Pulse-Eight NUC CEC Adapter with H4

Requirements

ODROID-H4

In H4, you can use the HDMI-CEC feature using **Pulse-Eight NUC HDMI-CEC adapter**.

Those 4 pins are CEC, USB DP/DN, and 5V detect pin.

Here's the new expansion pin information:
https://wiki.odroid.com/odroid-h4/hardware/io_expansion_gpio

You can check out the difference between those two.

Pulse-Eight NUC CEC adapter

There's a CEC adapter on the Internet sold by Pulse-Eight for Intel NUC devices already. Fortunately, you can use that adapter, too, because you're using Jasper Lake CPU as the same with Intel NUC uses.

Here's the Pulse-Eight NUC CEC adapter product page:
https://www.pulse-eight.com/p/154/intel-nuc-hdmi-cec-adapter

You can buy yours on that product page.

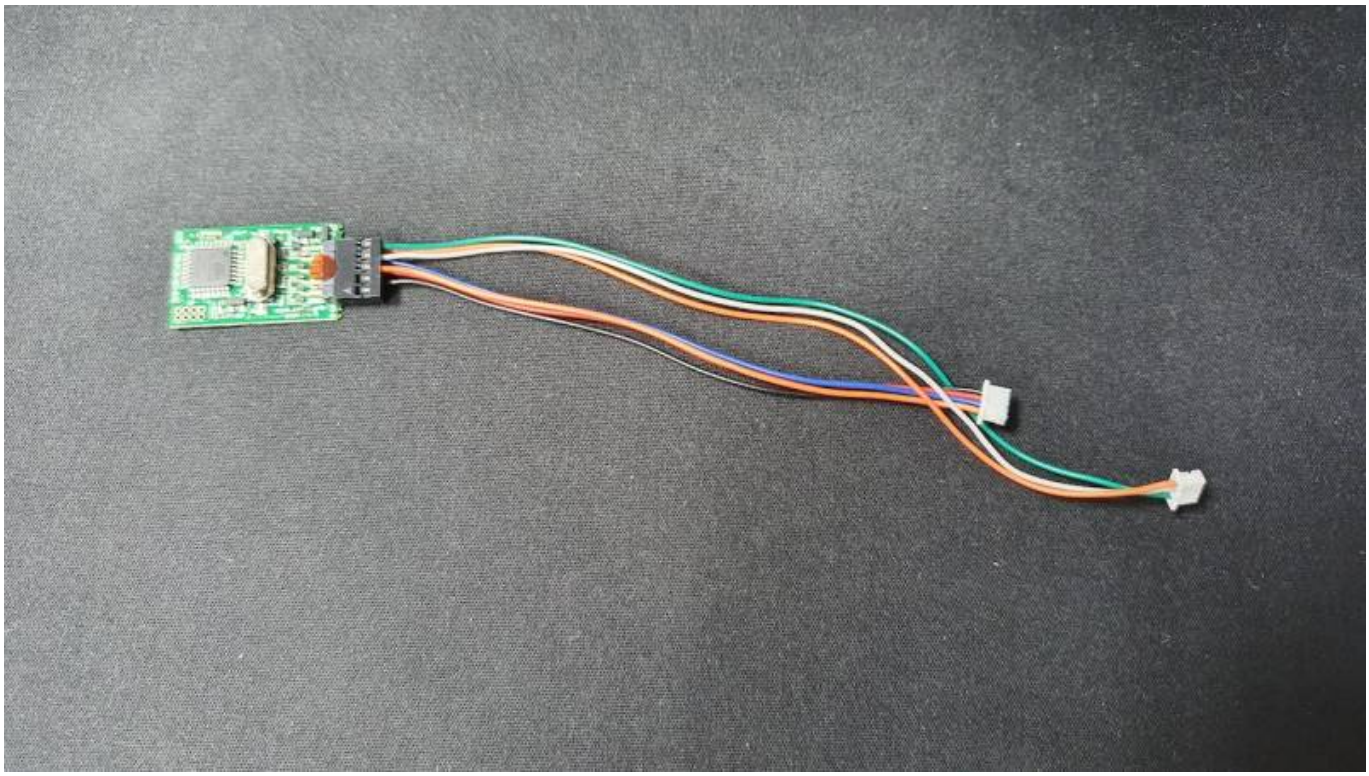
Installation

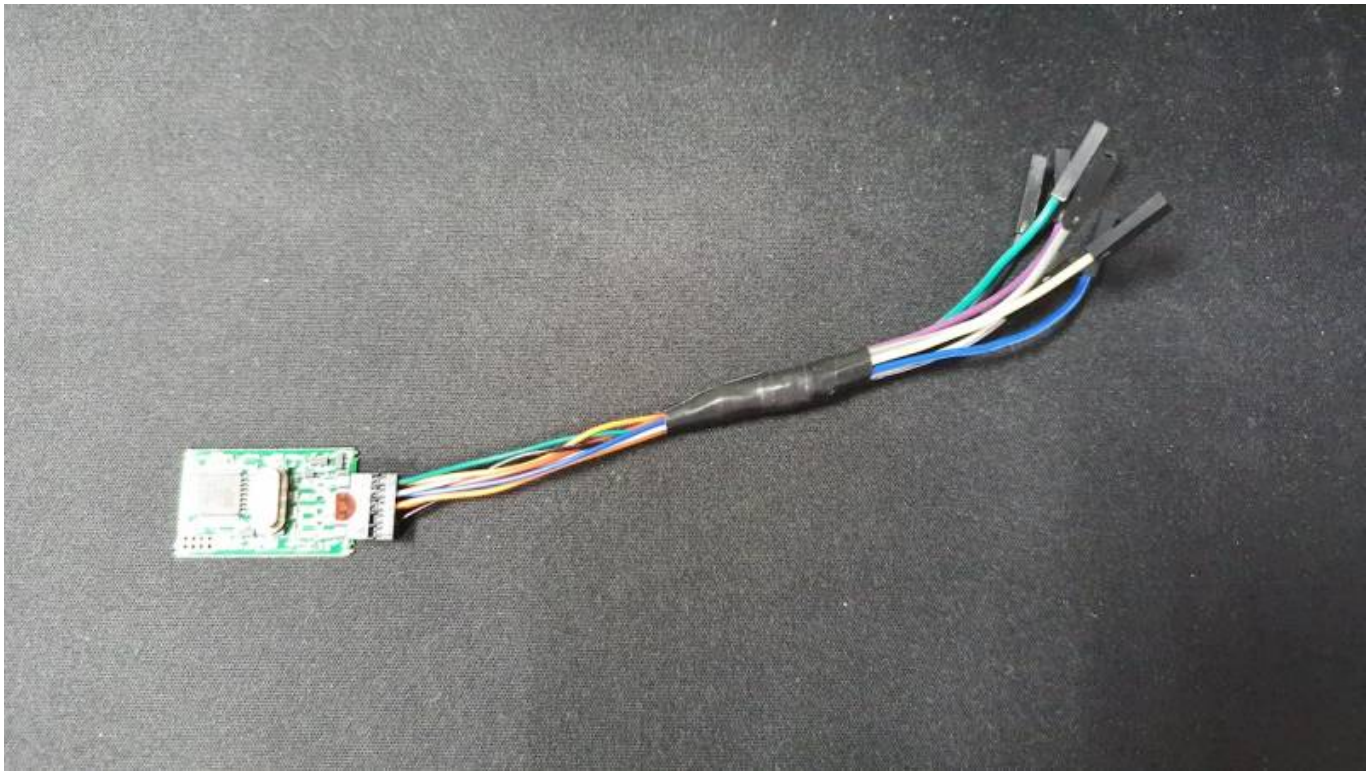
Connect to the board

As H4 has its expansion pin header which has the CEC related pins unlike the Intel NUC PC, you can't install the adapter to H4 out of the box.

Probably you can rework the original connection cable involved in the product box. So you have to rework the connection cable to connect them to the expansion header.

This is my work. I cut the all cables off and soldered them with a jumper cable. Check them, before and after.

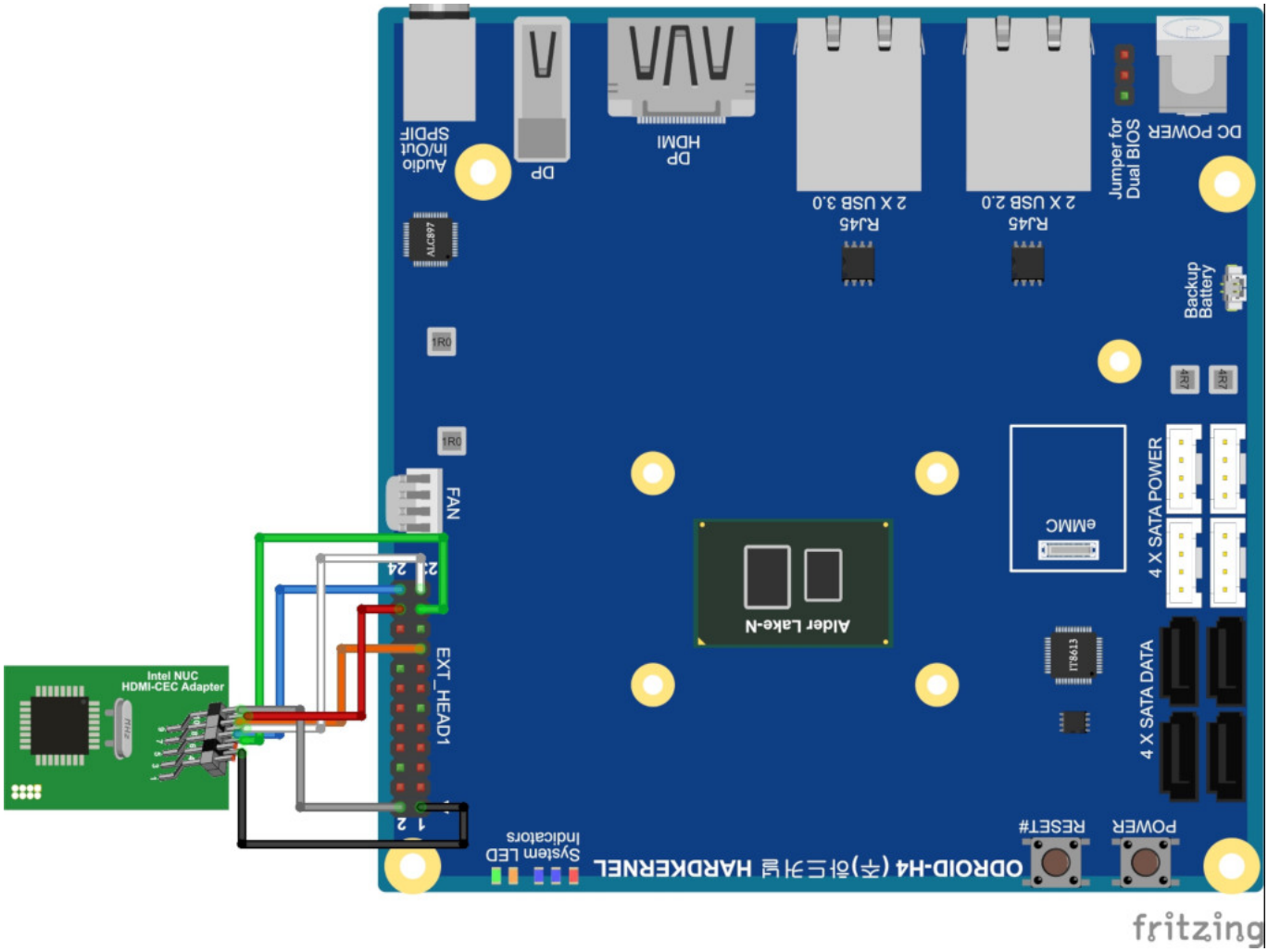




Then check this table shows the pin map from the adapter to H4. Please see each product's document to check the pin location.

Pin Name	**ODROID-H4**	**Pulse-Eight NUC CEC adapter**
GND	1, 6, 11, 16, 19 (select one)	4
5V Standby	2	9
USB D+	21	6
Pwr Button	17	7

Pin Name	ODROID-H4	Pulse-Eight NUC CEC adapter
USB D-	23	8
5V Detect	24	5
CEC	22	10



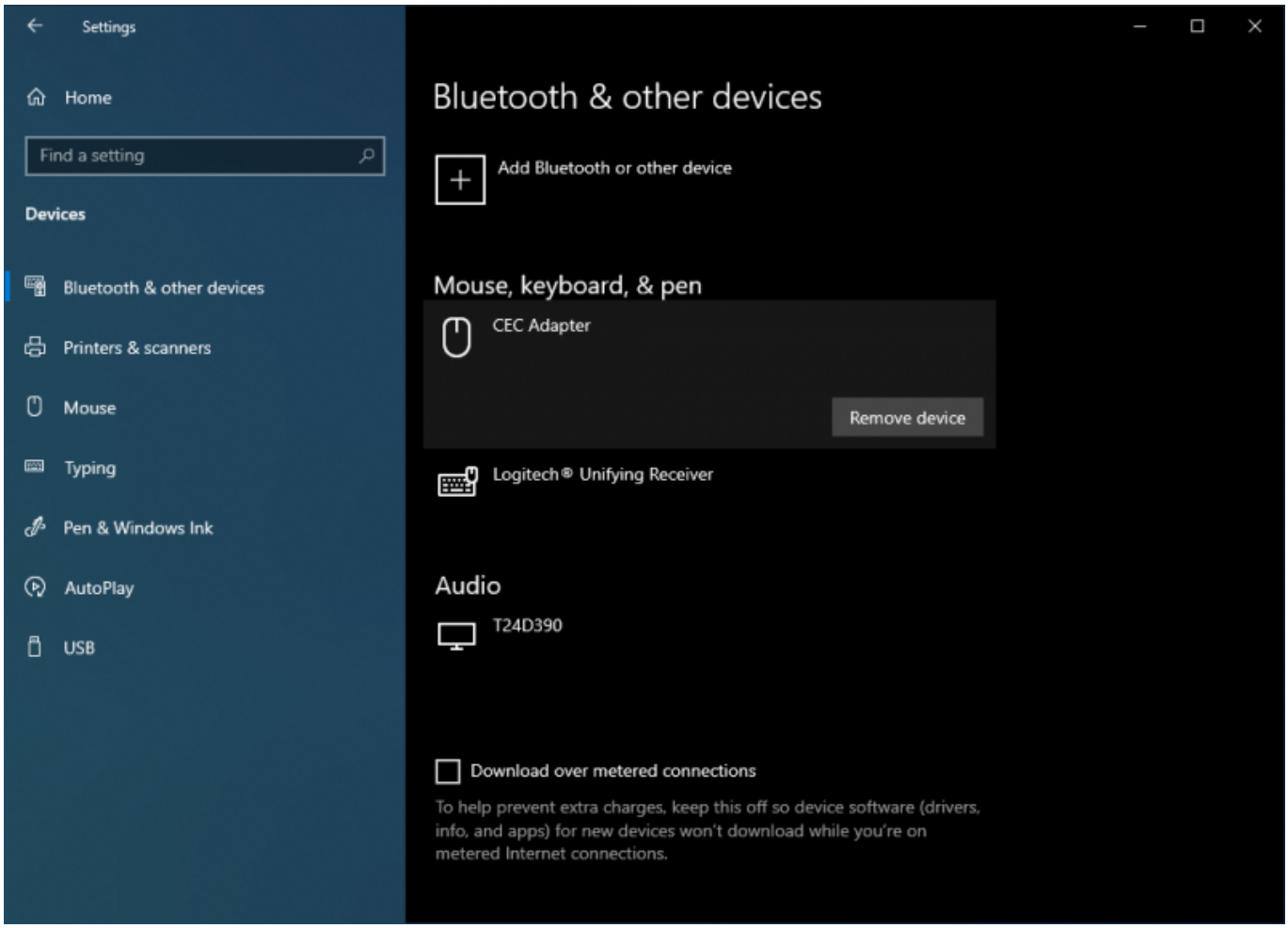
- Download Fritzing ☛
  pulseeight_nuc_cec_h4.fzz
- Download Pulse Eight NUC CEC Fritzing part ☛
  nuc_hdmi-cec_adapter.fzpz
- Download ODROID-H4 Fritzing part ☛
  odroid-h4.fzpz

Turn on the H4 that Windows installed

- On the product page, this adapter compatibles with not only Windows but also Linux and macOS. But we're going to using the Windows system only in this guide.

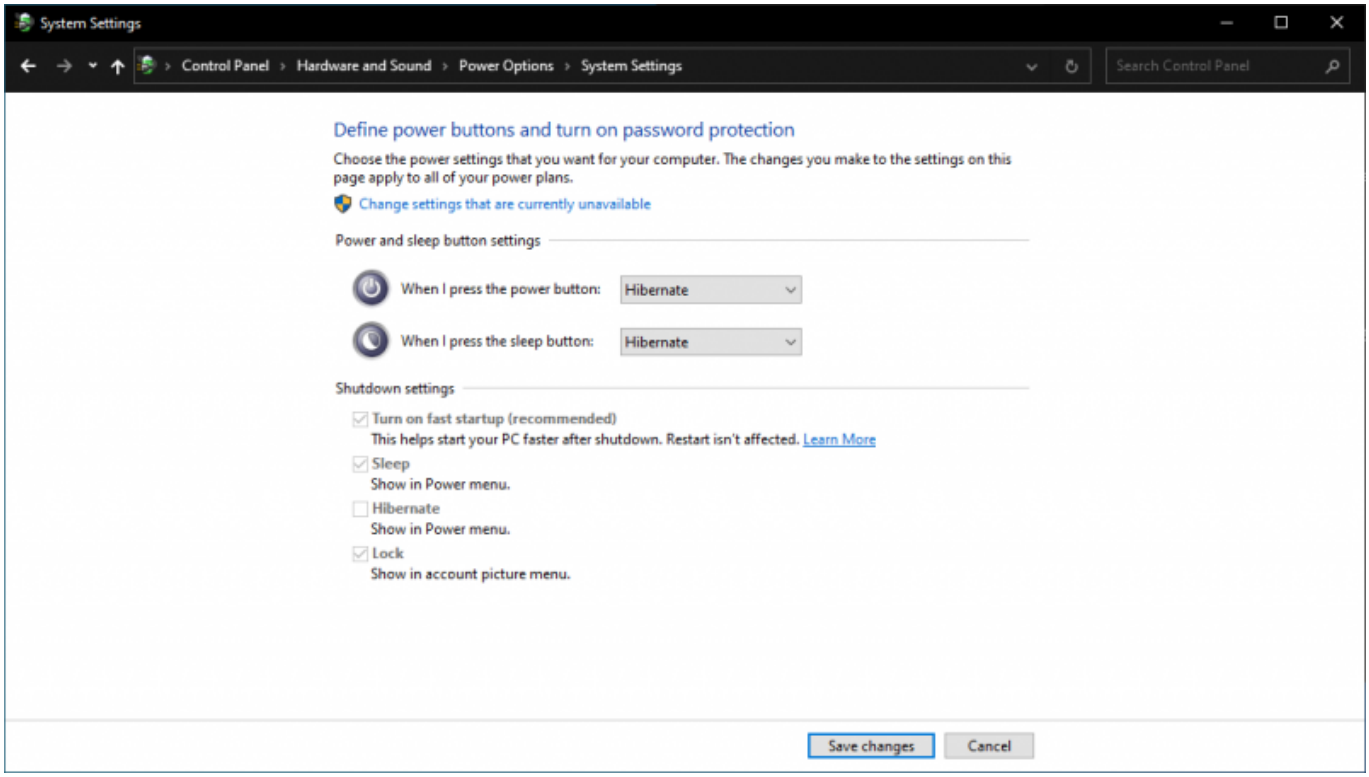
When you turn on your H4, Windows detects the connected CEC adapter and will install the proper

driver automatically.



But with the default driver, you cannot use all the remote keys except the power button. So have to install the Pulse-Eight driver in the next chapter.

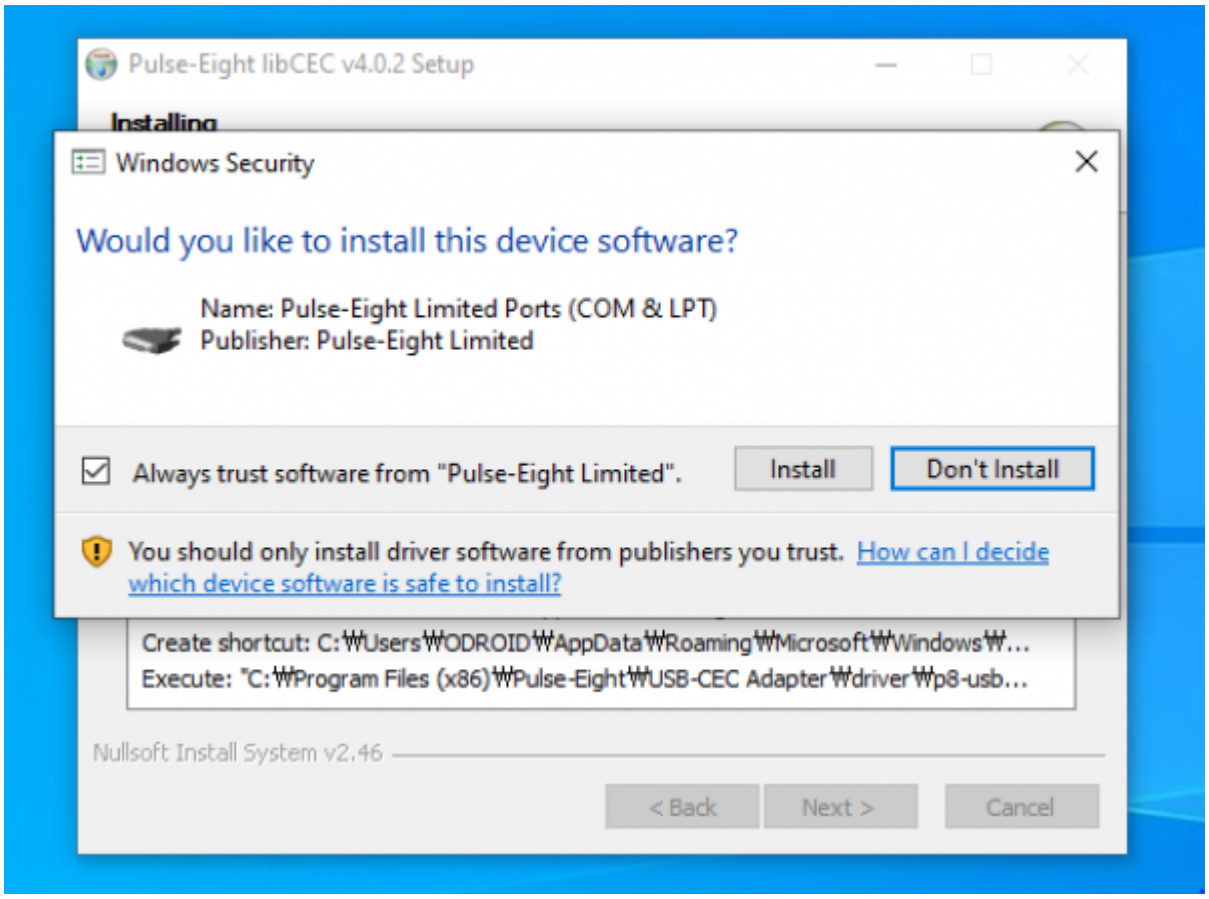
Before going ahead, it is highly recommended to change the power button behavior to enter the hibernate state.



Install dedicated driver

Download the driver package from the Pulse-Eight website. Here's the direct download link: https://www.pulse-eight.com/Download/Get/52

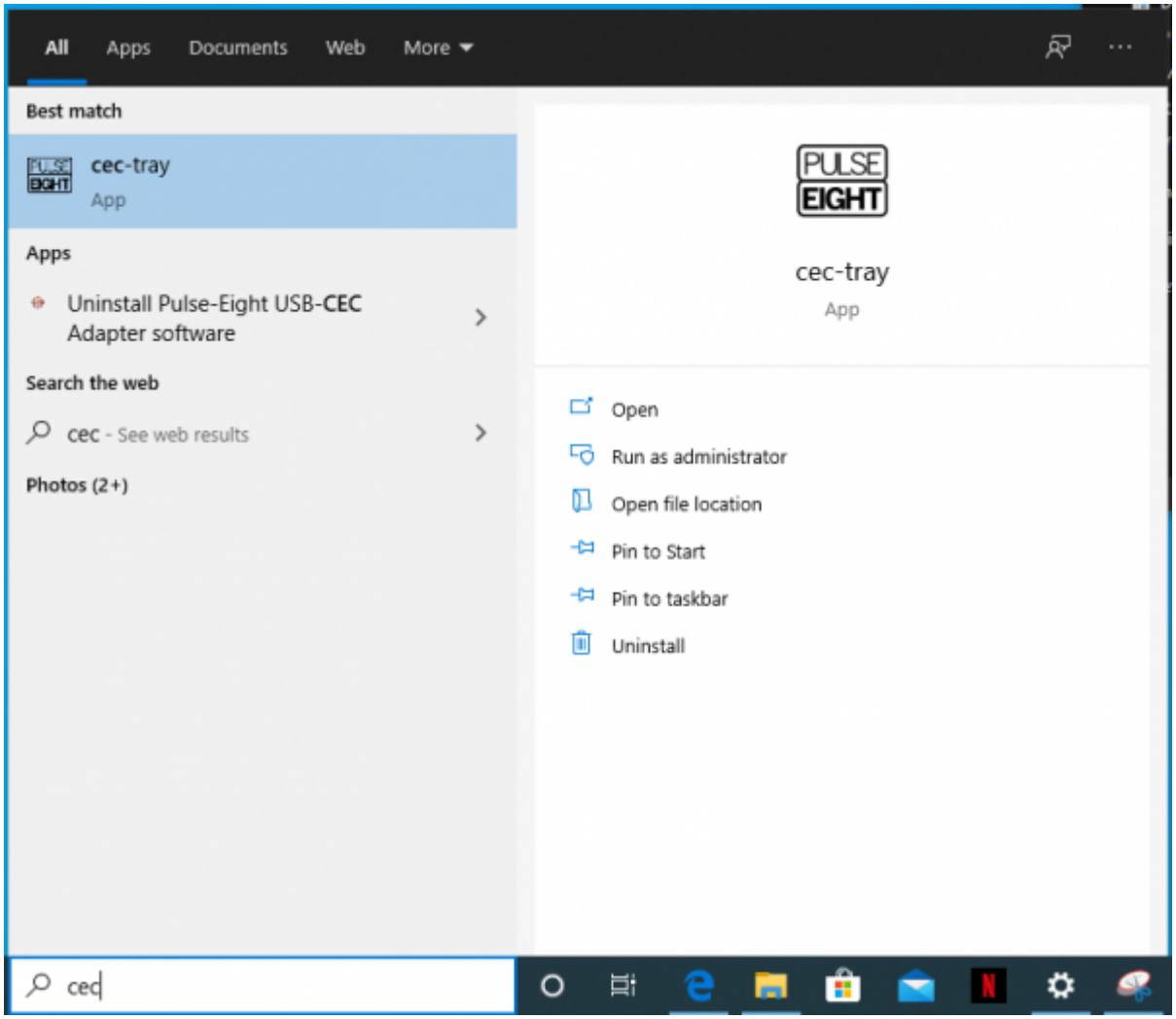
Then simply install that file.



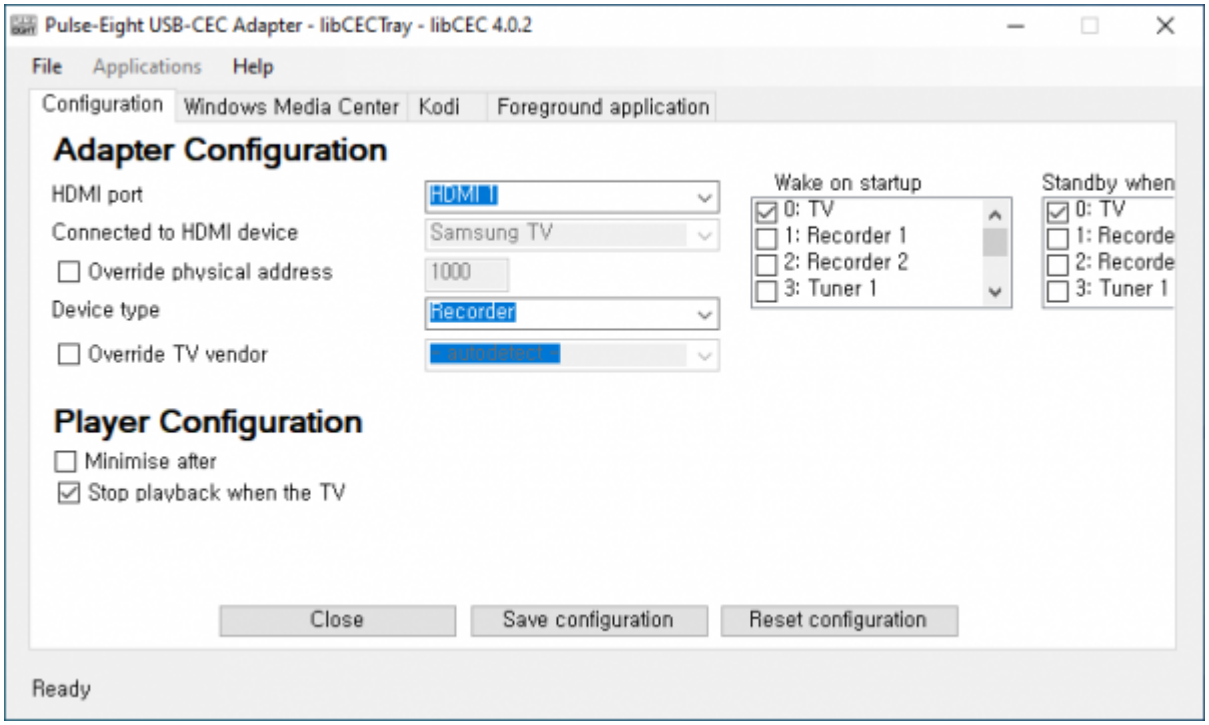
- During the installation process, you might be notified that you have to install the EventGhost and some frameworks. These programs are necessary to make the CEC program working properly.

CEC-Tray

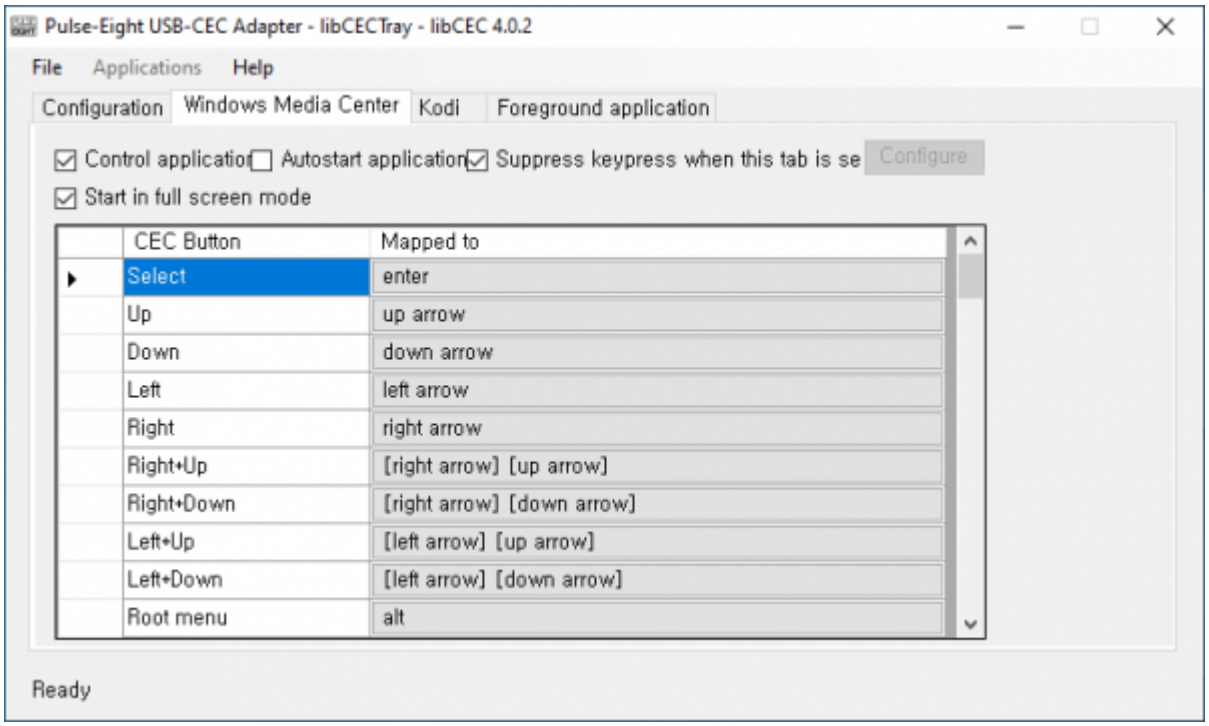
After the installation, you can find the **CEC-Tray** program in your program list.

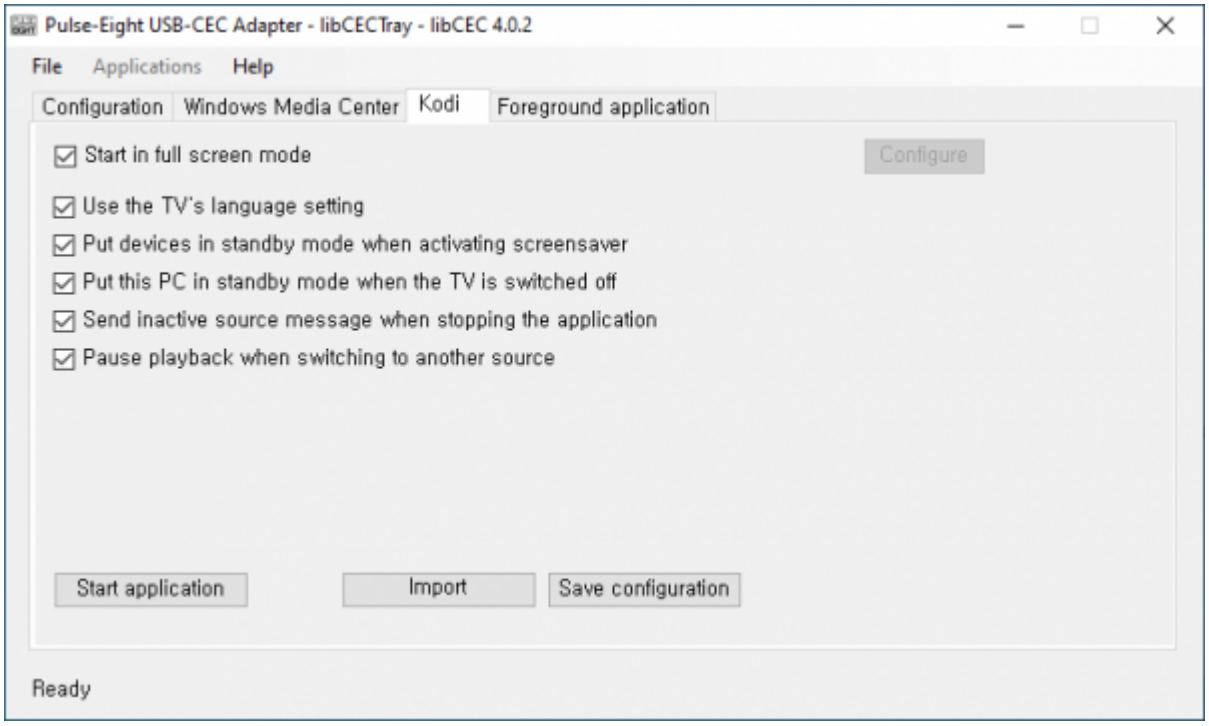


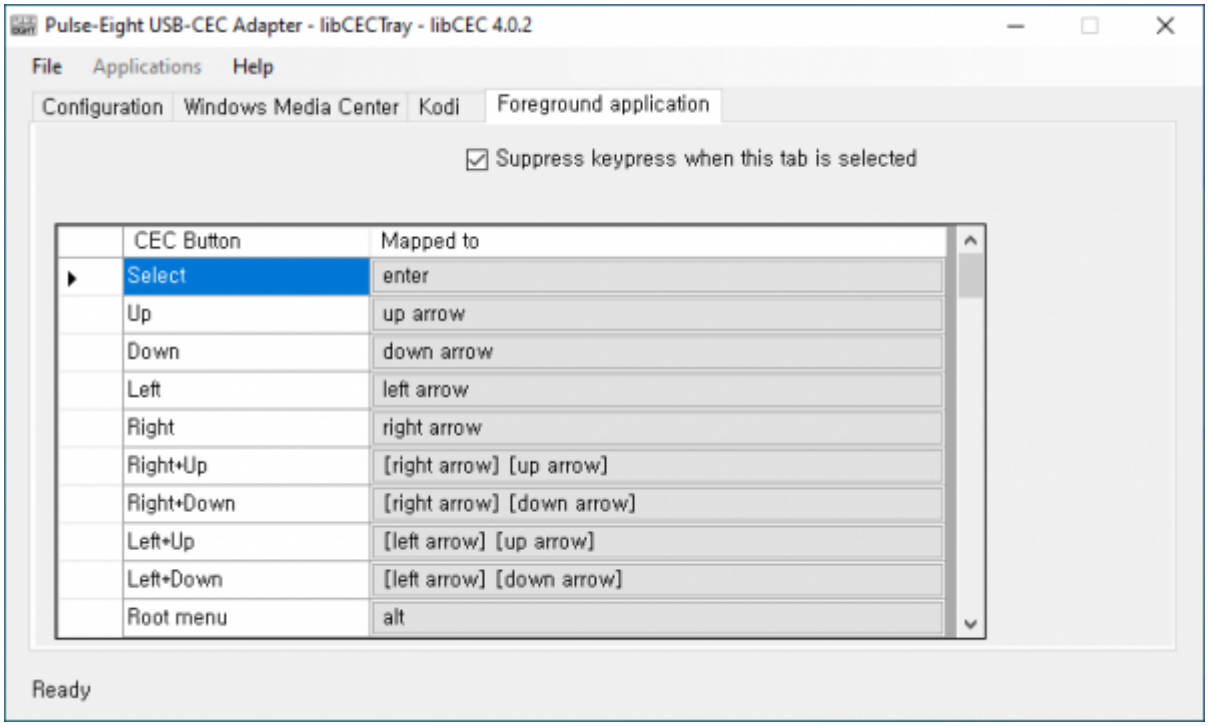
Execute that program then the window shows up as the following screenshots.

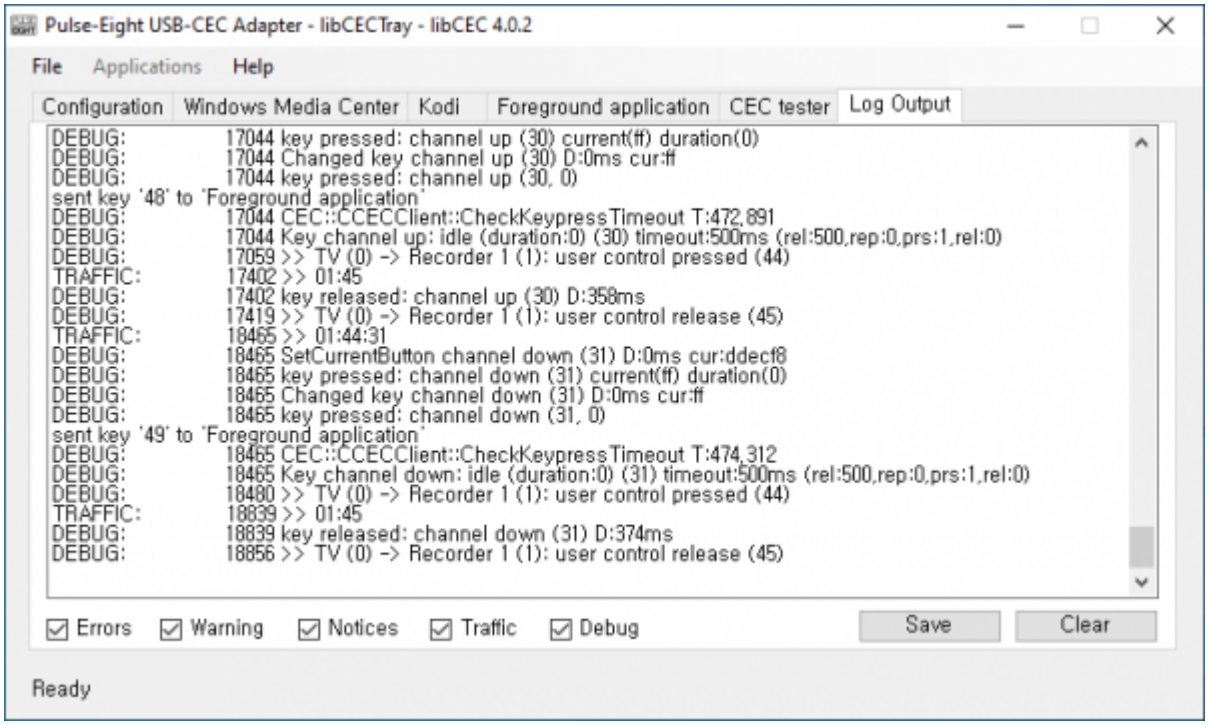


Here are more screenshots about the program.


Pulse-Eight USB-CEC Adapter - libCECTray - libCEC 4.0.2
File
Applications
Help
Configuration
Windows Media Center
Kodi
Foreground application
Control applicatio
Autostart application
Suppress keypress when this tab is se
Configure
Start in full screen mode
CEC Button
Mapped to
Select
enter
Up
up arrow
Down
down arrow
Left
left arrow
Right
right arrow
Right+Up
[right arrow] [up arrow]
Right+Down
[right arrow] [down arrow]
Left+Up
[left arrow] [up arrow]
Left+Down
[left arrow] [down arrow]
Root menu
alt
Ready


Pulse-Eight USB-CEC Adapter - libCECTray - libCEC 4.0.2
File
Applications
Help
Configuration
Windows Media Center
Kodi
Foreground application
Start in full screen mode
Configure
Use the TV's language setting
Put devices in standby mode when activating screensaver
Put this PC in standby mode when the TV is switched off
Send inactive source message when stopping the application
Pause playback when switching to another source
Start application
Import
Save configuration
Ready





References

- H4 I/O expansion pin information: https://wiki.odroid.com/odroid-h4/hardware/io_expansion_gpio
- Pulse-Eight NUC HDMI-CEC adapter product page: https://www.pulse-eight.com/p/154/intel-nuc-hdmi-cec-adapter