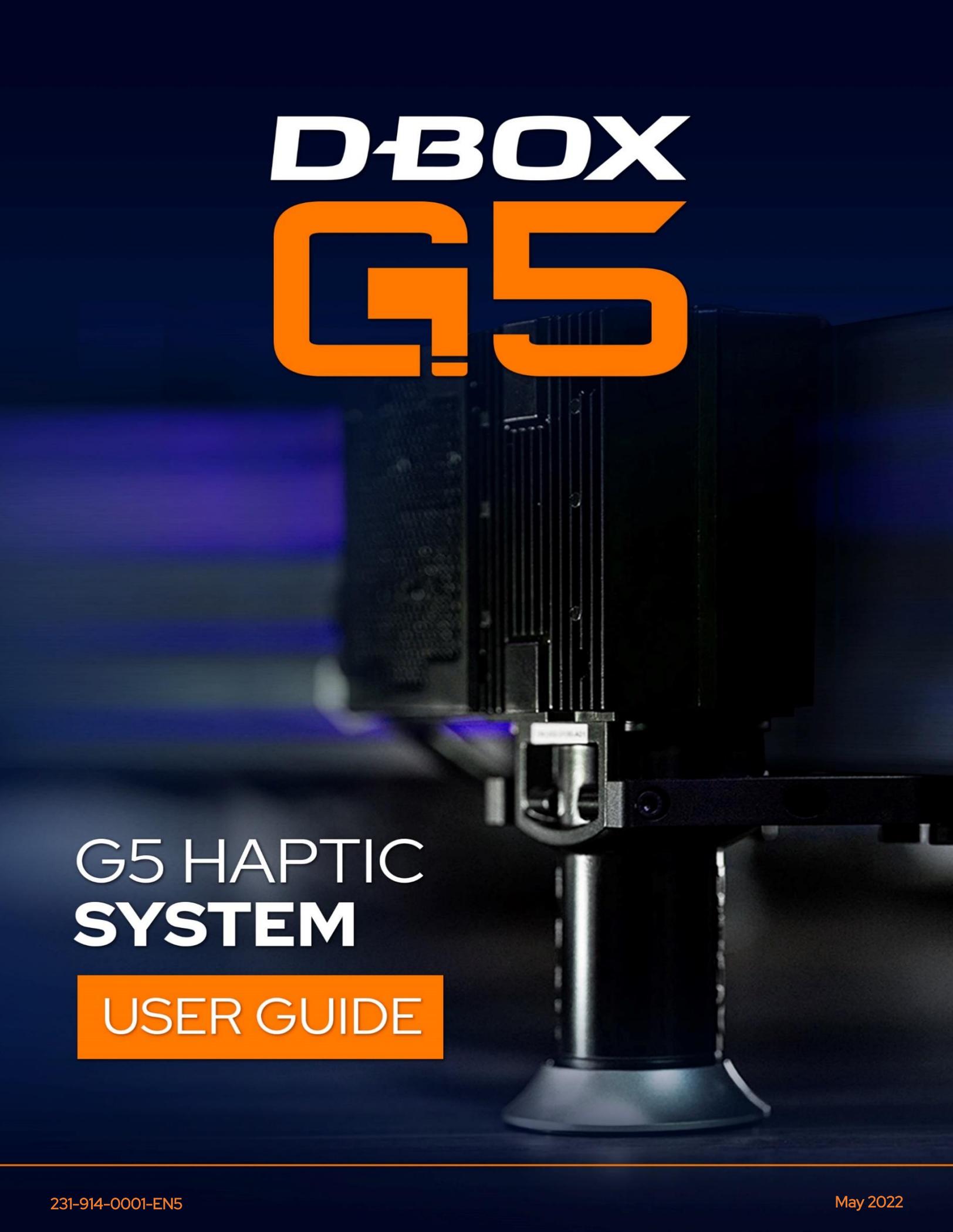


D-BOX G5



G5 HAPTIC SYSTEM

USER GUIDE

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



Use of this D-BOX Haptic System is a risk to hands and feet. Do not put hands or feet underneath the seat or near the haptic system. This may lead to serious injury.



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



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 install near any heat sources such as radiators, heat registers, stoves or any other appliances (including amplifiers).



Do not use this device near water.



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.



- 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.

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 and 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 person described herein.

D-BOX Technologies Inc. is in no way responsible for any damages of any kind arising from the use of this D-BOX Haptic System and 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 including, but not limited to direct or indirect, punitive, incidental, special or consequential damages arising out of or in any way connected with the use of this D-BOX Haptic System.

Thank you for purchasing a D-BOX Haptic System, the most immersive experience for the simulation and game markets. We strongly advise that you read these guidelines before assembling and using your Haptic System.

Do not hesitate to contact us if you have questions.

Please make sure to provide the **serial numbers** (Haptic Bridge & Haptic Actuators) of your Haptic System when contacting the D-BOX Support.

The serial numbers (in yellow) are located on the haptic components as follow:



D-BOX 231-00-XXXXX
S/N: 



822-N002
D-BOX 242-06-XXXXX
S/N: 

If remote assistance is required, you must have TeamViewer (www.teamviewer.com) installed on your PC.

D-BOX Support

2172 rue de la Province, Longueuil, Quebec, Canada

BY EMAIL : support@d-box.com

BY PHONE 1-800-442-3269; 931 (toll free CAN/US)
1-450-442-3003; 931 (other regions)



G5 HAPTIC SYSTEM SPECIFICATION:

PERFORMANCE UNDER MAXIMUM LOAD	
MAXIMUM LIFTING CAPACITY	250 lb / 114 kg
HORIZONTAL LOAD	Translation on limited friction surfaces can be done on weights up to 3 times vertical lifting capacity.
MAXIMUM STROKE	1.5 inch / 38.1 mm
MAXIMUM VELOCITY	100 mm/s
MAXIMUM ACCELERATION	+/- 1g-force
FREQUENCY RANGE	0-100 Hz
OPERATING TEMPERATURE RANGE	0-40 °C
OPERATING HYGROMETRY	10 to 85 % (free from condensing)

POWER REQUIREMENTS		AVERAGE POWER To be used for electric consumption (Watts)	AVERAGE POWER To be used for converter specification (VA)	PEAK CURRENT To be used for breaker specification (A)
120 V 50/60 HZ	1 ACTUATOR	150 W	240 VA	2 A
	2 ACTUATORS	270 W	470 VA	4 A
	3 ACTUATORS	420 W	710 VA	6 A
	4 ACTUATORS	540 W	940 VA	8 A
230 V 50/60 HZ	1 ACTUATOR	150 W	260 VA	1.1 A
	2 ACTUATORS	270 W	480 VA	2.1 A
	3 ACTUATORS	420 W	740 VA	3.2 A
	4 ACTUATORS	540 W	960 VA	4.2 A

Note: It is not recommended to connect your D-BOX system to a GFCI breaker type.

G5 COMPONENTS	WEIGHT
HAPTIC ACTUATOR G5 - HA201 (M1-250 AC218 63")	9.2 lbs / 4.17 kg
HAPTIC BRIDGE G5 - HB140	1.2 lbs / 0.54 kg
CAPTIVE ENDING, AC218, 1 AXIS 0330, W SPACER RETAINER	5.8 lbs / 2.63 kg
CAPTIVE ENDING, AC218, 2 AXIS 0563, W SPACER RETAINER	5.4 lbs / 2.45 kg
CAPTIVE ENDING, PILLOW BLOCK 25MM, AC218, 1 AXIS, W ROTULE ANCHOR	1.4 lbs / 0.63 kg

BRACKET OPTIONS



L Bracket **U** Bracket

ENDING OPTIONS



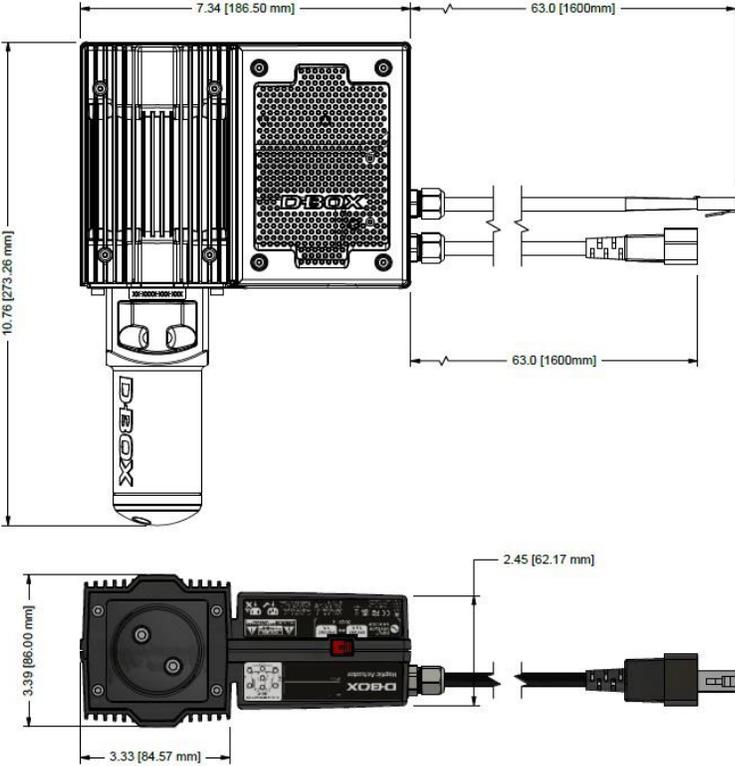
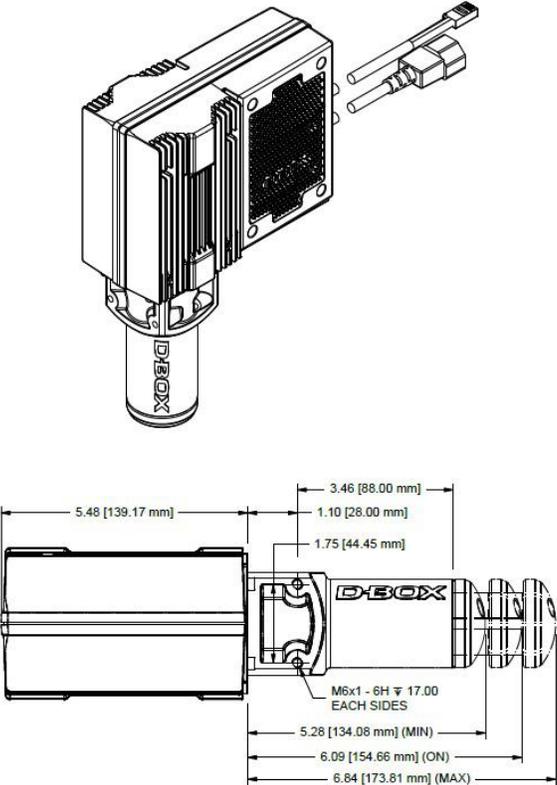
**NON CAPTIVE
ENDINGS**

**CAPTIVE
ENDINGS**

G5 HAPTIC BRIDGE



G5 HAPTIC ACTUATOR



1. INTRODUCTION

Featuring a completely new form factor as well as simpler infrastructure and simpler connections, G5 offers all the benefits you have come to know and love from D-BOX in terms of performance, realism, and reliability, but now in an all-new package ready to make the operation and installation of our systems easier than ever before! Gone are the days of multiple large ACM boxes, as our new “haptic bridge” gathers the data of up to 4 actuators in a single control box that is significantly smaller and sleeker than our previous design. With voltage selection included in every individual actuator, you can seamlessly go between 110V and 230V with the flick of a switch... Making G5 a much more flexible solution!

The following components are part of a D-BOX G5 **Haptic System**:



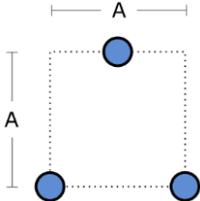
- **Haptic System:** A complete architecture of hardware and software providing motion, textures, and vibrations.
- **Haptic Actuator:** An assembly of motor and mechanic providing motion, textures, and vibrations.
- **Haptic Bridge:** A communication module controlling 1 to 4 haptic actuators.
- **Haptic Source:** Devices or applications generating haptic data for the D-BOX Haptic System.

2. INSTALLATION GUIDELINES

When integrating your D-BOX G5 Haptic System, please comply with the following guidelines. This will help you to keep your product healthy and optimize its service lifetime! If you must deviate from the guidelines, please contact us to make sure you are still using the system as prescribed.

2.1 Minimum Spacing Between Actuators

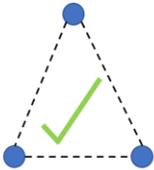
Respect the minimum spacing between actuators for adequate movement of the platform. Measure the distance from a **square surface enclosing all actuators** (see example below). Respecting the spacing guidelines ensures proper interaction of the Haptic System with the actuator endings, and proper lateral force transfer:



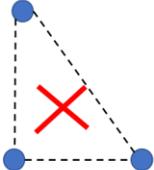
TRAVEL	MINIMUM SPACING BETWEEN ACTUATORS (A)
1.5 in	14 in [356 mm]

2.2 Haptic Actuator Alignment

When using 2 haptic actuators + pivot or, 3 haptic actuators, install them per an isosceles triangle pattern:

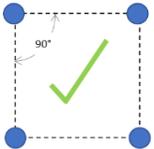


Adequate actuator integration

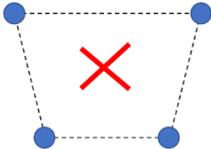


Inadequate actuator integration

When using 4 haptic actuators, install them per a square or rectangular pattern:



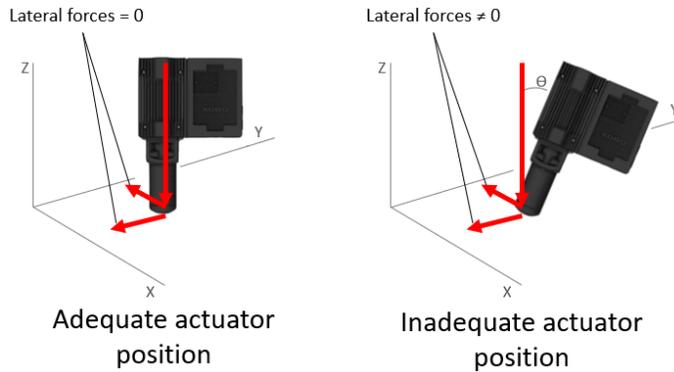
Adequate actuator integration (square/rectangular)



Inadequate actuator integration

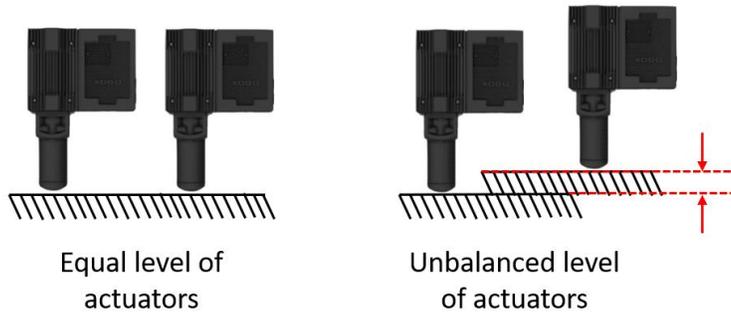
2.3 Haptic Actuator Straightness

During installation, the actuators should always remain straight to limit radial loading. Radial loading could result in premature wear of the actuators.



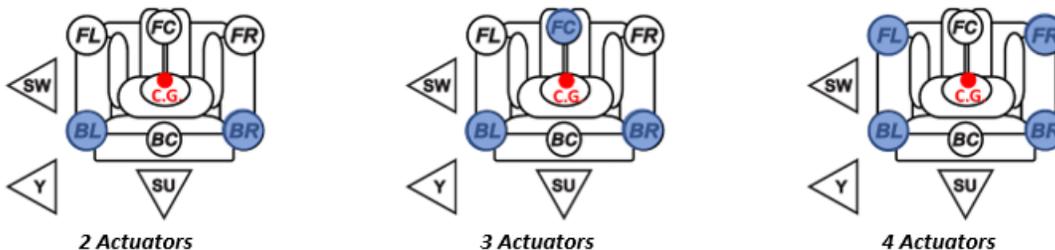
2.4 Level Surface

All actuators must be level on the same flat surface for optimal operations. Different levels could result in premature wear of the actuators.



2.5 Weight Distribution

Each actuator has a 250-lb maximal payload. When integrating the Haptic System on a platform, D-BOX recommends balancing the **center of gravity (CG)** of the platform to ensure **each haptic actuator supports an equal load**. The following figures show equal distribution of weight with 2, 3 or 4 actuators.



3. VOLTAGE SELECTION

Set all haptic actuators to meet your region power voltage by using the switch selector located underneath the casing:



NOTE: The Haptic Bridge has a universal power supply supplied by D-BOX

4. ACTUATOR ENDING INSTALLATION

G5 haptic actuators come native with a non captive ending.

Captive endings are required when you want to bind the actuators to the floor or a sub frame.

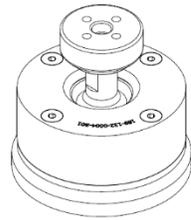
4.1 Non Captive Ending Installation

Once the actuators are installed on your platform, simply drop the actuators and pivot (for 2-actuators configuration) into the provided metal cups. Actuators and pivot must be centered into their respective cup:

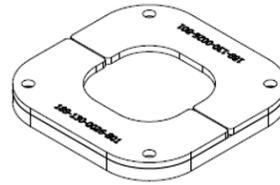


4.2 Captive Ending Installation

The D-BOX captive ending is a 2 components assembly:



Ball Joint

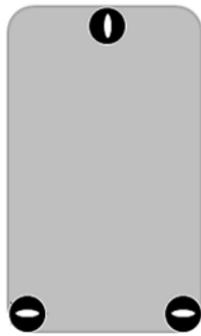


Spacer Retainer

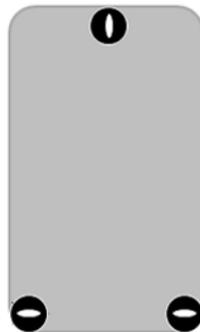
Spacer Retainer: The spacer-retainer allows specific movements of the ball joint on both X and Y axes, thus eliminating any constraints during the movement of the platform. There are 2 models of spacer retainer. All spacer retainers can be fitted on any model of ball joint.

- 
1 axis: Allowing movement only on 1 axis (X or Y)
- 
2 axes: Allowing movement on 2 axes (X and Y)

Here are some spacer retainer configurations:



2 x Actuators and front Pivot



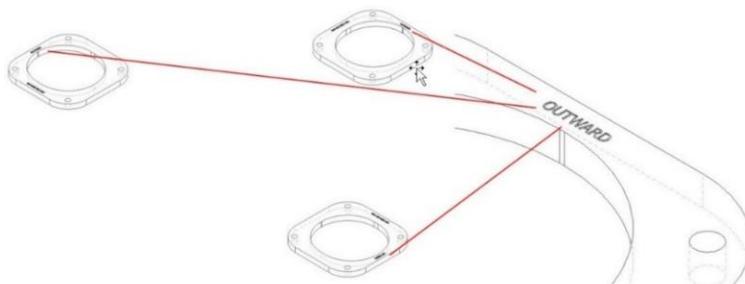
3 x Actuators



4 x Actuators

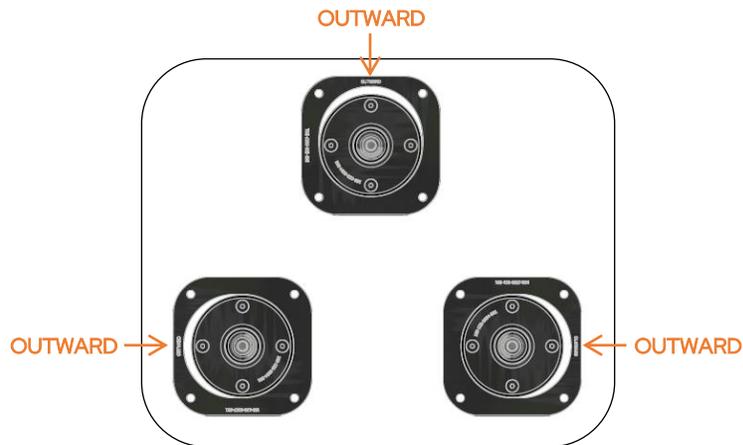
CAUTION: Respect the orientation of the spacer retainer to avoid any damage to the haptic system.

To help with positioning, the spacer retainer is marked **OUTWARD** on its top surface:



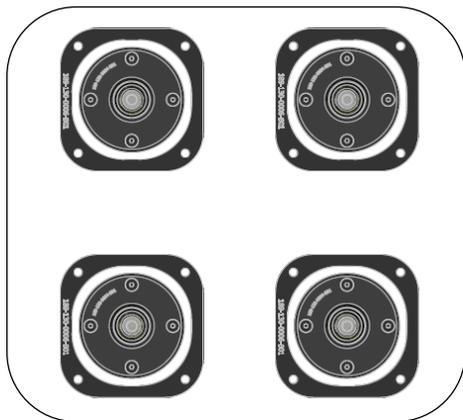
2 or 3 haptic actuators:

Captive endings must be installed off-centre from the spacer retainers as follow:



4 haptic actuators:

Captive endings must be installed in the middle of the spacer retainers as follow:



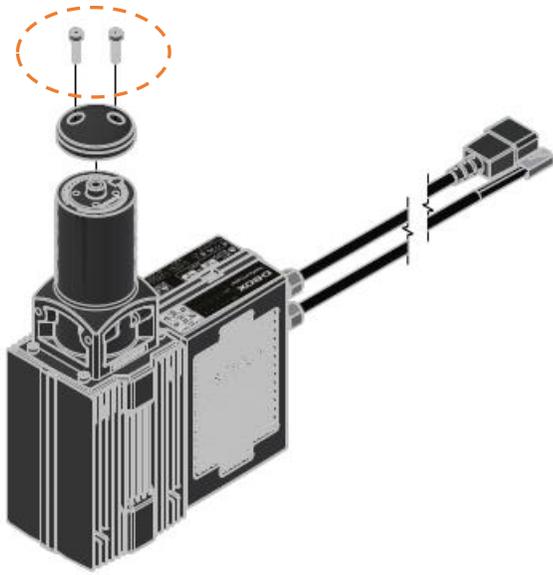
INSTALLATION:



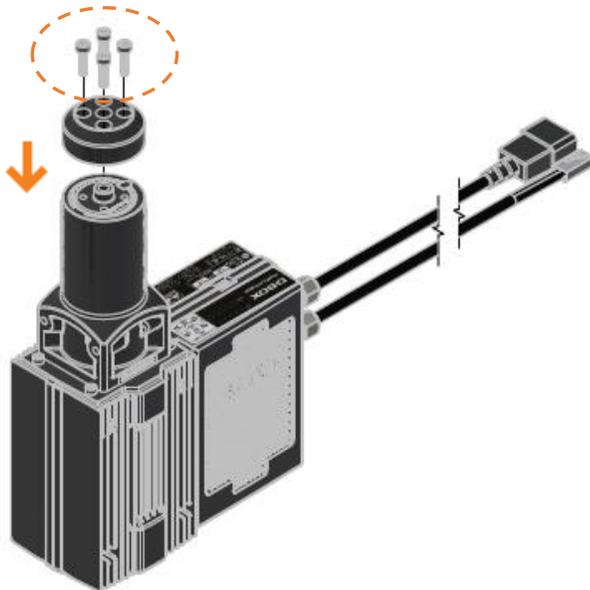
Never operate the haptic actuator without the ending installed. This may lead to irreparable damages to the actuator:



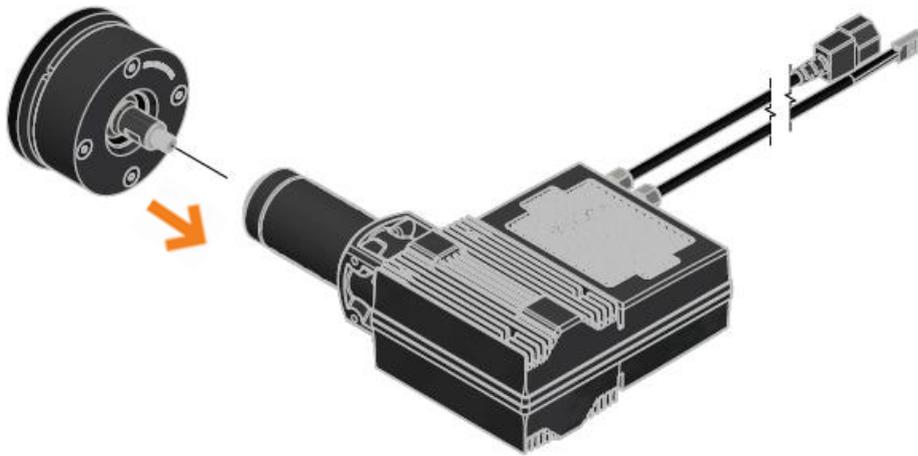
STEP 1: Remove the existing non captive ending by removing the two (2) screws using a 4mm Allen Key:



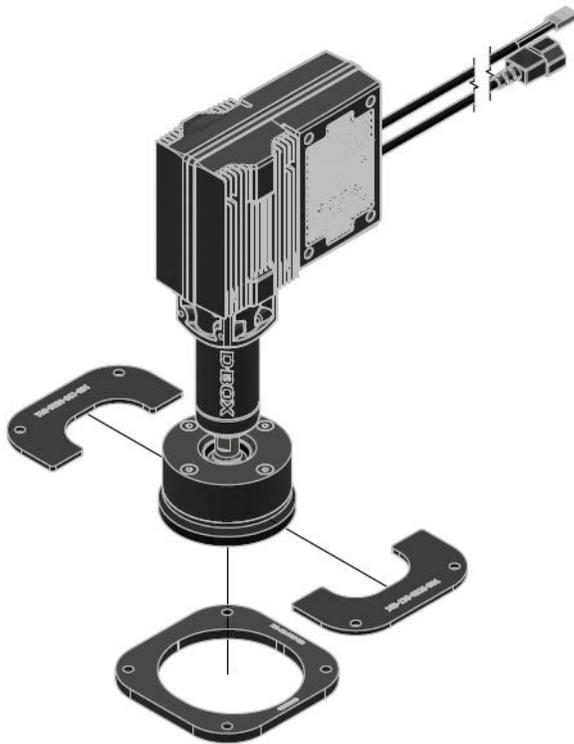
STEP 2: Attach the piston adaptor with the four (4) provided screws. Apply some blue thread locker on the screw threads then torque them to a value of **100 lbf-in (11 Nm)** using a 4mm Allen Key:



STEP 3: Apply some blue thread locker on the ball joint threads then tighten with a torque of 130 lbf·in (15 Nm) using a 5/8" (16 mm) wrench:



STEP 4: Install the ball joint assembly to the spacer retainer then attach it to the floor (or sub frame) with adequate hardware (anchors, bolts, etc.).



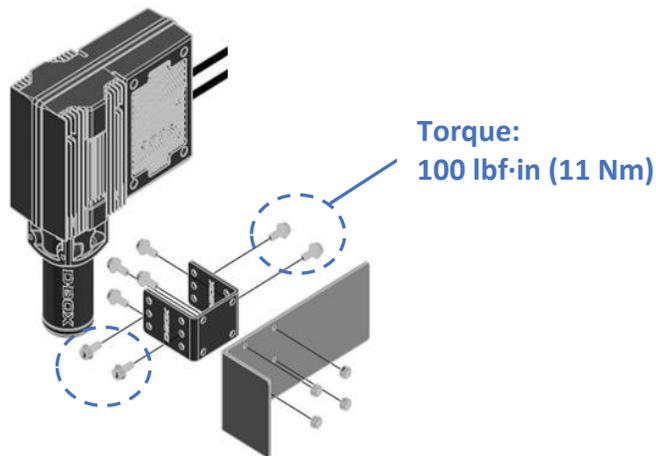
NOTE: Hardware to attach the spacer retainers to the floor (or sub frame) is not included.

5. BRACKETS INSTALLATION

D-BOX offers two (2) types of brackets: "L" and "U" shaped. The screws to attach your haptic actuator to the bracket are included with your haptic actuator however, you need to provide the screws to mount the brackets to your platform.

5.1 "U" Brackets Installation

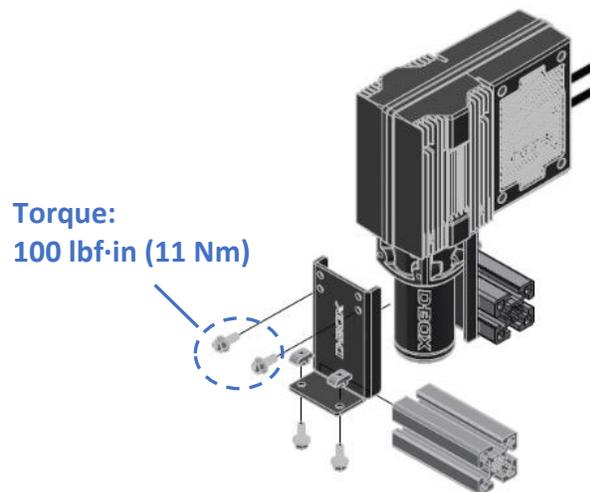
Install the "U" bracket first on your platform then attach the haptic actuators to the brackets using the provided screws:



NOTE: Screws to attach the bracket to your platform are not included.

5.1 "L" Brackets Installation

Install the "L" bracket first on your haptic actuators using the provided screws then attach the assembly to your platform:



NOTE: Screws to attach the bracket to your platform are not included.

6. CONNECT YOUR HAPTIC SYSTEM

This section shows the wiring diagrams for all configurations from one (1) to four (4) haptic actuators.

Haptic actuators must be connected in a specific order to ensure a proper system operation. Make sure to choose the appropriate diagram corresponding to your setup.



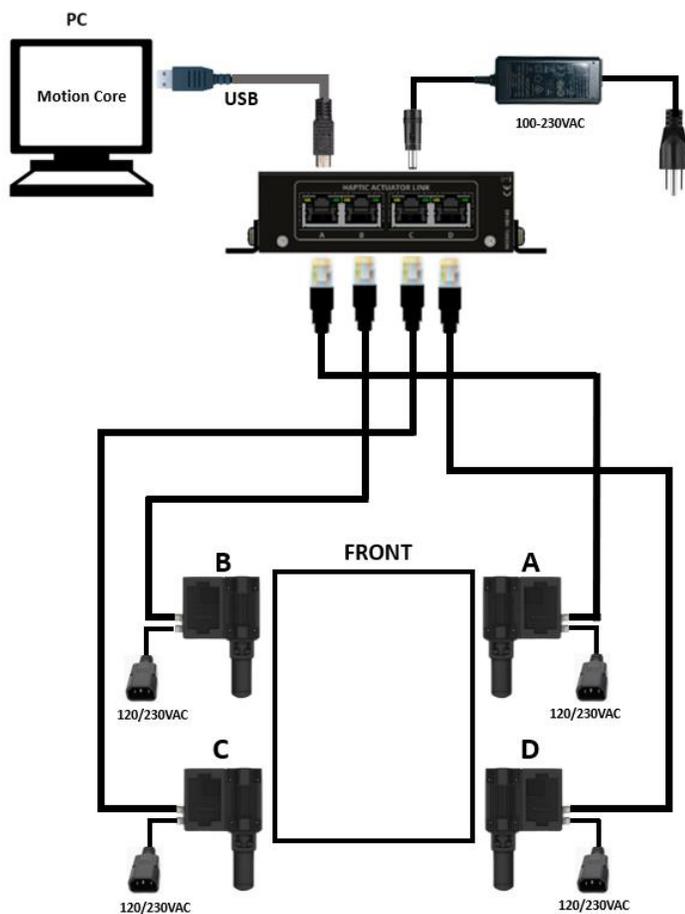
The Haptic Bridge must be connected directly into your computer (USB port). Using an external USB hub may create motion interruption and/or system error.

6.1 IEC Plug Lock Insert Installation (Optional)

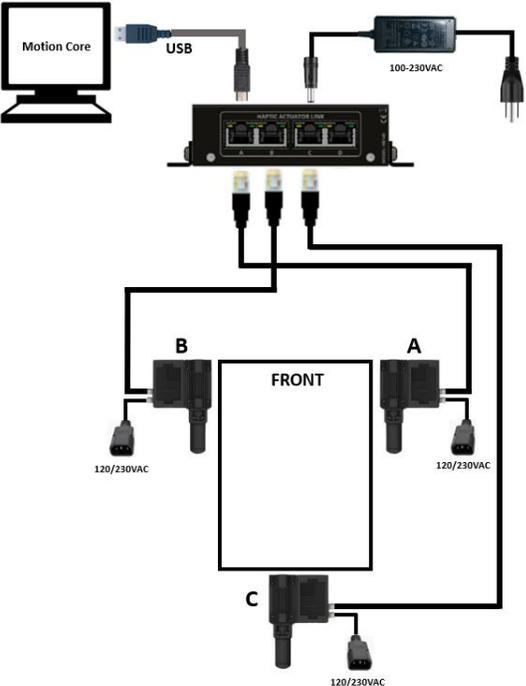
Although they are optional, we strongly suggest installing the IEC plug lock inserts preventing power cables being disconnected. Slide the insert to the IEC female connector as follow:



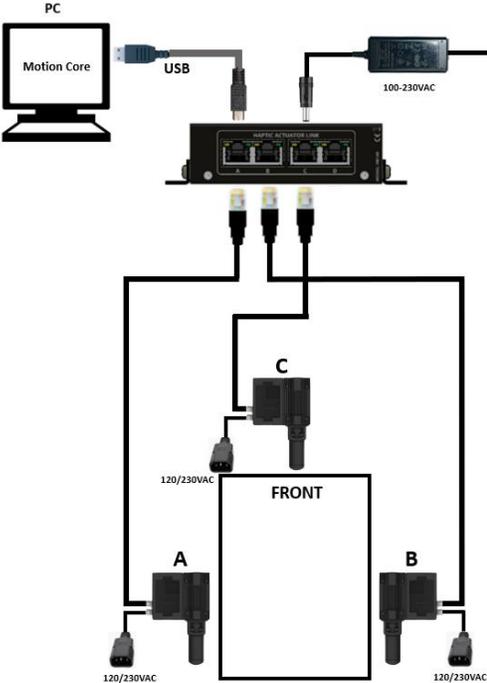
6.2 4-Actuator Configuration



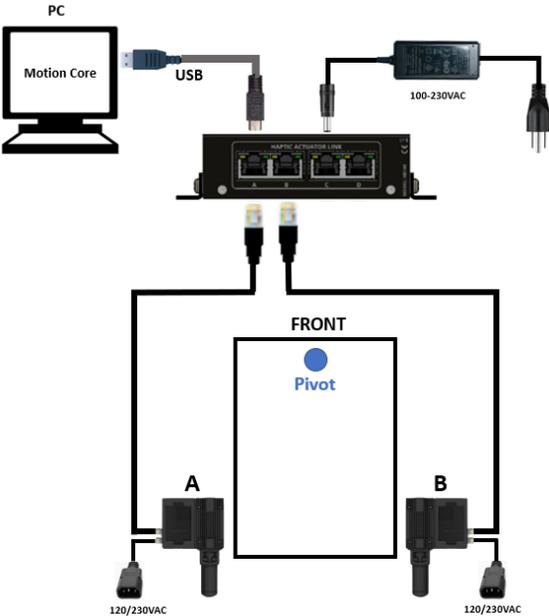
6.3 3-Actuator Configurations



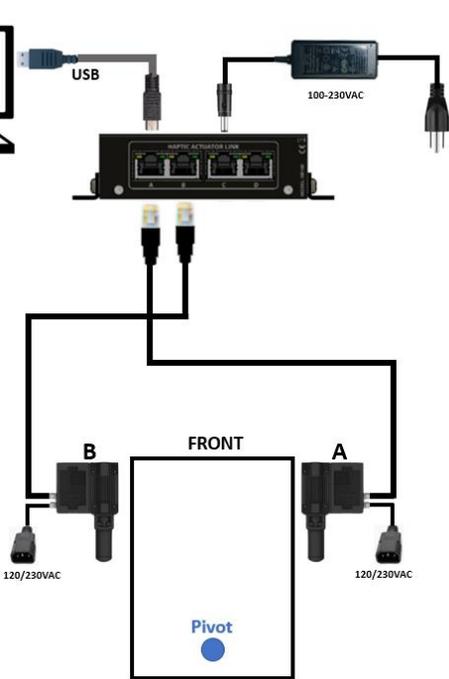
OR



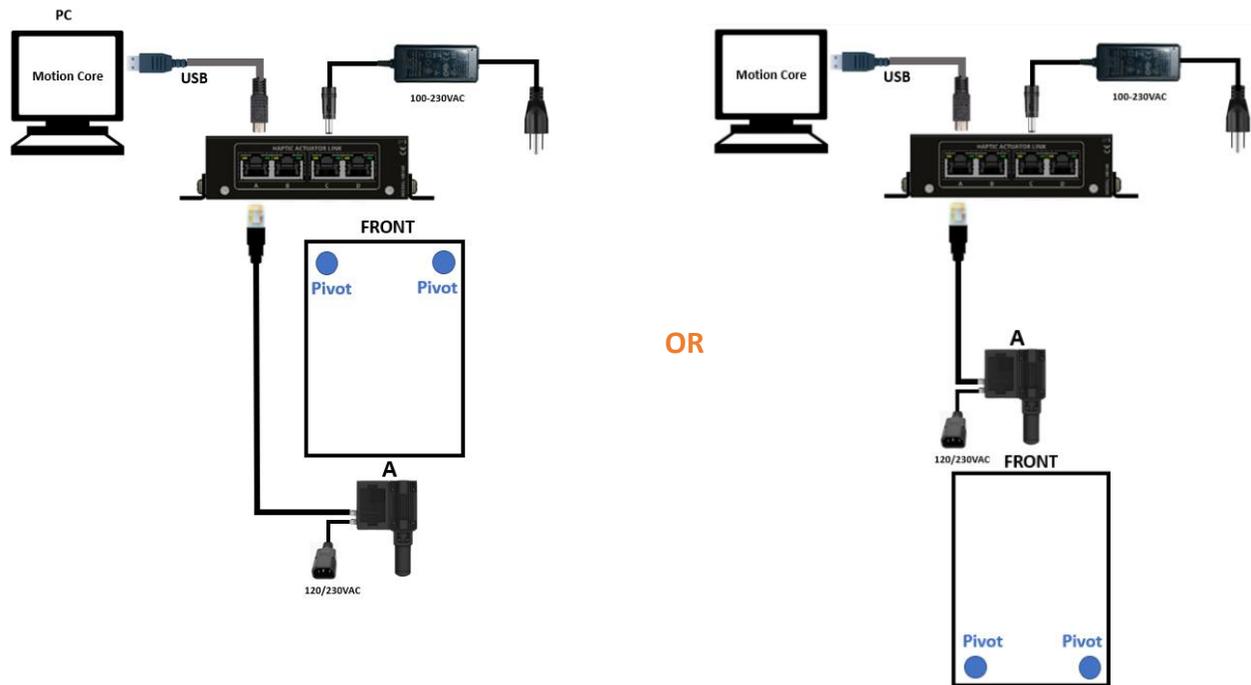
6.4 2-Actuator Configurations



OR



6.5 1-Actuator Configurations



7. CREATE YOUR D-BOX CONNECT ACCOUNT

Create your D-BOX Connect account. This is mandatory to install and update haptic codes for D-BOX Coded Games and have access to haptic codes for D-BOX Coded Movies.

Here is the link to access the D-BOX Connect website: <https://connect.d-box.com/>

Follow onscreen instructions.

8. SOFTWARE INSTALLATION

There are two (2) D-BOX software packages to be installed on your computer: **D-BOX Motion Core** and **System Configurator (section 8.2)**. Both are available at: <https://www.d-box.com/en/software-downloads>

8.1 D-BOX Motion Core

D-BOX Motion Core: The D-BOX Motion Core Includes the system’s driver in addition to a complete software suite including the following software and utilities:

- D-BOX Control Panel
- D-BOX Game Center
- D-BOX Adaptive Gaming Configurator
- D-BOX HaptiSync app
- D-BOX System Monitor
- D-BOX Stimuli Presenter

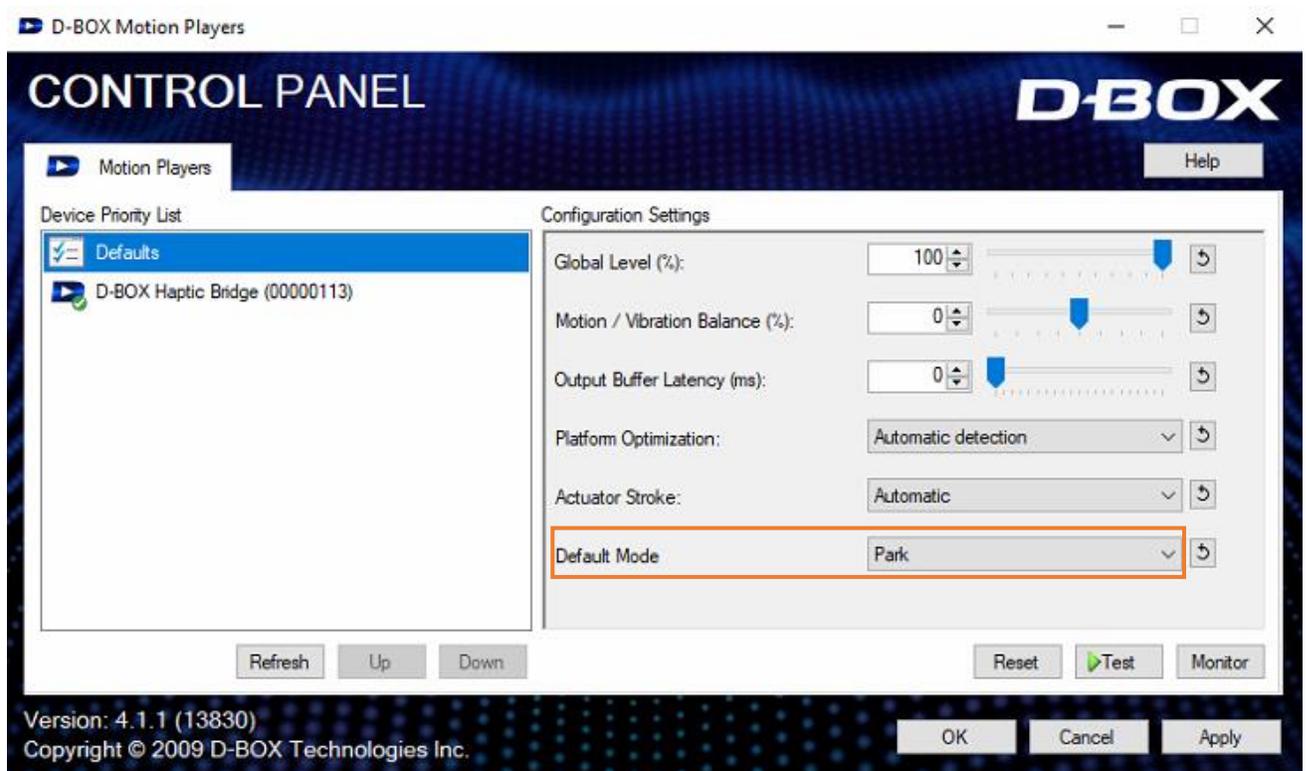
8.1.1 D-BOX Control Panel

The D-BOX Control Panel allows you to configure system parameters such as the global intensity level, Motion /Vibration Balance, and latency. There is also a test button to verify that your system is working properly.

Default Mode:

Park: Haptic actuators will go to its lower position when there are no haptic activities (minimum electrical consumption).

Hold Center: Haptic actuators will stay in the middle position when there are no haptic activities.



8.1.2 D-BOX Game Center

The D-BOX Game Center is an application to install the D-BOX compatible games haptic codes as well as manage and edit games profile.

NOTE: A D-BOX Connect account is required to install and receive software & haptic code updates.

Select your haptic experience from the dropdown menu:

- **D-BOX Coded Gaming:** Premium haptic experiences for D-BOX coded apps, simulators & games. Use the adaptive gaming mode if your title is not in the list.
- **D-BOX Coded Video:** Premium haptic experiences for D-BOX coded movies, TV shows, using audio synchronization. Visit this page for detailed instructions:

<https://support.d-box.com/en/knowledge/d-box-coded-video-with-game-center>

- **Adaptive Gaming:** Haptic experiences using real-time events from game controller or keyboard. Visit this page for detailed instructions on how to use this feature:

<https://support.d-box.com/en/knowledge/adaptive-gaming>

D-BOX Game Center - OFFLINE - Please Log In

GAME CENTER HaptiSync Mode: D-BOX Coded Gaming

D-BOX Coded Gaming D-BOX Coded Video Adaptive Gaming Adaptive Gaming

Log In Help

Premium haptic experiences for D-BOX coded apps, simulators & games. Use the adaptive gaming mode if your title is not in the list below.

Name	Status	Startup	Installed	Available	Type	Comment
Assetto Corsa	Update Available	Special Instructions	3.8.10851	4.1.11067	Racing	Up to 152 mm (6")
ACTC	Not Detected		Not Installed	1.1.5274	Racing	Up to 35 mm (1.5")
Aeolis Tournament	Not Detected		Not Installed	1.0.10993	Arcade	Up to 152 mm (6")
Aerofly FS2	Not Detected		Not Installed	2.1.10919	Flight	Up to 152 mm (6")
American Truck Sim	Not Detected		Not Installed	1.1.10941	Racing	Up to 152 mm (6")
ARCA Sim Racing	Not Detected		Not Installed	1.3.5341	Racing	Up to 35 mm (1.5")
Assassin's Creed Valhalla	Not Detected		Not Installed	1.1.11057	Adventure	Up to 152 mm (6")
Assetto Corsa Competizione	Not Detected		Not Installed	2.1.10923	Racing	Up to 152 mm (6")
Automobilista	Not Detected		Not Installed	1.0.9455	Racing	Up to 152 mm (6")
Automobilista 2	Not Detected		Not Installed	1.0.10928	Racing	Up to 152 mm (6")
BeamNG	Not Detected		Not Installed	1.0.10716	Racing	Up to 152 mm (6")
Bomber Crew	Not Detected		Not Installed	1.0.11005	Strategy	Up to 152 mm (6")
City Car Driving	Not Detected		Not Installed	1.0.11006	Racing	Up to 152 mm (6")
Crysis WARHEAD	Not Detected		Not Installed	1.2.5274	Shooter	Up to 35 mm (1.5")

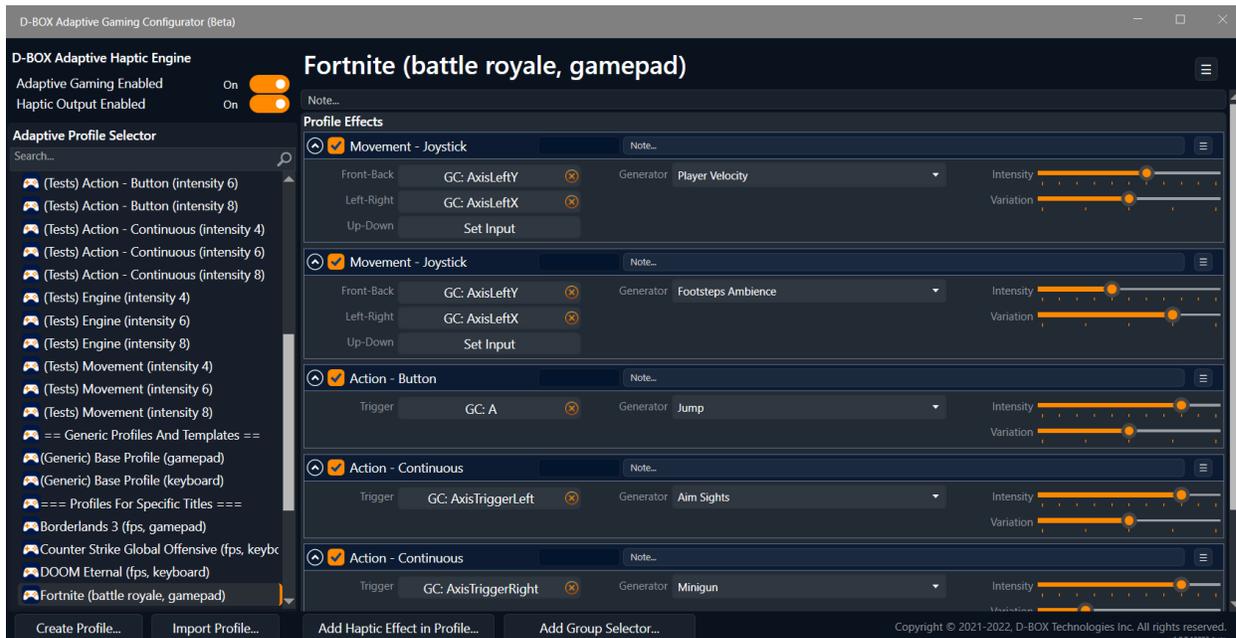
List Last Updated: 04/14/2022 16:37:45

Update Launch Settings... Update List

Version: 4.0 (13830) Copyright © 2009 D-BOX Technologies Inc.

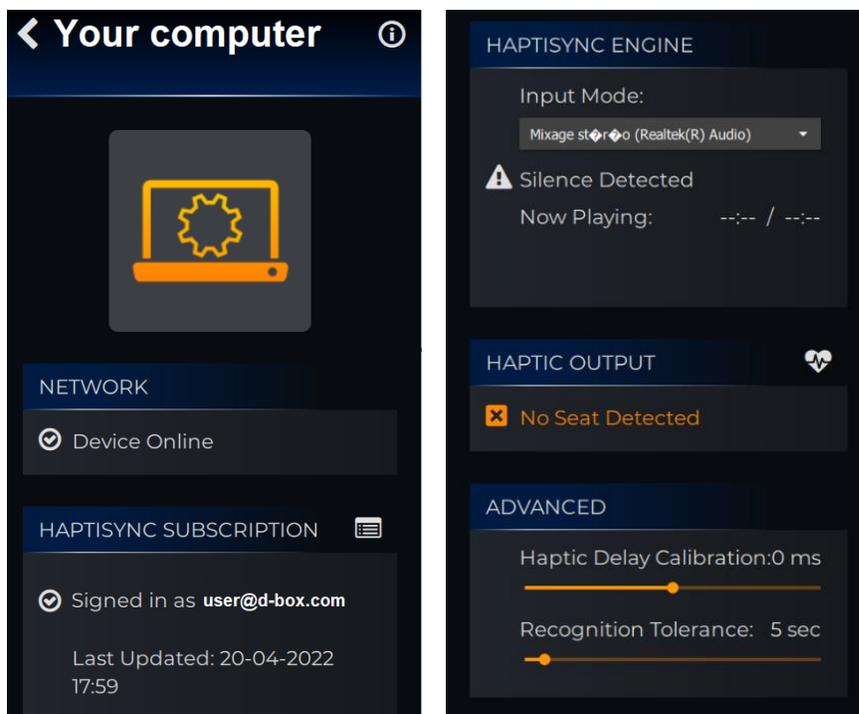
8.1.3 D-BOX Adaptive Gaming Configurator

This application allows you to build, modify and activate your Adaptive Gaming profiles. You can also share your favorite profiles with other D-BOX users!



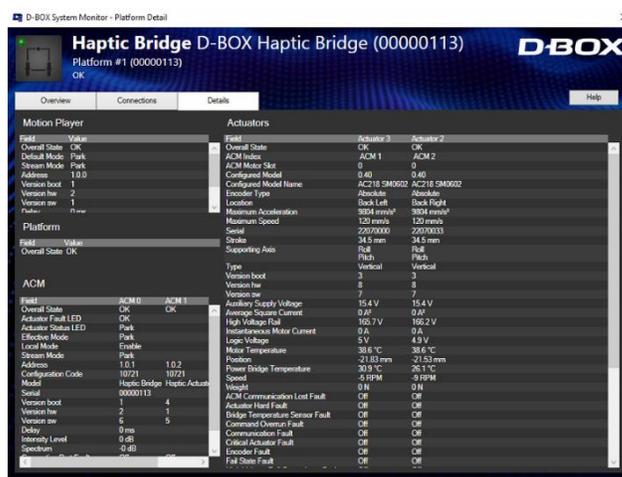
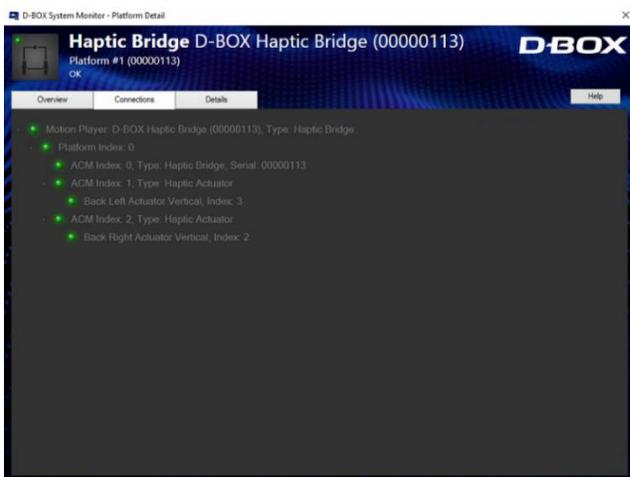
8.1.4 D-BOX HaptiSync App

This application allows you to setup and control your D-BOX Coded Video experience using audio synchronization. A valid HaptiSync subscription is required (see section 7):



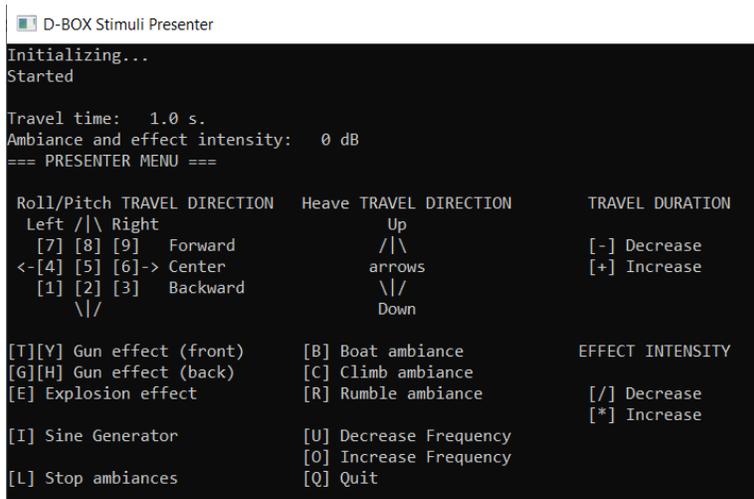
8.1.5 D-BOX System Monitor

This application displays live health and operational data on all connected Haptic Systems. This is useful to troubleshoot your system:



8.1.6 D-BOX Stimuli Presenter

The D-BOX Stimuli Presenter is a keyboard-controlled application to send basic signals to the haptic system, helpful for tests and demos:



8.2 D-BOX System Configurator

The System Configurator is an application allowing configuration of your Haptic System. It is necessary to configure your system since it comes from factory with a blank configuration unless your dealer already configured it for you. Please contact your dealer for more details.

*** Please read the instruction file for instructions.**

9. HAPTIC SYSTEM OPERATION

STEP 1: Check the following points before powering on your system:

- Haptic actuators have been set to the proper voltage (**See section 3**).
- Haptic actuators are connected to a grounded electrical outlet. If you must use an extension cable, use a 3-wire cable with properly grounded plugs. Don't connect to a circuit with a GFI breaker.
- Haptic Bridge USB cable is connected directly to your PC. A USB Hub may create system interruption or errors.
- Haptic actuators are connected to the right ports of the Haptic Bridge (**See section 6.2 – 6.5**).
- Your Haptic System has been configured using the System Monitor software (**See section 8.2**).

STEP 2: Power on your haptic system. Haptic actuators should do a homing sequence going all the way up, all the way down, and then center. This is a normal behavior.

You are now ready to live an immersive haptic experience!

10. TROUBLESHOOTING

This section contains step by step instruction to troubleshoot your G5 Haptic System. Do not hesitate to contact the D-BOX Technical Support team if you need help!

10.1 Initial Troubleshooting Steps

STEP 1: Verify that all haptic actuators are set to your country's voltage (**See section 3**).

STEP 2: Make sure your haptic actuators are connected to a grounded electrical outlet. If you must use an extension cable, use a 3-wire cable with properly grounded plugs. Don't connect to a circuit with a GFI breaker.

STEP 3: Make sure that all power and network cables are firmly plugged in.

STEP 4: Verify that your haptic actuators are connected to the right ports of the Haptic Bridge (**see section 6**).

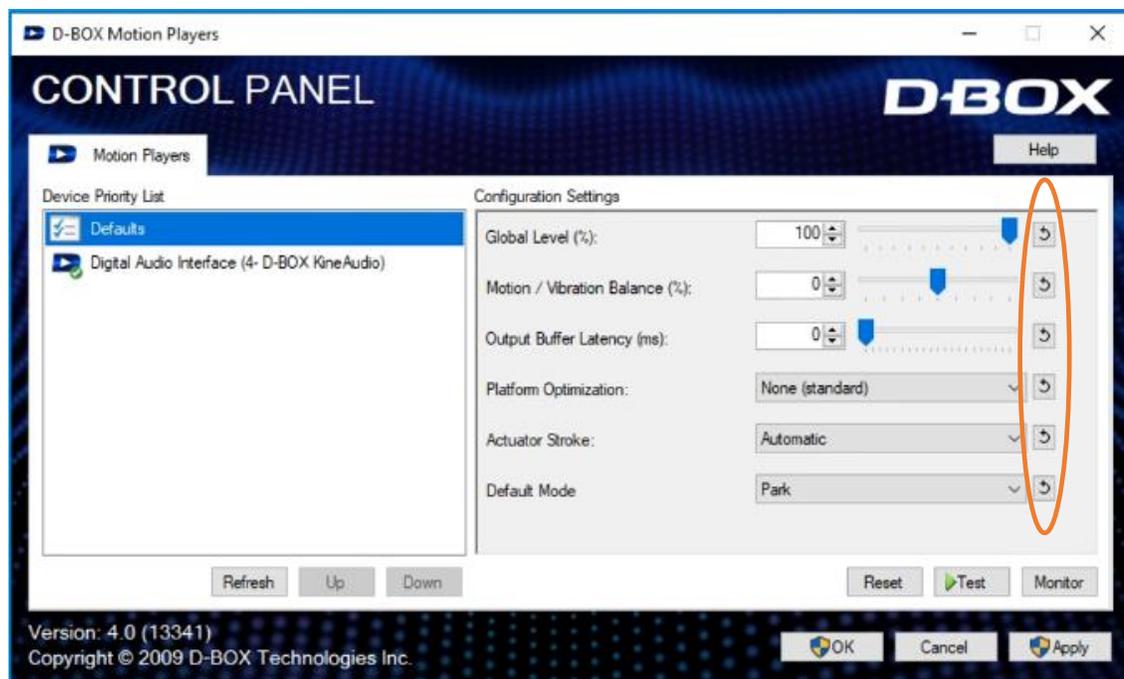
STEP 5: Do a visual inspection of your setup to make sure nothing prevents the haptic system from moving properly. Power cords and network cables must be secured and away from the actuators path.

10.2 Reinitiate Your Haptic System

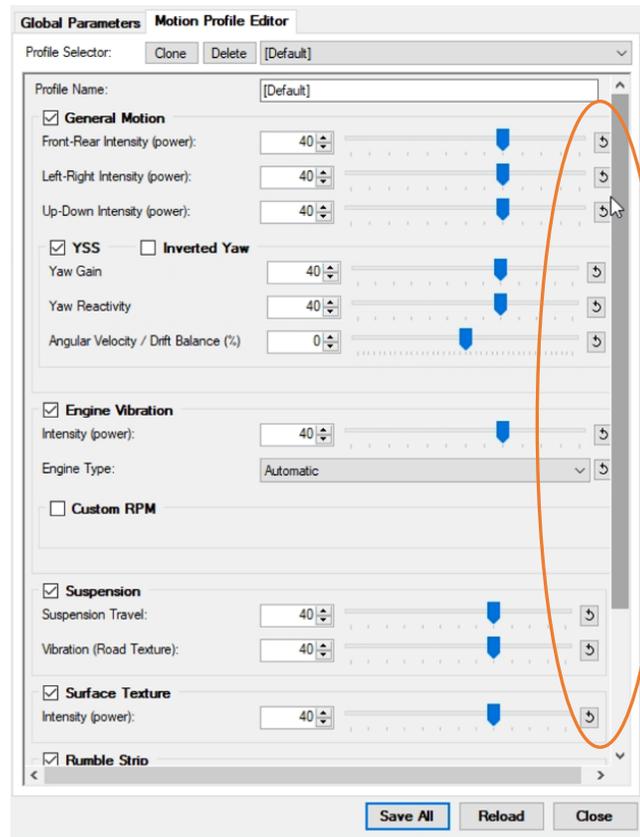
STEP 6: Reset the entire system:

- A) Reboot your computer.
- B) Power off the haptic actuators as well as the Haptic Bridge by unplugging the power cords. Wait for at least 60 seconds then restore the power to the equipment. The platform should do its homing sequence by going up, down then middle position. If the system does not go through its homing sequence, open System Monitor and check if there are some alarms. See section 10.6 for faults and corrective actions.

STEP 7: Reset all the global settings in the D-BOX Control Panel. Use the circular arrows on the right side of the parameters to set them back to default:

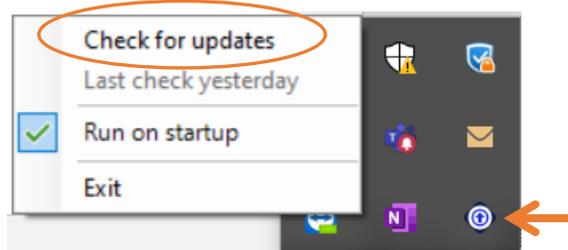


STEP 8: Reset the specific motion code settings for the game you are using. If using D-BOX with a software available from the D-BOX Game Center, right click on the game line and choose **D-BOX haptic settings**. In the new window, you will find the **Global Parameters** tab as well as the **Motion Profile Editor**. From the Motion Profile Editor tab, reset all the motion settings:



10.3 Update Software and Firmware

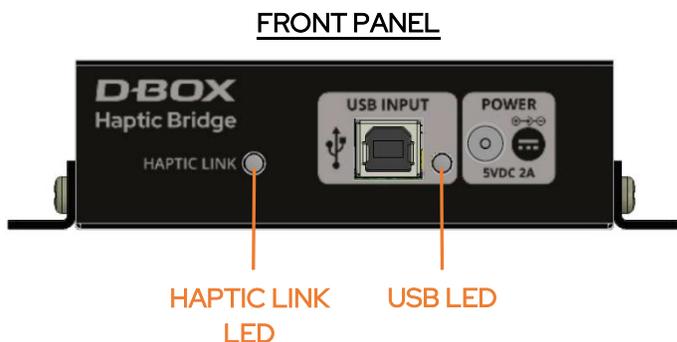
STEP 9: Make sure you have the latest version of the D-BOX Motion Core installed on your PC. Right click on the D-BOX Motion Core Updater icon and select **Check for updates**:



STEP 10: Make sure you have configured (if not done by your dealer) your G5 Haptic System using the latest version of the D-BOX System Configurator software (see section 8.2).

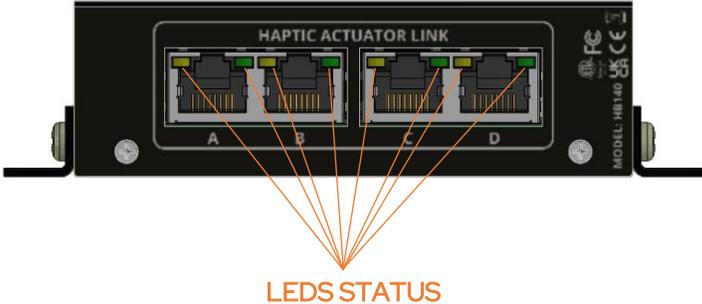
10.4 Troubleshooting with Haptic Bridge LEDs Status

This section covers the status LED located on your Haptic Bridge:



HAPTIC LINK LED	USB LED	STATUS	SOLUTION
○	○	Haptic Bridge is not powered.	Make sure the power supply is properly connected.
●	●	No USB connection is detected.	<p>Check that the USB cable is properly connected (both ends). Do not use a USB HUB.</p> <p>Make sure you are using the original USB cable provided with your controller.</p> <p>Make sure you have the latest version of Motion Core installed (see section 10.3).</p>
●	●	Unit is ready to operate but the platform is in <i>Park</i> .	Make sure your platform is enabled.
●	●	The platform is enabled but no motion is sent.	USB LED should turn green as soon as you stream motion data to your haptic system.
●	●	The device is operational and receiving motion data (or silence data).	-

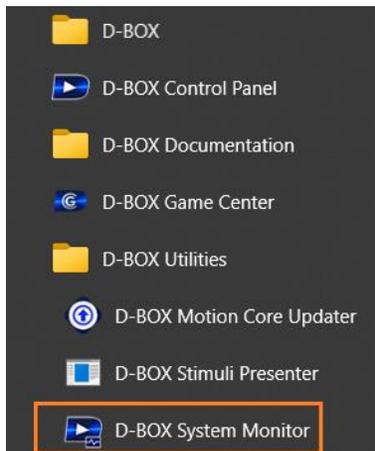
REAR PANEL



LED STATUS	STATUS	SOLUTION
<p>Blinking amber</p>	<p>No Motion Player detected / no communication.</p> <p>System fault or haptic actuator has not been set to the right voltage.</p> <p>Actuator fault</p>	<p>Make sure the USB cable is properly connected (both ends). Do not use a USB HUB.</p> <p>Make sure you have the latest version of Motion Core installed.</p> <p>Verify that all haptic actuators are set to your region’s power voltage (see section 3).</p> <p>Use the D-BOX System Monitor software to see the system fault (see section 10.5).</p>
<p>Blinking amber & green</p>	<p>Haptic actuators communication issue.</p>	<p>Make sure the actuator power and RJ45 cables are properly connected.</p> <p>Make sure the RJ45 cables are connected into the right ports of the Haptic Bridge (see sections 6.2 – 6.5).</p>
	<p>The system is operational</p>	<p>-</p>

10.5 Troubleshooting with D-BOX System Monitor

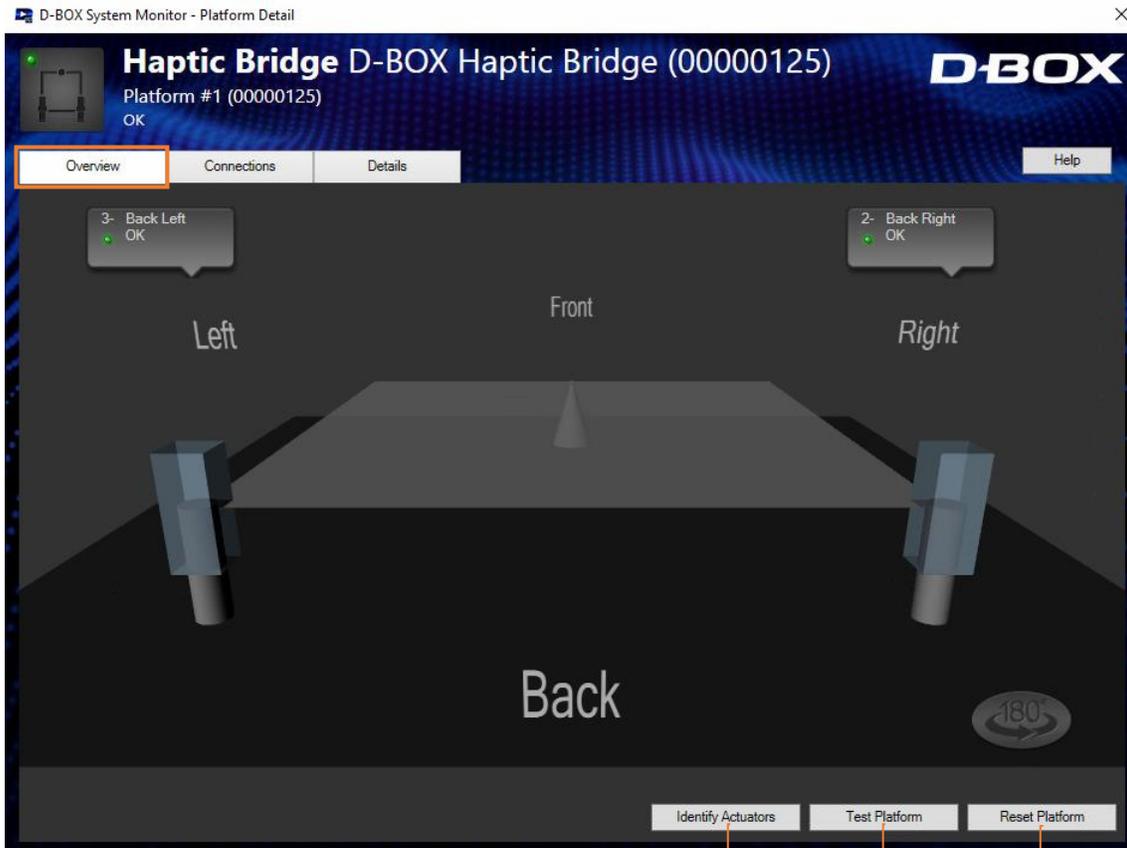
The D-BOX System Monitor software is the right tool to test and diagnose your Haptic System. The software is accessible from your Windows program menu under the D-BOX Utilities:



Once the window appears, click on the Haptic Bridge device then a new window will open:



Overview Tab: The **Overview** tab displays a live overall 3D view of your D-BOX haptic platform and its current state. Haptic actuators in a pending or alarm state are displayed as yellow or red:



The **Identify Actuators** button is used to start an interactive test to validate that all actuators are located as expected on the platform.

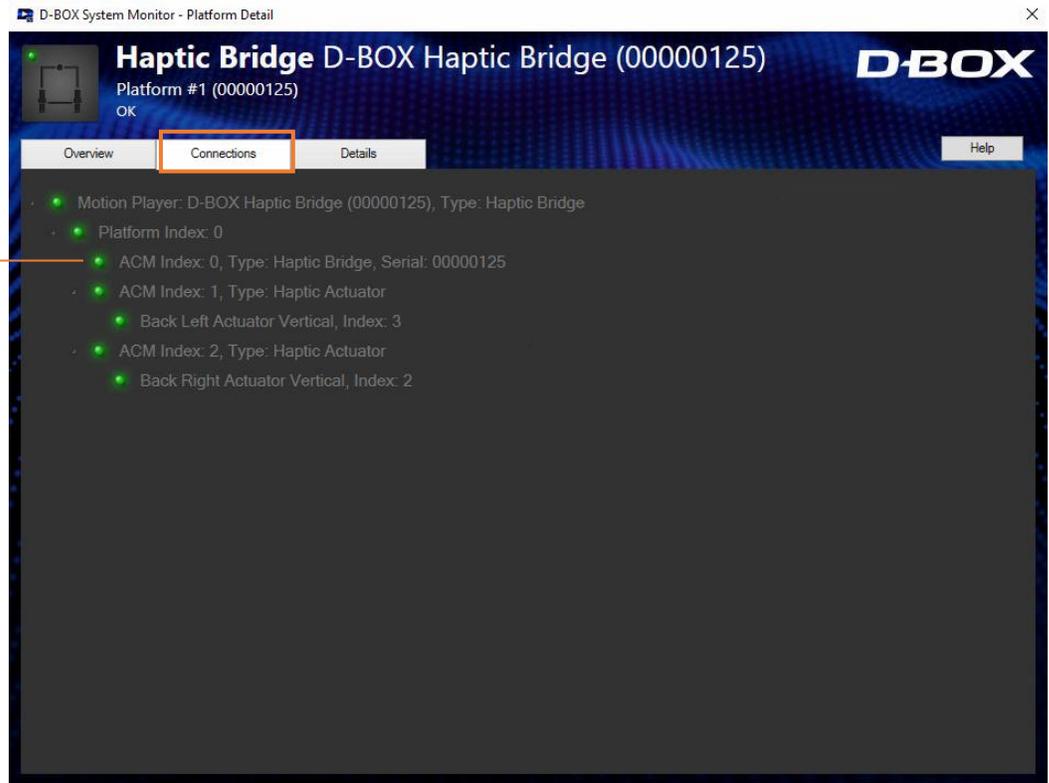
The **Test Platform** button is used to start a motion test on the selected platform. If your D-BOX Motion Player is connected to multiple platforms, all of them will receive the motion test.

The **Reset Platform** button is used to reset the D-BOX Motion Platforms connected to the currently selected D-BOX Motion Player.

The **Rotate 180 degrees** button is used to change the orientation of the 3D view of the platform.

Connections Tab: The **Connections** tab lists the components of your platform. The status light is displayed as well as any active alarm:

Dots show the status of the D-BOX equipment.
 Red dots indicate a failure.



Nodes description

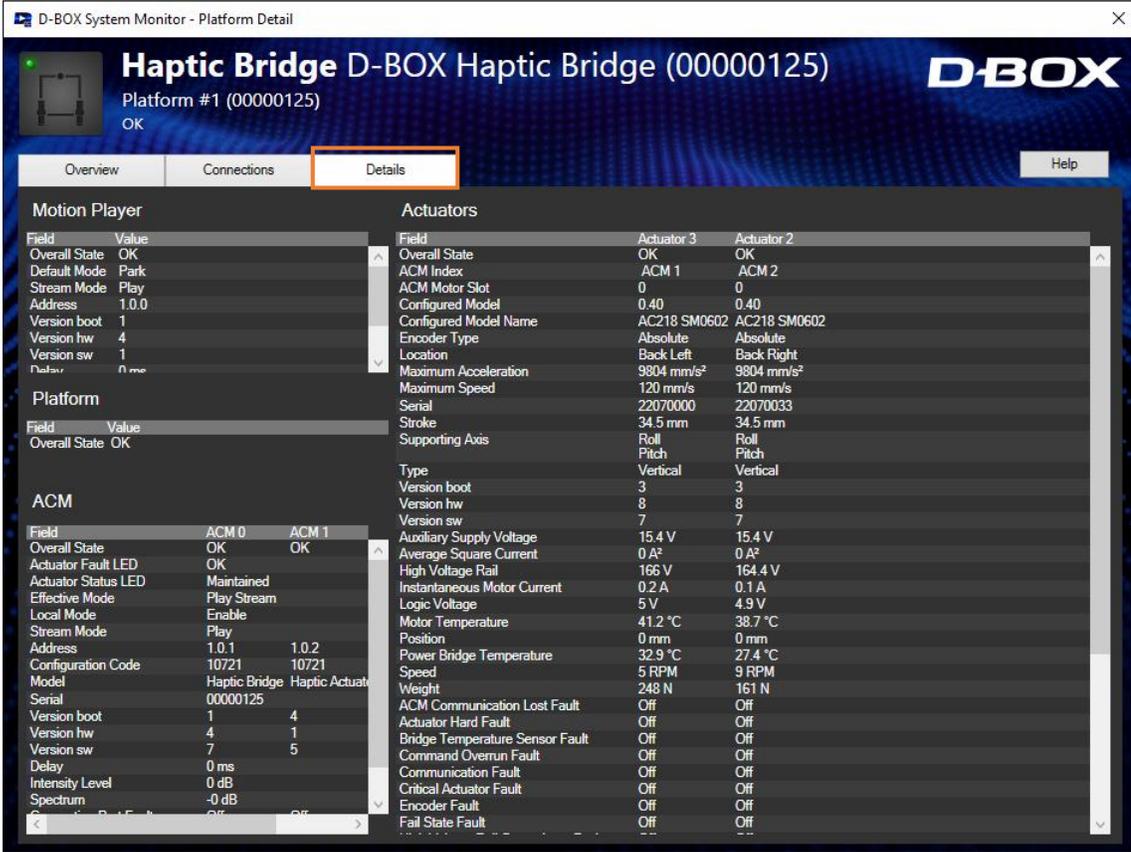
Motion Player: The D-BOX Motion Player connected to your computer.

Platform Index: Position of the platform connected to your D-BOX motion player, starting at 0.

ACM Index: Haptic Bridge and actuators of your platform.

Alarm: Any alarm currently active (see section 10.6 for details).

Details Tab: The **Details** tab contains the complete technical details of the current D-BOX Haptic System and can be used to further evaluate the status of each individual component (Motion Player, Haptic Bridge, and actuators):



10.6 Faults and Corrective Actions

Here is a list of the faults you can find in the D-BOX Monitor System (Details tab) including the corrective actions:

FAULTS	CAUSES	CORRECTIVE ACTIONS
<p>ACM Communication Lost Fault</p>	<p>Power and/or network cable for haptic actuator is disconnected.</p>	<p>Make sure the power and network cables are securely plugged in.</p> <p>Visually inspect the entire length of the network cable for obvious signs of damage.</p> <p>Make sure your haptic actuator is connected to a grounded electrical outlet. Do not use adapter plugs or remove the grounding prong from cables. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.</p>
<p>Actuator Hard Fault</p>	<p>This is a Hard fault. The faulty haptic actuator is immediately deactivated, and all other haptic actuators go to their lowest position.</p>	<p>Do a visual inspection to make sure nothing is blocking the travel of the haptic actuator.</p> <p>Power off the haptic system, support your platform to gain access to the actuator piston and pull it out of its body slowly until the entire piston is out of the body and than slowly push it back in.</p> <p>If error persists, replace/repair the faulty actuator.</p>
<p>Bridge Temperature Sensor Fault</p>	<p>The error can be triggered by starting the system when the temperature is too low.</p> <p>The internal power bridge sensor is defective.</p>	<p>Make sure your system is running in a temperature range of 0 to 40°C.</p> <p>Make sure there is enough ventilation around the haptic actuator.</p> <p>If the problem persists, replace/repair the faulty haptic actuator.</p>
<p>Command Overrun Fault</p>	<p>A new command was received by the actuator while the previous command was not completed.</p> <p>This should not be a permanent fault and should be cleared after a while.</p>	<p>From system Monitor, reset your haptic system (Reset Platform).</p> <p>Power off the haptic system, wait for a minute, then try again.</p> <p>From System Monitor, check if there is any other fault and follow the recommended solution.</p> <p>If error persists, contact D-BOX Support.</p>

FAULTS	CAUSES	CORRECTIVE ACTIONS
<p>Critical Actuator Fault</p>	<p>This is a Hard fault. The faulty actuator is immediately deactivated to prevent damage and all other actuators go to the lowest position.</p>	<p>Do a visual inspection to make sure nothing is blocking the travel of the haptic actuator.</p> <p>Power off the haptic system, support your platform to gain access to the actuator piston and pull it out of its body slowly until the entire piston is out of the body and then slowly push it back in.</p> <p>If error persists, replace/repair the faulty actuator.</p> <p>If error persists, proceed with ACM replacement.</p>
<p>Encoder Fault</p>	<p>There is a problem associated to the motor encoder.</p>	<p>Power off the haptic system, wait for a minute, then try again.</p> <p>If error persists, replace/repair the faulty actuator.</p>
<p>High Voltage Rail Overvoltage Fault</p>	<p>Too high voltage detected.</p> <p>Voltage from the wall outlet is too high for the Haptic System.</p>	<p>Verify that all haptic actuators are set to your region power voltage (see section 3).</p> <p>Make sure you are not connected to a GFI breaker.</p> <p>Check the power coming out of the outlet and make sure it respects the specified operating conditions. In case of doubt, connect the haptic system to another circuit.</p>
<p>High Voltage Rail Undervoltage Fault</p>	<p>Too low voltage detected.</p> <p>Voltage from the wall outlet is too low for the Haptic System.</p>	<p>Visually inspect the entire length of the power cable for obvious signs of damage.</p> <p>Make sure you are connected to a grounded electrical outlet. Do not use adapter plugs or remove the grounding prong from cables. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.</p> <p>If you are using an extension cable, try without.</p>
<p>Logic Voltage Undervoltage Fault</p>	<p>Low-voltage rail is too low</p>	<p>If error persists, replace/repair the faulty haptic actuator.</p>

FAULTS	CAUSES	CORRECTIVE ACTIONS
<p>Motor Temperature High Fault</p>	<p>The motor temperature detector has failed or disconnected, or that the temperature is too low.</p>	<p>Make sure that the weight on the platform is not heavier than the maximum supported weight.</p> <p>Make sure that the weight is evenly distributed among the actuators of the platform (as centered as possible).</p>
<p>Motor Temperature Sensor Fault</p>	<p>If the temperature shown is around 561 degrees, it may be a defective motor cable or temperature sensor.</p>	<p>In System Monitor, weight limits in "D-BOX Newton" should be lower than 1900N.</p> <p>Make sure the Haptic System is operating in normal operating conditions (room temperature).</p> <p>If error persists, replace/repair the faulty actuator.</p>
<p>Out of bounds Fault</p>	<p>When the position of the haptic actuator is over its limits. Should never occur in normal operation conditions.</p> <p>Might comes from Haptic Code.</p>	<p>Verify that you are running a D-BOX certified haptic code. Call D-BOX for validation if necessary.</p> <p>Perform a test using the D-BOX Control Panel.</p>
<p>Overcurrent Fault</p>	<p>Haptic actuator might have the wrong configuration (ex: 250lbs motor instead of 400lbs).</p>	<p>Make sure you have the right configuration using the D-BOX System Configurator (see section 8.2).</p> <p>If error persists, contact D-BOX Support.</p>
<p>Overweight Fault</p>	<p>There's too much weight on the platform.</p> <p>The weight is unbalanced on the platform.</p>	<p>Make sure that the weight on the platform is not heavier than the maximum supported weight.</p> <p>Make sure that the weight is evenly distributed among the actuators of the platform (as centered as possible).</p> <p>In System Monitor, weight limits in "D-BOX Newton" should be lower than 1900N.</p> <p>If error persists, contact D-BOX Support.</p>
<p>Power Bridge Temperature High</p>	<p>The haptic actuator power bridge has overheated, or the sensor is defective.</p>	<p>Remove the power, wait for a minute then try again.</p> <p>Let the system cool down for a while and see if the temperature cools within normal limits.</p> <p>If error persists, contact D-BOX Support</p>

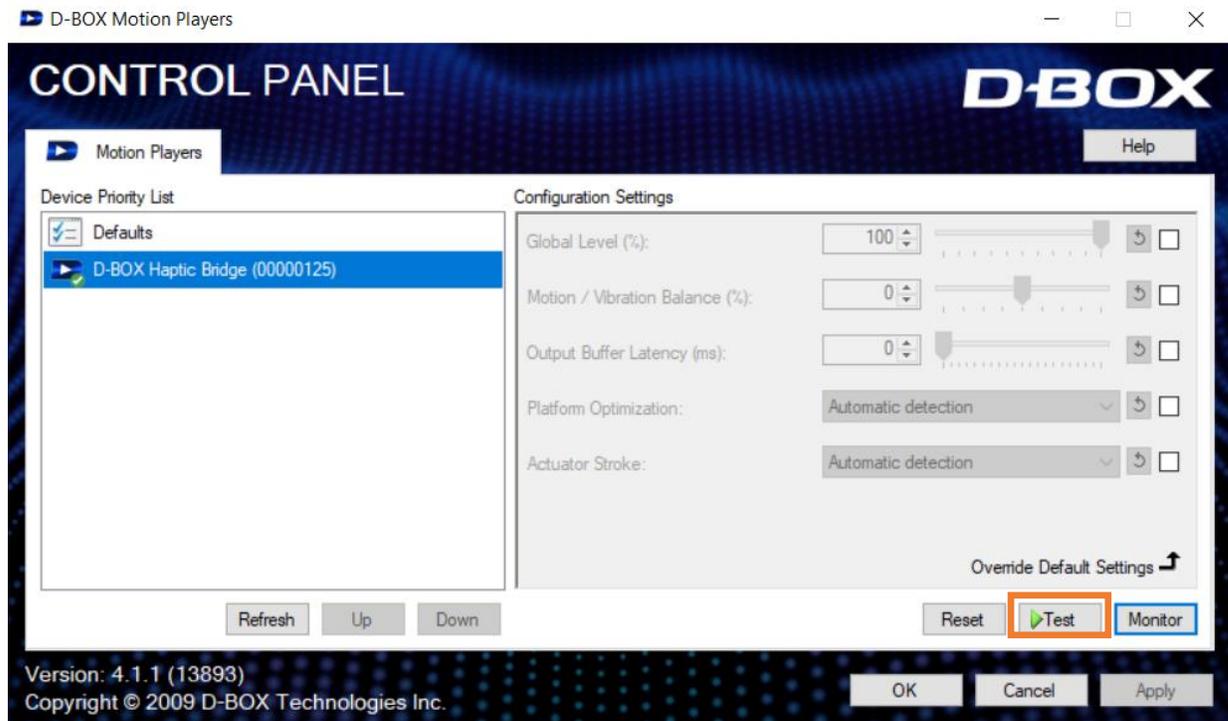
FAULTS	CAUSES	CORRECTIVE ACTIONS
Soft Actuator Fault	This fault is always accompanied with another fault (called "main fault").	Check solution for the main fault.
Temporary Actuator Fault	This fault is always accompanied with another fault (called "main fault").	Check solution for the main fault.
Travel Fault	<p>Travel measure during the search-stop procedure is too large or too small.</p> <p>Normally caused by an external body preventing the actuator to move.</p> <p>Could be a defective haptic actuator.</p> <p>Bad communication with encoder.</p>	<p>Do a visual inspection to make sure nothing is blocking the actuator travel.</p> <p>Power off the haptic system, support the platform to gain access to the actuator piston and pull it out of its body slowly until the entire piston is out of the body and than slowly push it back in.</p> <p>If error persists, replace/repair the faulty actuator.</p>

10.7 Troubleshooting Software Issues (Game Center)

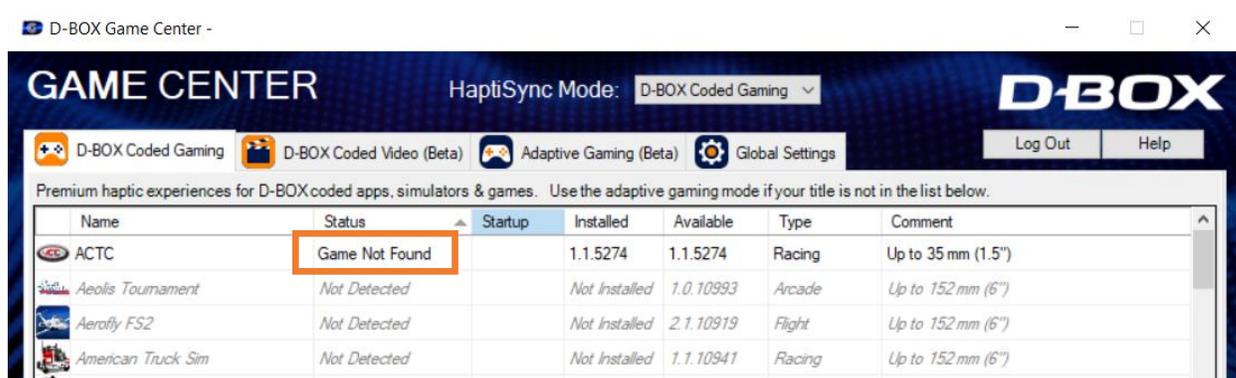
This section covers a step-by-step approach to help you fix issues related to the host software (game) or haptic code.

STEP 1: Make sure you are using the latest version of Motion Core (see section 10.3).

STEP 2: Proceed with a motion & communication test using the D-BOX Control Panel application. Select your D-BOX Haptic Bridge device (on the left) then press the "Test" button:



STEP 3: If you are using a game (not your own simulation software), open D-BOX Game Center and make sure the game is well installed. If the game is not found (as shown below), the default path used by the Game Center does not match the one on your computer:

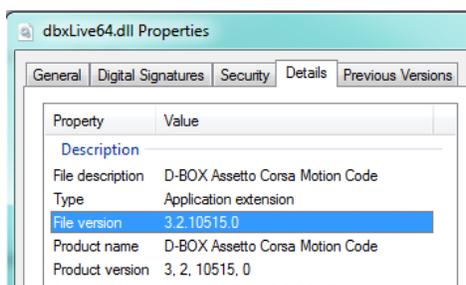


STEP 4: Reinstall the haptic code or update to the latest version.

If the game is present in the Game Center, you can check the version of the motion code directly from there:



If the game is not on the Game Center, you can check the version here: Go to C:\ProgramData\D-BOX\Gaming\LiveMotion\[GAME NAME]\dbxlive32-64.dll. Right click on properties/Details:



STEP 5: Make sure to launch the game from the Game Center. Select the game then click the **Launch** button at the bottom.

NOTE: Some games may need to be launched in a specific way. Click on the **Special Instructions** link for detailed instructions:



This section covers common software issues you may experience from the Game Center:

FAULT	CAUSE	CORRECTIVE ACTION
<p>Game not found</p>	<p>The game version is not the same as the one coded by D-BOX.</p>	<p>The integration could have been done on another version of the game. Try starting the game: movement should still work.</p> <p>Verify the game version to make sure it's matching the one compatible with your D-BOX system. Upgrade the game version to the latest one available.</p>
<p>Haptic Code status "disable"</p>	<p>Configuration is incorrect.</p>	<p>Open the "D-BOX haptic settings" for this game then select automatically start with game.</p>
<p>Haptic Code not working / No movement</p>	<p>There was a problem during the installation</p>	<p>Uninstall all version of the game and D-BOX software.</p> <p>Reinstall game, start the game, play once and exit.</p> <p>Make sure you have the latest version of the D-BOX Motion Core (see section 10.3).</p>
<p>Error in game center: «Game not installed»</p>	<p>Problem during the game or haptic code installation.</p>	<p>The Haptic Code of the game should be installed where the installer is suggesting.</p> <p>For older game (before 2010), it should be in the game folder.</p> <p>For newer games (after 2010) it should be under "C:\Program Files\D-BOX\Gaming\" folder.</p> <p>The problem could be related to the version of the game used: DVD version / online download version. The supported version is specified on the D-BOX website.</p>
<p>Error message: «dbxMotionPanel.exe - Fatal error CLR error: 80004005. The program will now terminate»</p>	<p>The software package .NET Vx is not installed.</p>	<p>Make sure you have the latest version of the D-BOX Motion Core (see section 10.3).</p>