

Installation Instructions

Recently the folks at 52pi.com reached out and asked if they could send me a Mini Tower NAS Kit for me to review here on the channel.

I told them that the case looked great, but I couldn't just post a review of a raspberry pi case. However, if they wanted to send over a pi 4 to put in it, I could make some content that included the case.

They agreed and sent over the Mini Tower NAS Kit and a pi 4 4gb.

A few days ago I made a short where I put it together to prep for the video you're watching now. As I mentioned in the short, the case only took about 20 minutes to install even with recording and whatnot.

Something to keep in mind with this case is that it does support m.2 drives, but NOT NVMe drives. You need a SATA m.2 drive for the included daughter board which seems to be fairly common with expansion boards like this.

For this built, I'm using a 256gb USB thumb drive for the OS and a 512GB m.2 drive for everything else.

Also, as per usual, all of the resources will be available in the video description.

With all of that out of the way, let's get started with installing OMV6 on our new Raspberry Pi setup.

Steps are as follows

[Download Raspberry Pi Imager](#)

Insert your boot drive (microSD/usb thumb drive)

Select Raspberry Pi OS Light 64 bit

Flash Drive

Insert boot drive into pi

Plug in monitor and keyboard

Plug in power cable and boot up

Follow the prompts to select language, username, etc.

Run update and upgrade commands to get the system updated to latest

Type: `sudo raspi-config`

Then go into 'Interface Options' and enable SSH server

If using the case in the video, also enable i2c

To get the IP address of the pi, go back to the blinking cursor in the terminal and type: ip addr and find the IP address of the device.

Install OMV 6

Now you can go to another computer and SSH into the Pi using the IP address and the username you created during setup.

Doing this makes copy/paste easier for the rest of the setup process

Run the OMV install script. This took about 12 minutes to complete on my system:

```
sudo curl -sSL https://github.com/OpenMediaVault-Plugin-Developers/installScript/raw/master/install | sudo bash
```

At this point, OMV6 is installed, but let's install scripts to get the full features of the case

This section is specific to the case featured in the video

Reboot the pi

Clone the geeekpi/absminitowerkit repository

```
git clone https://github.com/geeekpi/absminitowerkit.git
```

You may need to install git with apt install git then clone the repository

cd into absminitowerkit

run `sudo ./install.sh` to install the fan software

once the fan is running, you can then run:

```
sudo sync
```

```
sudo reboot
```

You can modify the colors of the fan via the software if you like, but I left it on random rgb

Install i2c tools via script on [this page](#)

Give our user i2c permissions.

Original instructions use "pi" user.

Use whatever user you created during the setup process earlier

Next we'll install the oled screen software:

```
git clone https://github.com/rm-hull/luma.examples.git
```

cd into the luma.examples directory

install the script via `sudo -H pip3 install e .`

now you can cd into examples folder and see the different options available on the screen by default.

We'll look at sysinfo and spacei invaders

use ctrl+c to stop the example

Once you've found the example you want to use, cd into /lib/systemd/system

```
sudo nano minitower_ored.service
```

modify the ExecStart line to use the .py example you want on your screen

save and exit

```
sudo systemctl daemon-reload
```

```
sudo systemctl restart minitower_ored.service
```

Back to the OMV 6 stuff

Now we can go back to the OMV setup process and install omv extras to give us access to Docker, Portainer, and Yacht in the OMV dashboard.

Installing OMV Extras

You'll want to ssh into your server and run 'sudo su' and then run the omv-extras script:

```
wget -O - - https://github.com/OpenMediaVault-Plugin-Developers/packages/raw/master/install | bash
```

Open a browser window and go to the IP address of the Pi

Enter: admin/openmediavault

Installing Docker and Portainer

Once you're logged in, go to "System" in the left column and click "omv-extras"

click "Docker" and you'll see that the status is "not installed"

Click the "Install" button and wait until the modal window says "End of Line"

Now go back and repeat the same steps for Portainer

Mounting Data Drive

Now we'll mount our data drive

Click "Storage" and then "Disks" to make sure your drive is showing up

If it's there, you can click "File Systems"

On the next screen, you can select your drive and click "Save"

After a moment, the drive should show up, but it may already have a filesystem on it that may not work. Mine showed up as NTFS

I want ext4, so I'm going to wipe the drive and recreate the file system

Mounting the Filesystem

Go back to "Storage" and "Disks" then click the drive you want to wipe (not the OS drive)

Then click the eraser icon and then click "Yes"

After a moment, the process will complete and then you can go back to "Storage" and "Filesystems" and select your drive

Then click the "+" icon

Click Create

Select your data drive and make sure the filesystem is set to the system you want.

I chose ext4.

Then click "Save"

This will take some time depending on the size of your drive.

Mine took about 7 minutes and you'll know it's done when you see the "End of line" on the screen.

Changing the Filesystem to EXT4

Now that we've created our filesystem, we need to mount it

go to "storage" and "filesystems" and then click the "+" button.

select the filesystem we just created, make sure you're good with the warning threshold number and enter a comment. I entered "Storage"

Click "Save" and wait for it to complete.

Click the save button in the yellow bar that pops up as needed.

Enabling SMB/CIFS

Go to "Services" then "SMB/CIFS"

Check the "Enabled" box and click "Save"

Click the save button in the yellow bar that pops up as needed.

Creating Shares

Click "Storage" then "Shared Folders"

Click the "+" button

Enter a share name and filesystem

Set the permissions you want that share to have. I use "Everyone: read/write" because I'm the only one on my systems, but you may want to restrict this if you have other users

Repeat this process for however many shares you need. You can always add more shares later.

Sharing Shares

If we try to access our shares now, they won't be accessible. We need to share them on the network.

Go to "Services" "SMB/CIFS" "Shares"

Click the "+"

Click "Enabled" and select a share in the dropdown.

I set my shares to "Public" again because I'm the only one on my system, but you may want to restrict this.

Enable the features/settings you want

Click "Save"

Repeat this process for however many shares you need. You can always add more shares later.

Click the save button in the yellow bar that pops up once you have all your shares configured.

Accessing Shares on the network

Now you should be able to go to any computer on your network and remotely access the shares on your Pi OMV6 device

Accessing Portainer

Open a browser window and go to your Pi's IP address with :9000 at the end of the IP address
If you waited "too long" after enabling portainer before you try to access it, you'll get an error message saying Portainer needs to be restarted.

To quickly restart Portainer, ssh into your server and type: `docker restart portainer`
Once Portainer has restarted, Open a browser window and go to your Pi's IP address with :9000 at the end of the IP address

You'll be prompted to enter a username and password. Do NOT use "admin" for your username.
Your password needs to be at least 12 characters.

Click "Create User"

You'll be automatically logged in and you can click "Get Started"

Be sure to click "Environments" in the bottom left under "Settings" and then click "local"

On that screen, enter your server's IP address in the box labeled "Public IP"

Click "Update environment"

Resource Links:

Raspberry Pi Case

<https://amzn.to/3MmBaHC> (affiliate)

Raspberry Pi 4

<https://amzn.to/3Vd7v7v> (affiliate)

512GB SATA M.2 Drive

<https://amzn.to/3MqmyHa> (affiliate)

256GB USB Drive

<https://amzn.to/3ekgfbu> (affiliate)

52 Pi Wiki for Fan and OLED Screen Scripts

<https://wiki.52pi.com/index.php?title=ZP-0130>

Raspberry Pi Imager:

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

OMV Extras:

<https://wiki.omv-extras.org/>

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