I2C monochrome 0.96" 128x64 OLED graphic display module with SSD1306 controller
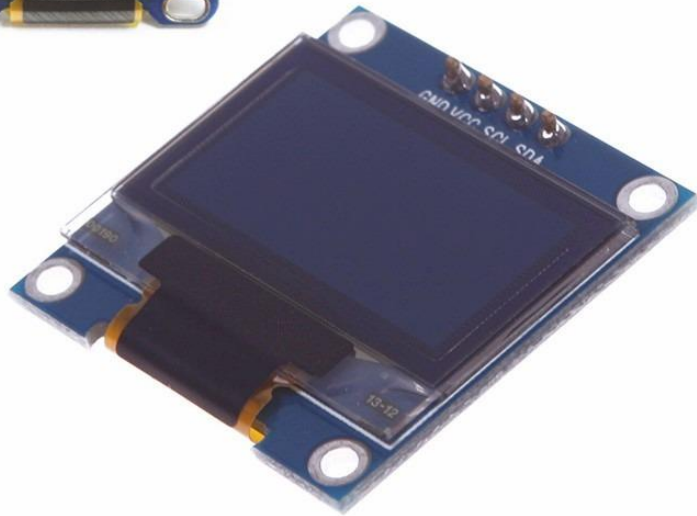
Datasheet

Connection

Step 0. Prerequisites

1. gcc: arm-linux-gnueabi-
2. OPi Kernel compiled.
3. SDcard with OPi rootfs and kernel above.
4. ssh to your OPi
5. https://github.com/DevyatovAndrey/opi

Step 1. Basic I2C kernel module + DeviceTree

git clone https://github.com/DevyatovAndrey/sandbox.git && cd sandbox

git checkout v1.1_sceleton

edit your path in **envsetup.sh**

source ./envsetup.sh

cd ssd1306

./build_on_x86.sh --clean –module

./build_on_x86.sh –deploy

ssh bbb

sudo dmesg -c

sudo insmod ssd1306.ko

sudo rmmod ssd1306

dmesg

Step 2. SYS FS

```
cd sandbox
git checkout v1.2_sysfs
cd ssd1306
./build_on_x86.sh  --clean --module
./build_on_x86.sh  --deploy
ssh bbb


ls -l /sys/class/lcd_ssd1306/
```

Step 3. Communicate with the device

```
cd sandbox
git checkout v1.3_LCD_comm
cd ssd1306
./build_on_x86.sh --clean –module
./build_on_x86.sh –deploy
ssh bbb


cat /sys/class/lcd_ssd1306/paint
cat /sys/class/lcd_ssd1306/clear
```

Step 4. Graphics primitives

cd sandbox

git checkout v1.4_graphics

cd ssd1306

./build_on_x86.sh --clean –module

./build_on_x86.sh –deploy

ssh bbb

cat /sys/class/lcd_ssd1306/paint

cat /sys/class/lcd_ssd1306/clear

Step 5. Framebuffer support

The [framebuffer](#) device provides an abstraction for the graphics hardware. It represents the frame buffer of some video hardware and allows application software to access the graphics hardware through a well-defined interface, so the software doesn't need to know anything about the low-level (hardware register) stuff.

The device is accessed through special device nodes, usually located in the /dev directory, i.e. /dev/fb*

Step 5. Framebuffer support

```
cd sandbox
git checkout v1.5_framebuffer
cd ssd1306
./build_on_x86.sh --clean –module
./build_on_x86.sh –deploy
ssh bbb
```

Step 6. Speedup!

cd sandbox

git checkout v1.6_speedup

git checkout v1.7_wq

cd ssd1306
./build_on_x86.sh --clean –module
./build_on_x86.sh –deploy
ssh bbb

Step 7. Userspace application

[Low-Level Graphics on Linux](#)

cd sandbox

git checkout v1.8_userapp

cd userapp_analog_clock

./build_user_app.sh

scp analog_clock bbb:~/

ssh bbb

./analog_clock