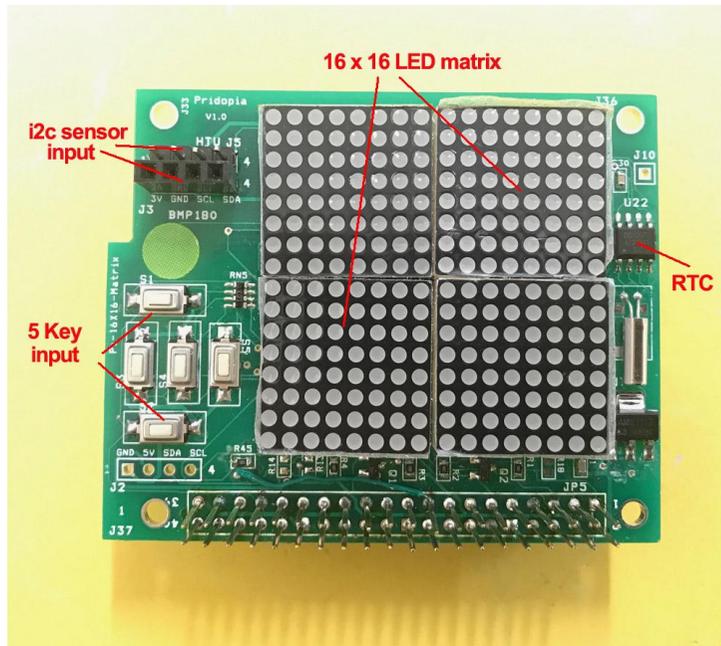


RsPi-16x16 LED Matrix Game HAT User Manual



The HT16K33 is a memory mapping and multi-function LED controller driver. The max. Display segment numbers in the device is 128 patterns (16 segments and 8 commons) with a 13*3 (MAX.) matrix key scan circuit. The software configuration features of the HT16K33 makes it suitable for multiple LED applications including LED modules and display subsystems. The HT16K33 is compatible with most microcontrollers and communicates via a two-line bidirectional I2C-bus.

Feature

- Operating voltage: 4.5V~5.5V
- Integrated RC oscillator
- I2C-bus interface
- 16*8 bits RAM for display data storage
- Max. 16 x 8 patterns, 16 segments and 8 commons
- R/W address auto increment
- Max. 13 x 3 matrix key scanning
- 16-step dimming circuit

8x8 20mmx20mm Dot Matrix 1.9mm Common Anode White

Test Program can download from our web site

<https://www.pridopia.co.uk/pi-matrix-2-p4.html>

1. map.py: It can read and write the file what you want to read or type from map.txt.
2. matrix-test1.py: It will display the sequence from the left point to the right point and has presented the upwards status.
3. matrix-test2.py: When you enter this file, you can input the value of X and Y. Once you inputted the two value, Led matrix will display the point where you input. Additionally, this point will be lighted up continuously which means you can make any icon whatever you want.
4. snake-2-test12.py: In this program, you can control up, down, left and right in the 4 press button. Additionally, as long as the path is gone through by you which will be recorded and no disappear. Once you completed the path, you can press the middle of the buttons, then the path will disappear for a second. After that, it will run the path again that you had created.
5. snake-2-test14.py: As you can see, this program is similar with the previous program. The different point is when you go through any led point which will not be recorded. You have to press the middle of the button, then the led point will just be recorded which means you can print out any image or word whatever you want. Once you finish the image, you can press the middle of the button again. The image or word will disappear for 1 second, then it will print it again what you did.
6. subimg-test.py: In this program, we utilise Render to control the led matrix. As you can see, once I printed the program, the heart will appear on the led matrix. In addition, this programm is a loop. Therefore, when you print out the image which will disappear for 2 seconds, then display again.

Package Content

1x Rs-Pi I2C LED Matrix 16x16 board

1x manual

RTC setting

sudo nano /boot/config.txt: added at the end:

```
dtoverlay=i2c-rtc,ds1307
```

sudo nano /lib/udev/hwclock-set: commented out:

```
#if [ -e /run/systemd/system ] ; then  
#   exit 0  
#fi
```

sudo nano /etc/modules

```
i2c-bcm2708  
i2c-dev  
rtc-ds1307
```

Update correct time and date in system

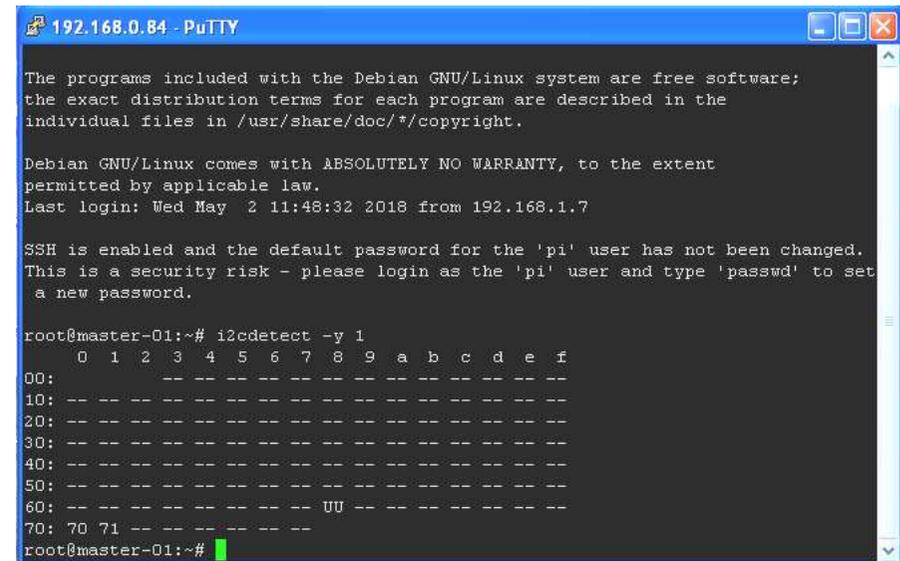
sudo date -s "13 Jun 2017 15:01:03"

To save the date onto the RTC use the following command

sudo hwclock -w

Verify the date has been saved onto the RTC

sudo hwclock -r



```
192.168.0.84 - PuTTY  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Wed May  2 11:48:32 2018 from 192.168.1.7  
  
SSH is enabled and the default password for the 'pi' user has not been changed.  
This is a security risk - please login as the 'pi' user and type 'passwd' to set  
a new password.  
  
root@master-01:~# i2cdetect -y 1  
   0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f  
00:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  
10:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  
20:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  
30:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  
40:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  
50:  --  --  --  --  --  --  --  --  --  --  --  --  --  --  --  
60:  --  --  --  --  --  --  --  --  --  --  UU  --  --  --  --  
70: 70 71 --  --  --  --  --  --  --  --  --  --  --  --  --  
root@master-01:~#
```

70, 71 for two LED driver HT16K33 , 68 – UU -- RTC