Manuals+ — User Manuals Simplified.

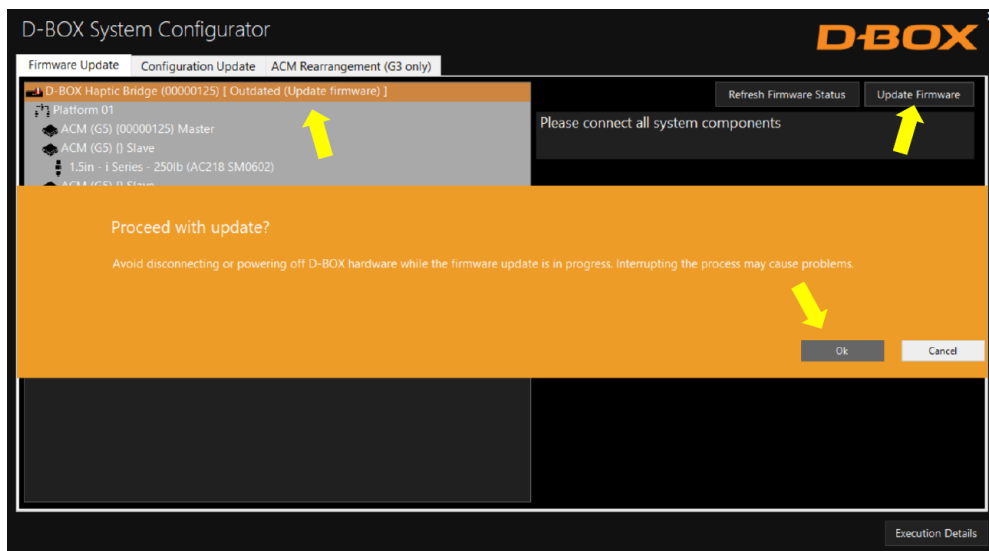# D0-BOX 194-914-0010-EN6 System Configurator app User Guide

Contents

D0-BOX 194-914-0010-EN6 System Configurator app

IMPORTANT SAFETY INSTRUCTIONS

- Read, keep, and follow these instructions.
- **Heed all warnings:**
  - This D-BOX Haptic System may be harmful to women who are pregnant, persons with heart conditions, the elderly, or those with other pre-existing medical conditions. All such persons should consult their physicians before using this D-BOX Haptic System.

  - Use of this D-BOX Haptic System poses a risk to hands and feet. Do not put hands or feet underneath the seat or near the haptic system. Doing so may lead to serious injury.
  - The use of hot liquids in the vicinity of this D-BOX Haptic System should always be avoided to prevent spillage, which could cause serious injuries to the user.

  - Do not use this device near water.

  - Only clean the device with a dry cloth.
  - Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
  - Protect all the cables (USB, network, power, etc.) from being walked on or pinched, particularly at the ends.
  - Use only attachments/accessories specified by the manufacturer.

- Use of this D-BOX Haptic System is not recommended for children under the age of ten (10) without adult supervision. Owners and/or users of this D-BOX Haptic System should consult and comply with the user guide enclosed herein.

- Unplug this device during electrical storms or when unused for long periods of time.

- Do not install near any heat sources such as radiators, heat registers, stoves or any other appliances (including amplifiers).

- Refer all servicing to qualified personnel. Servicing is required when the device has been damaged in any way. For example: if liquid has been spilled or objects have fallen onto it, if it has been exposed to rain or moisture, if it does not operate normally or, it has been dropped.

Owners and/or users of this D-BOX Haptic System are responsible for the dissemination of this information to all such persons named herein. Each owner and/or user of this D-BOX Haptic System agrees to evaluate and bear all risks associated with the use of this D-BOX Haptic System for themselves and for any subsequent users of this D-BOX Haptic System. Any subsequent users of this D-BOX Haptic System shall be deemed to be using this D-BOX Haptic System under the direct supervision of such owner/user and such owner/user will be deemed to have communicated this advisory to all persons described herein.

D-BOX Technologies Inc. is in no way responsible for damages of any kind arising from the use of this D-BOX Haptic System. The owners and/or users of this D-BOX Haptic System hereby agree not to hold D-BOX Technologies Inc. responsible for any and all damages of any kind arising from the use of this D-BOX Haptic System. These damages include, but are not limited to, direct or indirect damages, punitive damages, and incidental, special or consequential damages arising out of or in any way connected with the use of this D-BOX Haptic System.

INTRODUCTION

The D-BOX System Configuration is a free software tool used to update and configure your G2, G3 or G5 haptic systems.
Haptic System users can use the System Configurator to:

- Update the firmware of the KCU-1P and associated D-BOX hardware (G2 & G3).
- Configure (or modify) your Haptic System.
- Change the Master – Slave ACMs arrangement (G3 Only).

If you require a reconfiguration on your G1 motion system, please contact our support team.

BEFORE RUNNING THE SYSTEM CONFIGURATOR

Haptic System Generations

For G2 & G3 haptic systems, each ACM holds a programming specific to its actuator's configuration (firmware + programming).
For G5 haptic systems, firmware & programming are applied to the Haptic Bridge (ACM Master) and Haptic Actuator (ACM Slave).

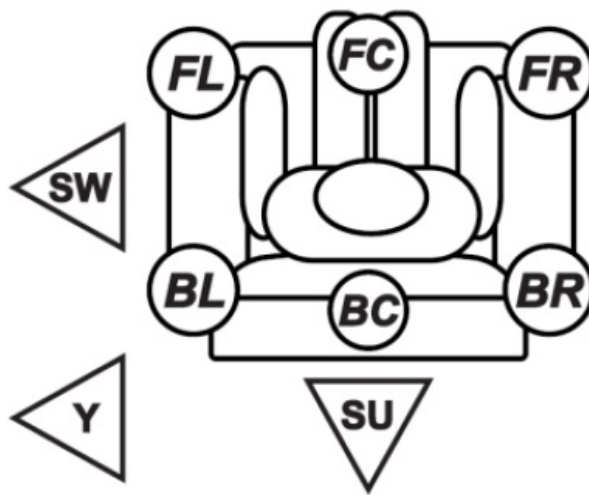| Name	ACM-II	ACM-II	ACM-G3	G5 Haptic System
Generation	G2	G2	G3	G5
Stroke	1.5in, 3in & 6in	6in	1.5in, 3in & 6in	1.5in
Max. Number of Actuators	3	2	2	4

ACM Arrangement (Master/Slave)

For a G2 or a G3 haptic system, each ACM is assigned following its position in the system. It is programmed either as:

- ACM Master: Mandatory to be the first ACM in the chain from the KCU-1P
- ACM Slave: All following ACMs in the chain (if needed)

For G2 & G3, the ACM arrangement is shown by a sticker indicating Master or Slave on the ACM itself.
Please refer to your haptic system User Guide for more details about how to connect your system.
For G5, the Haptic Bridge is considered as a Master ACM and each haptic actuator as a Slave ACM.

Haptic Actuator Positions

The logo used to represent the actuator positions is a man sitting on a sofa (top view). The following figure describes the characters used to define the actuator positions:

LEGEND	POSITION	PICTOGRAM REFERENCE
FL	Front-Left	
FC	Front-Center	
FR	Front-Right	
BL	Back-Left	
BC	Back-Center	
BR	Back-Right	
SU	Surge	
SW	Sway	
Y	Yaw	

SOFTWARE INSTALLATION

The D-BOX System Configurator is compatible with Microsoft Windows 7, 8, 10 & 11 – 64 bits.

- **STEP 1:** Make sure you have the latest version of D-BOX Motion Core installed on your PC before installing and running the D-BOX System Configurator. The D-BOX Motion Core package is available at: **https://www.d-box.com/en/software-downloads**
- **STEP 2:** Download, extract and install (Setup.exe) the D-BOX System Configurator package available at: **https://www.d-box.com/en/software-downloads**

STARTING THE SYSTEM CONFIGURATOR

Do not interrupt the update process while it is running. Interrupting the update process before it is completed may cause improper operation. Please contact D-BOX support if you experience improper operation.

- **STEP 1:** Connect the hardware to your computer. See your haptic system User Guide if necessary.
- **STEP 2:** Start the D-BOX System Configuration software

  NOTE: Running the software requires administrative privileges.

FIRMWARE UPDATE

The Firmware update tab is the active tab when you start the application. This tab allows you to update the firmware of the following equipment:

- Haptic Bridge and Haptic Actuator (G5 only)
- ACM, KCU-1P, KCA & KCA-T (G2 & G3 only)

A firmware update can also change the actuator model (G3 only). For example, if you replace 1.5-inch actuators by 3-inch actuators, you need to update the firmware. See section 5.1 for more details.
**NOTE:** Firmware update applies to a KCU-1P and all subcomponents. If you have multiple KCU-1P, you need to update them one at a time.

- **STEP 1:** Click the Refresh Firmware Status button. This action refreshes the status of the firmware and updates the status to outdated (if a newer firmware is available) or up to date (if the latest firmware is already in use):

**Example for a G5 Haptic System:**
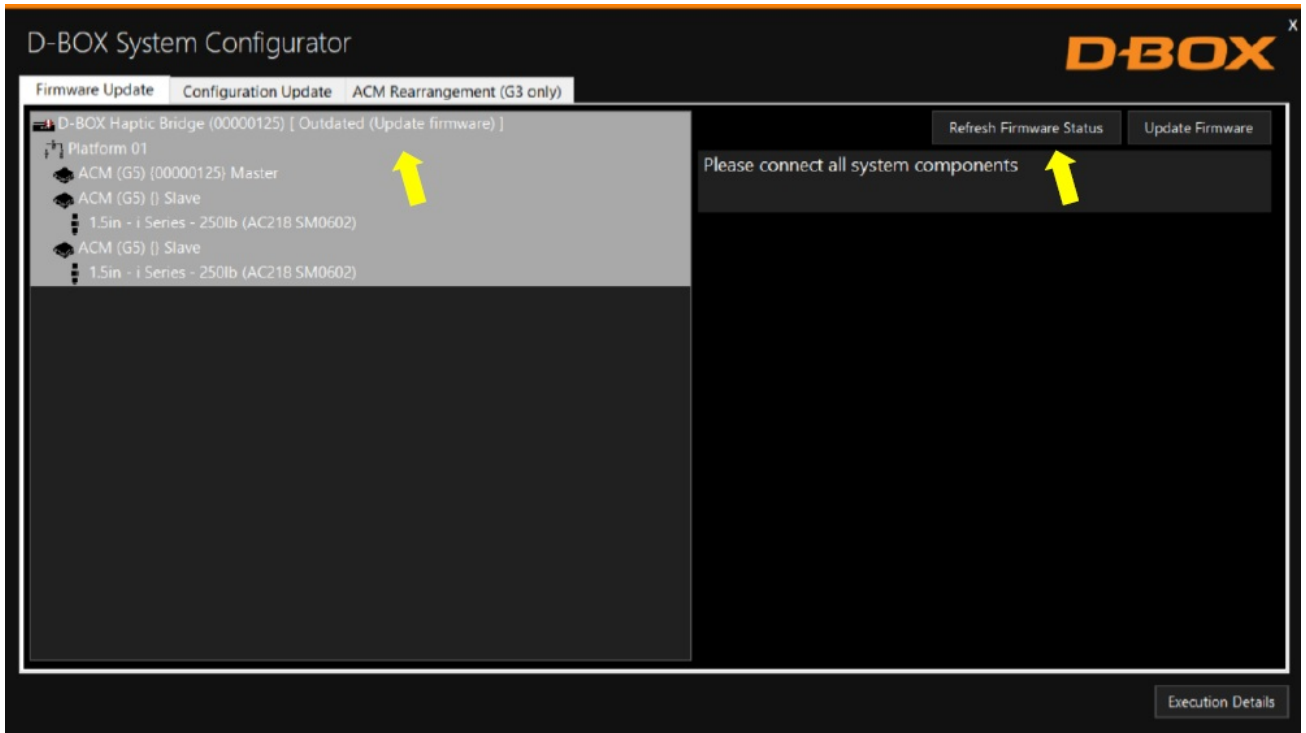
Example for G2 or G3 (KCU-1P):
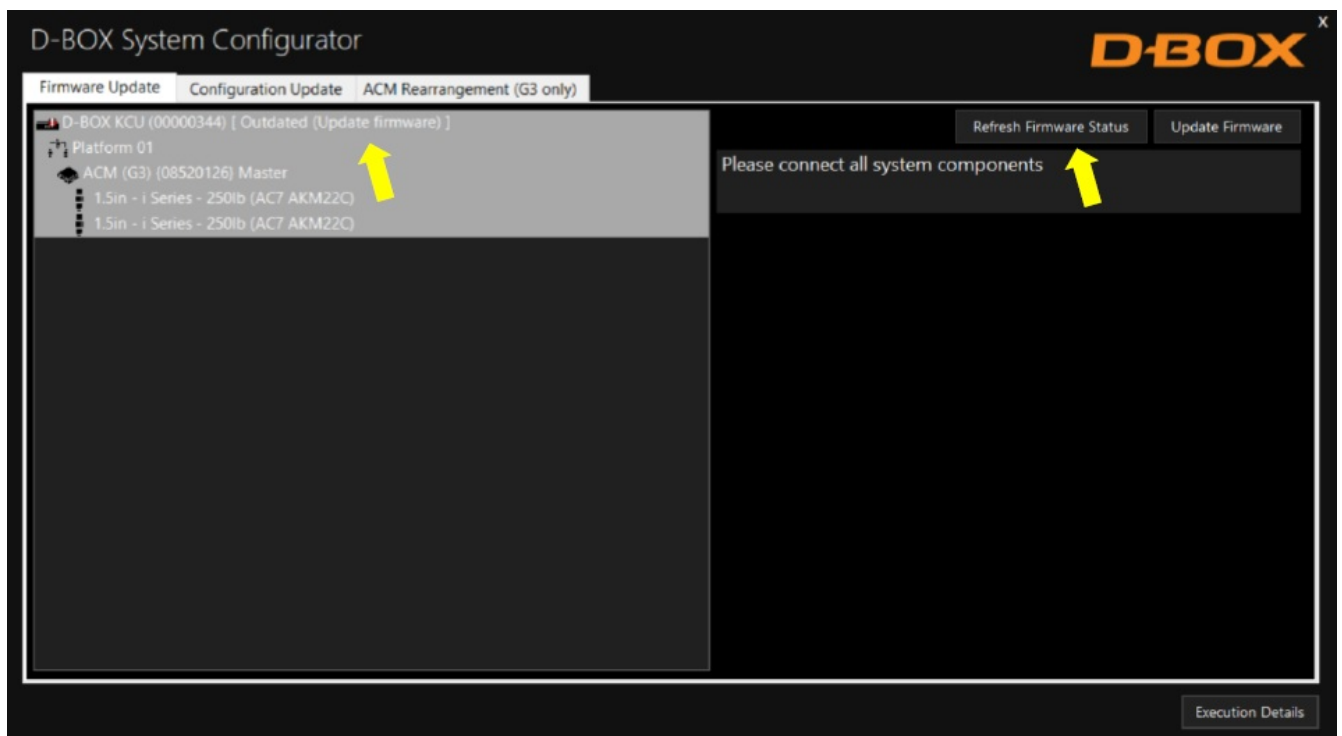
The device icon displays its status. The possible values are:

| Device Icon	Status	Action required
	Unknown: Refresh firmware status	Initial status. Refresh the status using the Refresh Firmware Status button.
	Outdated firmware should be updated	A newer firmware is available. Update firmware by using the Update Firmware button.
	Up to date: No action required	The latest firmware is installed. No action required.

- **STEP 2:** If your components are outdated, select the Haptic Bridge (G5) or KCU-1P (G2 & G3) you want to update then press the Update Firmware button. A dialog box will appear asking you if you want to proceed with update. Click OK:
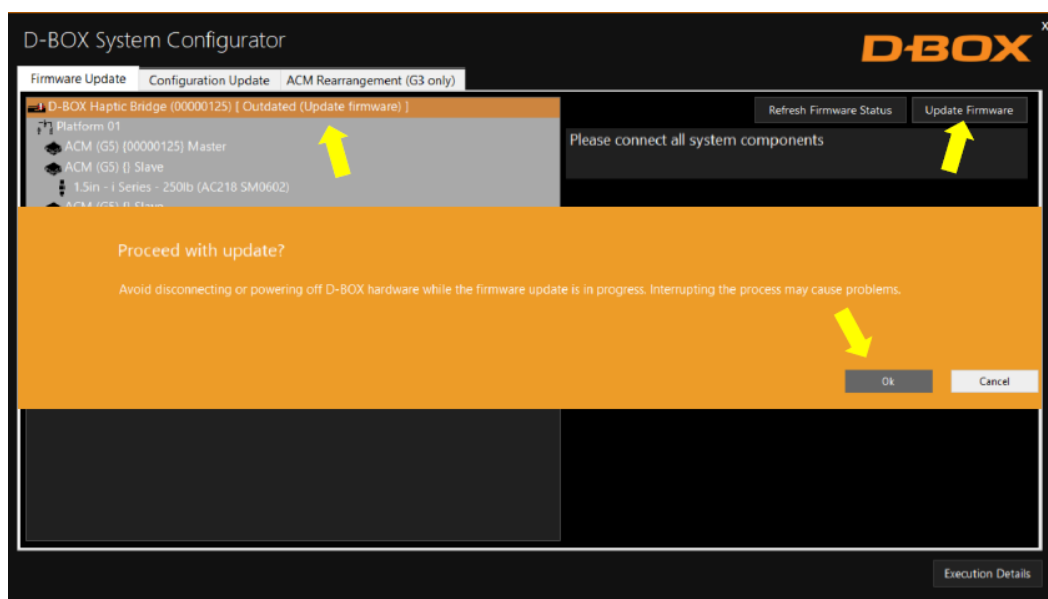
NOTE: The update process may take a few minutes. You can click the Execution Details button at any time to read details about the ongoing operation:
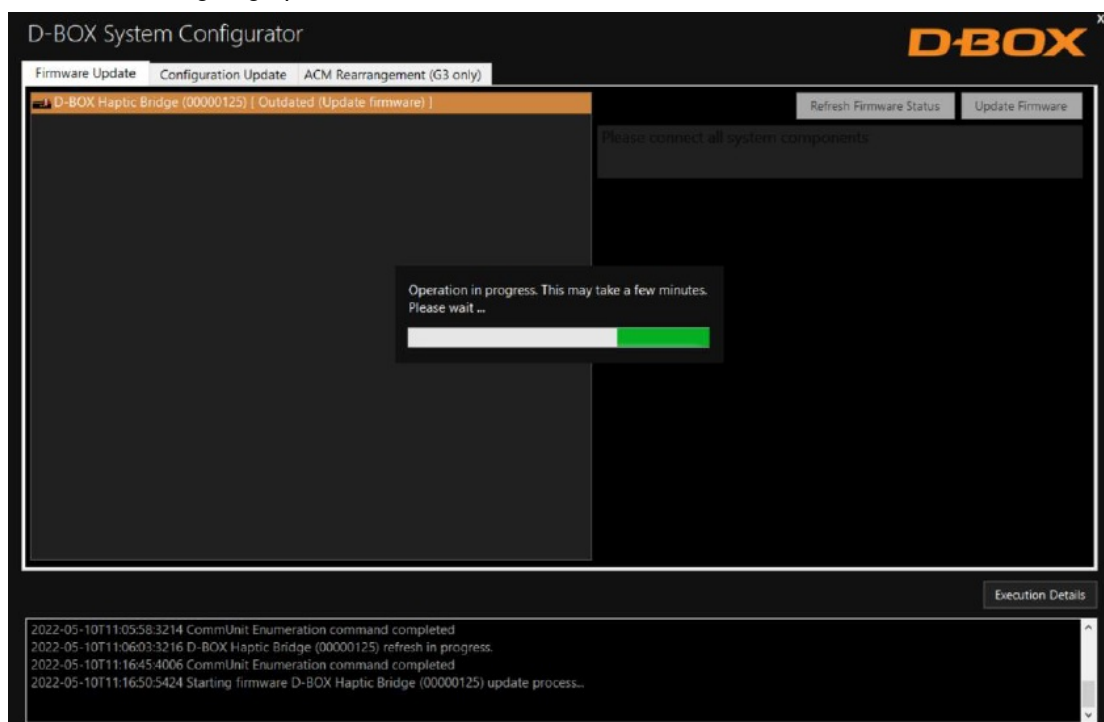
Once the update process is complete, the following window will appear. Click OK:
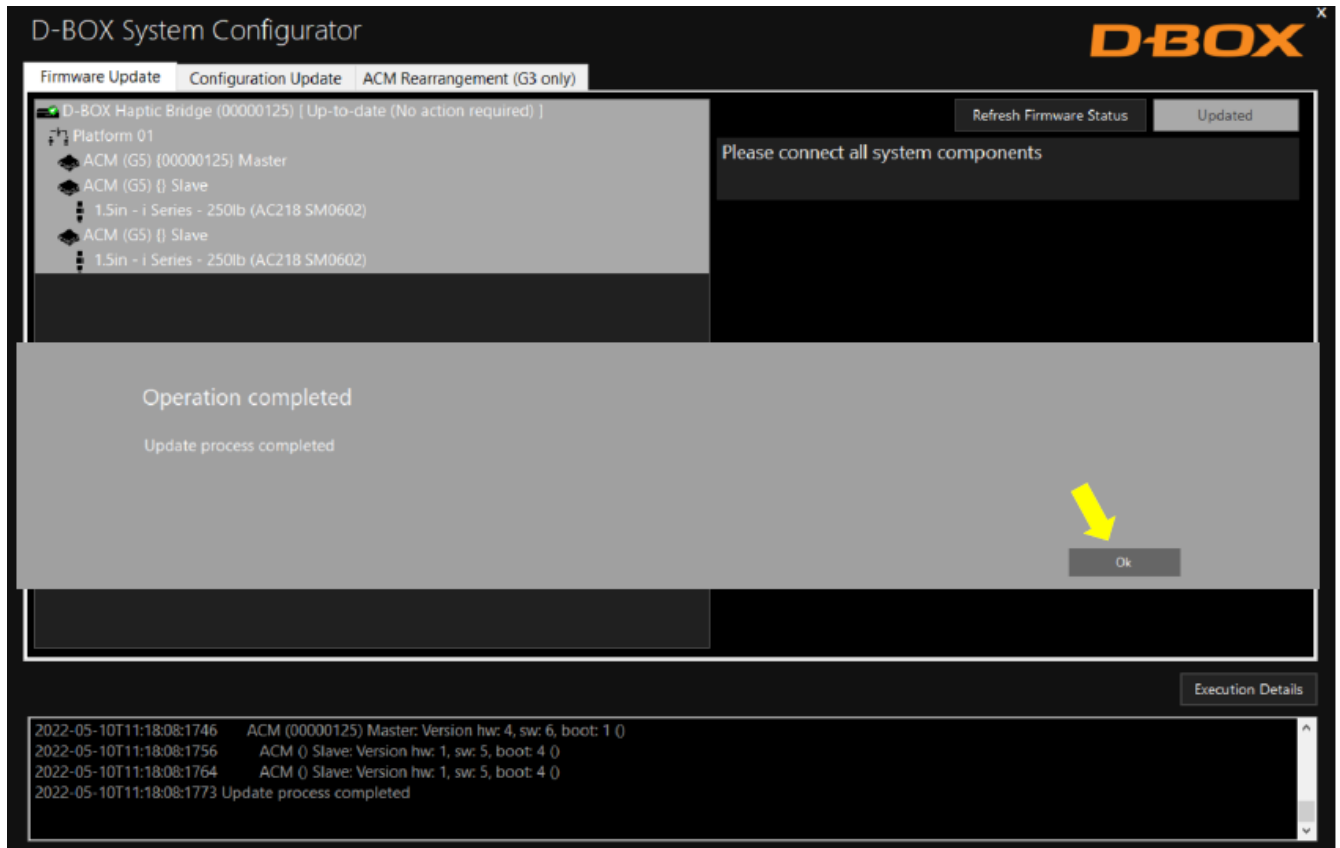
Changing the Actuator Type (G3 Only)

You may only be prompted to change the actuator type if:

- The G3 hardware connected is the new configuration you wish to use (Ex: 3-inch actuators instead of 1.5-inch actuators).
- This configuration is different from the old configuration for which the ACM was initially configured (Ex: 1.5-inch actuators).
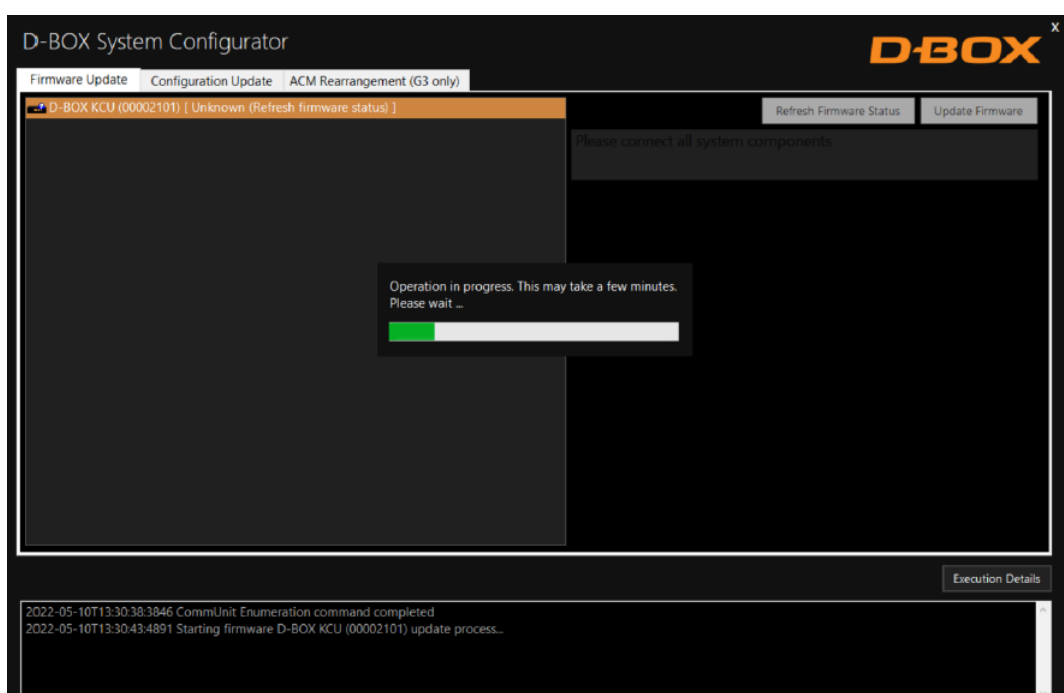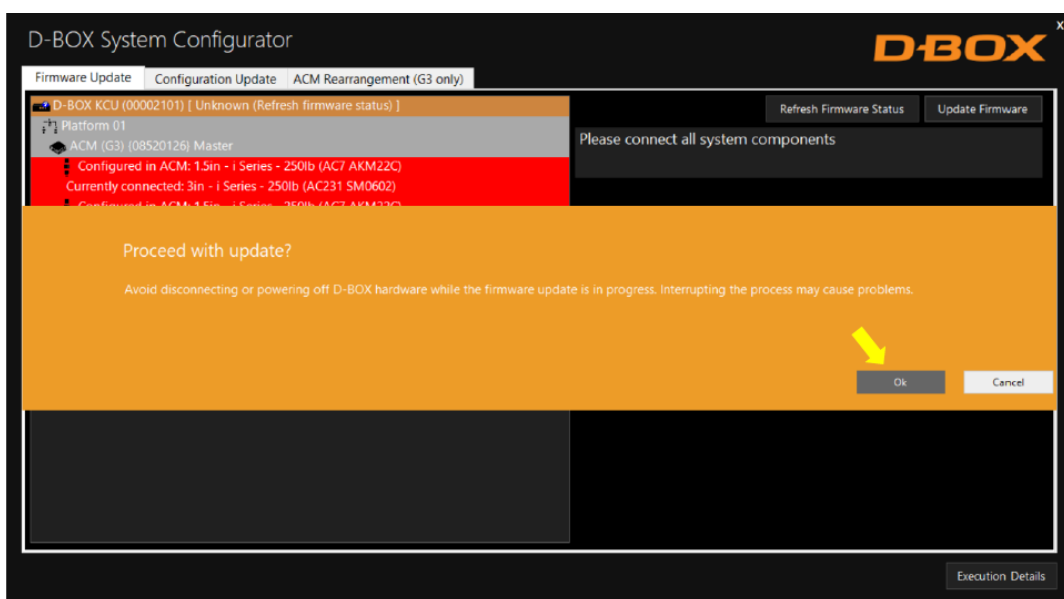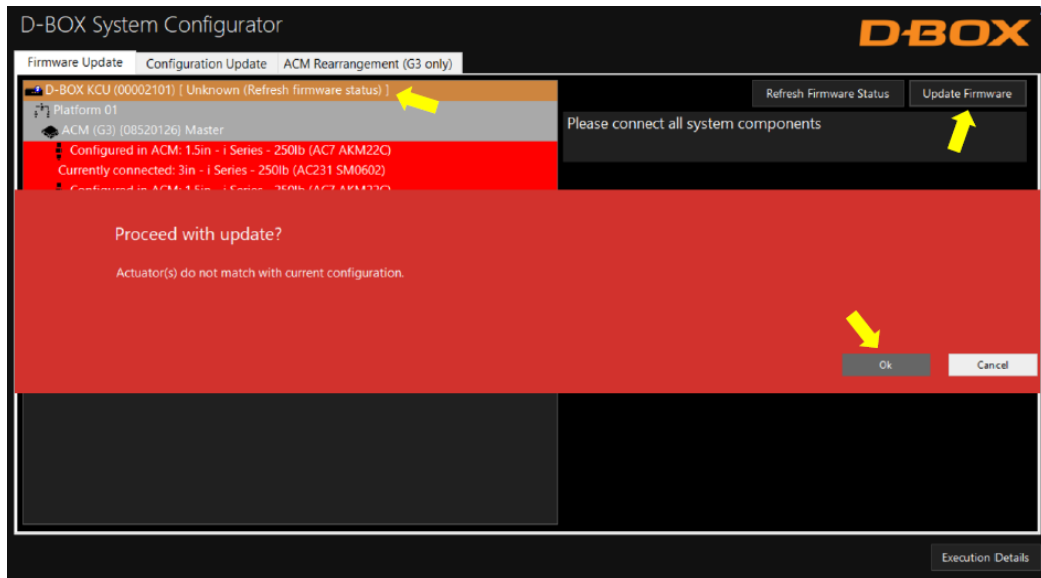
NOTE: If a G2 system is connected, you may not use this function.
When there is a mismatch between the configured actuator(s) and the connected actuator(s), the following window appears:
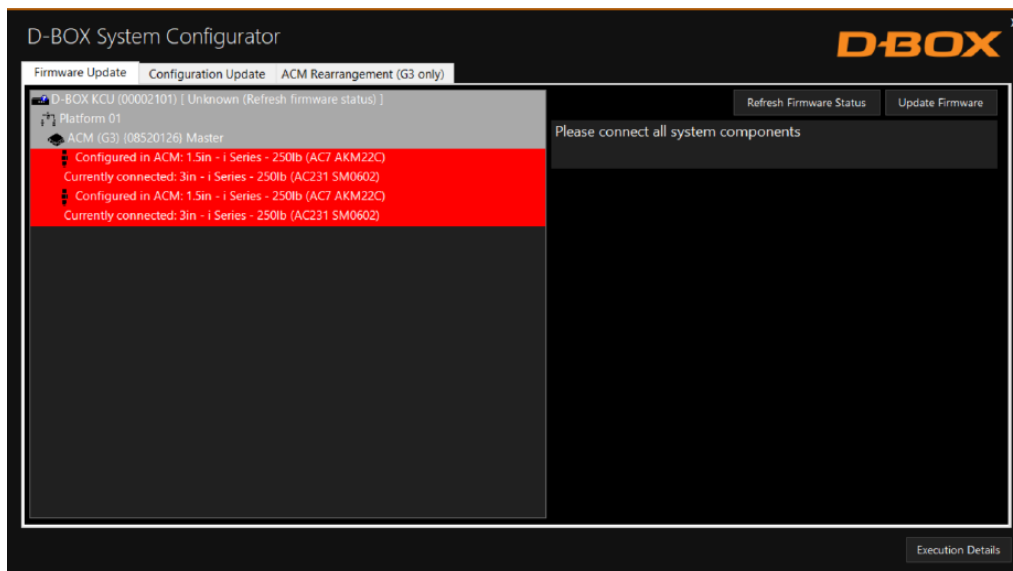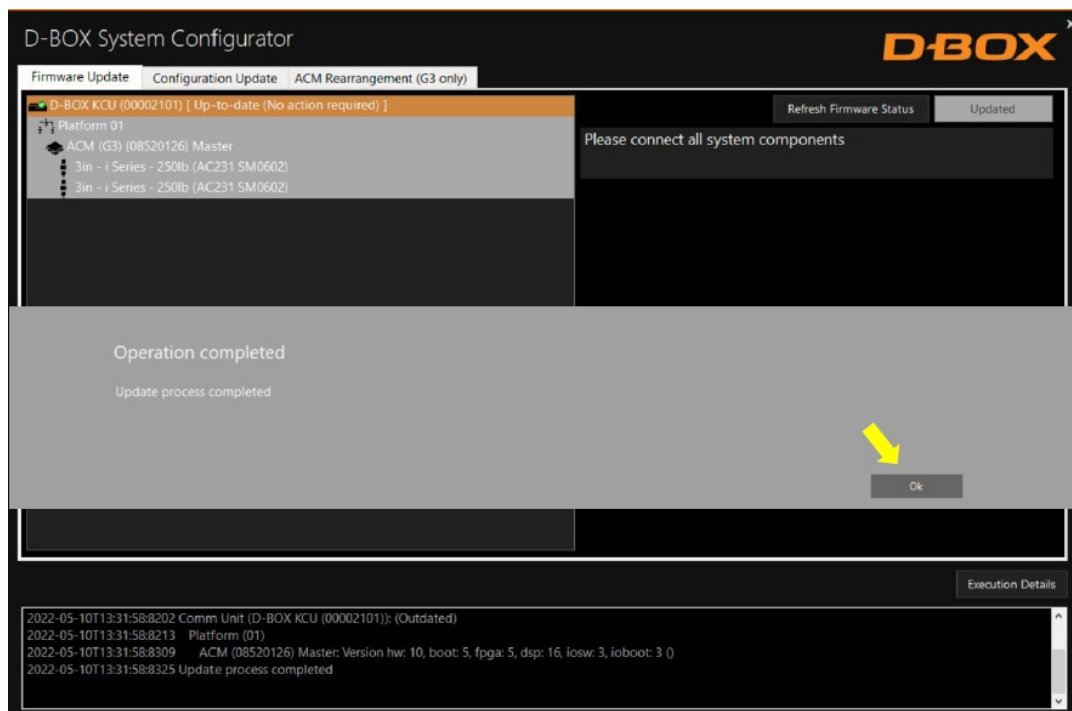
- **STEP 1:** Select the KCU-1P device then click Update Firmware. Follow the onscreen instructions:

Once the operation is completed, click OK. Your haptic system is now up to date:

CONFIGURATION UPDATE

The Configuration Update tab allows you to:

- Configure your Haptic System (haptic actuator positions and axes (Degree of Freedom – DOF))
- Change the position assigned to each actuator.
- Change the number of actuators in the configuration.
- Modify the number of ACM (G2 & G3 only) in the configuration.

NOTE: Here are the possible axes (DOF) that can be configured for a D-BOX Haptic System:
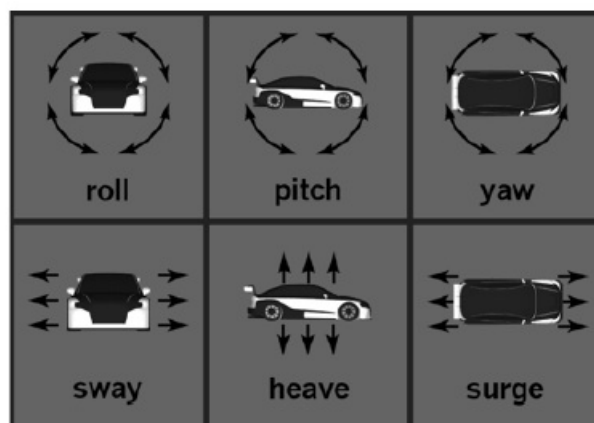
- **STEP 1:** From the Hardware Selection box, select the communication device (Haptic Bridge (G5) or KCU-1P (G2 & G3)) linked to the motion system(s) you want to configure, then select the platform number (if multiple haptic systems are connected):
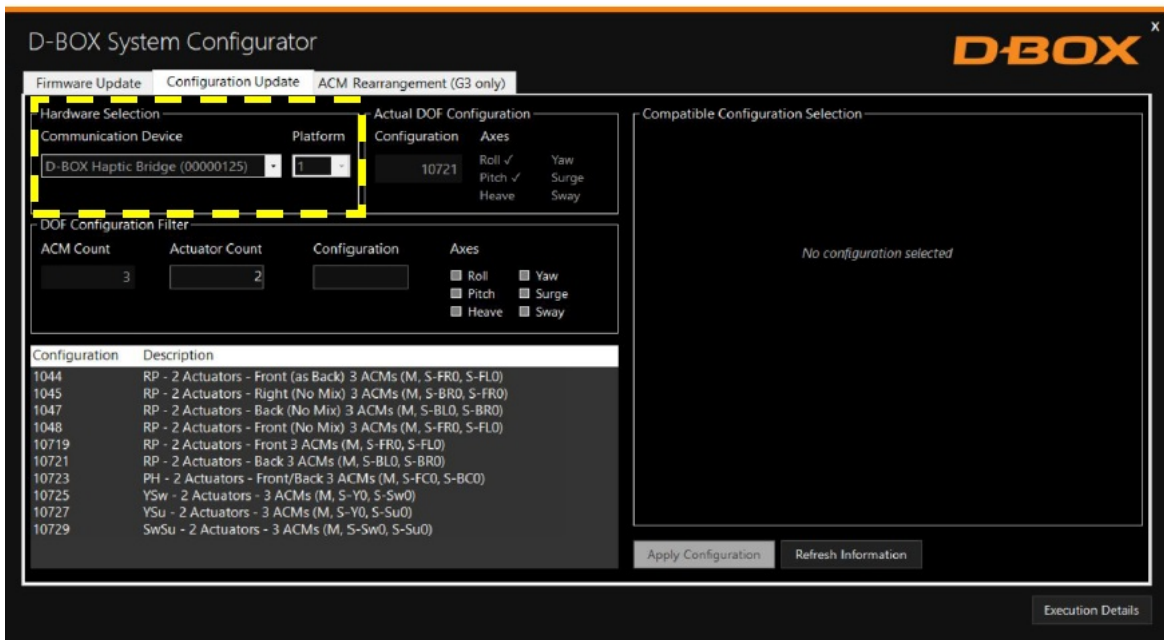
The Actual DOF Configuration box shows the actual configuration. There is no selection to be done in this section:

- **STEP 2:** The DOF Configuration Filter box helps you to find the available configurations for your haptic system:

OPTION A: If you know the number of the configuration, you can enter it manually into the Configuration box (see Appendix A & B for common configurations)

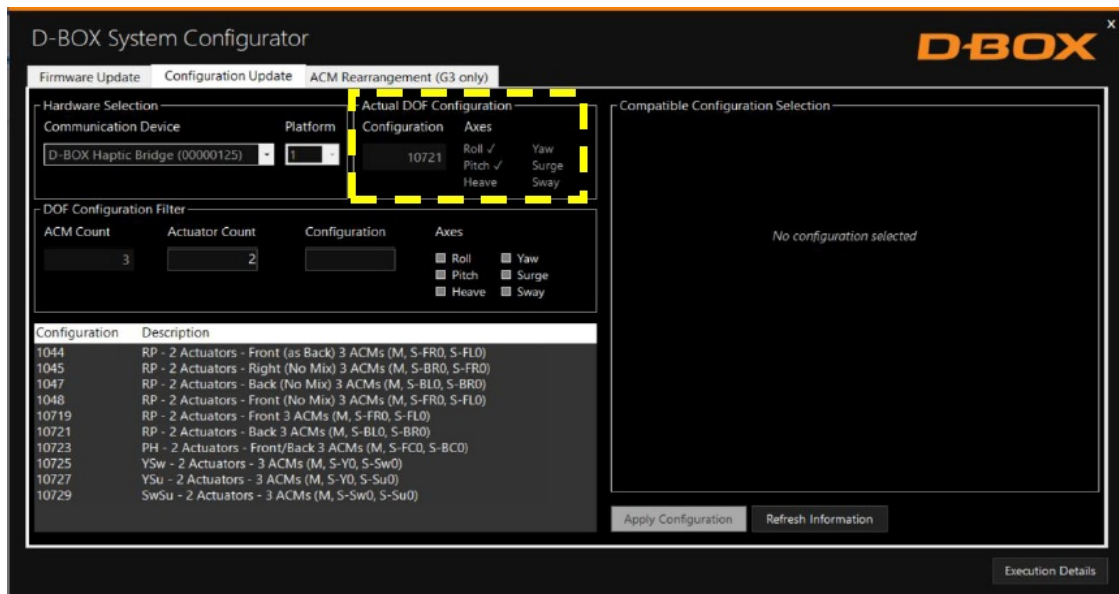OPTION B: Filter by configuration attributes (see Appendix A & B for common configurations):

- Validate that the number of ACMs detected is accurate. If it is not the case, check the system connections and click on the Refresh Information button.

  NOTE: The G5 Haptic Bridge is considered an ACM.

- Validate that the number of actuators detected match your requested configuration. Otherwise, you can manually change the value as desired.

- Optional: Check the boxes of the desired axes (degrees of freedom) you want.

- **STEP 3:** The Configuration and Description section shows the list of all the available configurations using the information you entered in the Configuration Filter.
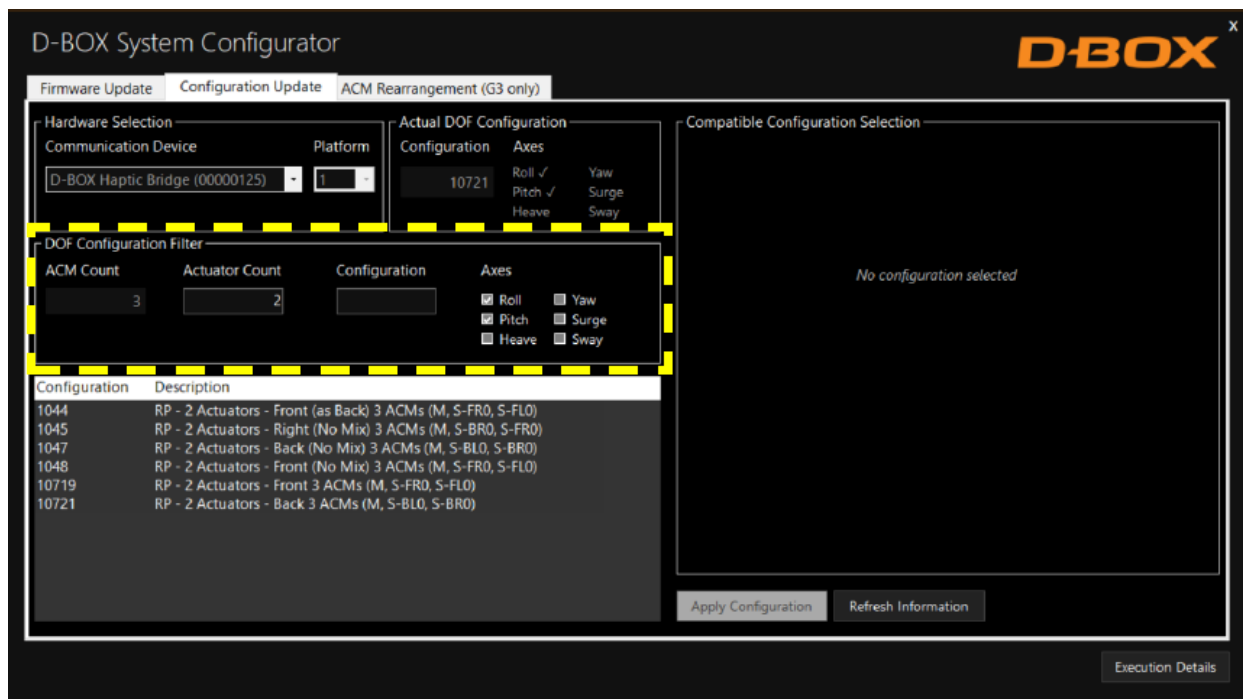
By selecting a configuration, its layout appears in the Compatible Configuration Selection box. The layout displays the following elements:

- The ACM connected and their arrangement – Master and Slave(s).
- The haptic actuator(s) connected, their assigned connection slot (Haptic Bridge or ACM).
- The haptic actuator(s) physical positions on the simulator
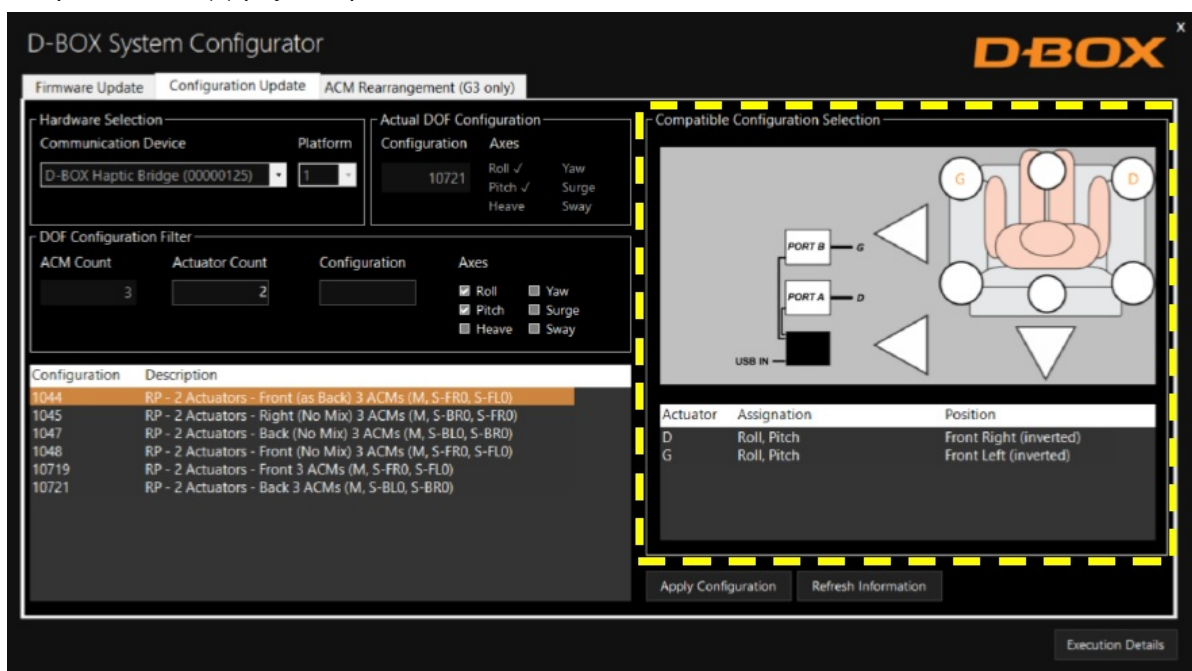
- **STEP 4** Once the configuration is chosen, click the Apply Configuration button to start the configuration update process, then follow the onscreen instructions:

D-BOX System Configurator

Firmware Update | Configuration Update | ACM Rearrangement (G3 only)

Hardware Selection
Communication Device | Platform
D-BOX Haptic Bridge (00000125) | 1

Actual DOF Configuration
Configuration | Axes
10721 | Roll ✓ Yaw
Pitch ✓ Surge
Heave Sway

Compatible Configuration Selection

Proceed with update?

Avoid disconnecting or powering off D-BOX hardware while the configuration update is in progress. Interrupting the process may cause problems.

Ok | Cancel

10719 | RP - 2 Actuators - Front 3 ACMs (M, S-FR0, S-FL0)
10721 | RP - 2 Actuators - Back 3 ACMs (M, S-BL0, S-BR0)
10723 | PH - 2 Actuators - Front/Back 3 ACMs (M, S-FC0, S-BC0)
10725 | YSw - 2 Actuators - 3 ACMs (M, S-Y0, S-Sw0)
10727 | YSu - 2 Actuators - 3 ACMs (M, S-Y0, S-Su0)
10729 | SwSu - 2 Actuators - 3 ACMs (M, S-Sw0, S-Su0)

Apply Configuration | Refresh Information

Execution Details

D-BOX System Configurator

Firmware Update | Configuration Update | ACM Rearrangement (G3 only)

D-BOX Haptic Bridge (00000125) | 1 | 10721

3 | 2

Operation in progress. This may take a few minutes.
Please wait ...

Configuration | Description
1044 | RP - 2 Actuators - Front (as Back) 3 ACMs (M, S-FR0, S-FL0)
1045 | RP - 2 Actuators - Right (No Mix) 3 ACMs (M, S-BR0, S-FR0)
1047 | RP - 2 Actuators - Back (No Mix) 3 ACMs (M, S-BL0, S-BR0)
1048 | RP - 2 Actuators - Front (No Mix) 3 ACMs (M, S-FR0, S-FL0)
10719 | RP - 2 Actuators - Front 3 ACMs (M, S-FR0, S-FL0)
10721 | RP - 2 Actuators - Back 3 ACMs (M, S-BL0, S-BR0)
10723 | PH - 2 Actuators - Front/Back 3 ACMs (M, S-FC0, S-BC0)
10725 | YSw - 2 Actuators - 3 ACMs (M, S-Y0, S-Sw0)
10727 | YSu - 2 Actuators - 3 ACMs (M, S-Y0, S-Su0)
10729 | SwSu - 2 Actuators - 3 ACMs (M, S-Sw0, S-Su0)

Apply Configuration | Refresh Information

Execution Details

Once the configuration update is complete, the following confirmation window appears. Click OK:
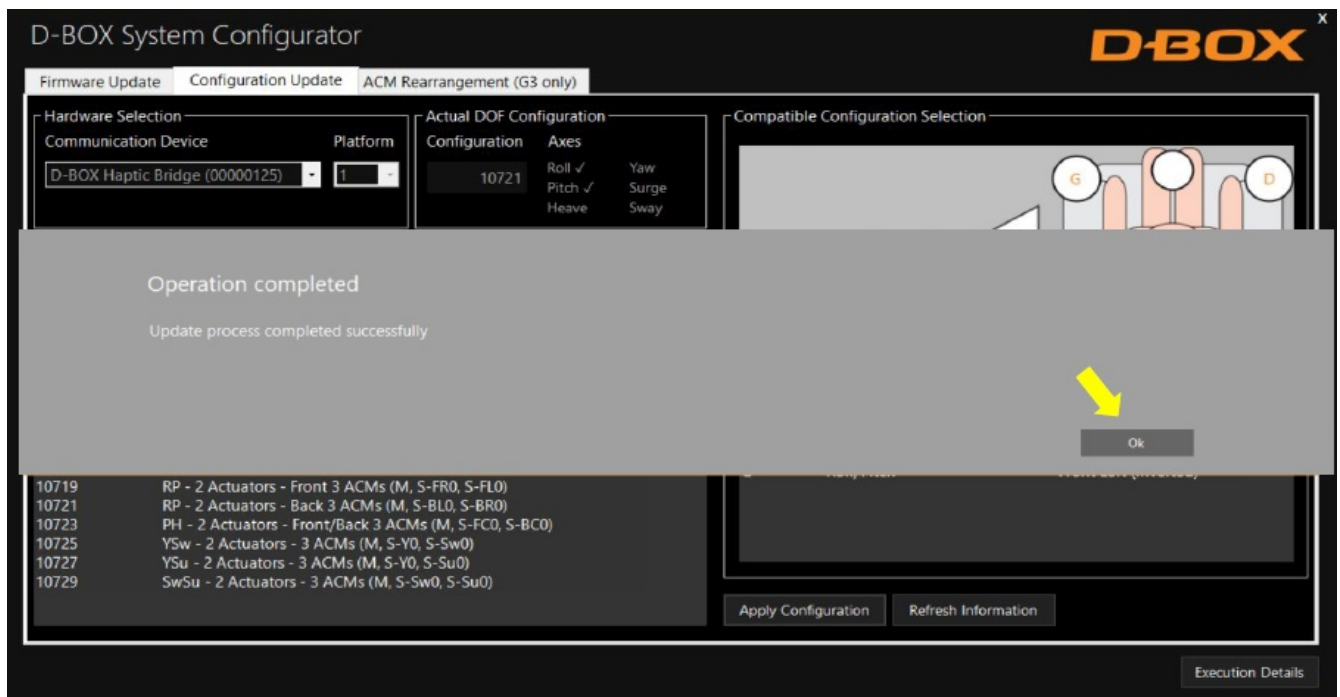
ACM REARRANGEMENT (G3 ONLY)

The ACM Rearrangement tab allows you to change the arrangement of an ACM from Master to Slave and vice-versa.
Please note the following:

1. If an ACM Master is connected, only the ''Switch to Slave ACM'' button is available.
2. Conversely, if an ACM Slave is connected, only the ''Switch to Master ACM'' button is available. Connect only one (1) ACM at a time to the KCU-1P to perform this operation.

- **STEP 1**: Click on the Refresh Firmware Status button to view the actual configuration of the ACM.
- **STEP 2:** Click the Switch to Slave ACM (or Switch to Master ACM) button if you want to switch your ACM from ''Master'' to ''Slave" or vice-versa:
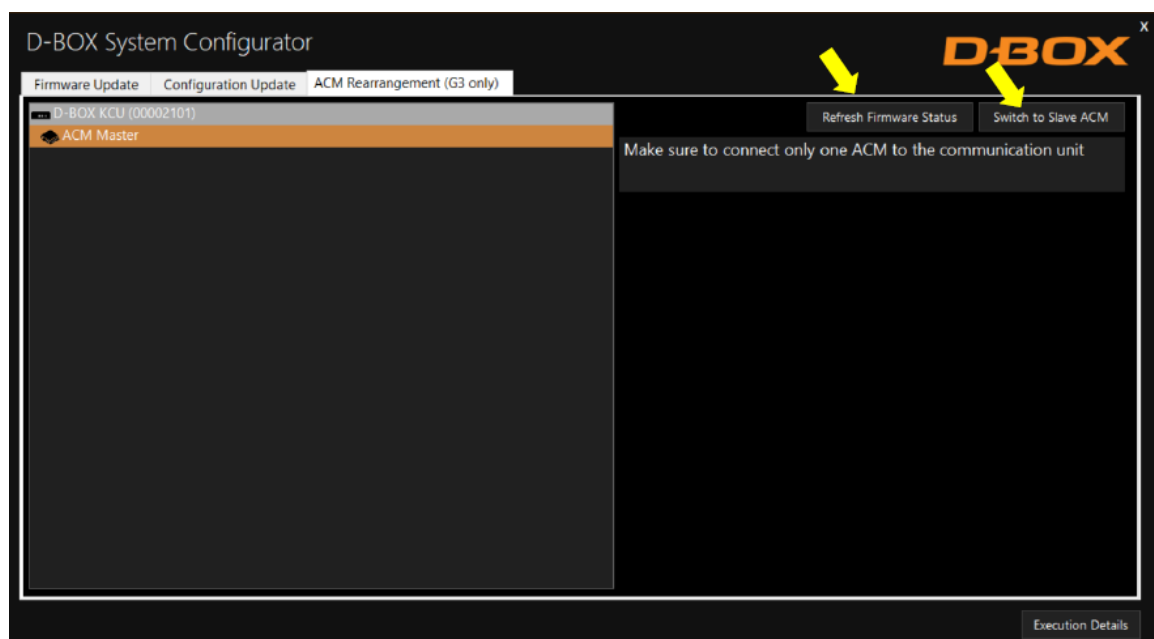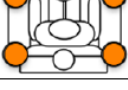

NOTE: You can click the Execution Details button at any time to read details about the ongoing operation.

Once the ACM is configured:

- Replace the ACM arrangement sticker on top of the ACM.
- Rearrange the connections between ACMs (see User Guide if needed).
- Run your application to check if your Haptic System is in good operational order.

APPENDIX A: G5 COMMON CONFIGURATIONS (1 – 3 DOF)

NB of Actuators	Actuator Position	Config. #	Config. Description	Pictogram Reference
1	Back Center	1050	P - 1 Actuator - Back 2 ACMs (M, S-BC0)	
2	Front	10719	RP - 2 Actuators - Front 3 ACMs (M, S-FR0, S-FL0)	
2	Back	10721	RP - 2 Actuators - Back 3 ACMs (M, S-BL0, S-BR0)	
3	1 Front / 2 Back	10731	RPH - 3 Actuators - 1Front/2Back 4 ACMs (M, S-BL0, S-BR0, S-FC0)	
3	2 Front / 1 Back	10733	RPH - 3 Actuators - 2Front/1Back 4 ACMs (M, S-FR0, S-FL0, S-BC0)	
4	Front / Rear	10774	RPH - 4 Actuators - 5 ACMs (M, S-FR0, S-FL0, S-BL0, S-BR0)	

**R** = Roll, **P** = Pitch, **H** = Heave

APPENDIX B: G2/G3 COMMON CONFIGURATIONS (1 – 3 DOF)

NB of Actuators	NB of ACMs	Actuator Position	Config. #	Config. Description	Pictogram Reference
1	1	Back Center	1028	P - 1 Actuator - Back 1 ACM (M-BC1)	
2	1	Front	10004	RP - 2 Actuators - Front 1 ACM (M-FR0-FL1)	
2	2	Front	10005	RP - 2 Actuators - Front 2 ACMs (M-FR1, S-FL1)	
2	1	Back	10006	RP - 2 Actuators - Back 1 ACM (M-BL0-BR1)	
2	2	Back	10007	RP - 2 Actuators - Back 2 ACMs (M-BL1, S-BR1)	
3	1	1 Front / 2 Back	10022	RPH - 3 Actuators - 1Front/2Back 1 ACM (M-BL0-FC1-BR2)	
3	2	1 Front / 2 Back	10023	RPH - 3 Actuators - 1Front/2Back 2 ACMs (M-BL0-BR1, S-FC1)	
3	3	1 Front / 2 Back	10024	RPH - 3 Actuators - 1Front/2Back 3 ACMs (M-BL1, S-BR1, S-FC1)	
3	1	2 Front / 1 Back	10025	RPH - 3 Actuators - 2Front/1Back 1 ACM (M-FR0-BC1-FL2)	
3	2	2 Front / 1 Back	10026	RPH - 3 Actuators - 2Front/1Back 2 ACMs (M-FR0-FL1, S-BC1)	
3	3	2 Front / 1 Rear	10027	RPH - 3 Actuators - 2Front/1Back 3 ACMs (M-FR1, S-FL1, S-BC1)	
4	2	Front / Rear	10093	RPH - 4 Actuators - Front/Back 2 ACMs (M-FR0-FL1, S-BL0-BR1)	
4	2	Left / Right	10233	RPH - 4 Actuators - Left/Right 2 ACMs (M-FL0-BL1, S-BR0-FR1)	
4	4	-	10235	RPH - 4 Actuators - 4 ACMs (M-FR1, S-FL1, S-BL1, S-BR1)	

R = Roll, P = Pitch, H = Heave

Documents / Resources
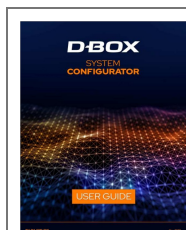
D0-BOX 194-914-0010-EN6 System Configurator app [pdf] User Guide
194-914-0010-EN6 System Configurator app, 194-914-0010-EN6, System Configurator app, Configurator app

References

- **D-BOX Software Downloads | Motion Core, App and More**