Rail Departures V2 Installation Guide

Rail Departures V2 Installation Guide

Rail Departures V2 Installation Guide

WHAT'S INCLUDED

Rail Departures V2 RGB Panel / Diver Board   x1
5V 8A Power adaptor   x1
Mains power cable with UK plug   x1

LED PANEL WARRANTY: Any panel with a severe defect will be replaced under warranty. This does not include pixels very slightly glowing green. This is minor design error with all these china panels and can not fixed.

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

Note: This device will not be recognized by a computer until it receives power from the 5v barrel connector. This device does not receive power from the USB cable.

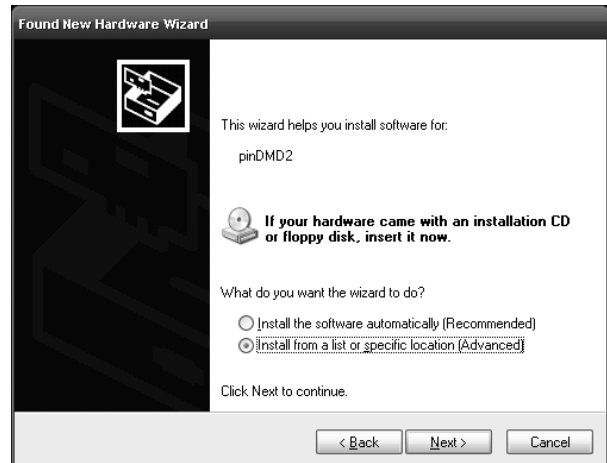# Rail Departures V2 Installation Guide

INSTALLATION

Dowload USB drivers.

Connect the controller board to your computer using a USB-A to USB-micro cable.
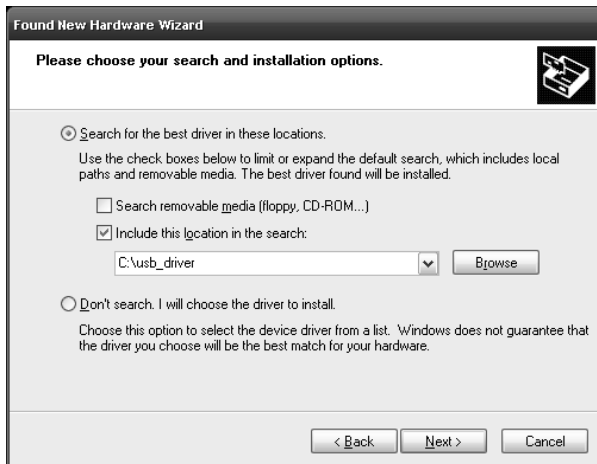
INSTALLTION WINDOWS XP

(Step1)

(Step2)
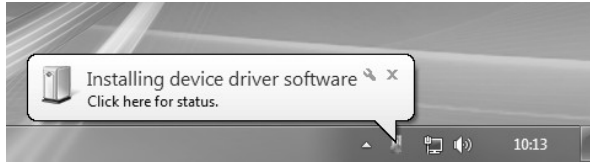

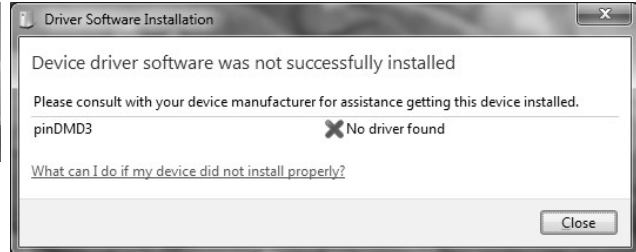(Step3) Browse to the unzipped usb drivers folder.

(Step4)

Rail Departures V2 Installation Guide
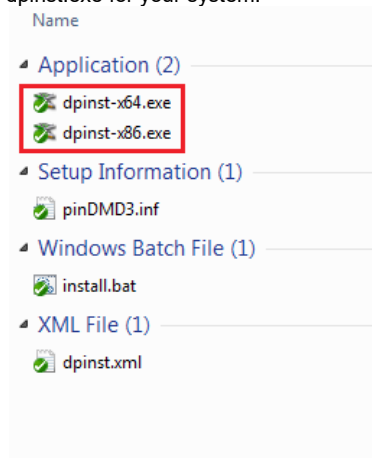
INSTALLATION WINDOWS 7

(Step1) Plug in the pinDMD3, Click the balloon pop up.

(Step2) (Wait for windows to fail finding the driver), Click 'Close'

(Step3) Unzip the usb drivers and run the appropriate dpinst.exe for your system.

(Step4) Follow the installation wizard instructions.
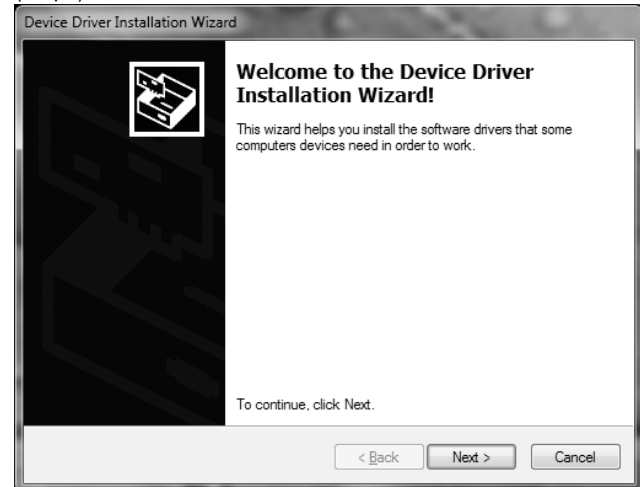
(Step5) Click 'Install this driver software anyway'.

(Step6) Click 'Finish'.

Rail Departures V2 Installation Guide

INSTALLATION WINDOWS 8/10

Note: Windows 8/10 will install its own serial drivers automatically "USB Serial Device". No custom drivers are needed.

Rail Departures V2 Installation Guide

INITIAL SETUP

Step 1)
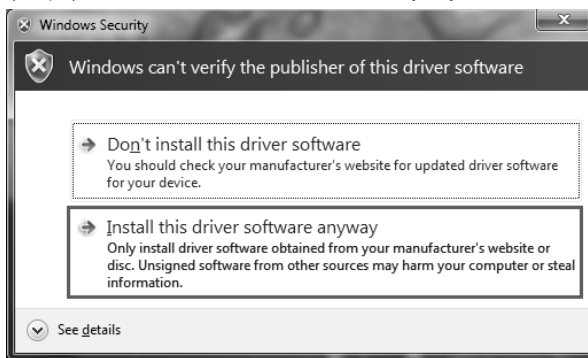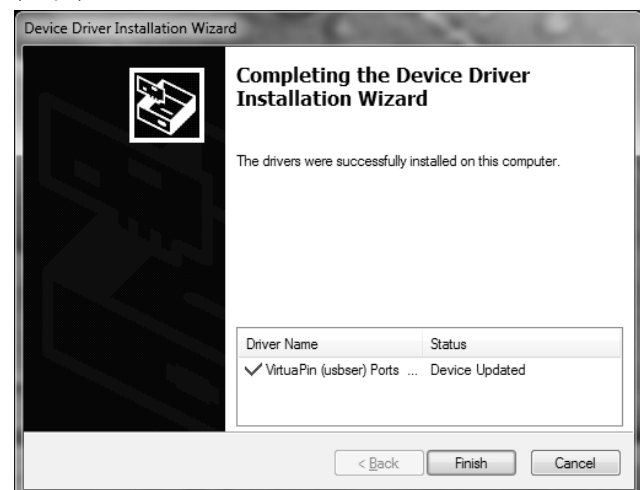**Plug the 5v power supply into the departure board controller pcb via the power jack header.**

Step 2)
Plug a USB A to USB micro cable into your pc and the other end into the usb header on departure board controller pcb.

Step 3)
Plug the power supply into a mains socket. The departure board will now initialize and run a few self tests. If all goes well you should be welcomed with a "Enter WiFi details" screen. Using departuresV2Config.exe **Enter your WiFi network and password then press UPDATE DEVICE.**

Step 4) The departure board will now reboot and attempt to connect to your WiFi network. Please refer to the FAQ section if you encounter any errors. If all goes well the departure board will connect and start showing service data.

> **Note: Once setup the departure board WiFi is setup correctly the departuresV2Config tool is no longer needed and can the USB cable can be disconnected. The board will continue to work with stand-alone.**

> **Note: If you would like to edit any settings in the future simply reattach the USB cable and run the departuresV2Config application again. You can also access all your settings via the web settings tool.**

> **Note: When there are no more services at a station the board will go into sleep mode. It will only make a request every 5min until services resume at the station. If you are changing settings using the web configuration and come across a station with no services you will have to wait 5min until any further changes are updated on the board.**

Rail Departures V2 Installation Guide

CONFIGURATION TOOL (WINDOWS APPLICATION)

The **departuresV2Config.exe** can be used to update various settings stored in the departure boards memory and view some basic statistics.

10) Here you can select / edit your favourite colour themes.

11) Colour of the service departure time text.

12) Colour of the service destination text.

13) Colour of the service information text.

14) Colour of the service platform number text.

15) Colour of the service "On time" text.

16) Colour of the service "Exp" text (delays).

17) Colour of the service "Cancelled" text.

18) The board can dim down at night to save power. This can be done by setting a time when the board should be dim (Power saving mode on) and setting a time when the board should be normal brightness (Power saving off) The board brightness can be set between 0% and 100%

19) There are three levels of debug. OFF) the board will not write any debug information. BASIC) the board will report minimal debug information / errors. FULL) the board will report all debug information / errors. Viewing this debug information is covered later in the guide.

20) The boards firmware revision.

21) The WiFi modules firmware revision.

22) The boards Unique Identification Number.

23) Enable showing the current service calling at stations arrival times.

24) Enable showing the platform number.

25) Enable showing service information.

26) Use National Rail Enquires API (default is Realtime Trains API) More information about what features each API offer is covered later in the guide.

27) Board statistics can be viewed here. Uptime) amount of time the board has been running. Server Requests) amount of requests the board has made to the server. Request Errors) amount of requests which failed. These values are reset when the board is reset.

28) This button updates the device with the new settings.

29) Restore settings back to defaults

1) WiFi credentials (network/password)

2) Origin station with optional destination filter station. Ie if Destination was set to 'Reading' Only services from 'Bristol Temple Meads' to 'Reading' would be displayed.

3) Amount of services to display.

4) Update frequency between server requests (fewer requests uses less data)

5) Speed of the service text scrolling vertically when the board refreshes.

6) Speed of the next service text scrolling vertically as it swaps to the next service in the list.

7) Speed of the current service calling at station list scrolling horizontally.

8) Delay between swapping to the next service.

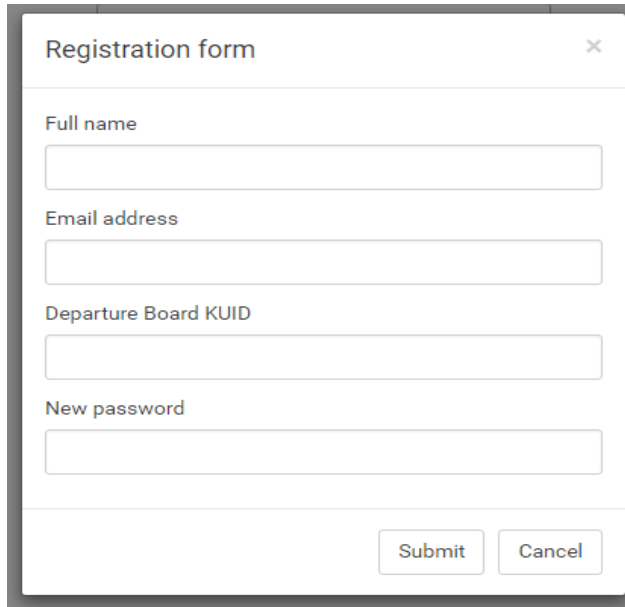9) Duration the service info text is displayed for

CONFIGURATION TOOL (WEB APPLICATION)

The web configuration can be found here.

(Step1)
Register your account. You will need your boards KUID (this can be found using the pc configuration app or you can email mailto:contact@pindmd.com
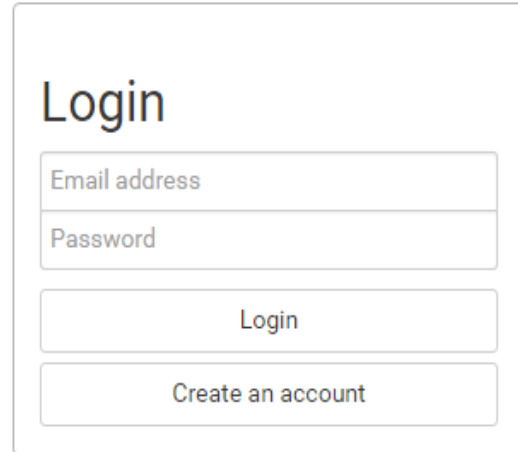
Registration form ×

Full name

Email address

Departure Board KUID

New password

[Submit] [Cancel]

(Step2) Log In.

Login

Email address

Password

[Login]

[Create an account]

(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 require before the changes will be applied.
- WiFi settings can not be edited using this web configuration. You will need to revert to the pc configuration to edit this information.

Device Info & Stats:

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

[UPDATE BOARD] [RESET SETTINGS]

Rail Departures V2 Installation Guide

API COMPARISON TABLE

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 V2 Installation Guide

DEVICE FIRMWARE UPGRADE

DFU (Device Firmware Upgrade) can be used to update the controller's firmware. The firmware can be updated to add new features and fix bugs.
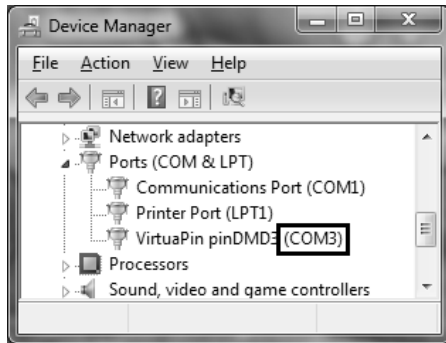
(Step1) Open up Device Manager and find out which COM port the controller has been assigned.
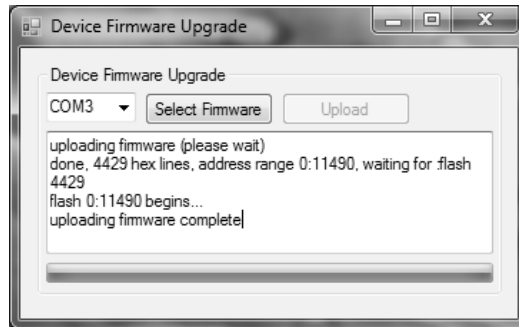
(Step2) Download the DFU software from here.
(Step3) Select the correct COM port.
(Step4) Select the firmware.bin file you want to upload.
(Step5) Click Upload. (Once the upload has completed you should see similar output to the above image).

Rail Departures V2 Installation Guide

WALL MOUNTING HOLES

The departure board can be wall mounted using the two mounting holes on the back of the departure board.

Display centre line

330mm between centres

3.5mm (No 6) screws recommended
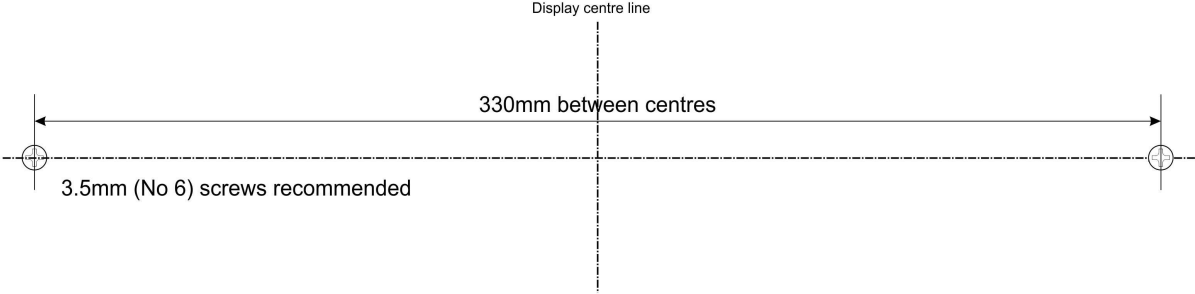
Rail Departures V2 Installation Guide

DEBUG

If you are having problems with the departure board you can enable the serial debug log(FULL mode) with the departure board connected to your pc via the usb cable and using a serial terminal application(ie Putty) set to the com port the departure board has been assigned, you can view detailed debug logs.

STATUS LED

Solid On	**- The device has encountered an internal error.**
Short Pulse On	**- The device is requesting service data.**
Slow Flash	**- The device has received service data and is running.**
Medium Flash	**- The device is connecting to WiFi.**
Fast Flash	**- The device is in error state.**

Rail Departures V2 Installation Guide

FAQ

Problem: Board does not boot.
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 does not connect to WiFi
Solution: Check you have entered your correct WiFi credentials.

Problem: Board does connect to WiFi but does not show service data (stays on boot screen).
Solution: Some public/office WiFi hotspots have a welcome page before they allow you full access to the WiFi the board will not work with these types of WiFi access point.

Problem: Board keeps displaying request errors.
Solution: Check WiFi router/access point is not to far away. Check the board has a decent WiFi signal.

Problem: Board display modules do not display data but controller pcb leds are lit.
Solution: Make sure controller pcb is seated well on display connector.

Problem: Computer can not detect the departure board via USB.
Solution: 1) Make sure the board has power. 2) Try using a different USB cable (make sure it can transfer data as well as power ie not just a charging cable) some USB cables do not work well with the departure board.

Problem: Board displays hardware fail on boot.
Solution: Check WiFi module is seated correctly.

Problem: Board fails to connect to BT-Smart-Hub.
Solution: A recent firmware update to this hub has caused the board to be unable to connect to it any more. One solution to this problem is to buy a separate cheap WiFi router and connect to this instead. The following router has been tested and confirmed working. "Belkin Wireless DSL Wi-Fi Router (SURF N300)" This can be picked up for around £10 on Ebay.

Problem: Board appears to freeze and not update once the calling at list has completed.
Solution: This is usually down to the board's server requests failing due to poor WiFi signal. You can see your boards error rate using the web configuration. The error rate should ideally be around 1-3% any higher you will noticed the board freezing occasionally. Try moving the board to a different position / connecting to a different WiFi access point for better performance.

Email contact@raildepartures.co.uk if you require more information / additional help.

Rail Departures V2 Installation Guide

ACKNOWLEDGEMENTS

API Feeds:
http://www.realtimetrains.co.uk/
http://www.nationalrail.co.uk/46391.aspx

Special Thanks:

Kris Baillie   Firmware / Web configuration testing / bug reporting / Station name renaming.
Andy Carter   Firmware / Web configuration testing / bug reporting / Station name renaming.
Danny Cox   Firmware / Web configuration testing / bug reporting / Promo video / media.

Rail Departures V2 Installation Guide

DISCLAIMER

LIMITATION OF LIABILITY
IN NO EVENT WILL RUSSELL PIRIE BE LIABLE, WHETHER IN CONTRACT, TORT, OR OTHERWISE, FOR ANY INCIDENTAL, SPECIAL, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR ANY LOSS OF USE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, OR LOST PROFITS, SAVINGS, OR REVENUES TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW.
THIS BOARD IS INTENDED FOR USE FOR DEMONSTRATION, OR EVALUATION PURPOSES ONLY AND IS NOT CONSIDERED BY RAIL DEPARTURES TO BE A FINISHED END-PRODUCT FIT FOR GENERAL CONSUMER USE. PERSONS HANDLING THE PRODUCT(S) MUST HAVE ELECTRONICS TRAINING AND OBSERVE GOOD ENGINEERING PRACTICE STANDARDS. AS SUCH, THE GOODS BEING PROVIDED ARE NOT INTENDED TO BE COMPLETE IN TERMS OF REQUIRED DESIGN-, MARKETING-, AND/OR MANUFACTURING-RELATED PROTECTIVE CONSIDERATIONS, INCLUDING PRODUCT SAFETY AND ENVIRONMENTAL MEASURES TYPICALLY FOUND IN END PRODUCTS THAT INCORPORATE SUCH SEMICONDUCTOR COMPONENTS OR CIRCUIT BOARDS. THIS BOARD DOES NOT FALL WITHIN THE SCOPE OF THE EUROPEAN UNION DIRECTIVES REGARDING ELECTROMAGNETIC COMPATIBILITY, RESTRICTED SUBSTANCES (ROHS), RECYCLING (WEEE), FCC, CE OR UL, AND THEREFORE MAY NOT MEET THE TECHNICAL REQUIREMENTS OF THESE DIRECTIVES OR OTHER RELATED DIRECTIVES.