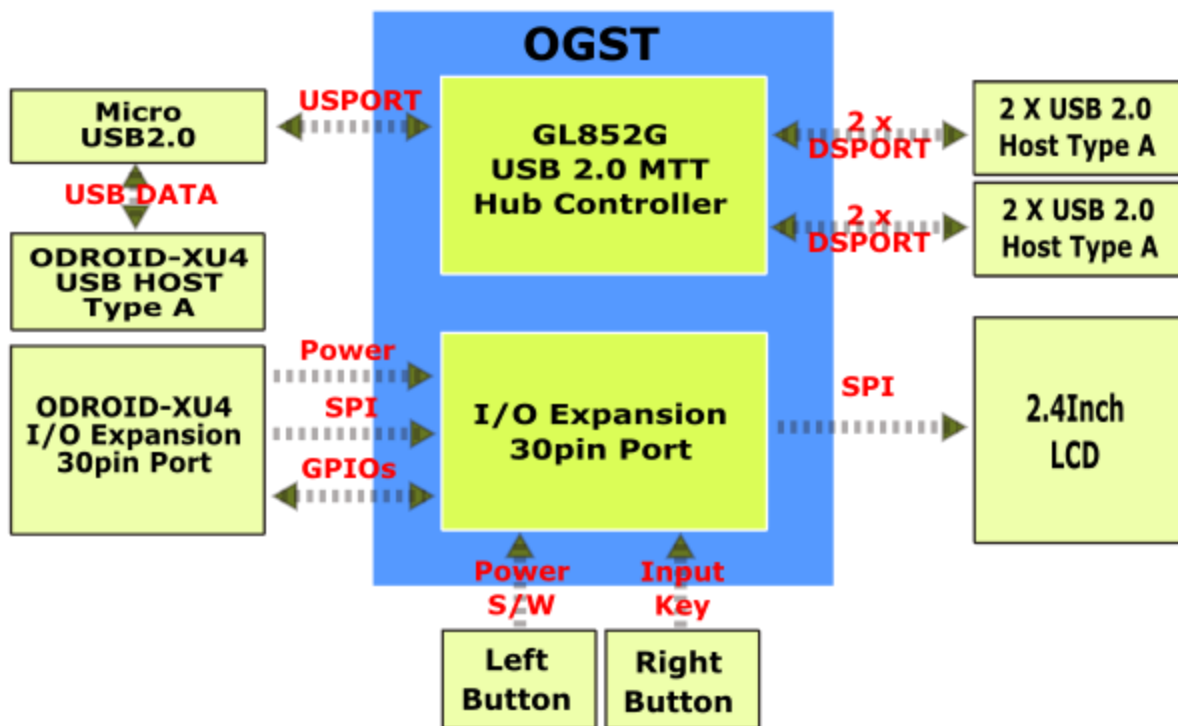


OGST Console Kit for ODROID-XU4

- Build your own gaming console with a powerful XU4 or XU4Q
- Fancy 2.4" LCD to show programmable game logo animation
- Convenient four front USB ports to connect USB joysticks
- Easy to embed a 2.5" HDD for your huge ROM collections
- Two front buttons: Power switch and user programmable switch
- Old school nostalgia game console design
- Dimensions: 180 x 65 x 150mm approximately
- Weight: 250gram approximately
- Power consumption: 5V/250mA typical

Block Diagram

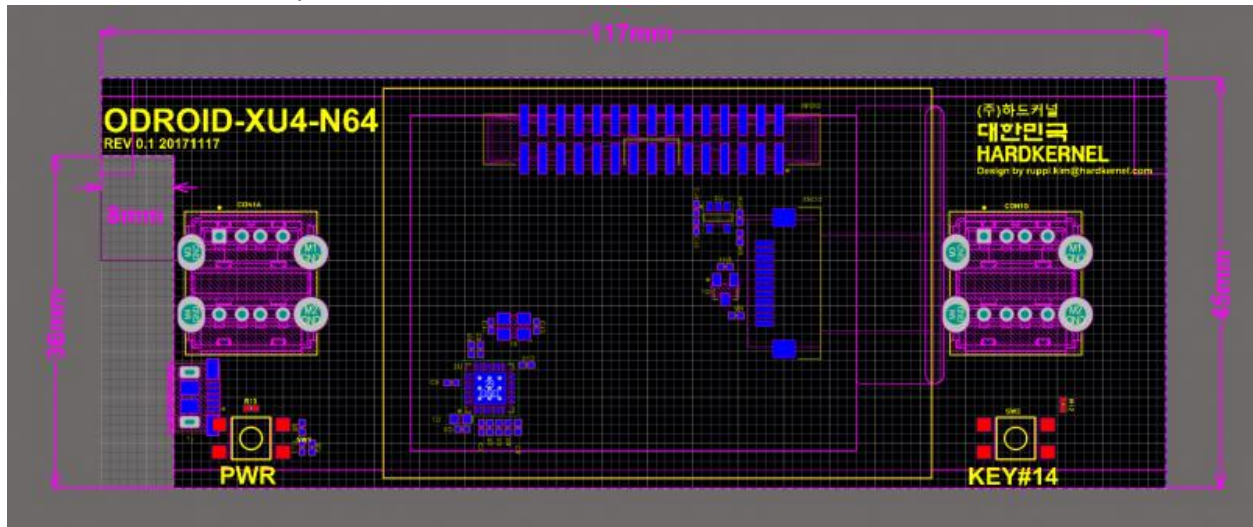


Schematics & PCB Layout

OGST-XU4 Board Schematics

[Schematics](#)

OGST-XU4 Board PCB Layout



Software Setup

- Compatible with only our **ODROID-XU4/XU4Q**.
- Visit our [OGST forum](#) to discuss.

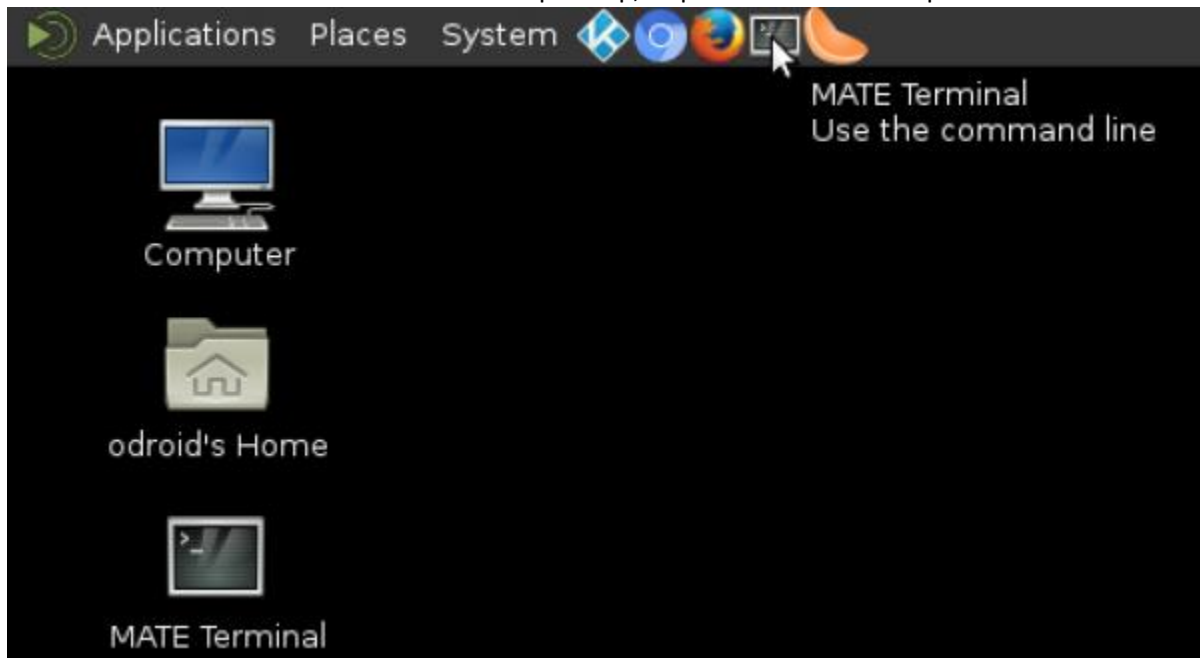
Prepare

1. Download **ODROID-GameStation-Turbo-3.9.5-20171115-XU3+XU4-Jessie.img.xz** image from this [OGST release page](#) on your PC or Mac.
2. Flash the OS image to microSD or eMMC with [Etcher](#) from your PC or Mac.
3. Insert the boot media(OS flashed microSD or eMMC) to XU4 and [switch the boot media selector](#) on the XU4 board at right side.
4. Plug a HDMI cable, an Ethernet cable or a [WiFi](#) module, keyboard and mouse.
5. Then, turn on your system and **wait 2~3 minutes** to complete the first initialization process. It reboots **automatically** at this moment.

Setup OS

- When you ain't willing to play a game at the Rom Collection Browser, click the **right button** on your mouse or press **Esc** key to back to the Kodi.
 - Press **Ctrl+Alt+K** to toggle the Kodi application.
 - Press **Ctrl+Alt+T** to open the terminal window.
1. After the reboot, the Kodi and the Rom Collection Browser will be launched automatically.
 - At your first boot or there isn't any available game, a window which is from the Rom Collection Browser will appear to import the game.
 2. Press **Ctrl+Alt+K** to close the Kodi application.
 - You can ignore the lack of storage warning.

3. Click **Terminal window icon** on the desktop or top, or press **Ctrl+Alt+T** to open the Terminal window.



4. Enter the following commands **to update the system** to the latest.

```
odroid@gamestation-turbo:~$ sudo apt update && sudo apt full-upgrade -y
```

We trust you have received the usual lecture from the local System

Administrator. It usually boils down to these three things:

#1) Respect the privacy of others.

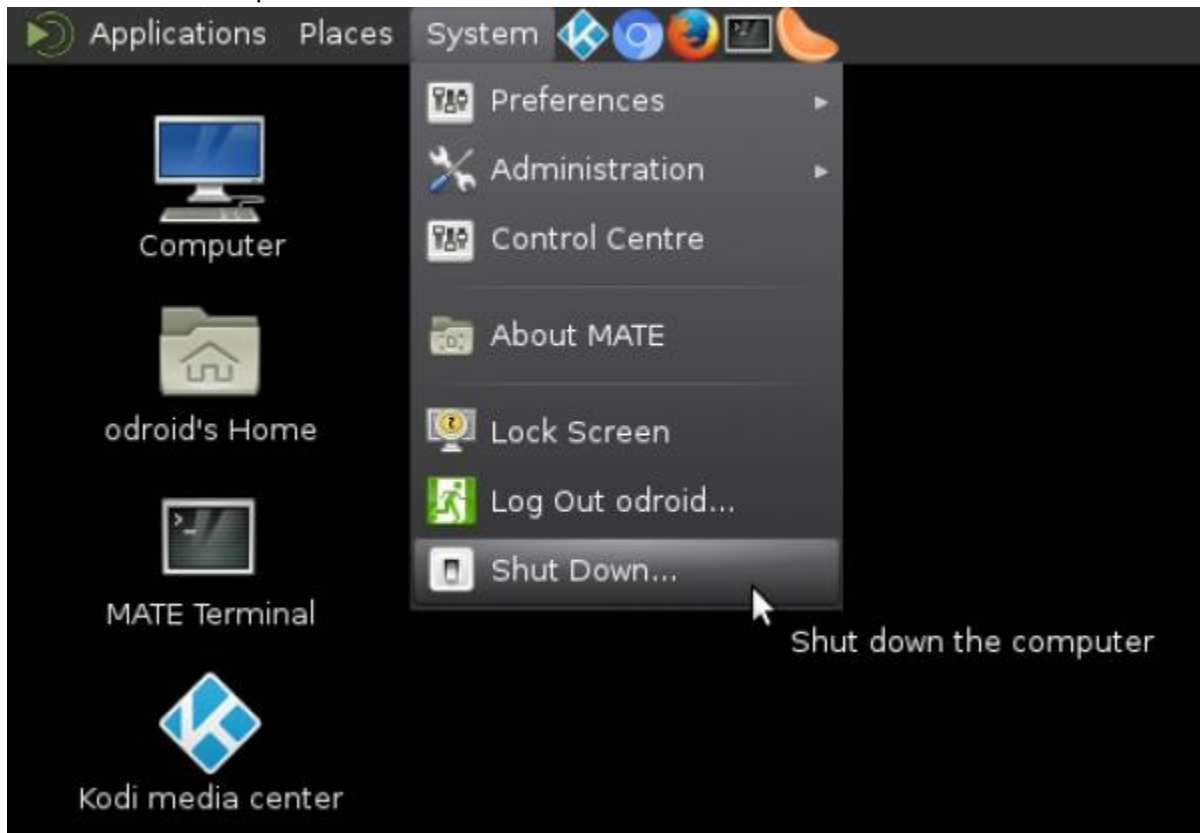
#2) Think before you type.

#3) With great power comes great responsibility.

[**sudo**] password for odroid:

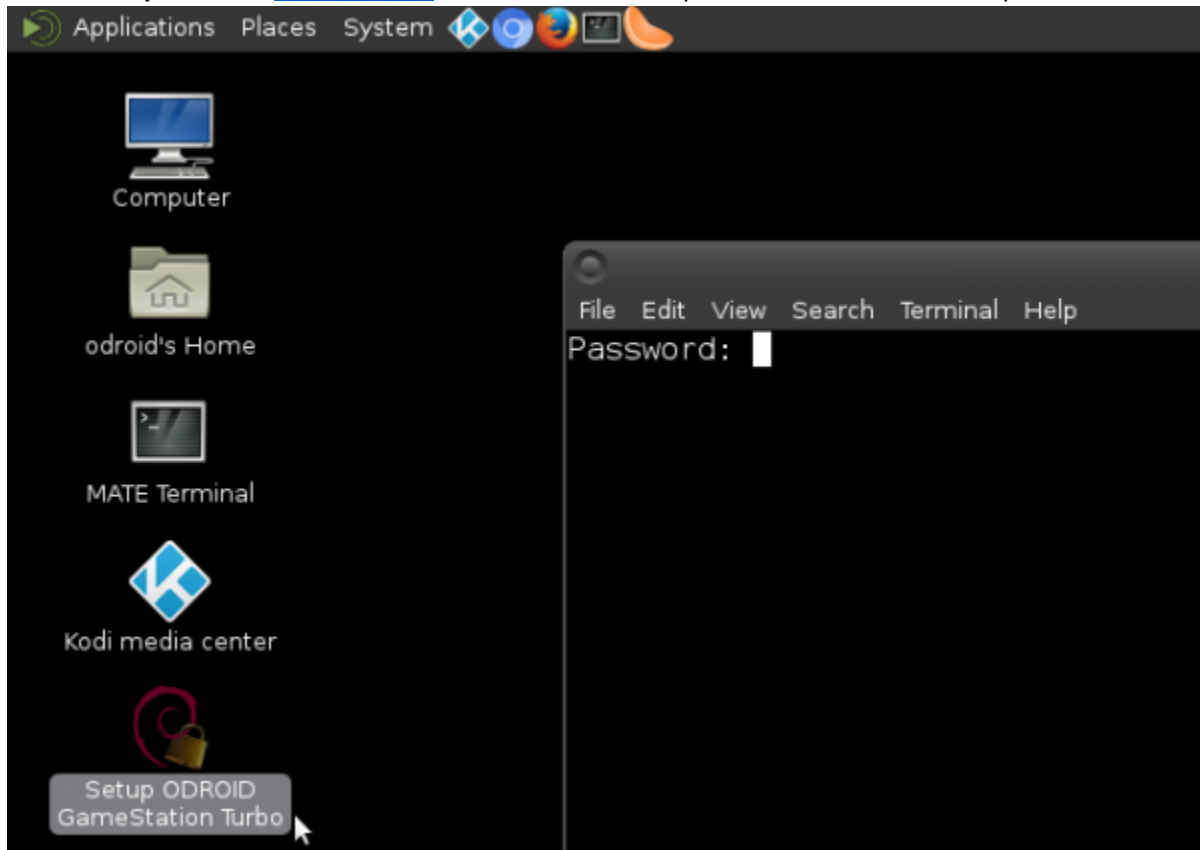
- Enter **odroid** for the password. It might take **about 10~20 minutes**, and it depends on your ethernet speed and which boot media you use between microSD or eMMC.
- Press **Enter** when the notification appears with a blue screen during the updates.
- If the error “E: Write error - write (28: No space left on device)” appears, enter **apt full-upgrade -y** again or try it out after reboot.

5. Reboot after the updates. Enter **sudo reboot** or click the **shut down** menu like the screenshot below.

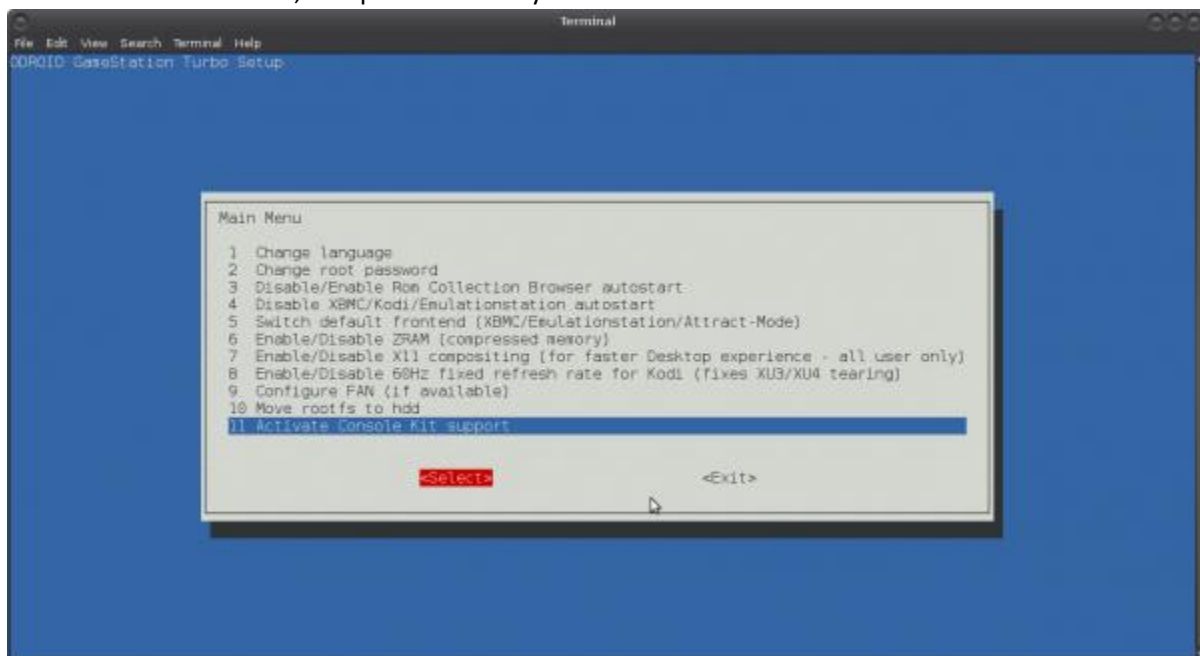


6. Back to the Debian desktop after the reboot by press **Ctrl+Alt+K**.

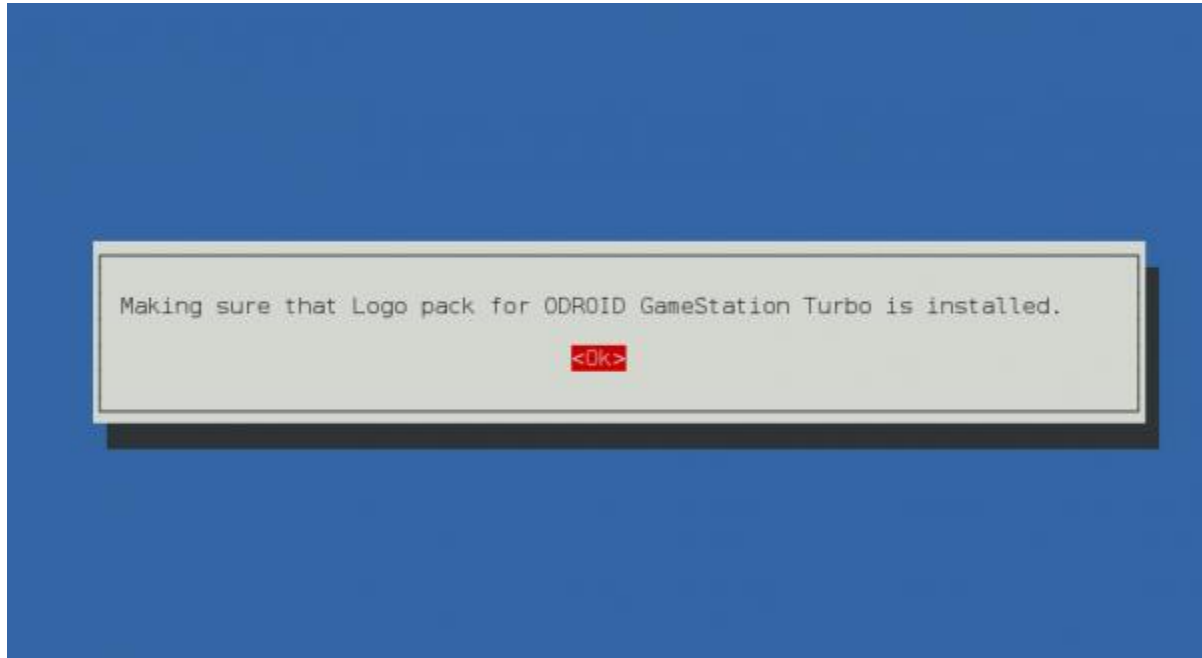
7. Run **Setup ODRROID GameStation Turbo** on the desktop and enter **odroid** for the password.



8. On the setup program, move to **Activate Console Kit support** by using **arrow keys** and press **Tab** key to move to select action, and press **Enter** key to select.



9. The configuration will be done with the following screenshots.

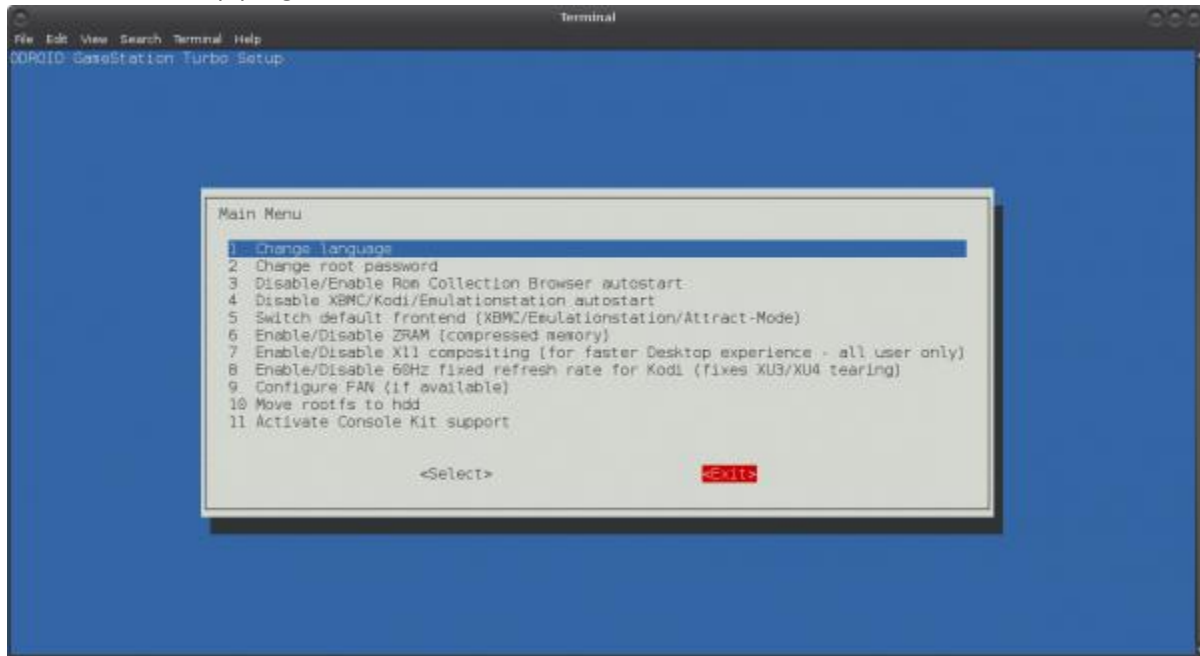


```
Terminal
File Edit View Search Terminal Help
Password:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libchroaprint1 libnspr4-0d libzip2
Use 'apt-get autoremove' to remove them.
Suggested packages:
  libvdpau3 mplayer-dbg jackd
The following NEW packages will be installed:
  mplayer ogst-logo-odroid
0 upgraded, 2 newly installed, 0 to remove and 1 not upgraded.
Need to get 33.5 MB of archives.
After this operation, 38.0 MB of additional disk space will be used.
Get:1 http://www.deb-multimedia.org/ jessie/main mplayer armhf 3:1.1.1+20150226+svn37375-dmo5+deb8u3 [2,050 kB]
Get:2 https://oph.dr/r.net/meveric/all/main ogst-logo-odroid all 20180208-1 [31.5 MB]
Fetched 33.5 MB in 15s (2,165 kB/s)
dpkg-preconfigure: unable to re-open stdin: No such file or directory
Selecting previously unselected package mplayer.
(Reading database ... 232859 files and directories currently installed.)
Preparing to unpack .../mplayer_3%3a1.1.1+20150226+svn37375-dmo5+deb8u3_armhf.deb ...
Unpacking mplayer (3:1.1.1+20150226+svn37375-dmo5+deb8u3) ...
Selecting previously unselected package ogst-logo-odroid.
Preparing to unpack .../ogst-logo-odroid_20180208-1_all.deb ...
Unpacking ogst-logo-odroid (20180208-1) ...
Processing triggers for man-db (2.7.0.2-5) ...
```

LCD Display configured and activated

<Ok>

10. Exit from setup program and reboot.



Import the games

- Move the games to the proper directory under the **/home/odroid/ROMS** directory.
 - Generally, the name of the target directory is the **abbreviation** of the system.
 - e.g. If you have some **Nintendo 64** games, move it to **/home/odroid/ROMS/N64** directory.
- Small TFT LCD shows an image around **2 minutes** later after power-on.
- To import the new games, press **C** key and select **Import Games** to open the import window on the Rom Collection Browser.
- To open the Rom Collection Browser manually, move to **Program** menu and select **Rom Collection Browser** on the Kodi.

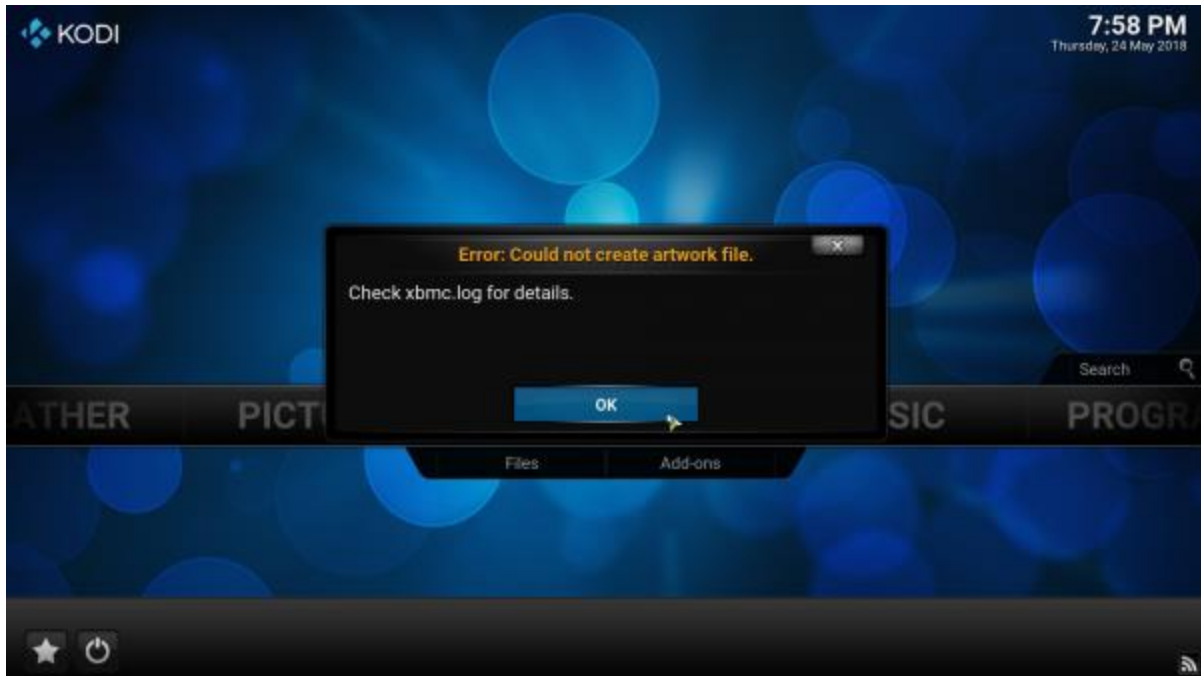
1. Copy your rom files to proper directories via network or an USB storage.
2. If there isn't any available game, the import window will appears automatically.



3. Click **Import Games** to import. It might take a long time.



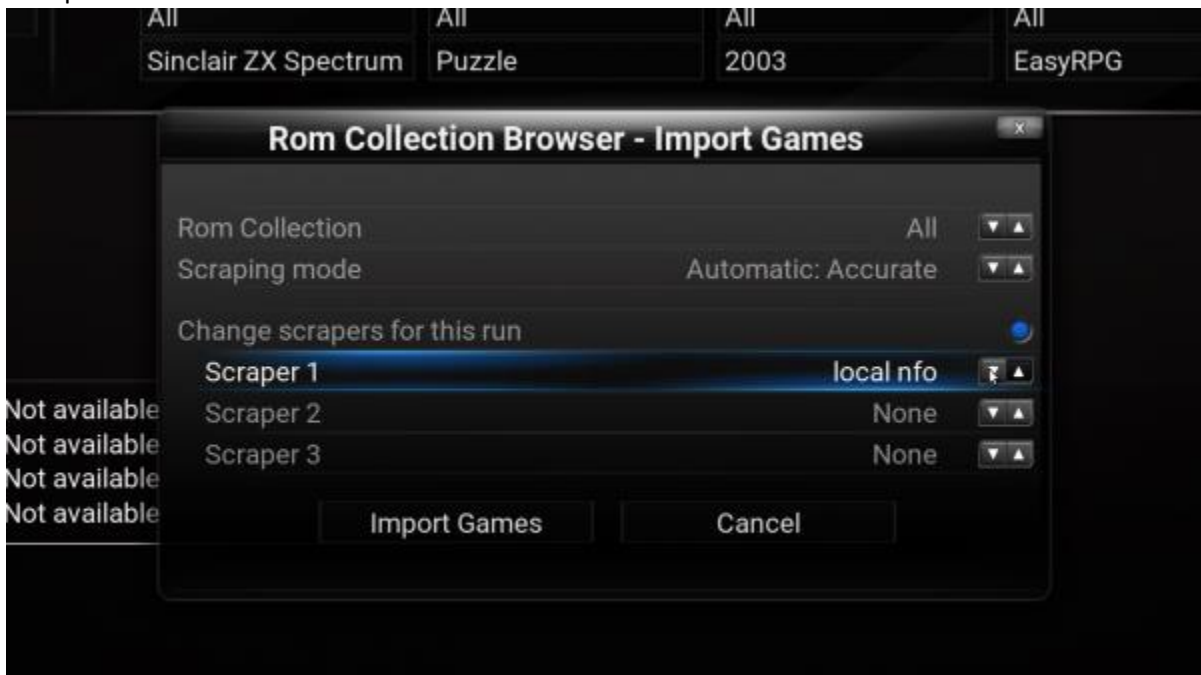
- 3.1. If the **artwork file related error** appears during import process and/or you have a problem with importing the games like below,



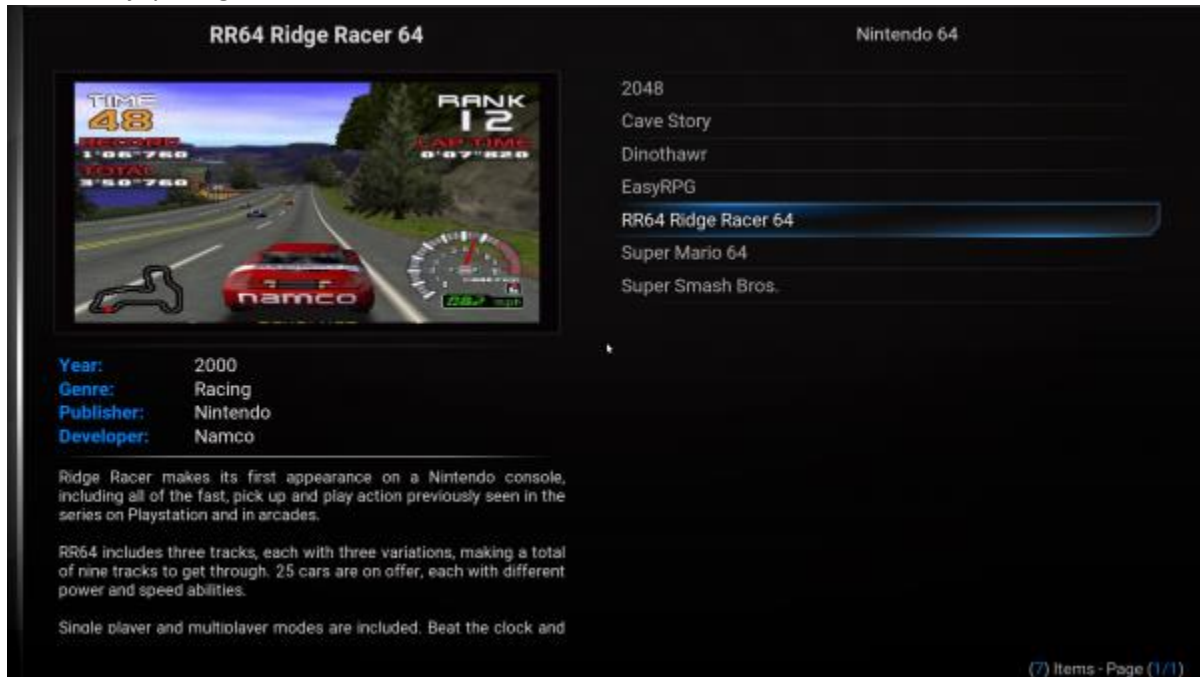
It is probably a server issue or seems the scrapper is partly broken.

Try again to import without scraping information from the remote server.

Refer to the screenshot below when you import the games. **Click** or press **arrow keys** and **Enter** key to set up.



4. Now enjoy the game.



Opt. How to test the TFT LCD

1. Press **Ctrl+Alt+T** to open a Terminal window.
2. Enter the following commands. Enter **odroid** for the password prompt.
`odroid@gamestation-turbo:~$ wget https://dn.odroid.com/5422/logo.sh`
`odroid@gamestation-turbo:~$ sudo sh logo.sh`

3. Then the LCD shows a picture like the picture below.



Assembly

Install the XU4/XU4Q board into the OGST gaming kit to create a fully integrated system. Enjoy the following steps to build your own gaming console.

Step 1

Unboxing & Package include (Clockwise from top left)

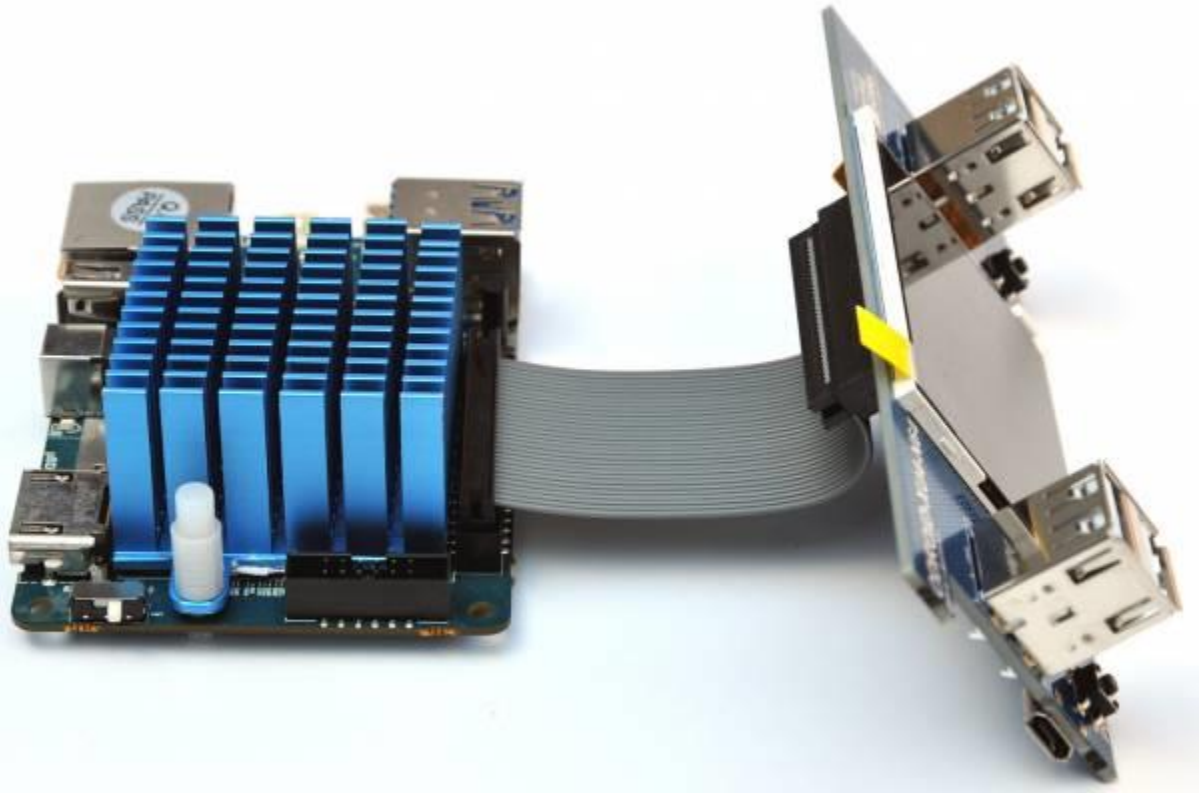
- A. Top case
- B. Bottom case
- C. ODROID-XU4-OGST LCD Board
- D. USB2.0 extension cable
- E. 30-pin flat cable
- F. USB-port cover
- G. rubber feet set
- H. screws
- I. USB3.0 extension cable (For optional USB 3.0 2.5" HDD)



OGST Gaming Console Kit for ODROID-XU4

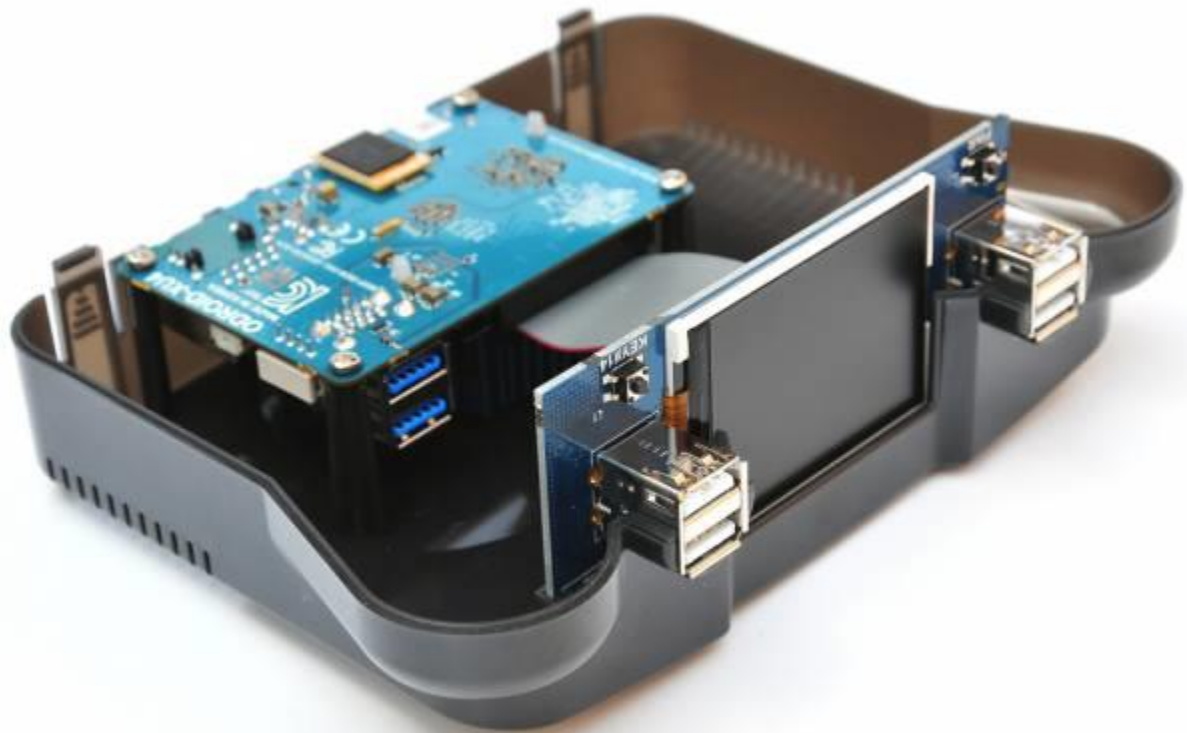
Step 2

Use a 30-pin flat cable to connect the XU4 and the LCD board.
Then remove the LCD surface protect film.



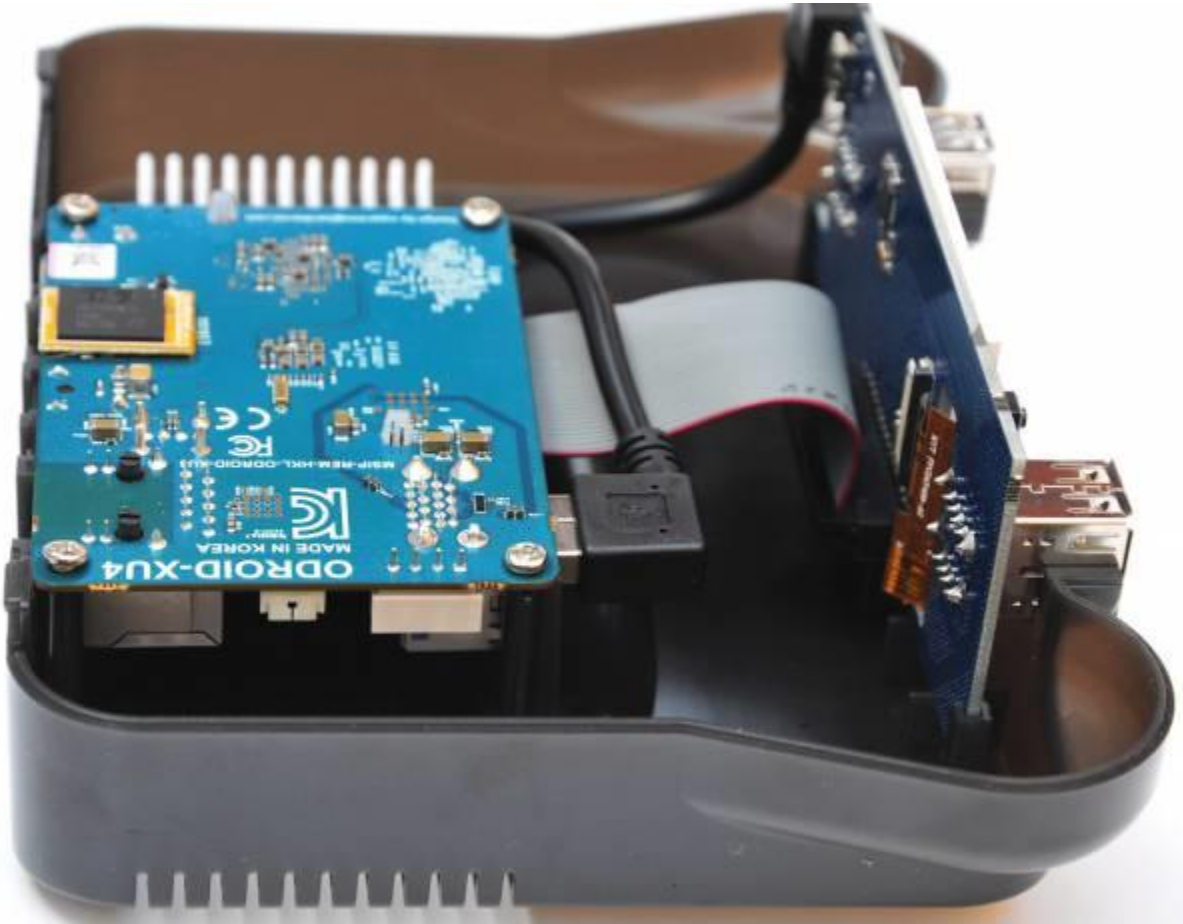
Step 3

Assemble the XU4 + LCD board in the top case and fasten the screws.



Step 4

Connect XU4 board and LCD board with USB2.0 cable.





Step 5 : Optional

You can connect a 2.5" HDD using USB3.0 cable included in the package.
The package does not include any HDD. Only USB3.0 Cable is included.
The HDD enclosure can be attached to the bottom side case with velcro tape.



Step 6

Assemble the bottom case and fix it with USB cover.
Then attach the four rubber feet to the bottom case.



Kernel 4.9 or higher

You have to use “force32b=1” driver parameters for correct display if you use Kernel 4.9 or 4.14.

```
modprobe spi_s3c64xx force32b=1
```

```
modprobe fbtft_device name=hktft9340 busnum=1 rotate=270 force32b=1
```