EPSON

Setup Manual for

Vibration Measurement System

using

Raspberry Pi Products

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Revision History

Rev. No.	Rev. Date	Page	Rev. Contents
20240315	2024/3/15	ALL	First edition
20240927	2024/9/27	---	Revisions Corresponding to the Release of MSG002-001a_v1.1.0
		ALL	• Minor corrections to the description, addition of notes, and updates/additions to illustrations.
		8, 21, 27	• The default storage folder for measurement data is now set to use the internal SD card, with the option to use an external USB memory.
		28	• Added setup procedures for the Raspberry Pi Zero 2 W.

1. Introduction

This manual explains the setup of a system for recording measurement data from Seiko Epson's accelerometers M-A352AD, M-A552AR, and vibration sensors M-A342VD, M-A542VR on a Raspberry Pi.

The explanation assumes the use of a Raspberry Pi 4B.

Note: The Raspberry Pi 5 is not supported at this time due to the new OS and updated Python version.

The connection methods differ between the USB-connected M-A352AD, M-A342VD and the RS422-connected M-A552AR, M-A542VR, so the hardware setup is explained for each. However, the software running on the Raspberry Pi is common to all.

PC remote connection and internet connection can be made via wired LAN or wireless LAN. In this setup manual, PC remote connection is explained via wired LAN, and internet connection is explained via wireless LAN to a broadband WiFi router. An example of PC remote connection via wireless LAN is also provided in the final chapter.

1.1. Starting and Shutting Down the Raspberry Pi

1.1.1. Starting the Raspberry Pi

- The Raspberry Pi will boot up when power (AC adapter) is connected to its USB Type-C connector.
- The OS boot process may take some time. If you intend to connect to the Raspberry Pi remotely, please wait for a while after connecting the power. (The green LED ceasing to blink is a good indicator.)
- Ensure that all external devices are connected to the respective connectors of the Raspberry Pi only when the power is turned off.

1.1.2. Shutting Down the Raspberry Pi

- The OS can be shut down by executing the following command in the OS command prompt:
  `sudo shutdown -h now`
  The shutdown process may take some time (the green LED ceasing to blink is a good indicator).
- After the OS has shut down, please turn off the power to the Raspberry Pi.

1.1.3. Restarting the Raspberry Pi

- The OS can be rebooted by executing the following command in the OS command prompt:
  `sudo reboot`
- The reboot process may take some time (the green LED blinking and turning off twice is a good indicator).

1.2. Editing Files on the Raspberry Pi

There are procedures for editing configuration files and other files on the Raspberry Pi. This manual uses "nano" for file editing. The usage of nano is explained below.

```
When you type nano <filename> to edit the desired file, the screen shown below will open.
```

```
When you type nano <filename> to edit the desired file, the screen shown below will open.
```

1. When you type `nano “filename”` to edit the desired file, the screen shown below will open.

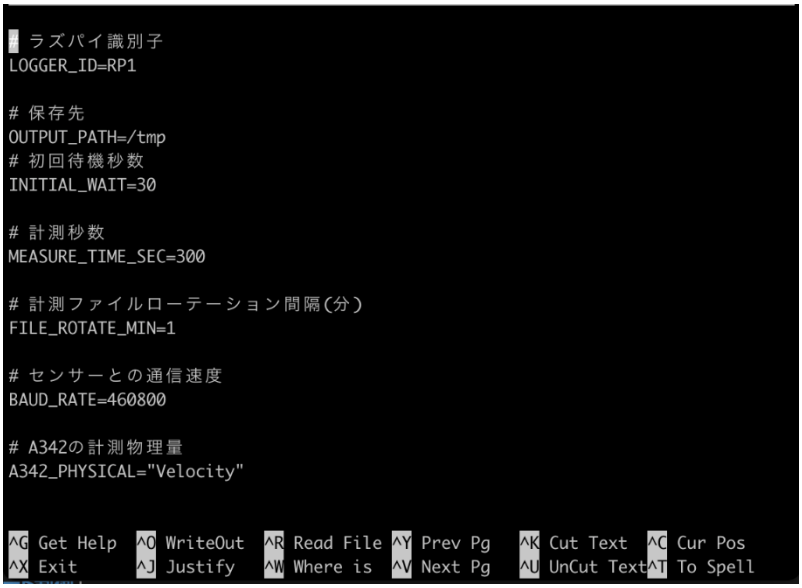

Figure 1-1

2. Use the keyboard to edit the file. Please note that the mouse cannot be used.
3. To save the file, press `Ctrl+X` The screen will change as shown below, then press `y`.

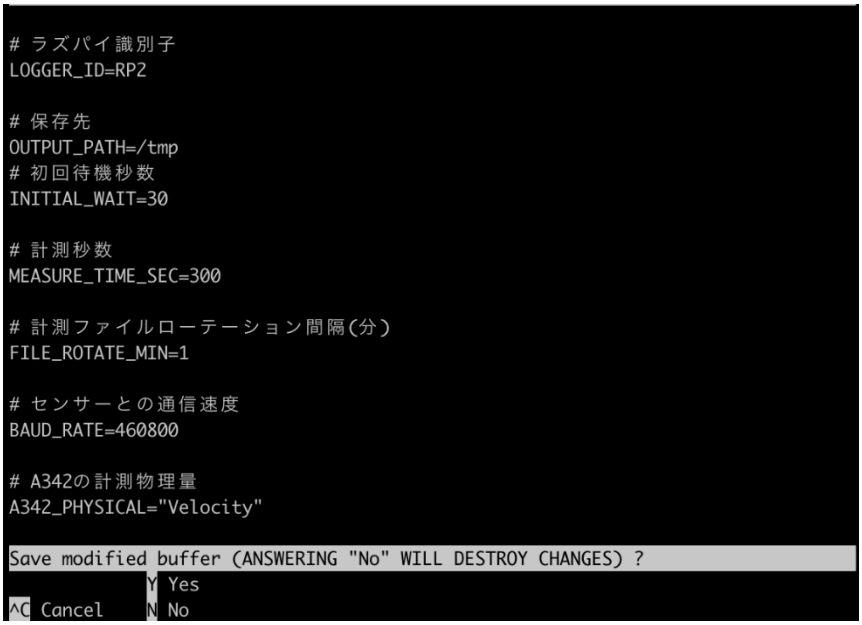

Figure 1-2

4. The file editing process is now complete.

2. Hardware Preparation

2.1. Common Preparation

Table 2-1

Items	Product Number	Manufacturer	Remarks
Raspberry Pi	Raspberry Pi 4B	Raspberry Pi Foundation	Memory size : 4GB or 8GB
microSD Card	Extreme	SanDisk	（Verified product）16GB
RTC-HAT	103030278	Seeed Studio	
Lithium Battery	CR1225	—	Used for RTC-HAT power retention
PC	—	—	Windows10 or later recommended
WiFi Router	WMR-433W2-BK	Buffalo	（Verified product） When connecting the PC and Raspberry Pi via WiFi

In addition, the following items are required for the operating environment of the Raspberry Pi 4B. Please prepare items that meet the specifications of the Raspberry Pi 4B:

- Power supply (AC adapter) (Please ensure to use an AC adapter specifically for the Raspberry Pi 4B)
- Equipment required only during the initial setup of the Raspberry Pi 4B: Display, Keyboard
- Equipment required when connecting the Raspberry Pi 4B and PC via wired LAN: Ethernet cable

In the standard procedure described in this setup manual, measurement data will be recorded on an SD card. Please ensure the SD card has sufficient capacity based on the following recommendations.

Table 2-2

Category	Details	Size
OS Area	Recommended in the procedure "3. Creating an SD Card for Raspberry Pi OS"	Approx. 3GB
Measurement Data	Vibration Sensor M-A342, Speed Measurement, 3000sps, 10 minutes	Approx. 130MB
Measurement Data	Acceleration Sensor M-A352, Acceleration Measurement, 1000sps, 10 minutes	Approx. 50MB

If you save data to an external USB memory according to the procedure "7.2. Saving Measurement Data to External USB Memory," an additional external USB memory is required. (Verified product: SanDisk SDCZ430-512G-J57)

Additionally, to maintain measurements during commercial power (AC100V) interruptions or short power outages, it is recommended to use an uninterruptible power supply (UPS).

2.2. Measurement with M-A352AD, M-A342AD

Table 2-3

Items	Product Number	Manufacturer	Remarks
Acceleration Sensor	M-A352AD	Seiko Epson	Either M-A352AD or M-A342VD
Vibration Sensor	M-A342VD	Seiko Epson	
Relay Board	M-G32EV51	Seiko Epson	Use M-G32EV51 and M-G32EV41 together
Evaluation Board	M-G32EV41	Seiko Epson	
USB Cable	—	—	Type A – Type C

2.3. Measurement with M-A552AR, M-A542VR

Table 2-4

Items	Product Number	Manufacturer	Remarks
Acceleration Sensor	M-A552AR	Seiko Epson	Either M-A552AR or M-A542VR
Vibration Sensor	M-A542VR	Seiko Epson	
RS422 Conversion Cable	TBD	TBD	Please contact us individually
AC Adaptor	ATS065T-P120	Adapter Technology	(Verified product)
RS422 – USB Converter	ICUSB422	StarTech	

2.4. Raspberry Pi 4B Case and Heat Dissipation

2.4.1. About the Case

- Due to interference with the RTC-HAT, do not use cases with thermal conduction protrusions that make direct contact with the CPU (e.g., Takachi Electric Industrial, model number RPH-4B-H). Use cases without thermal conduction protrusions inside (e.g., Takachi Electric Industrial, model number RPH-4B-N).
- When using a case, it is recommended to monitor the internal temperature during operation, as heat may accumulate inside the case, causing electronic devices to overheat and malfunction.

2.4.2. About Heat Dissipation

- It is recommended to attach a heatsink to the ICs such as the CPU (e.g., Seeed Studio, model number 110991329).
- Heat dissipation occurs not only from the surface of the Raspberry Pi board (component side) but also from the back (solder side), so it is recommended to provide space on the back of the board.
- If operating for extended periods in high-temperature environments, consider using a fan for additional cooling. Ensure it does not interfere with the RTC-HAT.
- If precise timekeeping is not required during measurements, you can remove the RTC-HAT and use a case with thermal conduction protrusions that make direct contact with the CPU for cooling (e.g., Takachi Electric Industrial, model number RPH-4B-H).

  When the RTC-HAT is removed, the time accuracy will depend on the internal clock of the Raspberry Pi.

3. Creating an SD Card Raspberry Pi OS

To create an SD card for booting Raspberry Pi OS using a PC, follow these steps:

1. Download the recommended OS image for operating a vibration measurement system using Raspberry Pi products from the following link:

   https://downloads.raspberrypi.com/raspios_lite_armhf/images/raspios_lite_armhf-2023-05-03/

   Click on the link ending with ".img.xz" to download.

2. Download the PC software required to write the Raspberry Pi OS image to the SD card from the following link:

   https://www.raspberrypi.com/software/

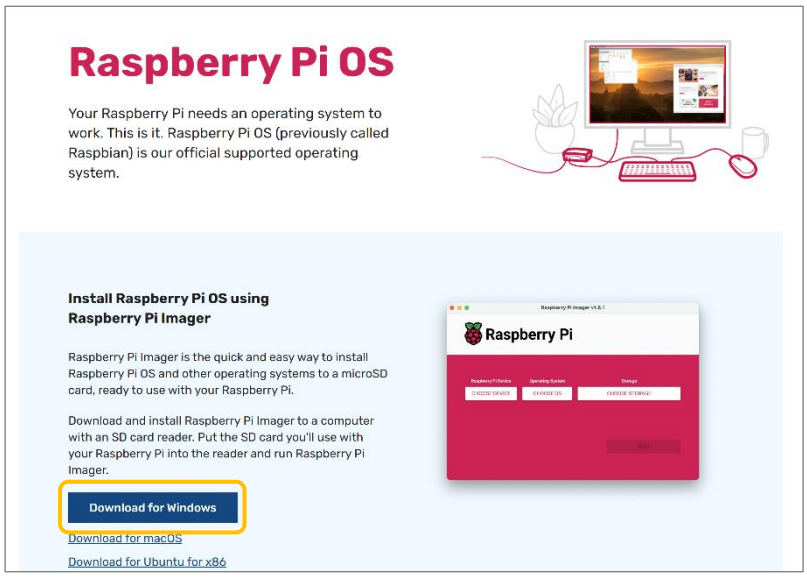

Figure 3-1

- The screenshots used in this manual are from Windows version 1.8.5. Please note that the screens may change without prior notice.

3. Insert the SD card into the PC.
4. Double-click the downloaded "Imager_ver name.exe" to install Raspberry Pi Imager.。
5. Launch Raspberry Pi Imager.
6. Click "Choose OS" and select "Raspberry Pi 4".

Figure 3-2

7. Click "Choose OS" and select "Use Custom" at the bottom. Then, choose the file downloaded in step 1.

Figure 3-3

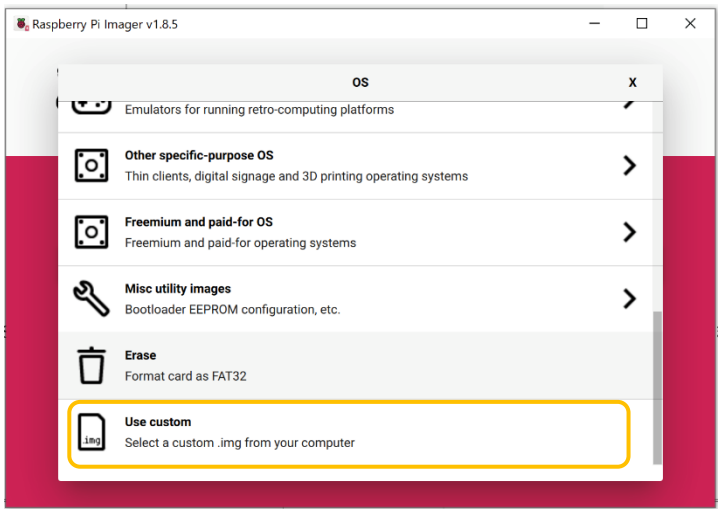

Figure 3-4

8. Click "Choose Storage" and select the SD card to write the OS image to.

Figure 3-5

9. Click "Next".

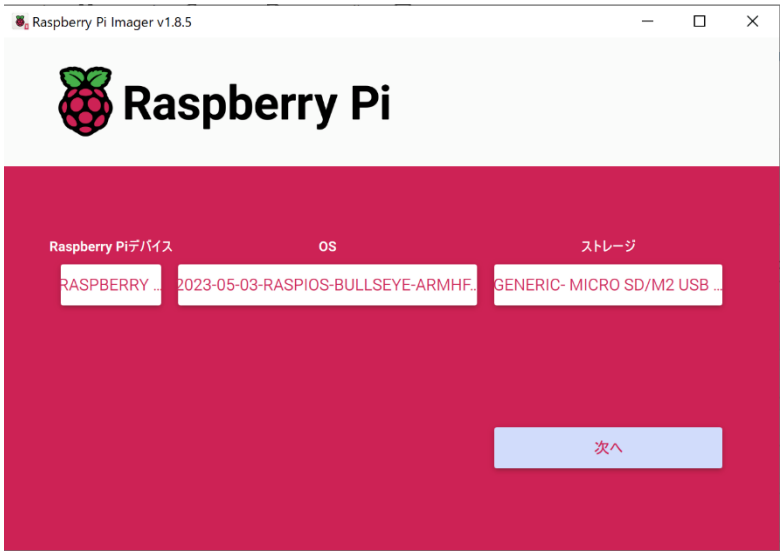

Figure 3-6

10. A screen will appear asking if you want to edit settings. Click "No". Another confirmation dialog will open; select "Yes" to proceed.

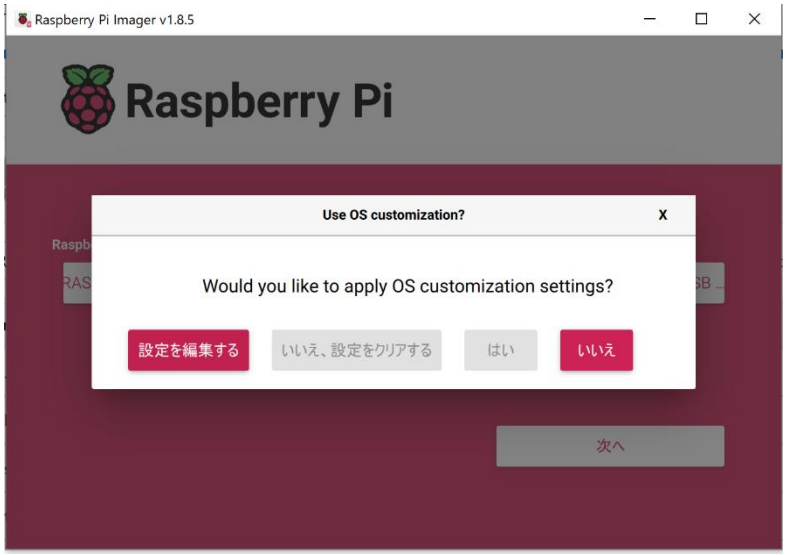

Figure 3-7

11. Wait for the writing process to complete.

The OS image writing process is now complete.

Insert the SD card into the Raspberry Pi and proceed with "4. Initial Setup".

4. Initial Setup

Note: Until completing step "4.2.2. Connecting Raspberry Pi to Windows PC," it is not possible to operate the Raspberry Pi from the PC. Please prepare a display and keyboard.

4.1. Basic Configuration of Raspberry Pi OS

Insert the SD card created in "3. Creating an SD Card for Raspberry Pi OS" into the SD card slot of the Raspberry Pi. Connect a display and keyboard to the Raspberry Pi, then connect the AC adapter and power it on.

1. After several reboots, the initial setup screen will appear.
   - Set the keyboard layout according to your keyboard.
   - Set a username and password of your choice.
   - Log in with the username and password you set.

2. Type `sudo raspi-config` to open the configuration tool.

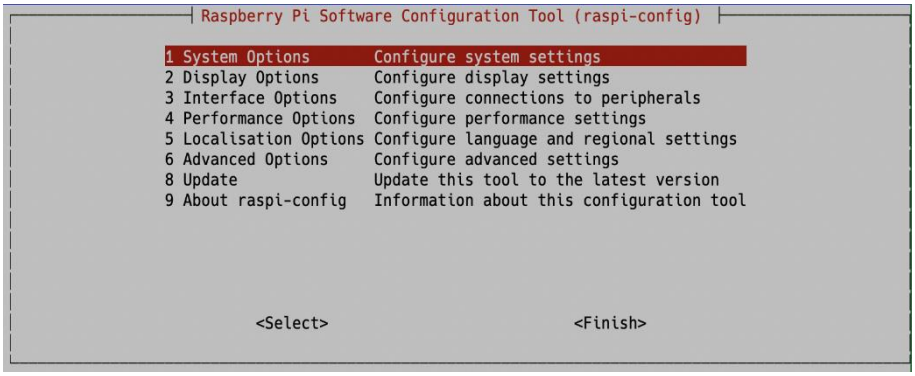

Figure 4-1

3. Select "Interface Options" and enable SSH.

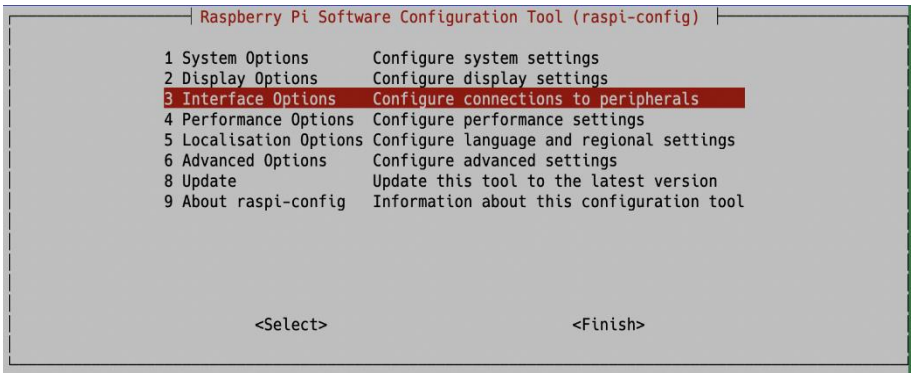

Figure 4-2

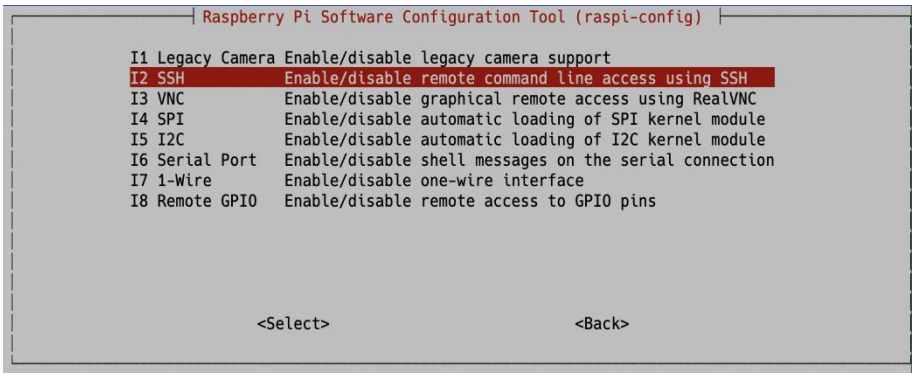

Figure 4-3

Figure 4-4

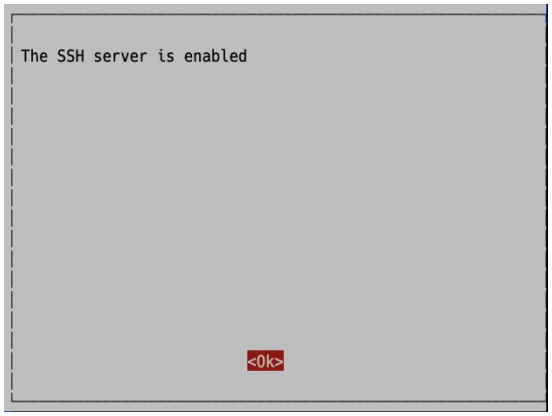

Figure 4-5

4. Next, select "Localization Options" and set the Timezone to "Asia/Tokyo".

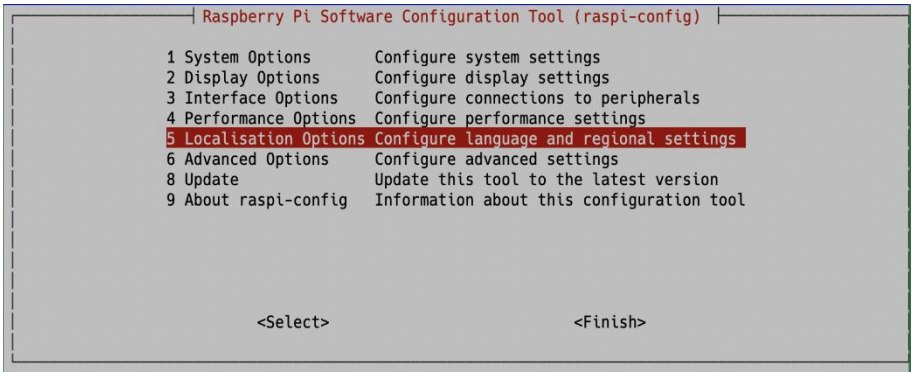

図 4-6

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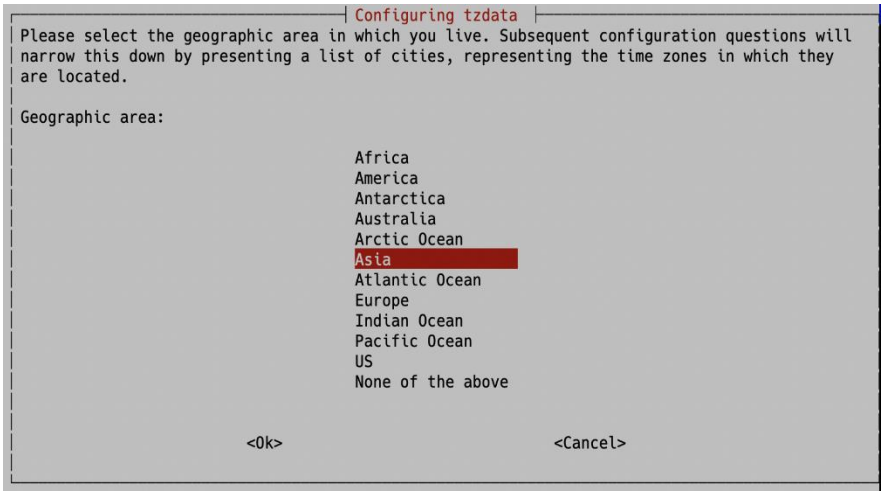


Figure 4-8

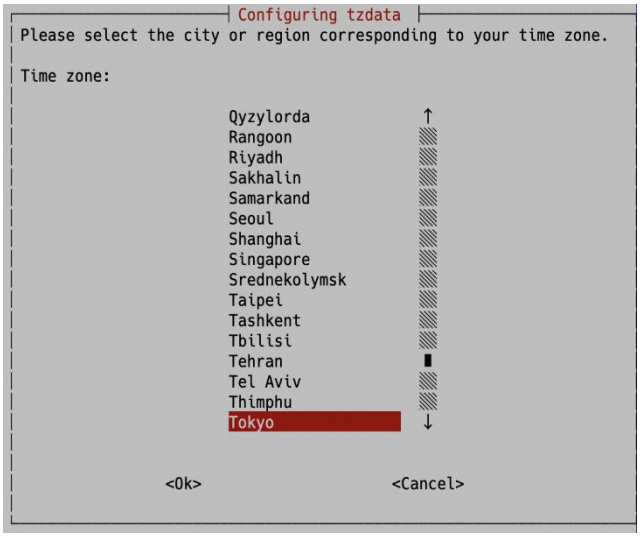


Figure 4-9

5. Exit the configuration tool by selecting "<Finish>".

4.2. PC Remote Connection Setup Using a Wired Lan Cable

To configure remote access to the Raspberry Pi from a PC,

4.2.1. Fixing the IP Address

1. Execute `sudo nano /etc/dhcpcd.conf` to open the dhcpcd.conf file, and add the following content。

```
interface eth0
static ip_address=192.168.1.52/24
static routers=192.168.1.1
static domain_name_servers=192.168.1.1
metric 1000
```

Figure 4-10

Note：

- To connect and operate multiple Raspberry Pi devices on a PC, change the number "52" in the static ip_address line to any number between "2" and "255" for each Raspberry Pi.
- The dhcpcd.conf file contains lines starting with “#” that include the above content. Lines starting with “#” are comment lines and are not treated as settings. To modify existing content in the file, remove the leading “#”.

4.2.2. Connecting the Raspberry Pi to a Windows PC

To set up a remote (SSH) connection between a Raspberry Pi and a PC, follow these steps:

1. Connect the Raspberry Pi and the PC using an Ethernet cable.
2. Open the "Network and Sharing Center" from the Control Panel.

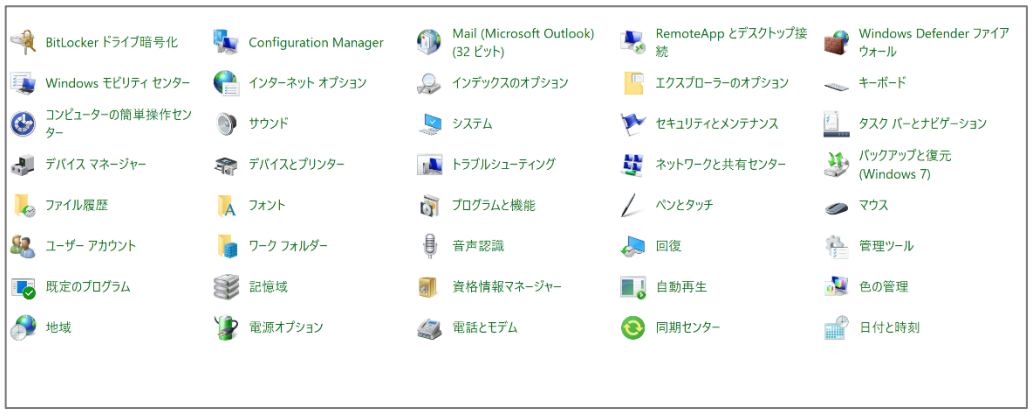


Figure 4-11

3. Select the network to which the PC and Raspberry Pi are connected.
4. Click on "Properties.

Figure 4-12

5. Select "Internet Protocol Version 4 (TCP/IPv4)" and click on "Properties."

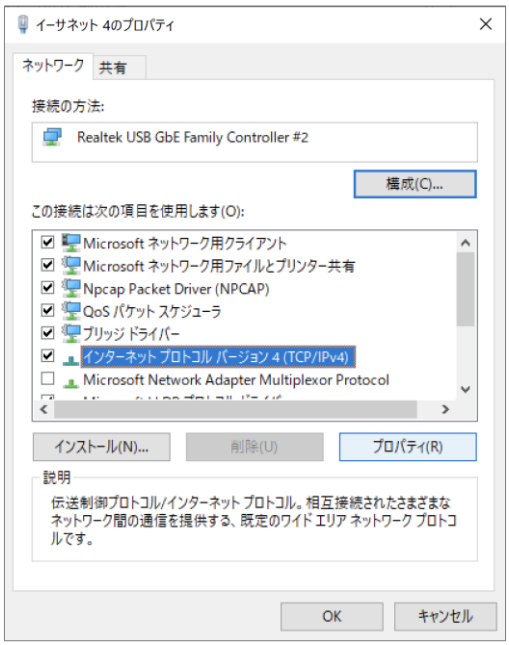


Figure 4-13

6. Select "Use the following IP address" and enter the details as shown in the figure below.
   - For the IP address, use the same first three segments as the static IP address set on the Raspberry Pi (e.g., "192.168.1"). For the fourth segment, choose a number different from the one set on the Raspberry Pi.

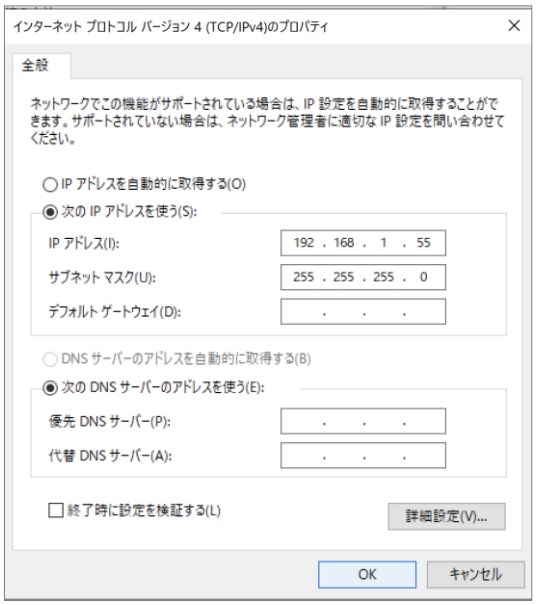


Figure 4-14

7. From the PC's PowerShell, execute the following command to verify the LAN connection.
   - `ping 192.168.1.52`
8. From the PC's PowerShell, execute the following command. When prompted, enter the password set on the Raspberry Pi to log in.
   - `ssh Raspberry Pi Username Specified During Initial Setup @ Assigned IP`

4.3. Internet Connection Setup Using a Broadband WiFi Router

To connect to the internet, configure the WiFi settings.

1. Execute `sudo raspi-config` to open the configuration tools
2. From the "System Options" menu, select "Wireless LAN."

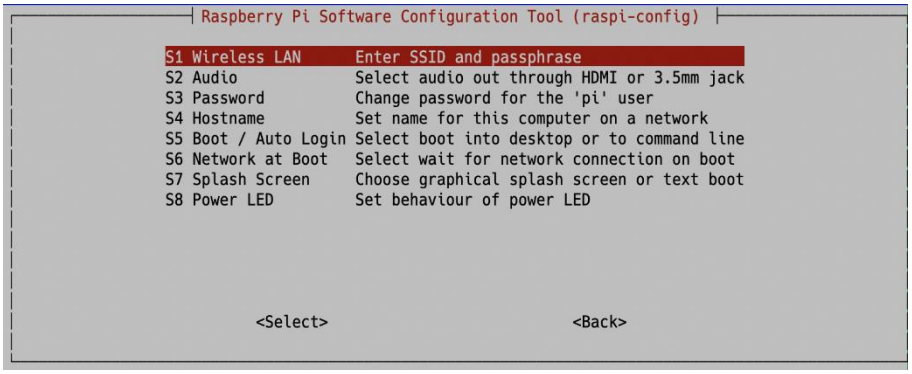


Figure 4-15

3. If prompted to select the country where the Raspberry Pi will be used, choose "JP" and select "<Ok>."

(This screen may not appear in some cases.)

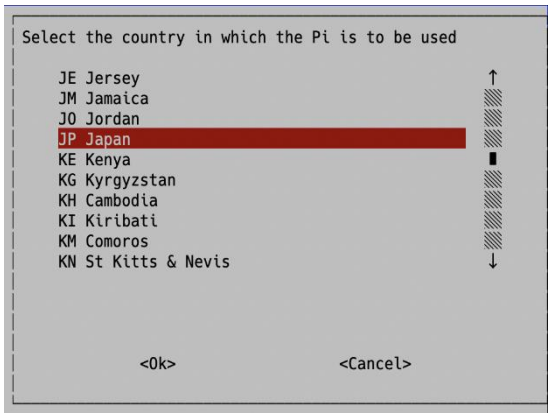


Figure 4-16

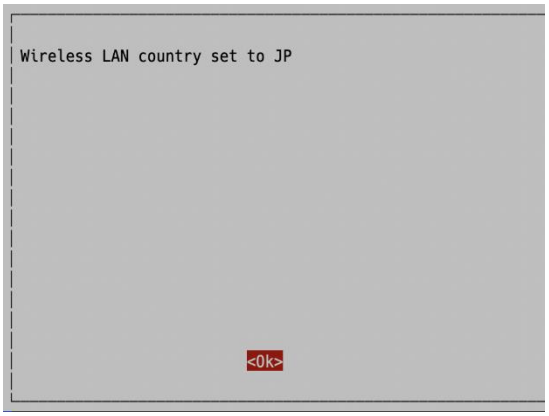


Figure 4-17

4. Next, enter the SSID and password for the WiFi router you want to connect to.

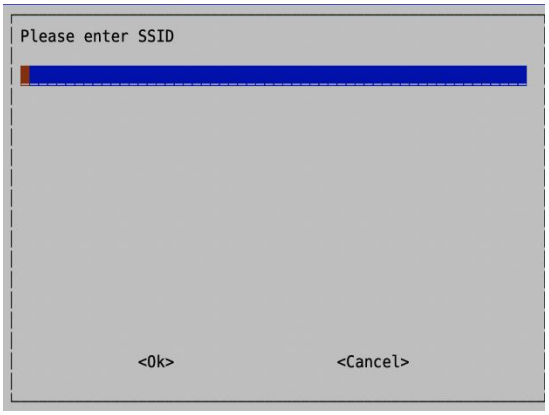


Figure 4-18

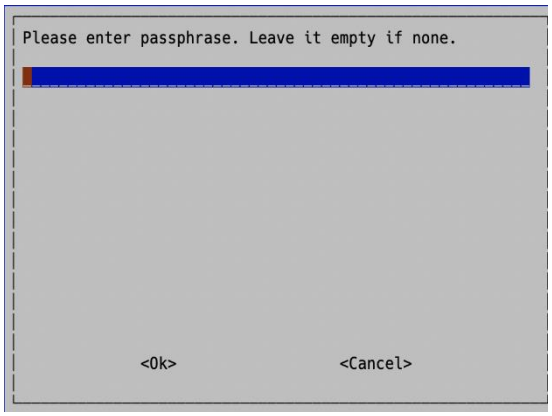


Figure 4-19

5. Exit the configuration tool and restart the Raspberry Pi.
6. Once the Raspberry Pi has restarted, open the terminal and execute the following command to verify the WiFi connection:
   （To verify the internet connection, follow these steps：`ping google.co.jp`）

4.4. Time Setting Using RTC-HAT

Due to the significant inaccuracy of the internal clock of the Raspberry Pi, the following steps describe how to connect an expansion module and set the correct time.

The logger software does not detect connection issues with the RTC-HAT or improper installation of the lithium battery. If the RTC-HAT malfunctions due to these issues, the timekeeping accuracy will default to the internal clock accuracy of the Raspberry Pi. It is recommended to verify the correct time before measurements using the `date` command or similar tools.

1. To download the RTC-HAT setup script, execute the following command.
   - `sudo apt update`
   - `sudo apt install git -y`
2. Execute `git clone https://github.com/Seeed-Studio/pi-hats.git` , download the set up script.
3. Execute `sudo ~/pi-hats/tools/install.sh -u rtc_ds3231` .
4. Execute `sync .`

5. Turn off the Raspberry Pi (refer to section 1.1.2. Shutting Down the Raspberry Pi). Attach the RTC-HAT to the Raspberry Pi as shown in the diagram, then install the lithium battery into the RTC-HAT.

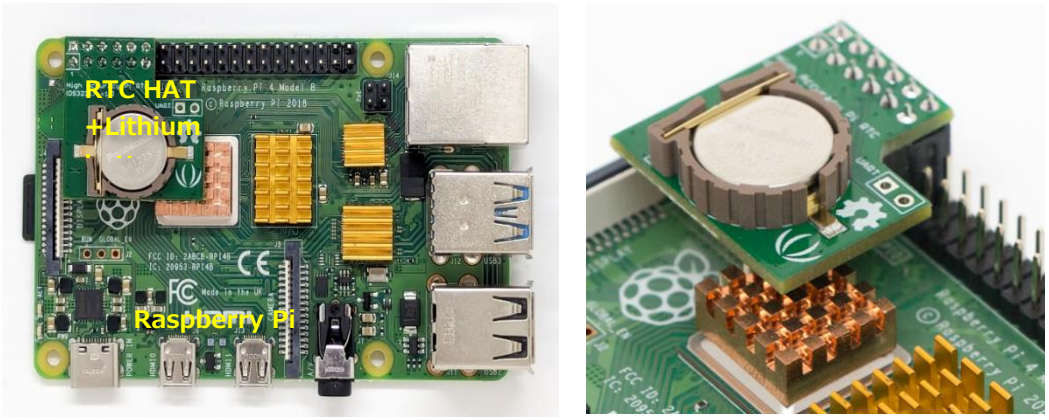


Figure 4-20

Note : Be cautious when attaching or detaching the RTC-HAT while the Raspberry Pi is powered on or the lithium battery is installed. This can reset the RTC, so handle it carefully.

- Please also refer to the RTC-HAT manual at https://wiki.seeedstudio.com/High_Accuracy_Pi_RTC-DS3231/.

6. Turn the Raspberry Pi power back on.
7. Execute `sudo hwclock -s` to synchronize the Raspberry Pi time with the RTC-HAT time.
8. Execute `date`, verify that the correct current time is displayed。
9. To periodically correct the internal clock of the Raspberry Pi, execute `crontab -e` to open the scheduled command execution settings screen, and add the following content. (Editing is possible with the same operations as nano)

```
0 * * * * sudo hwclock -s
```

Figure 4-21

4.5. Creating a Data Storage Folder

This program will create a folder to store measurement data. While this program can set any folder as the storage location for measurement data, here it will create the folder in the home directory of the configured Raspberry Pi user.

1. Enter `cd` to move to the home directory。
2. Execute `mkdir measure` create a folder to store measurement data.
   - This program does not automatically create the storage folder, so it must be created manually in advance。
   - In the configuration file of this program, set /home/configured Raspberry Pi username/measure.

5. Application Configuration

Note：This configuration requires the Raspberry Pi to be connected to the internet.

5.1. Extracting the Source Code

To run the program on the Raspberry Pi, copy the downloaded source code to the Raspberry Pi

1. To run the program on the Raspberry Pi, copy the downloaded source code to the Raspberry Pi。
   - `sudo mkdir /app`
   - `sudo chown the username of the configured Raspberry Pi /app`
     - Ex) `sudo chown pi /app`
2. Open the "MSG002-001a_version_name" folder, extracted from the zip file on the PC, using PowerShell.。
   - While holding the Shift key, right-click in Explorer to display the "Open PowerShell window here" option.
3. Connect the Raspberry Pi and the PC according to "4.2. PC Remote Connection Setup Using a Wired LAN Cable.
4. Execute the following command in PowerShell to install the program on the Raspberry Pi：
   - `scp -r MSG002-001a The username of the configured Raspberry Pi@The IP address of the configured Raspberry Pi.:/app`
5. Log in to the Raspberry Pi. If the complete set of source code extracted to the "/app/MSG002-001a" folder has been copied, this procedure is complete.

5.2. Installing Packages

To run the program, install the packages used by the program on the Raspberry Pi.

1. Execute the following command to install the tool for installing packages.
   - `sudo apt update`
   - `sudo apt install pip -y`
2. Navigate to the "/app/MSG002-001a" folder and execute `pip install` to install the packages used by the program.

5.3. Registering Services

Configure the necessary settings to enable the program to start automatically.

1. In the "/app/MSG002-001a/bin/logger@.service" file, change "User=pi" on line 11 to your created username.
2. Execute `sudo cp /app/MSG002-001a/bin/logger@.service /etc/systemd/system/` to install the service configuration file
3. Execute `sudo systemctl daemon-reload` create the configuration file.

5.4. Creating Configuration Files

Create the configuration file that the program will load.

1. Execute `cp /app/MSG002-001a/.env.default /app/MSG002-001a/.env` to install the service configuration file.

5.5. Installing Programs Required for Measurement

Some measurement methods use Linux programs.

1. Execute following commands to install `at` program.
   - `sudo apt update`
   - `sudo apt install at -y`

The program operates using the contents of the "/app/MSG002-001a/.env" file as configuration values. For configurable values, please refer to the 'Operation Manual for Vibration Measurement System Using Raspberry Pi Products.

6. Connecting Sensors

6.1. Connecting M-A352AD , M-A342VD to Raspberry Pi 4B

1. Connect the M-A352AD or M-A342VD with the M-G32EV51 & M-G32EV41

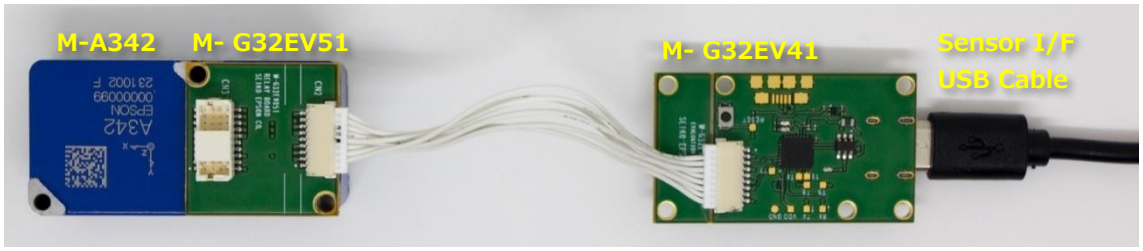


Figure 6-1

2. Shut down the OS and turn off the power of the Raspberry Pi. Connect the M-G32EV41 and Raspberry Pi 4B using a USB Type A – Type C cable. Please connect to the USB 2.0 connector of the Raspberry Pi 4B。

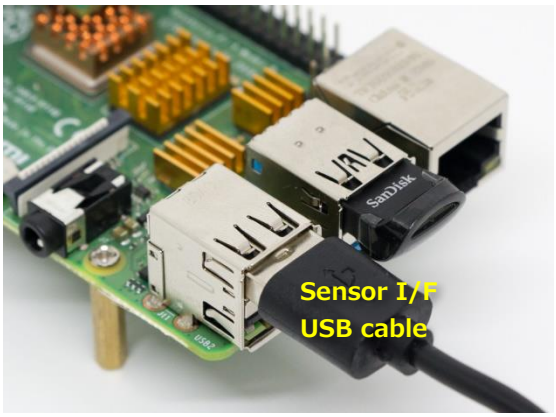


Figure 6-2

6.2. Connecting M-A552AR, M-A542VR to Raspberry Pi 4B

1. Connect the M-A552AR or M-A542VR with the ICUSB422 using an RS422 conversion cable.

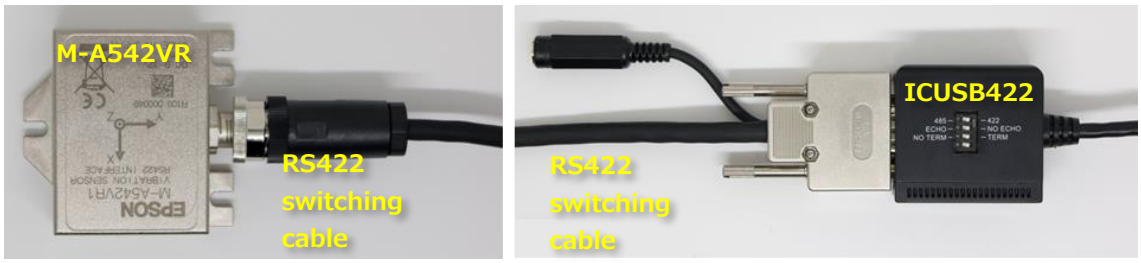


Figure 6-3

2. Configure the dip switches of the ICUSB422

Table 6-1

Dip SW no	Setting
1	422
2	NO ECHO
3	TERM
4	- (Either ON/OFF acceptable)

Figure 6-4

3. Shut down the OS and turn off the power of the Raspberry Pi. Connect the ICUSB422 to the Raspberry Pi 4B. Please connect to the USB 2.0 connector of the Raspberry Pi 4B.
4. Connect the ICUSB422 and the RS422 conversion cable, then connect the AC adapter.

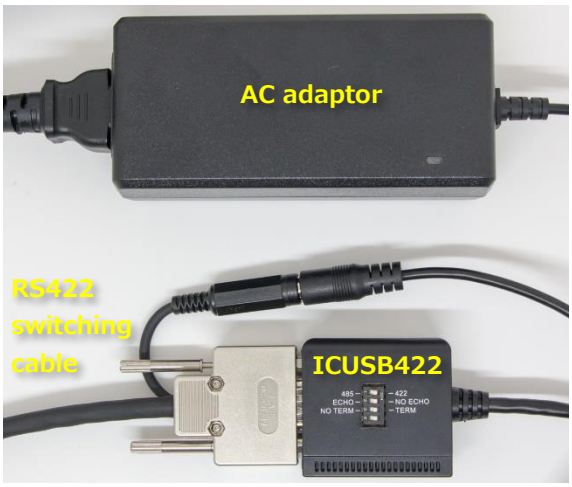


Figure 6-5

This completes the setup. Please refer to the 'Operation Manual for Vibration Measurement System Using Raspberry Pi Products' to conduct vibration measurements.

7. Appendix

7.1. Remote Connection Using a Broadband WiFi Router

This manual describes PC remote connection via wired LAN and internet connection via wireless LAN to a broadband WiFi router. However, remote connection to a PC using a WiFi router is also possible. The setup for remote connection using the recommended WMR-433W2-BK is described.

1. Open the ` dhcpcd.conf ` file executing `sudo nano /etc/dhcpcd.conf` and append the following content.

```
interface wlan0
static ip_address=192.168.13.135/24
static routers=192.168.13.1
static domain_name_servers=192.168.13.1
```

Figure 7-1

Note: The third segment of the IP address "13" is based on the time of this manual's creation. Please refer to the router's IP address listed in the WMR-433W2-BK manual and configure accordingly.

Note: To connect and operate multiple Raspberry Pi devices on a PC, change the number "135" in the "static ip_address" line to any number between "66" and "255" for each Raspberry Pi.

2. Open the ` wpa_supplicant.conf ` file executing `sudo nano /etc/wpa_supplicant/wpa_supplicant.conf` and append the following content.

```
network={
   ssid="WiFi Access Point Name"
   psk="WiFi Password"}
```

Figure 7-2

- Alternatively, refer to the procedure "4.3. Internet Connection Setup Using a Broadband WiFi Router" and use the configuration tool to set up the wireless LAN.

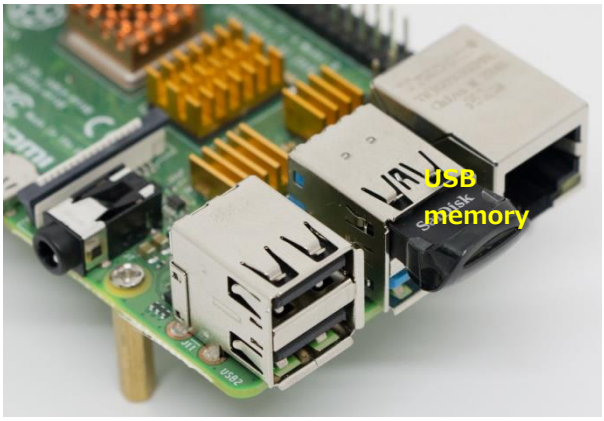
3. Restart the Raspberry Pi.
4. Connect the PC to the WiFi router's network.
5. Use PowerShell to remotely connect by entering `ssh configured-username@configured-IP-address`.

7.2. Saving Measurement Data to an External USB Memory

This section explains how to use an external USB memory as the storage location for measurement data. Using an external USB memory makes it easier to access measurement data from a PC.

In the following steps, connect the USB memory to "/media/usb0" and save the measurement data to "/media/usb0/measure".

1. Execute `sudo mkdir /media/usb0` to create a folder to recognize the USB memory.
2. Execute `sudo chmod 777 -R /media/usb0` .



3. Connect the USB memory formatted with exFAT to the USB 3.0 connector.

Figure 7-3

4. With the USB memory connected, execute `lsblk -o UUID,NAME,FSTYPE,SIZE,MOUNTPOINT,LABEL,MODEL` to obtain the UUID of the USB memory.
   - The execution results will display items other than the USB memory (such as SD cards). Confirm the USB memory by checking the MODEL and capacity, then obtain the UUID.
5. Open the fstab file using the command `sudo nano /etc/fstab` and append the following content.

```
UUID= the obtained UUID /media/usb0  exfat  defaults,nofail,uid=1000,gid=1000  0  2
```

Figure 7-4

   - By adding this entry to fstab, the USB memory will be automatically recognized on subsequent OS boots.。
6. Execute `sudo mount -a` to recognize the USB memory on the Raspberry Pi.
7. Execute `mount -v` to ensure that the output starts with the following.。
   （Other mounted devices will also be displayed.）

```
/dev/sda1 on /media/usb0 type exfat …
```

Figure 7-5

   - 「/dev/sda1」は USB メモリー以外の USB 接続デバイスが存在する場合、異なることがあります。
8. Execute `mkdir /media/usb0/measure` to create a folder for saving measurement data.
   - This program does not automatically create the save folder, so it must be created manually in advance
   - Set "/media/usb0/measure" in the configuration file of this program.

Note: The service configuration file installed on the OS in the procedure "5.3. Service Registration" includes settings that assume the USB memory is connected to "/media/usb0".

If the USB memory is connected to a location other than "/media/usb0", check the results of the following command and modify the fifth line of the "/etc/systemd/system/logger@.service" file to match your environment.

- `systemctl list-units --type=mount`

7.3. Measurement Using Raspberry Pi Zero 2 W

The software of this system can also be run on the Raspberry Pi Zero 2 W. Please refer to the following for setting up the Raspberry Pi Zero 2 W (hereafter referred to as Zero).

Note：Please note that compared to the 4B, the Zero has lower hardware performance, which may result in data loss during long-term measurements or when connecting multiple sensors.

7.3.1. Hardware Preparation

To set up the Zero as a substitute for the Raspberry Pi 4B, the following hardware is required.

Table 7-1

Items	Description
Raspberry Pi	Raspberry Pi Zero 2 W
microSD Card	A card with sufficient capacity to record measurement data is required
AC Adapter	Prepare one suitable for the Zero. (Tested product: SanDisk Extreme)
Display	A display that can connect to the Zero's mini HDMI (use an adapter if necessary) is required.
Keyboard	A keyboard that can connect to a USB-A port is required.
USB Hub	USB Hub A USB hub that can connect to the Zero's micro USB port (use an adapter if necessary) and has multiple USB-A ports is required. (USB 2.0 ports are recommended for sensor connections) If connecting to a PC with a wired LAN cable as described in this manual, a hub with an Ethernet port is also required. (Setup is also possible with wireless LAN only)
PC	Windows 10 or later is recommended.
Wireless LAN	A wireless LAN environment, such as a WiFi router, that can connect the PC and Raspberry Pi to the internet is required.

7.3.2. Setup Procedure

The following steps describe the setup procedure for the Zero.

1. Follow the steps in "3. Creating an SD Card for Raspberry Pi OS" to create the SD card.
    - Select "Raspberry Pi Zero 2 W" as the target device.
2. Connect the hardware components.
    - Insert the SD card into the Zero.
    - Connect the display to the Zero
    - Connect the USB hub to the Zero, and connect the keyboard to the USB hub.
    - Finally, connect the AC adapter to the Zero and power it on.
3. Follow the steps in "4. Initial Setup" to set up the Zero.
    - If using the Zero with a connected keyboard and display, you can skip the steps in "4.2. PC Remote Connection Setup Using a Wired LAN Cable".
    - If you skip the steps in "4.2", you will access the Zero via wireless LAN.
    - After following the steps in "4.3. Internet Connection Setup Using a Broadband WiFi Router", to find the IP address assigned to the Zero, execute the `ifconfig` command from the Zero's terminal and refer to the "inet" entry in the block starting with "wlan0".

```
wlan0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.50.XXX  netmask 255.255.255.0  broadcast 192.168.50.255
```

Figure 7-6 ifconfig execution result

4. Continue with the steps from "5. Application Settings" onwards.

8. Contact Information

Seiko Epson Corporation

Sales Headquarters MD Sales Department

Contact Information via the Internet

https://global.epson.com/products_and_drivers/sensing_system/privacy/area_select_inquiry_contact.html