

LISYclock

A clock with WiFi and more ...

Software Version 0.10

user manual

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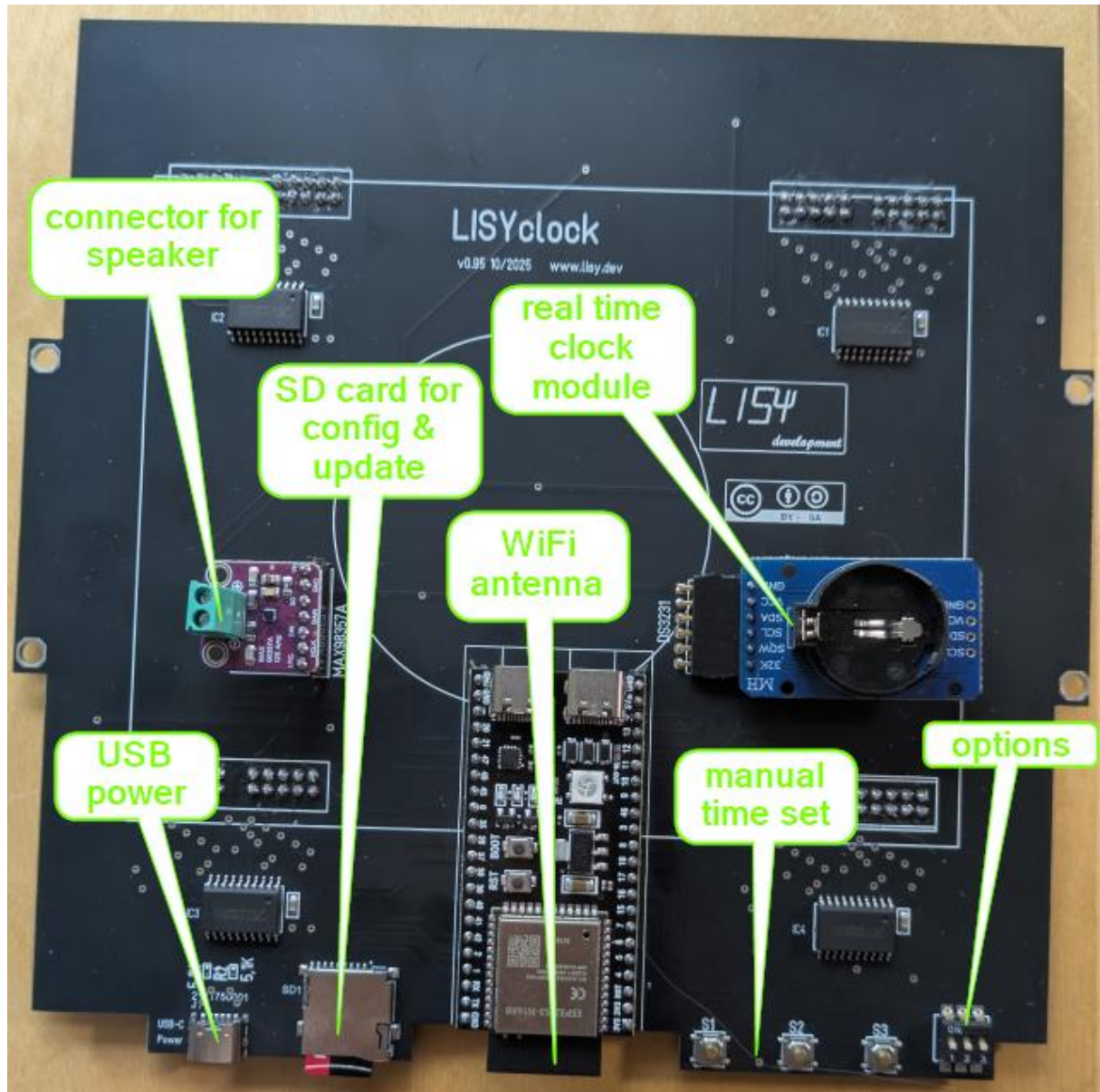
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Table of contents

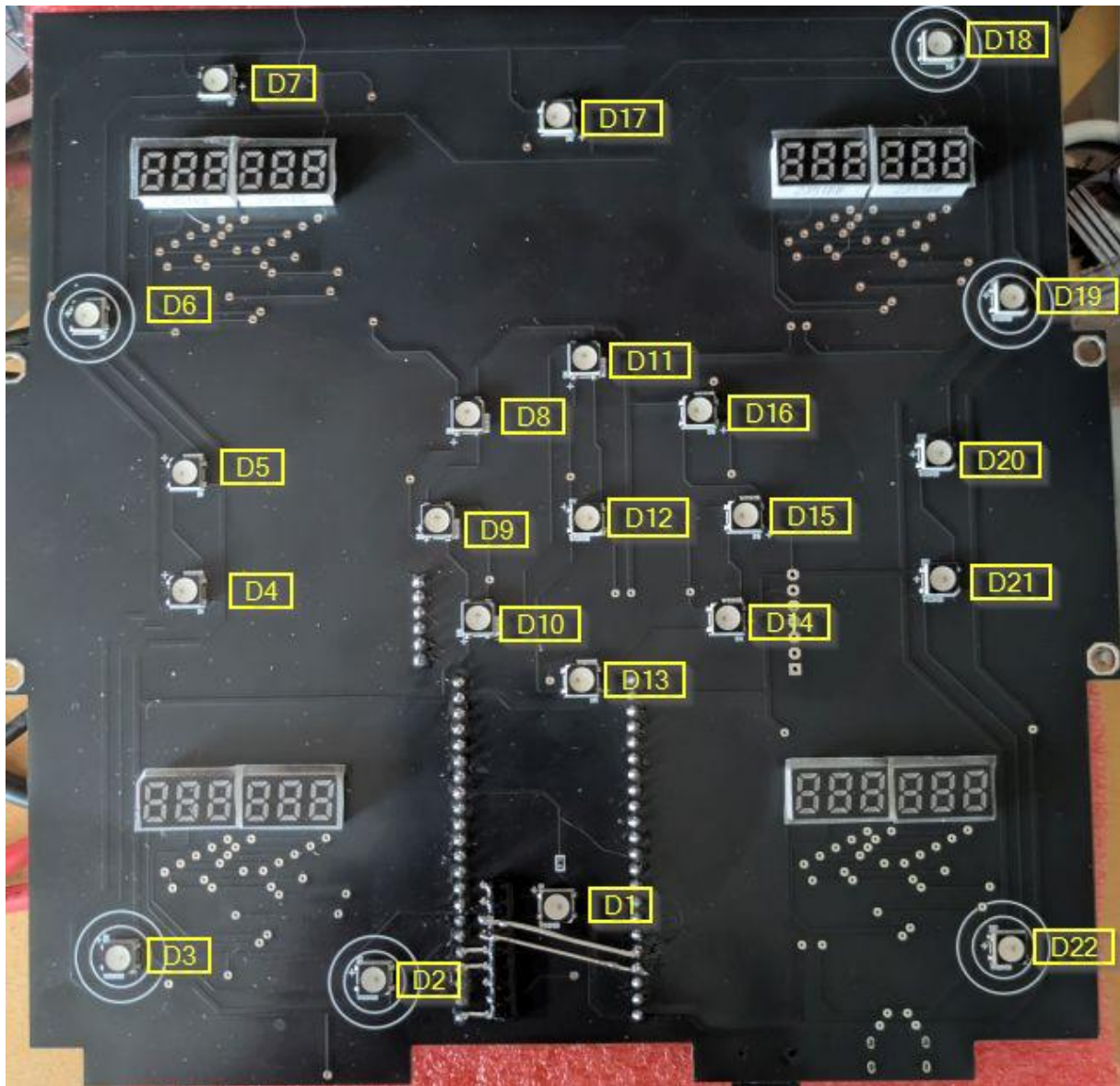
1. Overview	3
1.1. components.....	3
1.2. LED numbering	4
2. Configuration.....	5
2.1. DIP switches.....	5
2.1.1. DIP1 RTC mode (not implemented yet)	5
2.1.2. DIP2 (not implemented yet)	5
2.1.3. DIP2 (not implemented yet).....	5
2.2. push buttons.....	5
3. config.txt	5
3.1. example	5
4. WiFi connect.....	7
5. Software	8
5.1. initial (todo)	8
5.2. updates.....	8
6. DS3231 modul	9
6.1. battery or accumulator	9

1. Overview

1.1. components



1.2. LED numbering



2. Configuration

Basic configuration can be done with the DIP switches and the push buttons. Advanced configuration is possible via a text file on the SD card. See section 'config.txt' for details.

2.1. DIP switches

2.1.1. DIP1 RTC mode (not implemented yet)

By setting DIP switch #1 to ON the WiFi connect will be disabled and the RTC (real time clock) module will be activated.

2.1.2. DIP2 (not implemented yet)

2.1.3. DIP2 (not implemented yet)

2.2. push buttons

To adjust the time in 'RTC mode'

3. config.txt

Without an SD card or a config file LISYclock will come up with a set of defaults. You can adjust these defaults by editing the file 'config.txt' on the SD card.

3.1. example

```
# config for LISYclock

# lines starting with '#' are comments


# GI LEDs are permanent on

#

# use GI_LED <LED number>,<red 0..255>,<green 0..255>,<blue 0..255>

# for white use same value for red,green,blue

#

# Black Hole

GI_LED=1,166,166,166

GI_LED=4,166,166,166

GI_LED=5,166,166,166
```

GI_LED=11,166,166,166

GI_LED=20,166,166,166

GI_LED=21,166,166,166

#

planets

GI_LED=2,100,0,0

GI_LED=3,0,100,0

GI_LED=6,0,0,100

GI_LED=18,0,0,100

GI_LED=19,0,0,100

GI_LED=22,100,100,0

Gottlieb

GI_LED=7,100,100,100

#planed

attract mode LEDs

TIMEZONE

display brightness

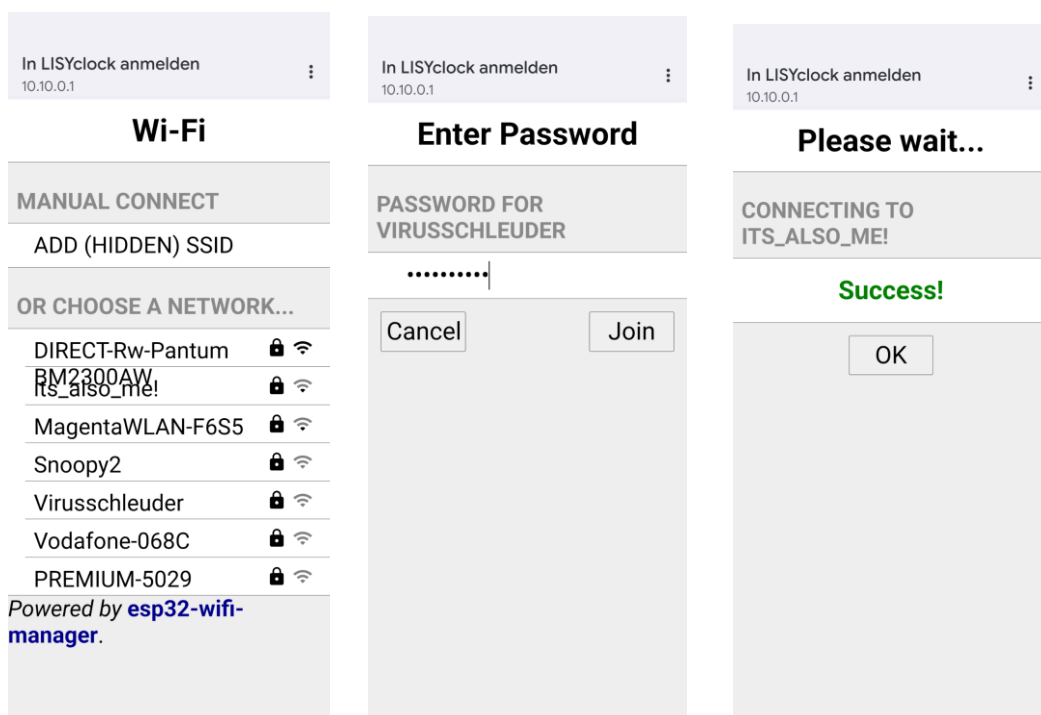
....

4. WiFi connect

LISYclock sync the time by connecting a timeserver via a standard WiFi internet connection.

To be able to enter your WiFi credentials LISYclock open a WiFi host with SSID "LISYclock". The password for this connection is "bontango". After entering the correct credentials for your WiFi network and connecting to the internet for ntp 'time services' the time/date will be automatically set.

You need to do this only for the first boot or in case your WiFi network changes. LISYclock stores your credentials and will try to connect to the same WiFi network after next boot.



5. Software

5.1. initial (todo)

Das vollständige Download besteht aus 3 Teilen: Partition-Table, Bootloader und Applikation. Diese 3 müssen zusammenpassen (und natürlich für die richtige CPU Architektur generiert sein).

Das System das ich implementiert habe lädt nur die Applikation, was heisst, dass die Partition-Table und der Bootloader unverändert bleiben müssen (also so wie im initialen Download definiert).

Zudem: dass das ganze System so funktioniert muss die Partitions Einstellung (idf.py menuconfig, Partition Table ---> Two Large Size OTA Partitions) sein. Dann ist immer eine Partition 'current' und die andere wird für das Update verwendet ohne die 'current' voreilig zu zerstören. Hast du das so eingestellt?

https://docs.espressif.com/projects/esp-test-tools/en/latest/esp32/production_stage/tools/flash_download_tool.html

5.2. updates

Copy the latest version of LISYclock.bin in the root folder of the SD card and rename it to 'update.bin'

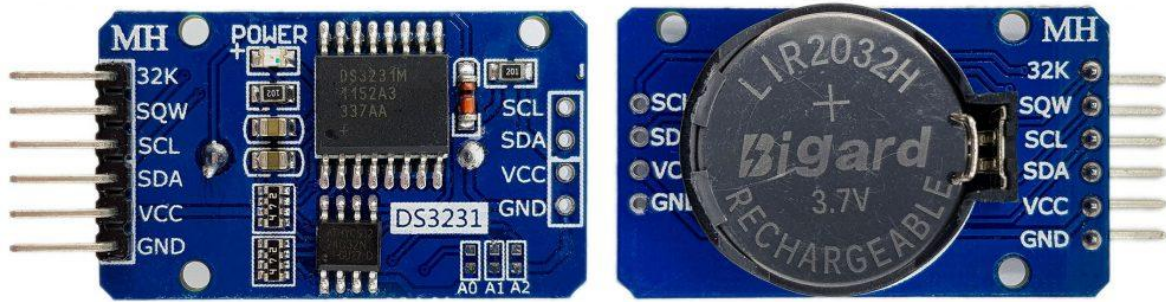
On next boot LISYclock will do an automatic update.

6. DS3231 modul

With this (optional) modul LISYclock can run without WiFi connection.

The RTC module has its own tiny clock inside to keep track of time by themselves. It comes with a battery holder to connect a battery so that they keep working even if the ESP32 resets or in the event of a power loss.

For this a battery or accumulator need to be inserted.



6.1. battery or accumulator

You **should** use a LIR2032 battery, which is rechargeable.

If you want to use a CR2032 battery, which is non-rechargeable, you must disconnect the battery charging circuit by unsoldering and removing the diode or the next to the diode.

