

# Rail Departures V3 Installation Guide

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## WHAT'S INCLUDED

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Rail Departures V3 Board	x1
5V 8A Power supply	x1
Mains power cable with UK plug	x1
USB Micro SD card adaptor	x1

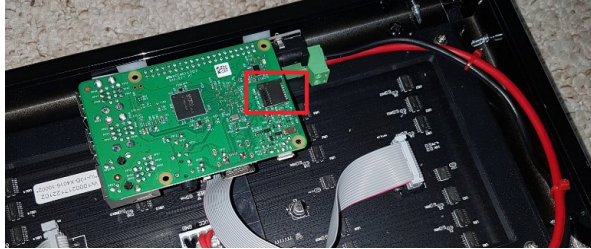
**LED PANEL WARRANTY: Any panel with a severe defect will be replaced under warranty within 2 months from the delivery date.** This does not include pixels very slightly glowing green. This is minor design error with all these panels and can not fixed. Each departure board has 4,128 pixels that is 12,384 separate LEDs, which are very fragile and can some times die. Each departure board is carefully tested three times for faulty pixels before packaging to ensure a fault free product is shipped. A panel with 3 or more faulty pixels will be replaced under warranty within the 2 month warranty period. Any faulty panels outside of warranty can be sourced from the following suppliers. [P3 LED Panel](#) | [P4 LED Panel](#)

**Warning: THIS IS A 5V DEVICE. DO NOT EXCEED THIS VOLTAGE.**

# Rail Departures V3 Installation Guide

## INITIAL SETUP

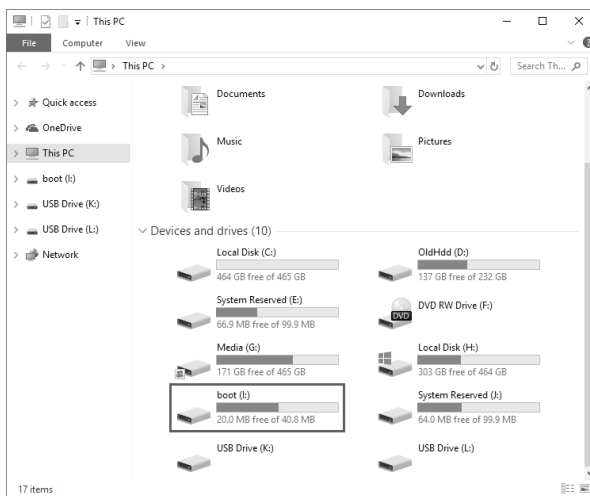
(Step1) Remove the Micro SD card from the GEN2 controller.



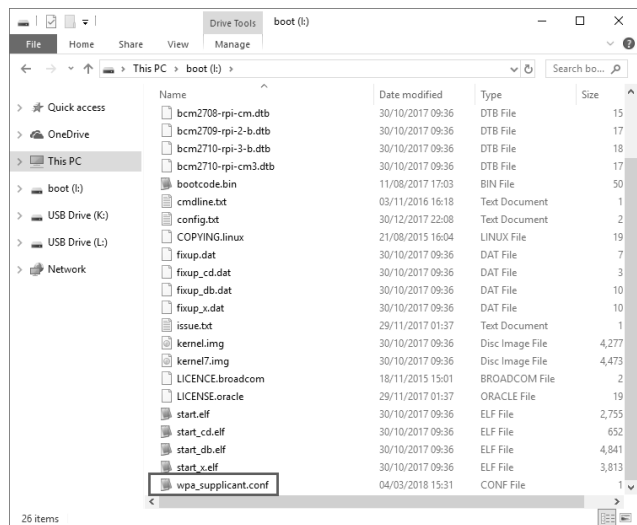
(Step2) Insert the Micro SD card into your pc/laptop via a built in SD card reader(preferred option) or using the supplied USB SD card adaptor.

**Note: Ignore/Cancel any notifications asking you to format the disk.**

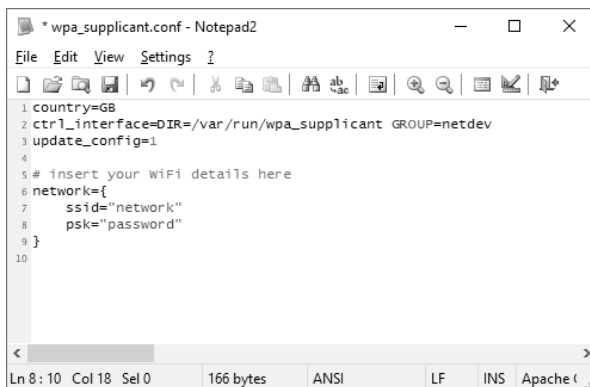
(Step3) Navigate to the boot drive (it will be labelled 'boot')



(Step4) Navigate the boot drive and open the file named 'wpa\_supplicant.conf' via a text editor (read below notes)



(Step5) Replace 'network' and 'password' with your own WiFi details and save.



(Step6) Remove the SD card from your pc/laptop and place back into the board's GEN2 controller.

(Step7) Plug the supplied power supply dc jack cable into the GEN2 controller and wait 10seconds for the system to boot.

**Warning: Window's users!**  
Do not use Wordpad for editing this file.  
Use a proper text editor instead.  
Recommended: [Notepad2](#), [VSCode](#), [Atom](#), [SublimeText](#).

**Warning: Mac users!**  
If you use Textedit make sure to use "plain text format"  
Also "disable smart quotes" in "Textedit > Preferences"

**Note: Remove GEN2 controller board packaging support tape.**

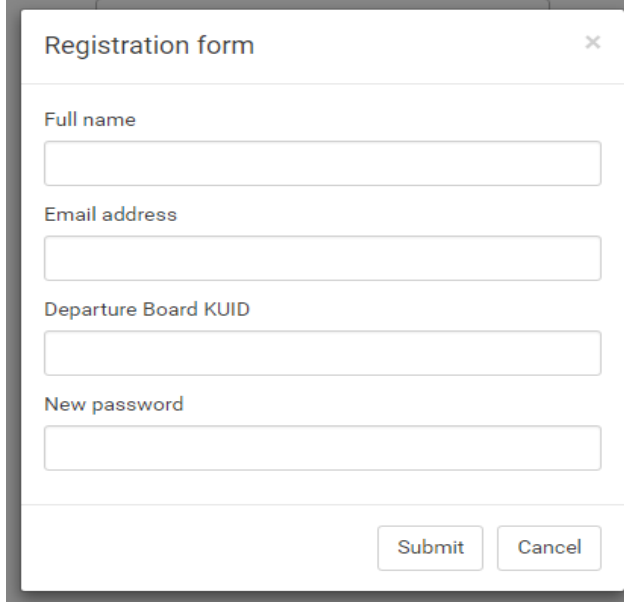
**Note: The display will always be completely blank for the first 15seconds when the system boots from cold.**

# Rail Departures V3 Installation Guide

## CONFIGURATION TOOL (WEB APPLICATION)

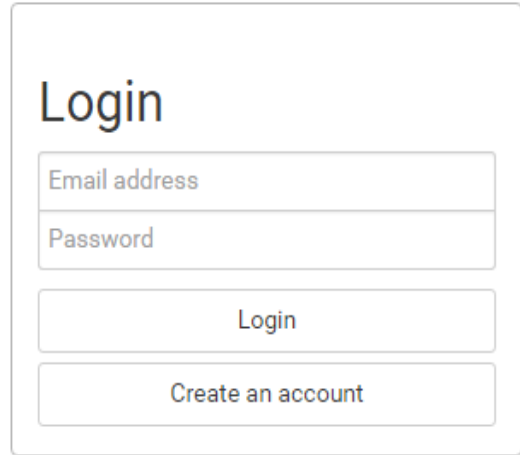
The web configuration can be found [here](#).

(Step1) Register your account. You will need your boards serial.



A screenshot of a web registration form titled "Registration form". It contains four input fields: "Full name", "Email address", "Departure Board KUID", and "New password". At the bottom right, there are two buttons: "Submit" and "Cancel".

(Step2) Log In.



A screenshot of a web login form titled "Login". It contains two input fields: "Email address" and "Password". Below the input fields are two buttons: "Login" and "Create an account".

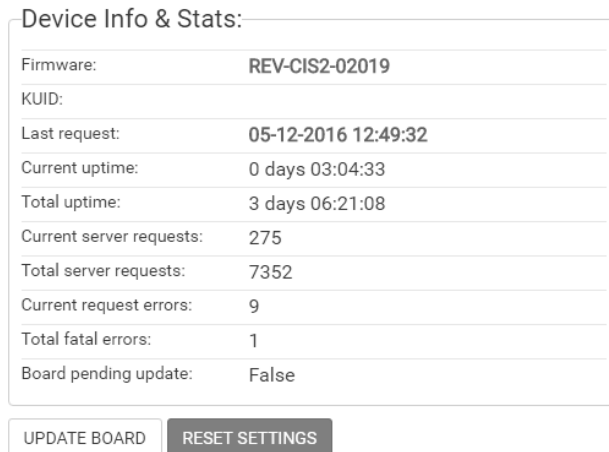
Note: The 8char serial can be found on your boards boot screen.

```
Firmware | REV-CIS3-05007
Device Info | 00000000-ERROR_NO_IP
Status | Initializing Firmware
```

(Step3) Edit the configuration and click "UPDATE BOARD"(at the bottom) to submit your changes to the board.

Notes:

- Changes are not instant. You will need to wait for your board to make its next request(every 10sec) before the changes will be applied.



A screenshot of a web page showing "Device Info & Stats". It displays a table of system information and two buttons at the bottom: "UPDATE BOARD" and "RESET SETTINGS".

Firmware:	REV-CIS2-02019
KUID:	
Last request:	05-12-2016 12:49:32
Current uptime:	0 days 03:04:33
Total uptime:	3 days 06:21:08
Current server requests:	275
Total server requests:	7352
Current request errors:	9
Total fatal errors:	1
Board pending update:	False

# Rail Departures V3 Installation Guide

## API COMPARISON TABLE

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This table describes what features different API's support. As more API's come available they will be added to the list. In the future the API's can hopefully be merged, so all features of each individual API can be available.

	National Rail Enquires (LDBWS)	Realtime Trains
Delayed services	Yes	Yes
Cancelled services	Yes	Yes
Station information	Yes	No
Delay reason	Yes	No
Cancelled reason	Yes	No
Service seating information	No	Yes
Service carriages length	Yes (very rare)	No
Service in reverse formation	Yes (very rare)	No
Service Via destination text	Yes	No
Service approaching station	No	Yes
Service at station	No	Yes

# Rail Departures V3 Installation Guide

## FAQ

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- Problem:** Board does not boot (no lit leds on controller / blank display).  
**Solution:** Check the power supply is connected correctly.
- Problem:** Board keeps resetting.  
**Solution:** Check the power supply is connected correctly. If using an extension cable check cable is of good quality and under 2 meters.
- Problem:** Board display does not display text but controller pcb leds are lit.  
**Solution:** Make sure controller pcb ribbon cable seated well on display connector.
- Problem:** Board displays ERROR\_NO\_IP / CANT\_CONNECT\_TO\_NETWORK  
**Solution:**
- Check you have entered your correct WiFi credentials (ie SSID / PASSWORD).
  - Check your internet connection is working correctly.
  - Check your WiFi supports 2.4ghz / Board is connecting to this network.
  - Make sure 'wpa\_supplicant.conf' is not named 'wpa\_supplicant.conf.txt'
  - Use this [tool](#) to create your 'wpa\_supplicant.conf' file, as it may be corrupt.
  - If tethering to an iPhone remove any apostrophes from your name.
- Problem:** Cant create a web configuration account.  
**Solution:** The board must have been connected to your network before you can create a account. The serial number is the first 8 digits on the second row on your boards boot up screen, not the product serial number on the device it self.
- Problem:** Board displays JSON\_PARSE\_ERROR  
**Solution:** This is most likely a server issue and will resolve by it self.

Email [contact@ukdepartureboards.co.uk](mailto:contact@ukdepartureboards.co.uk) if you require more information / additional help.

# Rail Departures V3 Installation Guide

## ACKNOWLEDGEMENTS

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### API Feeds:

<http://www.realtimetrains.co.uk/>

<http://www.nationalrail.co.uk/46391.aspx>

<https://api.tfl.gov.uk/>

### Software Libraries

<https://github.com/hzeller/rpi-rgb-led-matrix>

### Special Thanks:

Kris Baillie	Firmware / web config testing / Station name renaming.
Andy Carter	Firmware / web config testing / Station name renaming.
Danny Cox	Firmware / web config testing / Promo video / media.
Ross Muggeridge	Firmware / web config testing / TFL data expert.

# Rail Departures V3 Installation Guide

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