

ACE-3 DCC Controller



Firmware Upgrade Manual

Introduction.....

The *USB* socket on the *ACE-3* (DCS2044-3) DCC Controller provides a connection between it and a personal computer (PC).

At present, the purpose of the USB interface is to allow users to update their *ACE* controllers with the latest version of *firmware* (currently V1.36) but, in time, it will be possible to control the *ACE* from a PC. Developments in this area will be announced on our distributor's website: www.glrailways.co.uk.

The following screen shots in this manual are intended as a guide only and cannot be shown in detail owing to space constraints.

Computer System Requirements

- i) A PC running the Microsoft Windows® operating system.
- ii) One free USB port.

The following screen shots show operation under Windows 10. Versions VISTA, 7, 8 and 11 may also be used. The application will also run under Windows XP but please contact *GFB Designs* if you experience any problems using this (legacy) version.

CONTENTS

1 FIRST STEPS	4
1.1 ACE FIRMWARE (.hex) FILE	4
1.2 DCS2044 FIRMWARE UPGRADE WIZARD	5
2 INSTALLING THE USB DRIVERS	7
3 PERFORMING THE FIRMWARE UPDATE	8
3.1 SELECT THE .hex FILE	8
3.2 ESTABLISH USB COMMUNICATIONS	11
3.3 WRITE NEW FIRMWARE	14
4 IMPORTANT INFORMATION	17
4.1 WARRANTY	17
4.2 CONTACT DETAILS	17

1 FIRST STEPS

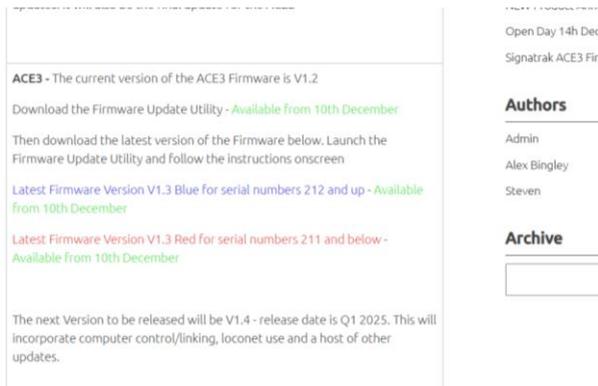
In order to use the USB to update your ACE firmware for the first time, you will need to download various software files and install them on your PC. Please, therefore, carry out the following instructions **fully and in sequence**.

Before continuing, ensure that your computer is reliably connected to the internet.

For future updates, only sections (1.1) and (3) need to be completed.

1.1 ACE FIRMWARE (.hex) FILE

- i) Type www.glrailways.co.uk/blogs/product-software-firmware-and-updates in your internet browser address bar. You will see the following section:-



- ii) Click on the appropriate (“red” or “blue”) heading for your ACE-3.

For users of ACE-3s having serial numbers ending 0211 or below, you need file “**ACE-3_Vxyz_RED.X.UserBuild.hex**”, where “xyz” is the latest version number.

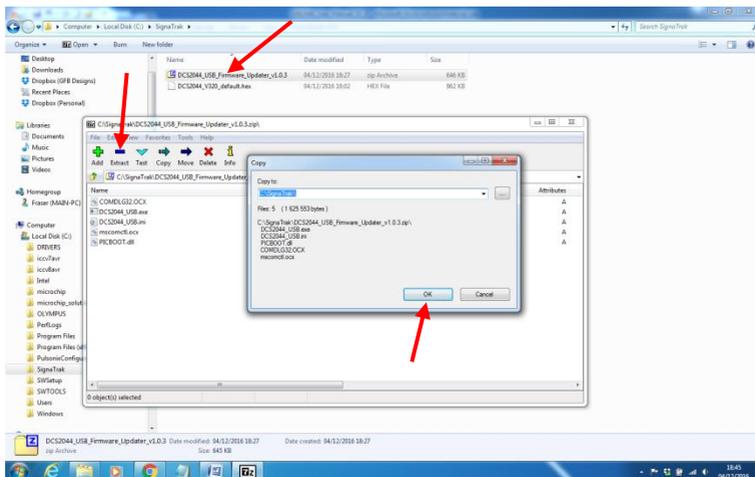
For users of ACE-3s having serial numbers ending 0212 or later, you need file “**ACE-3_Vxyz_BLUE.X.UserBuild.hex**”.

- iii) Now click on the “Download” icon as shown above.

The downloaded “hex” file will now be in the “Downloads” folder on your computer. We suggest that you create a new folder – called “SignaTrak”, for example - and move the file to this new folder.

1.2 DCS2044 FIRMWARE UPGRADE WIZARD

- iv) Browse back to the www.glrailways.co.uk/blogs/product-software-firmware-and-updates page.
- v) Click on “DCS2044 ACE Firmware Upgrader App.”.
- vi) The “.zip” file will download to the “Downloads” folder on your computer, as indicated here:-
- vii) Click on the “^”, then on “Show in folder” as shown.
- viii) Move the file to your new “SignaTrak” folder.
- ix) In your “SignaTrak” folder, double-click on the “DCS2044_USB_Firmware_Updater...” zip file. In the next window, click “Extract” then click “OK” in the “Copy” box. This is shown below:-



- x) Finally, create a *shortcut* to the Updater, as follows:-

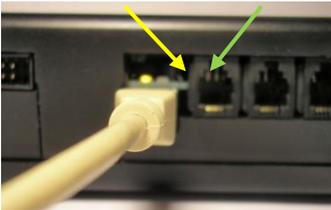
In your “SignaTrak” folder, right-click on the “**DCS2044_USB**” **Application** file, then **select “Send to”/”Desktop (create shortcut)”** in the drop-down boxes.

2 INSTALLING THE USB DRIVERS

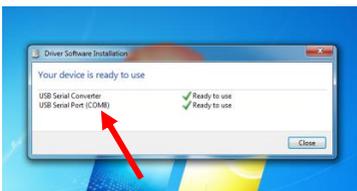
Plug the flat (“type A”) plug on the supplied USB cable into a free USB port on your computer and plug the other end of the cable into the USB “mini” socket on the ACE.

Now connect the ACE-3’s power supply to the mains and to the “DC IN” socket on the ACE-3.

Look carefully to the right of the USB socket and you should see an internal LED flash briefly yellow and green. The following “callout” should now appear on your computer screen:-



Clicking on the callout, as invited, should reveal the following – or a similar – sequence of dialogue boxes:-



This final dialogue shows that the USB driver software has been successfully installed on your computer. Take note of the port number (red arrow) – in this case it is “COM8” – as you will need this information for the ACE firmware update.

NOTE – the above process is likely to take several minutes as the first stage involves searching the internet for the driver files.

If (for any reason) Windows® cannot find the drivers, they can be downloaded from www.ftdichip.com/Drivers/VCP.htm

3 PERFORMING THE FIRMWARE UPDATE

You are now finally ready to update your ACE! (Future updates will be simpler, as the preparation has now been completed.)

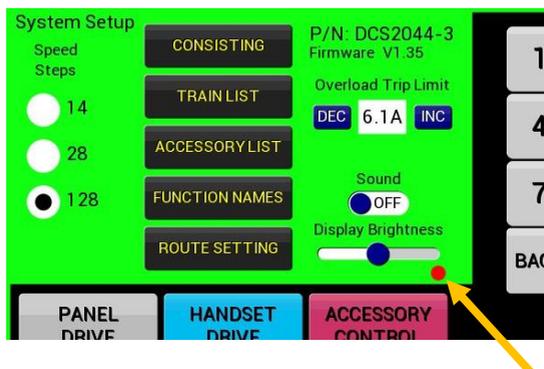
NOTE THAT THE DISPLAY ON THE ACE WILL REMAIN BLANK DURING THE ACTUAL FIRMWARE UPDATE PROCESS.

3.1 SETUP THE ACE-3

- i) Apply power to the ACE (if not already powered) and press “SYSTEM SETUP”.
- ii) Now plug the small black jumper link on the “OPTIONS” connector as shown here (bottom row, second and third pins from the right):-



You should see a small circular red dot appear on the screen, as shown here:-



Now remove the jumper link.

3.2 SELECT THE .hex FILE

- i) Double-click on the  icon on your computer *Desktop*.
- ii) You may be presented with a *User Account Control* message, asking:

“Do you want to allow this app from an unknown publisher to make changes to your device?”

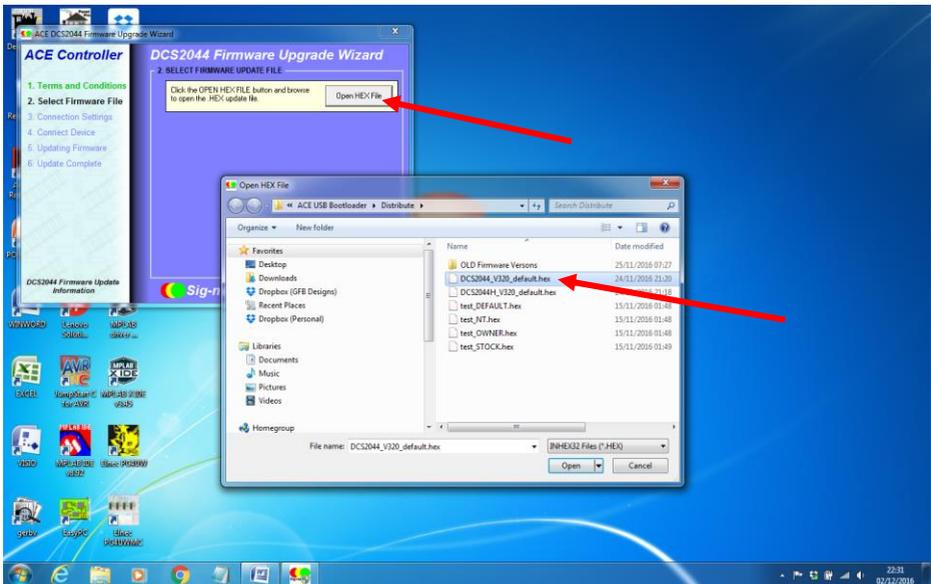
Click **“YES”** and the Updater will start as shown below:-



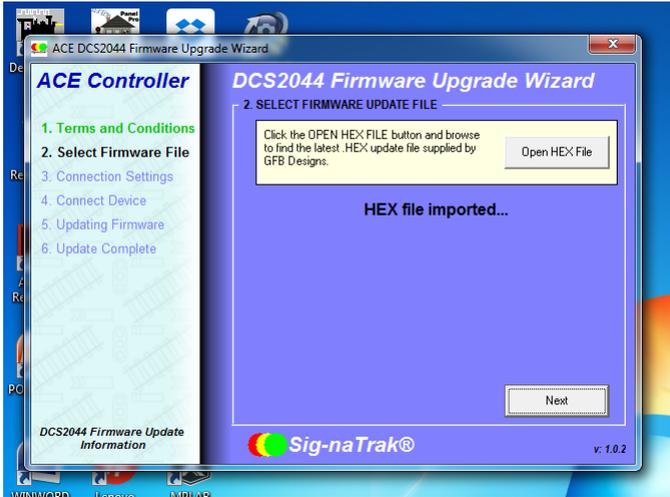
- iii) Acknowledge the three check boxes and then click **“NEXT”**, as shown below:-



iv) Follow the on-screen prompts to select your “.hex” file as shown below:-

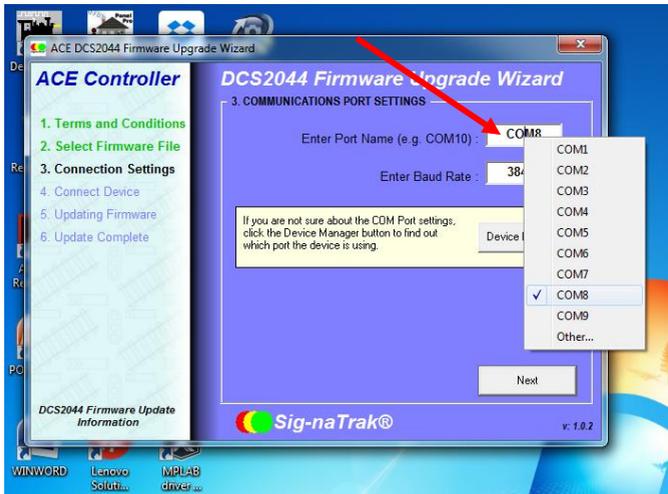


After a short while, the screen will be updated – to indicate that the file has been imported – as follows:-

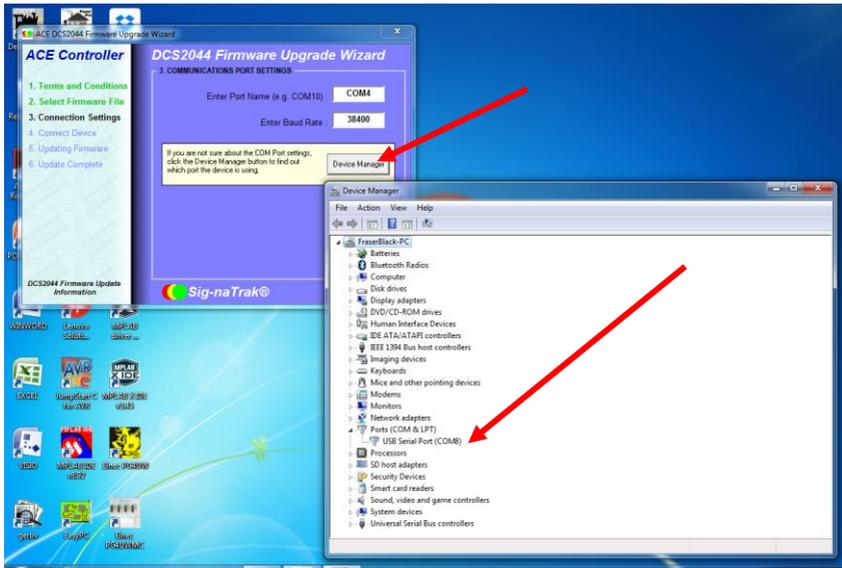


3.2 ESTABLISH USB COMMUNICATIONS

- i) Click on the box marked by the red arrow and select your **port number** (as determined in section (3)). Ensure that the *Baud Rate* is set to **38400**.



If you do not remember the port number, then ensure that the *ACE* is connected to your computer (with the USB cable). Click the “**Device Manager**” button and check the “**USB Serial Port**” entry as shown below:-

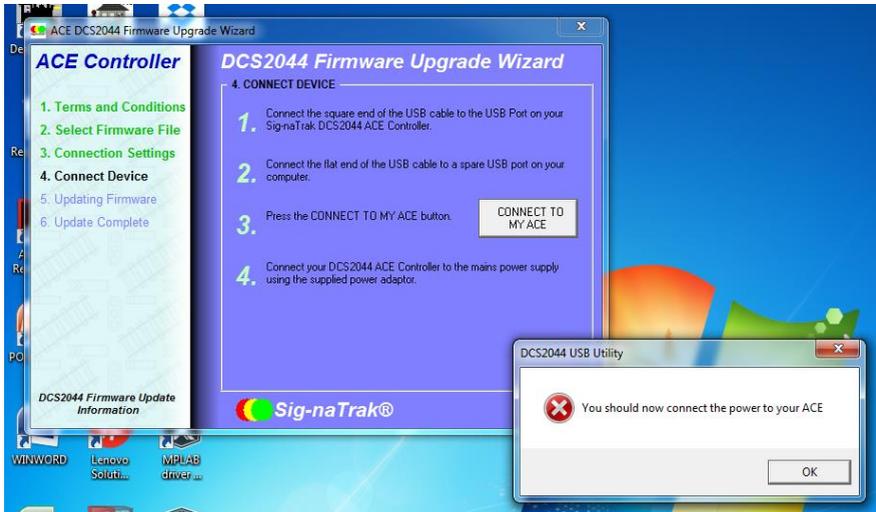


ii) Now click the “NEXT” button and the screen will change as shown here:-

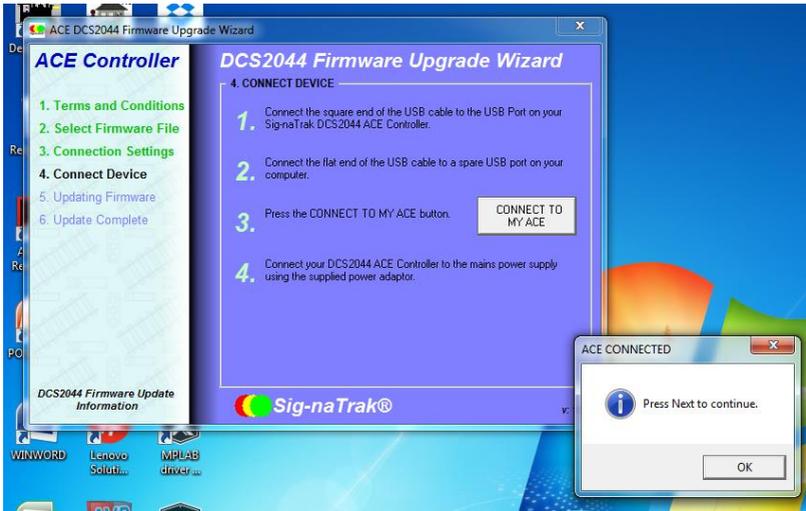


iii) Disregard instructions 1 and 2, as these apply to the earlier ACE-2 model. (You should already have the USB cable connected between your ACE-3 and your computer.) Simply click on “**CONNECT TO MY ACE**”.

- iv) Disregard instruction 4, shown below, as this also applies to the earlier ACE-2 models.



At this point tap the RED DOT on the ACE-3's SYSTEM SETUP screen, which will then go blank.
You must now click the "OK" button (shown above), within 5 seconds.
DO NOT EXPECT A DISPLAY TO APPEAR ON THE ACE.

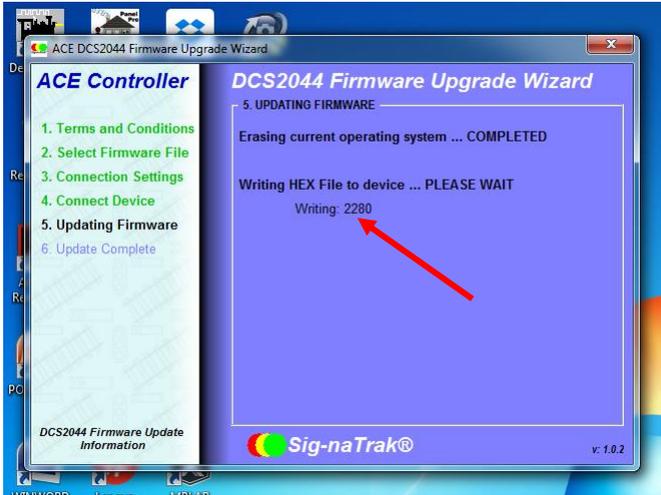


The following screen confirms that USB communications have been established:-



3.3 WRITE NEW FIRMWARE

- i) Click on the “NEXT” button, shown above.



- ii) The new firmware (.hex file) will now be written to the ACE, overwriting the current system. This will take approximately two minutes and progress can be monitored using the *address counter* (red arrow).

The address counter will run up to “2ABFF” and then the final screen is presented.....



- iii) Check the ACE's screen. It will be presenting the TOUCH PANEL CALIBRATION display.
- iv) Follow the touch panel calibration procedure (consult your ACE manual, if necessary) and the ACE will then commence normal operation.
- v) Remove the USB cable and close down the Updater (by clicking the "EXIT" button shown above).

YOUR UPDATE IS NOW COMPLETE !

4 IMPORTANT INFORMATION

4.1 WARRANTY

All *GFB Designs* products are guaranteed against defects in materials and workmanship for a period of 24 months from the date of purchase. Should a defect arise within this period, the product will be repaired or replaced free of charge PROVIDED:-

- The product has been used and maintained in accordance with our instructions and (where applicable) any electrical ratings.
- No physical damage has occurred whilst the product is in the customer's possession.
- The fault has not been caused by any other form of misuse or neglect.

This guarantee is in addition to, and does not diminish, your statutory rights – for further information please contact your local Trading Standards Authority.

4.2 CONTACT DETAILS

GFB Designs
13 Hooper Close, Hull, HU6 9FG, UK

For technical support:-

Tel: **+44 (0)161 883 2022**
Email: gfbdesigns05@btinternet.com

For sales, marketing and product supply/distribution:-

Email: sales@glrailways.com Web: www.glrailways.co.uk