

METEORITE KITS

TARDIS time machine lamp kit Set up and use

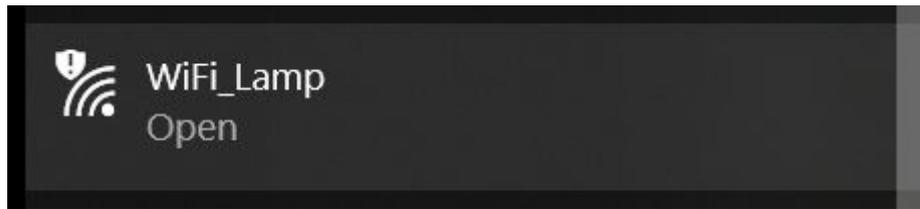
When you first get your lamp working you will need to configure the lamp. Connect the power and turn on the lamp. Wait 30 seconds.

WiFi and access to the lamp

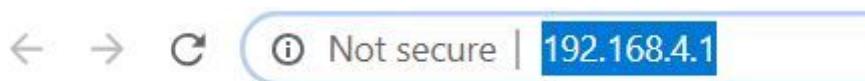
The lamp checks if it already has known WiFi details, if it doesn't it will create a WiFi access point for you to connect to and open a web page. You enter all details in that webpage.

After powering on:

- Find a WiFi Access point called WiFi Lamp and connect (does not need login or password)



- From Wifi connected device (e.g Laptop) open browser and go to <http://192.168.4.1>



- This will bring up a configuration page, click on Configure Wifi

WiFi_Lamp

WiFiManager

Configure WiFi

Configure WiFi (No Scan)

Info

Reset

Background

After enter the required information, the lamp will periodically access the internet to confirm the time and sunrise/sunset times for your location. If the internet drops the lamp should continue to keep time but may drift a little after 12hrs. The lamp should be time should stay within 1 sec of official time sourced from NZ NTP Server.

If for any reason the lamp stops working, check if the access point (Wifi_Lamp) is showing. This means for some reason (power spike) the lamp has lost its setting. The web browser should hopefully have kept a history of your previous entries (except password) to make it easy to reenter.

Start up

On power up or rebooting the lamp will show Red Green and Blue colours before displaying the time appropriate colours. It will then get the time and sunrise/set information from the internet and display the appropriate colours (based on the setup information you provided).

The LED will flash at the top of the hour (if selected) and as the sun rises/sets adjust the LED colours. If the sound module is installed, the lamp can also play sounds (chimes) at the top of the hour, on alarm or speak the time when the sensor is touched. More details on the sensor use in the sound module instructions.

Rebooting and Resetting the lamp

There are 2 buttons for the lamp. On the ESP8266 there is a very small button. This will reboot the ESP8266 much like turning the power on/off.

The reset button we wired up will clear all your Wifi and other details you entered. The programming will remain but all the details you entered will be cleared. To do this, once the lamp is running press and hold the reset button and count to 5, then release. You should see the LEDs go off.

After 15-20 seconds the lamp should restart and the WiFi access point (WiFi Lamp) will appear again. If it doesn't press the small reboot button on the ESP8266 (or turn the power on/off at the wall).

TARDIS Lamp use

Unless you have the sound module, there is no interaction with the lamp. It will display the LEDs as configured.

If you have the sound module the lamp can speak the time, turn the alarm on/off and change UTC offset using the touch sensor. It will also play sounds as configured with hourly chimes and any alarm set.

Speak the time

Touching and releasing the sensor for more than 0.7s will make the TARDIS speak the time.

Alarm On/Off

If you touch the sensor for more than 3 seconds and release the lamp will turn the alarm ON/OFF

UTC Offset

If you touch and hold the sensor without releasing it will change the UTC time offset after 10 seconds. E.g Touch and wait for the TARDIS to confirm the change. UTC offset is useful to adjust the time for daylight savings (or if you have the wrong UTC set). When the lamp starts (or is rebooted) the alarm will be set to ON, and the UTC offset set to 0. Touching for 10s will follow the sequence UTC <10s touch> UTC +1, UTC +1 <10s touch> UTC -1, UTC -1 <10s touch> UTC

Entering configuration details

WiFi

Type in, or click your home WiFi access point (SSID) and your Wifi password

Longitude & Latitude

Enter your Longitude and Latitude (e.g 174.7762 and -41.2865 for Wellington, NZ)

You can use this link to help find yours: <https://www.latlong.net/>

You can enter any location you like, this is what lamp will use to determine the sunrise/set information. Later you will enter the UTC offset for that location, this is used to determine the time. If you don't have the sound module installed, the UTC offset only needs to be approximate (e.g don't need to adjust for daylight savings).

MODE

Mode has 4 digits, all entered as one number (e.g 0395):

- 1st digit is the light mode the lamp will use (see below). If you enter something other than 0, 1 or 2 the lamp will default back to mode 0.
- 2nd digit is to control the last LED in the strip (LED on the top of the police box).
- 3rd digit sets the flashing function at the top of the hour.
- 4th digit is the LED brightness

1st digit - Light mode

0: During the day, the LEDs are yellow (sunshine), and night LEDs are blue (Night sky) and as sun rises/sets LEDs change colour with the sunrise/set. My favorite.

1: Night light mode(1). During the day time LEDs are off *, at night the LEDs are yellow and as sun rises/sets LEDs reflect the colours of that change.

2: Night light mode(2). During the day time LEDs are off *, at night the LEDs are yellow with no sun rise/set LEDs changes (The Lamp will just turn on and off at dawn and dusk).

**Note: If you have the sound module no hourly chimes will play when the LEDs are off*

2nd digit - Last / Top LED

0: Last LED behaves the same as all the other LEDs.

1: Last LED is Red, **2:** Last LED is Green, **3:** Last LED is Blue, **4:** Last LED is White

3rd digit - Flash on the hour

0: No flashing of LEDs at top of the hour

1-8: Length of flash period after top of hour. 1=2 seconds > 8=16 seconds

9: LEDs flash the number of the hour (12hr clock e.g 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12)

4th digit - Brightness

0-5: Range from 1 to 5, with 5 being full brightness

Example: 0315 = Is a sunrise/sunset (on during day/night) with the top light blue with LEDs flashing and LEDs at full brightness.

UTC - Enter the UTC offset for the country you are in (12 for NZ). The lamp uses servers for sunrise and sunset times and getting the time. These are all based on UTC time (https://en.wikipedia.org/wiki/Coordinated_Universal_Time).

See the link below for UTC by country (yes, you can have the lamp behave like it's in another country). The UTC entry helps the lamp determine daytime and nighttime conditions. You only need to worry about daylight savings when you have the sound module upgrade installed. In these cases we need to know the exact local time. E.g in NZ summer we are +13 hours UTC, and in winter +12. UTC offset can be adjusted using the touch sensor (see sound module instructions).

https://en.wikipedia.org/wiki/Coordinated_Universal_Time#/media/File:Standard_World_Time_Zones.png or <https://www.timeanddate.com/time/zone/new-zealand>

CHIME and ALARM

Only use if you have purchased the sound / alarm option. Note: If a sound is playing you can stop it by briefly touching the sensor (or if longer than 0.75 of a second the time with play stopping the chime/alarm).

Hourly chime

At the top of the hour, when flash is selected (see lightmode) you can select which hours will and will not make a sound. Chime is entered as a string of 25 digits.

The first digit is sound volume (0-9) then followed by typing in a string of 24 digits, either 0 (no sound) or a number that represents the filename on the SDcard to play. The 24 are for each hour starting with midnight and the last digit for 11pm.

Note, the chime only works when the LEDs are on (e.g if you select light mode 1 or 2 where LEDs are off during the day the chime will not sound).

example: 90000000111111000000000000 = Max volume (9) and playing file 0001.mp3 (in the mp3 folder on the SD card) from 7am - 12pm. All sound files need to be in the mp3 folder on the, SD card installed in the sound module. It comes pre-installed with sounds (detailed below) and important files to speak the time (Don't delete!)

You can mix the mp3 files by time, e.g have 0001.mp3 at 7am and 8am, 0002.mp3 play at 9am, 10am and 11am and speak the time at 12pm (noon). e.g:
90000000112229000000000000.

You can create your own mp3 files, but make sure they are named 0005.mp > 0008.mp3 and placed in the mp3 folder on the SD card.

A setting of 9 will have the TARDIS will speak the time.

Important: *This volume setting is the volume for all sounds, so if no chime are needed but you still want the TARDIS to speak the time or have alarms working then set to volume even if the chimes are set to zero. e.g 900000000000000000000000000000*

If you have the LEDs flashing the number of hours (e.g 5 times = 5pm) it's recommended to use 1 (0001.mp3 is the TARDIS take off sound) but it's up to you. If you have a the lamp flashing for a defined period (3rd digit in Mode - see above) then matching the length to the sound is a good idea. That said the mp3 will continue to play until finished even if the flashes has stopped.

Pre-installed mp3s

0001.mp3 = TARDIS take off (10 seconds)

0002.mp3 = Exterminate (8 seconds)

0003.mp3 = Dr Who theme (39 seconds)

0004.mp3 = Dalek relaxation (1min 18 seconds)

0005.mp3 = 1.5 hours of a sleep inducing background TARDIS sound

0006 - 0008.mp3 Available to be added by user

0009.mp3 Unavailable and reserved by the system.

Alarm

This will sound an alarm at a specified time each day. The alarm will play until the mp3 has finished (unless you touch the sensor). You can turn the alarm OFF/ON by touching the sensor for longer than 3 seconds (if you hold longer than 10 seconds will move the UTC offset)

The alarm time is set in the format of 6 digits. HHMMAM or HHMMPM, followed by a number for the mp3 file to play (1-8). Together this is a total of 7 digits. Midnight is hour 0.

Examples: 0710AM2 sets an alarm for 7:10AM playing 0002.mp3 (Exterminate!).

0030AM1 sets an alarm for 12:30AM playing 0001.mp3 (Everyone was to hear a TARDIS Take off at this time I'm sure).

If you leave the alarm blank, or make an input error the time the alarm will not sound.

SSID	🔒
password	🔒
Longitude	
Latitude	
Mode	
UTC	
chime	
alarm	

[save](#)

[Scan](#)

- Click save
- The lamp will now try and connect to your WiFi. If it fails, it should again start the web page for you to re-enter the credentials. Go back to 192.168.4.1
- If everything works, the lamp will connect to the internet, flash Red, Green then Blue and get the time and sunrise/sunset times to display the LEDs accordingly.