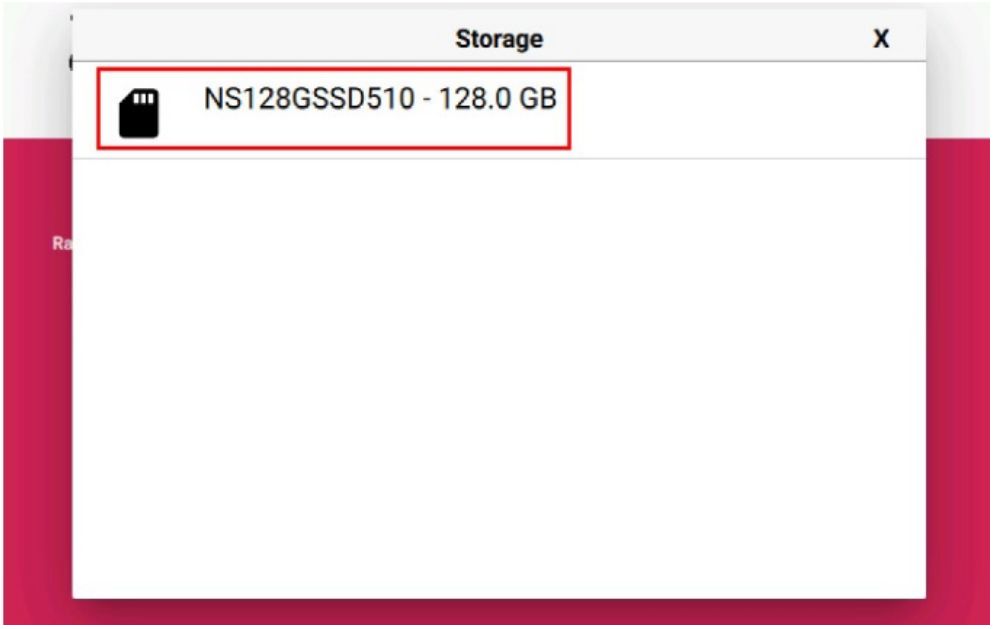
- The device case has been opened and the SSD has been removed. For detailed operations, please refer to Section 2.3 and 2.4 of “ED-HMI3020-101C User Manual”.
- The download and installation of Raspberry Pi Imager tool to the computer has been completed.
- The OS file has been obtained, and the download path is: ED-HMI3020-101C/raspios.

Steps:
The steps are described using Windows system as an example.

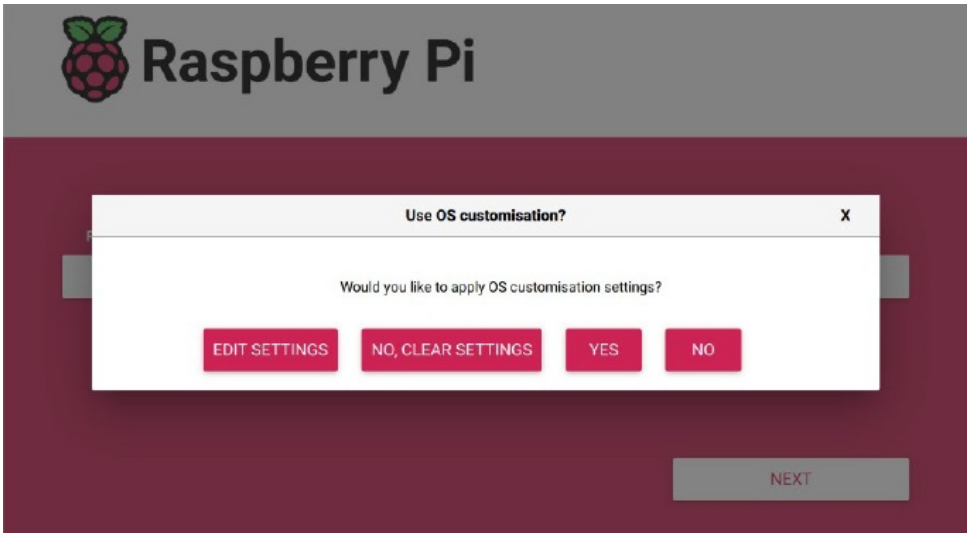
1. Install the SSD into the SSD box.
2. Connect the USB port of SSD box to PC, then make sure the SSD can be displayed on the PC.
   TIP: If the SSD cannot be displayed on the PC, you can format the SSD first.
3. Open Raspberry Pi Imager, select “CHOOSE OS” and select “Use Custom ” in the pop-up pane.



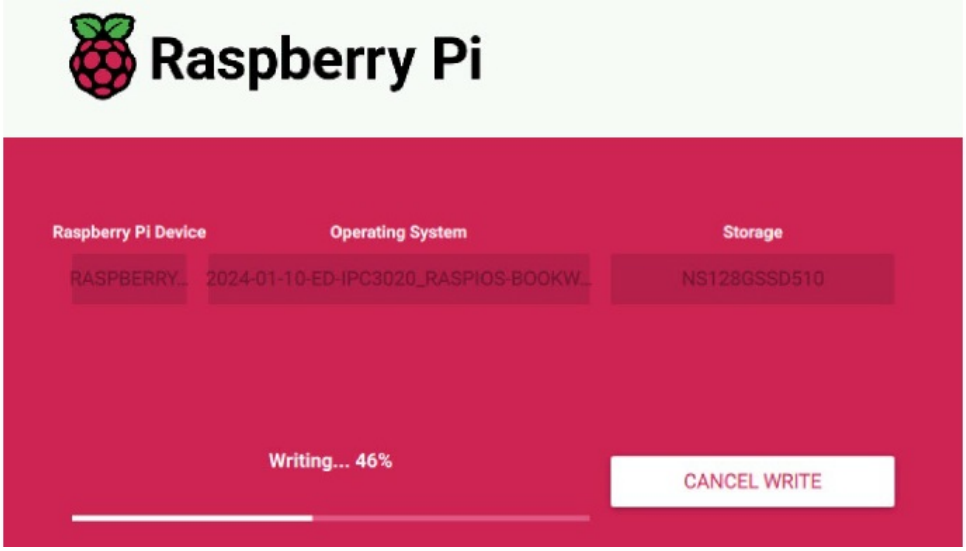
4. According to the prompt, select the downloaded OS file under the user-defined path and return to the main page.
5. Click “CHOOSE STORAGE”, select the SSD of ED-HMI3020-101C in the “Storage” pane, and return to the main page.



6. Click “NEXT”, select “NO ” in the pop-up “Use OS customization?” pane.



7. Select “YES” in the pop-up “Warning” pane to start writing the image.



8. After the OS writing is completed, the file will be verified.

9. After the verification is completed, click “CONTINUE” in the pop-up “Write Successful” box.
10. Close the Raspberry Pi Imager and remove the SSD box.
11. Remove the SSD from the SSD box, install the SSD to PCBA and close the device case (For detailed operations, please refer to Section 2.5 and 2.7 of “ED-HMI3020-101C User Manual”).

Flashing on ED-HMI3020-101C

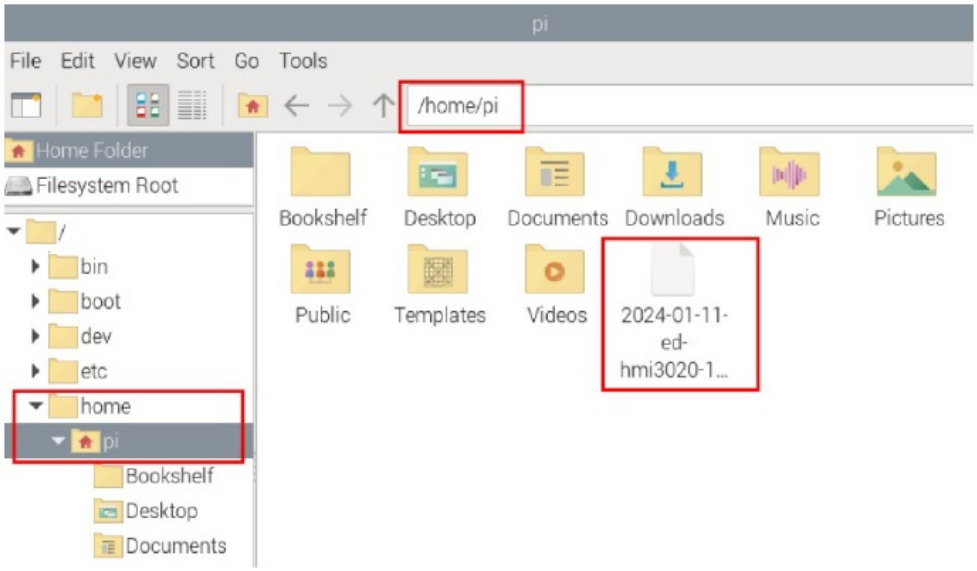
Preparation:

- ED-HMI3020-101C has been booted from SD card, and ED-HMI3020-101C contains an SSD.
- The OS file has been obtained, and the download path is: ED-HMI3020-101C/raspios

Steps:
The steps are described using Windows system as an example.

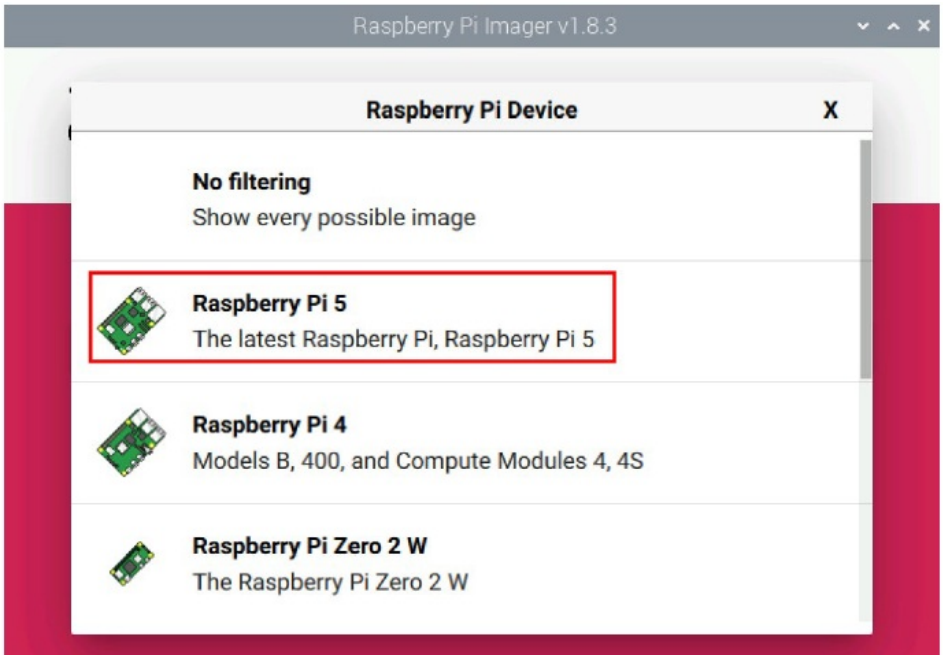
1. Unzip the downloaded OS file (“.zip” file), obtain the “.img” file, and store it in an specified directory of local PC, such as Desktop.
2. Use the SCP command on Windows PC to copy the OS file (.img) to ED-HMI3020-101C.
    1. Enter Windows+R to open the run pane, enter cmd, and press Enter to open the command pane.

2. Execute the following command to copy the OS file (.img) to the pi directory of ED-
    - Desktop\2024-01-10-ed-HMI3020-101C_raspios-bookworm-arm64_stable.img: Indicating the storage path of ".img" file on windows PC.
    - Pi: Indicating the storage path of ".img" file on ED-HMI3020-101C (the path where the ".img" file is stored after copying is completed).
    - 192.168.168.155: The IP address of ED-HMI3020-101C
3. After the copy is completed, view the ".img" file in the pi directory of ED-HMI3020-101C.

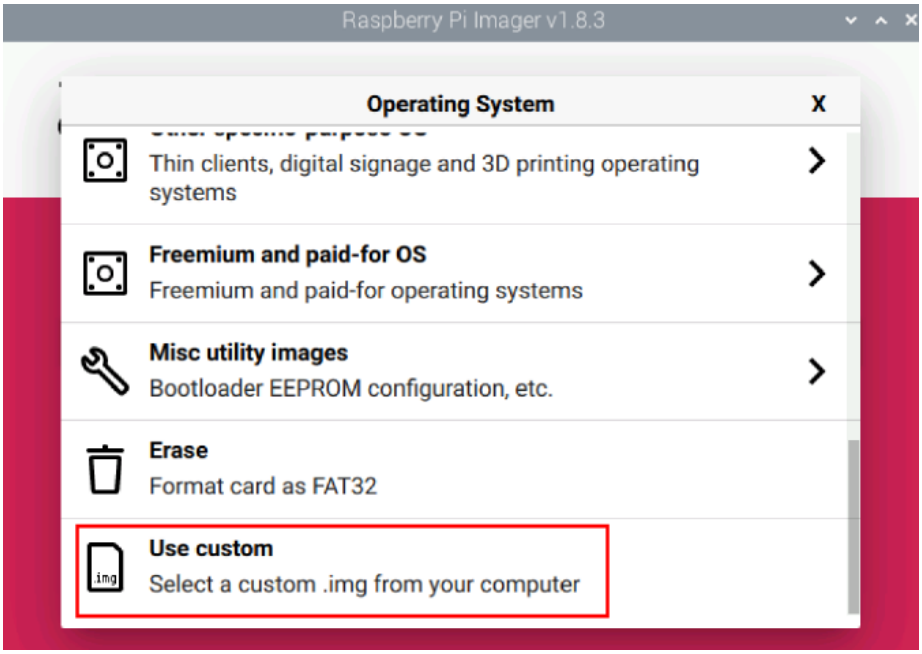


4. Click the icon in the upper left corner of the desktop, select "Accessories→Imager" in the menu, and open the Raspberry Pi Imager tool.

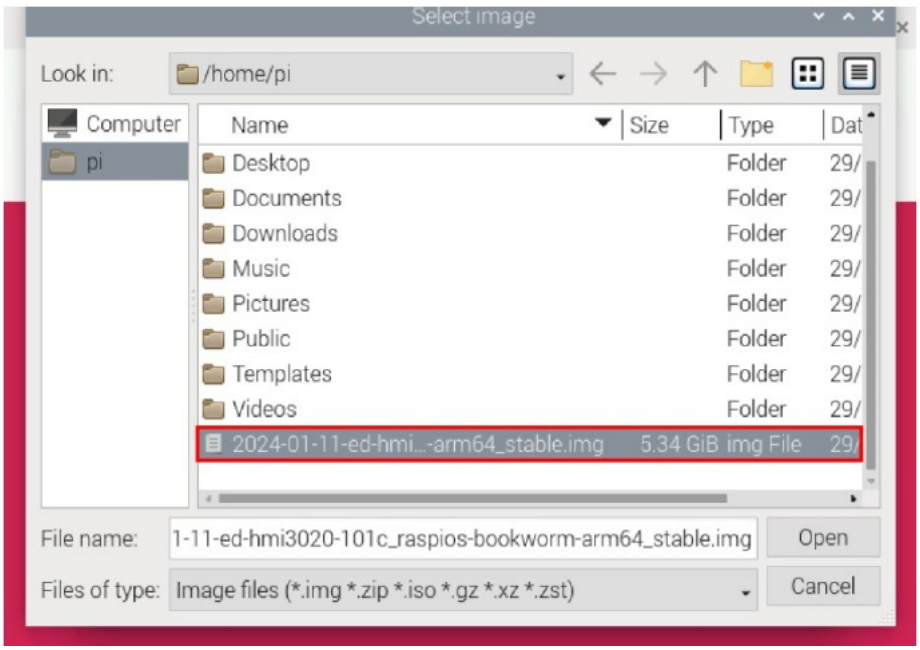
5. Click "CHOOSE DEVICE", select "Raspberry Pi 5" in the pop-up "Raspberry Pi Device" pane.



6. Click “CHOOSE OS”, select “Use Custom ” in the pop-up “Operating System” pane.

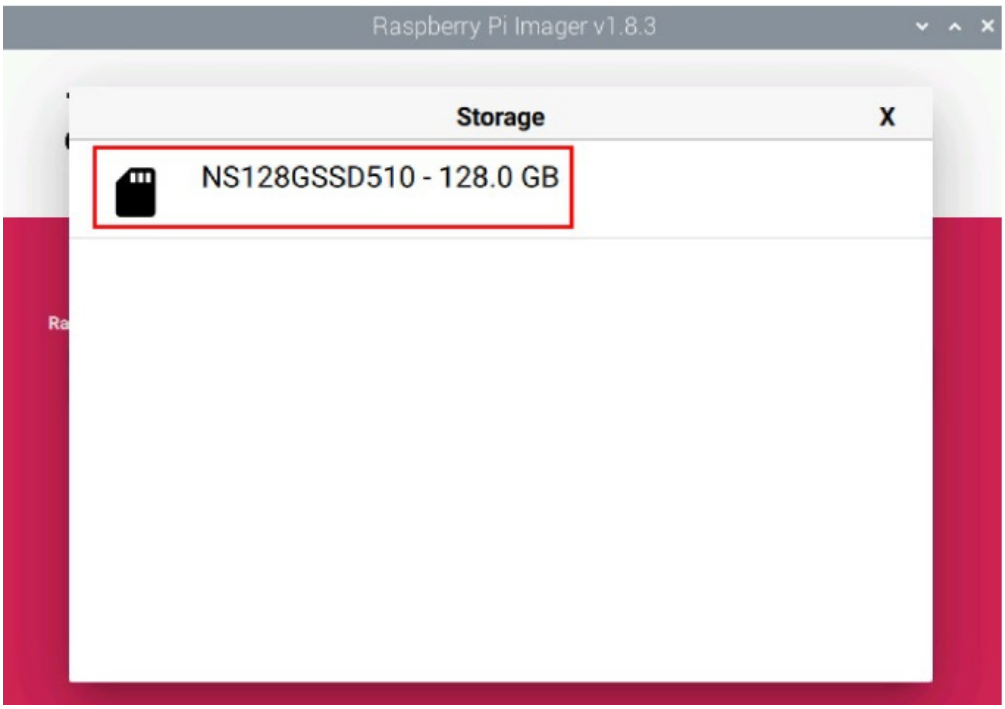


7. According to the prompt, select the downloaded OS file in “Select image” pane, and return to the main page.



8. Click “Open” to return to the main page.

9. Click “CHOOSE STORAGE”, select the SSD of ED-HMI3020-101C in the “Storage” pane, and return to the main page.



10. Click “NEXT” and select “NO” in the pop-up “Use OS customization?”.
11. Select “YES” in the pop-up “Warning”.

12. Enter password (raspberry) in the pop-up “Authenticate”, and then click “Authenticate” to start writing the OS.

13. After the OS writing is completed, the file will be verified.

14. After the verification is completed, input password (raspberry) in the pop-up “Authenticate”, and then click “Authenticate”.
15. In the pop-up “Write Successful” prompt box, click “CONTINUE”, then close Raspberry Pi Imager.

Setting BOOT_ORDER$

If ED-HMI3020-101C contains an SD card, the system will boot from the SD card by default. If you want to set booting from SSD, you need to configure BOOT_ORDER property, which sets booting from SSD by default when no SD card is inserted). The parameters of BOOT_ORDER property are stored in “rpi-eeprom-config” file.

Preparation:

- It is confirmed that ED-HMI3020-101C contains SSD.
- ED-HMI3020-101C has been booted from SD card and desktop is displayed normally.

Steps:

1. Execute the following command in the command pane to view the BOOT_ORDER property in the “rpi-eeprom-config” file.

rpi-eeprom-config

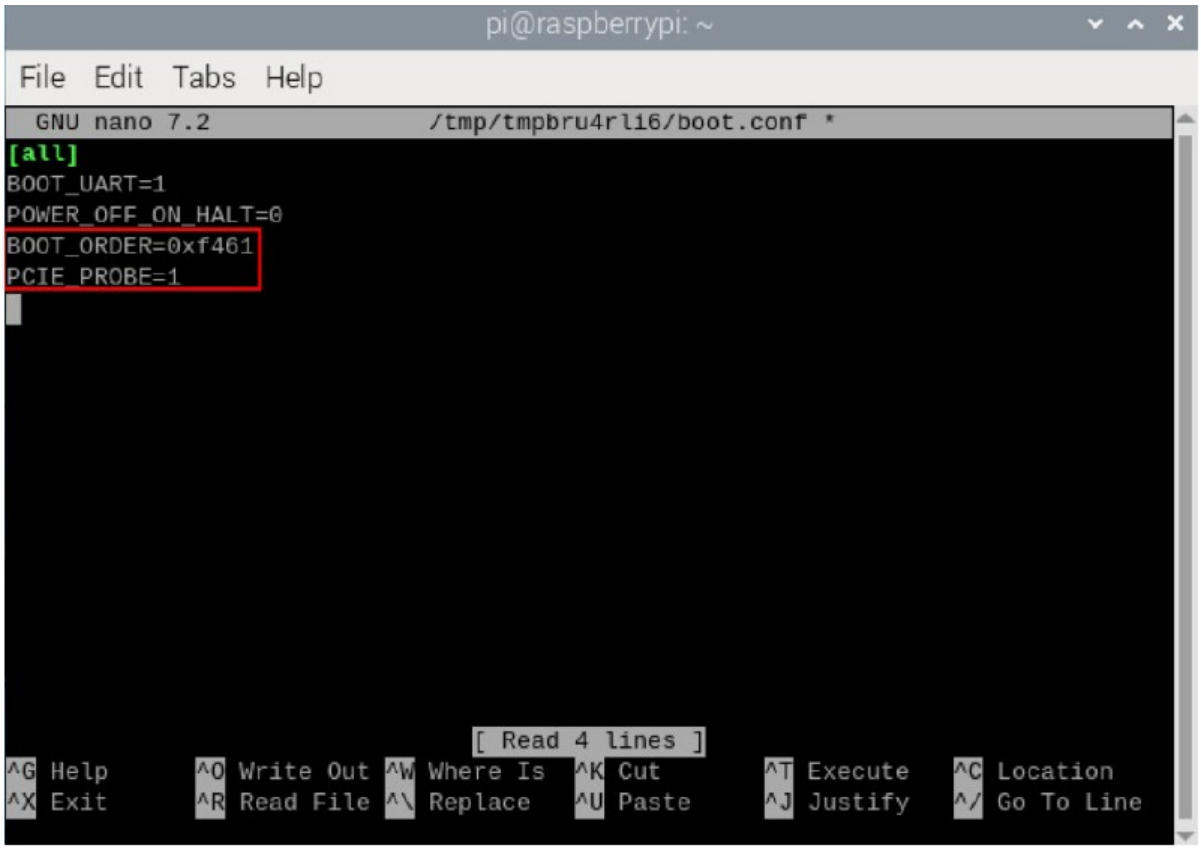
```
pi@raspberrypi:~ $ rpi-eeprom-config
[all]
BOOT_UART=1
POWER_OFF_ON_HALT=0
BOOT_ORDER=0xf41
```

“BOOT_ORDER” in the figure indicates the sequence parameter for booting, and setting the parameter value to 0xf41 indicates booting from the SD card.

2. Execute the following command to open the “rpi-eeprom-config” file, and set the value of “BOOT_ORDER” to 0xf461 (0xf461 means that if the SD card is not inserted, it will boot from SSD; if the SD card is inserted, it will

boot from SD card.), then add the parameter “PCIE_PROBE=1”. sudo -E rpi-eeprom-config –edit

NOTE: If you want to boot from SSD, it is recommended to set the BOOT_ORDER to 0xf461.



3. Input Ctrl+X to exit editing mode.
4. Input Y to save the file, then press Enter to exit to the main page of command pane.
5. Power off ED-HMI3020-101C and pull out the SD card.
6. Power on ED-HMI3020-101C to restart the device.

Documents / Resources

	EDA ED-HMI3020-101C Embedded Computers [pdf] Installation Guide ED-HMI3020-101C Embedded Computers, ED-HMI3020-101C, Embedded Computers, Computers

References

- downloads.raspberrypi.org/imager/imager_latest.exe
- ____
- User Manual

Manuals+, Privacy Policy

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.