

Rail Departures V2 Installation Guide

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WHAT'S INCLUDED

Rail Departures V2 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 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: The controller boards micro USB connector is very delicate! DO NOT use excessive force. This can lead to irreversible damage.

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.

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INSTALLATION

[Download USB drivers.](#)

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

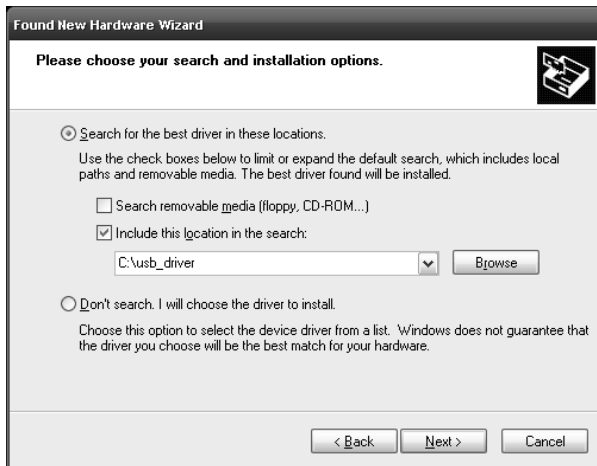
INSTALLTION WINDOWS XP



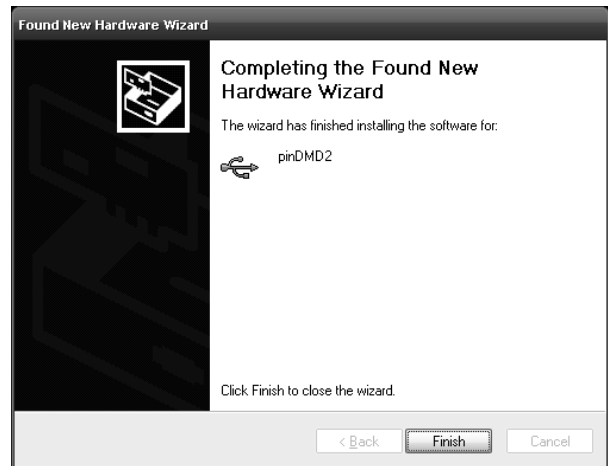
(Step1)



(Step2)



(Step3) Browse to the unzipped usb drivers folder.

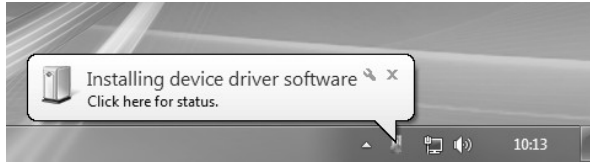


(Step4)

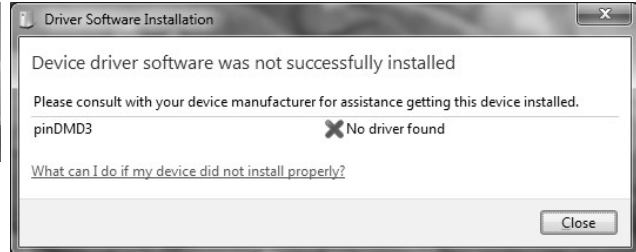
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INSTALLATION WINDOWS 7

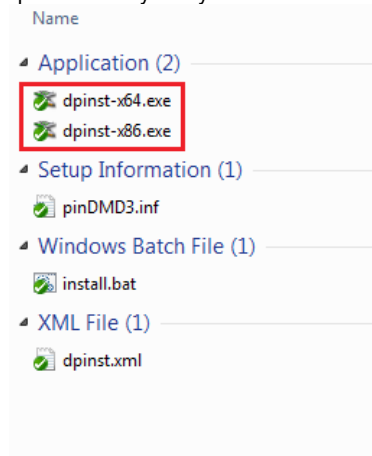
(Step1) Plug in the pinDMD3, Click the balloon pop up.



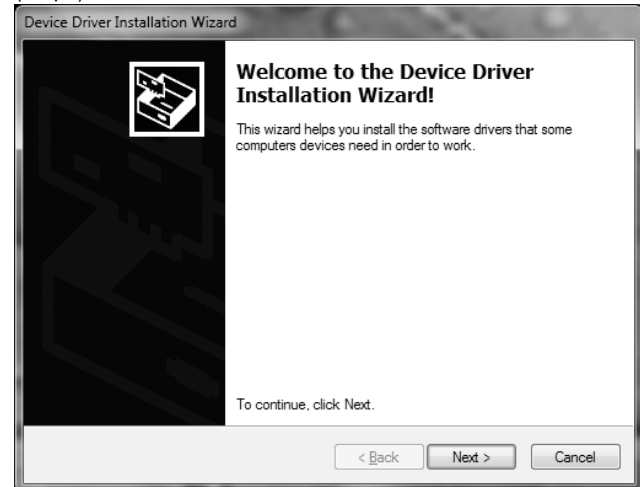
(Step2) (Wait for windows to fail finding the driver), Click 'Close'



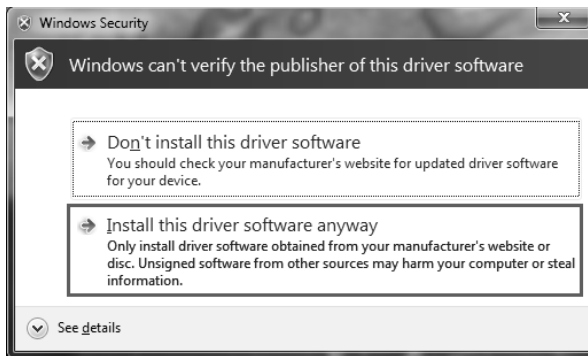
(Step3) Unzip the usb drivers and run the appropriate dpinst.exe for your system.



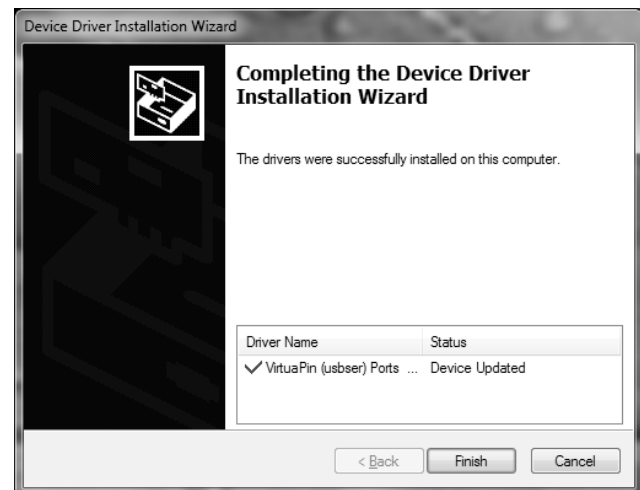
(Step4) Follow the installation wizard instructions.



(Step5) Click 'Install this driver software anyway'.



(Step6) Click 'Finish'.



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INSTALLATION WINDOWS 8/10

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

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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 [wifiConfig](#) 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 wifiConfig tool is no longer needed and can the USB cable can be disconnected. The board will continue to work with stand-alone.

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.

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WIFI CONFIGURATION TOOL (WINDOWS APPLICATION)

WiFi Config

WiFi Details

WiFi Network: SKY2AEB2

WiFi Password: *****

UPDATE DEVICE

Firmware: REV-CIS2-02026
Firmware WiFi: REV-1.3.0.0
KUID: 09E9CA8F-021BE136-06A08D16

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(Step1) Enter your WiFi details.
(Step2) Press UPDATE DEVICE

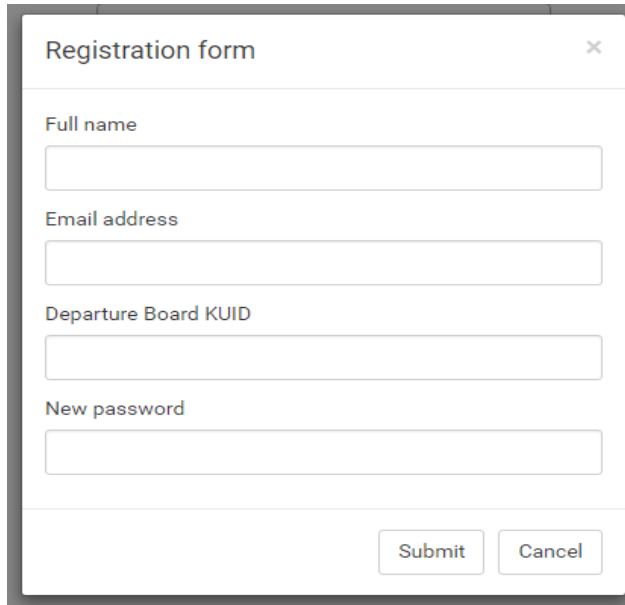
Note: This app can be used to get hold of your boards KUID (required for web configuration registration)

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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 wifiConfig app or you can email contact@ukdepartureboards.co.uk



Registration form

Full name

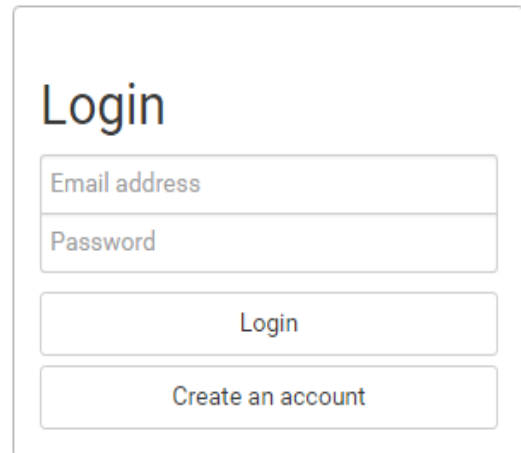
Email address

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 wifiConfig 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

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API COMPARISON TABLE

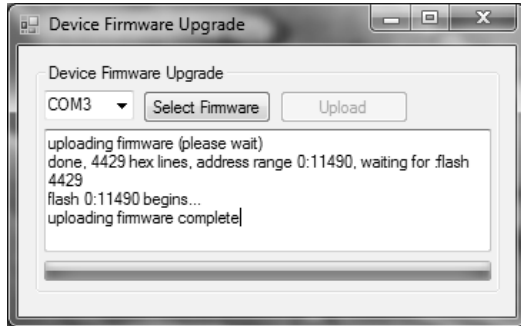
This table describes what features different API's support. As more API's come available they will be added to the list. In the future the API's can hopefully be merged, so all features of each individual API can be available.

	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

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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) Download the DFU software from [here](#).

(Step2) Select the firmware.bin file you want to upload.

(Step3) Click Upload. (Once the upload has completed you should see similar output to the left image).

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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.

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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 (ie SSID / PASSWORD). If using a SKY router, check 'Mode' under 'Wireless Network' is set to 'Auto'.
- 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. See "Board fails to connect to BT-Smart-Hub".
- Problem:** Board keeps displaying request errors.
Solution: Check WiFi router/access point is not too far away. Check the board has a reasonable 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 cannot 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 notice the board freezing occasionally. Try moving the board to a different position / connecting to a different WiFi access point for better performance.

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

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ACKNOWLEDGEMENTS

API Feeds:

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

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

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

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.

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