

XP2-PowerBoat DX Service Manual



InJoy Motion Corp.

Shaking Your View & Sonic !!





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PowerBoat DX Service Manual

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1. INTRODUCTION

Thank you for purchasing the ***Injoy-PowerBoat DX*** “@Motion System” developed by ***Injoy*** that are well distributed in many markets and territories. This manual will guide you through the set-up and operation of ***Injoy-PowerBoat DX***, an ultimate game motion system for arcade environments. This unit is different from any other machines of its kind you have ever owned. ***Injoy-PowerBoat DX*** is a fully interactive coin-operated and swipe card motion simulation that creates a virtual reality environment and provides a truly unique game experience for players. Capable of any motion through 2.0 degrees of freedom (also known as D.O.F.) movement (pitch and roll), this system enables realistic simulation needed for any software program. Rather than pneumatic or hydraulic actuators that require much more maintenance and have been used to power most motion simulators in the past, ***Injoy-PowerBoat DX*** is powered by electric motors and with ***INJOY MOTION***’s patented design, a powerful, mini-motion based platform with physics-based motion dynamics. Players will experience realism to an extent that they can “feel” all the exciting actions in a synchronized way as they indulge in the game. One of ***Injoy-PowerBoat DX***’s most unique feature is that the platform can accommodate multiple games on the same unit with one game to play at a time. Future titles will be easily and quickly added giving operators higher profits / earnings.

INJOY MOTION is devoted to offer you the most advanced cost-economical and rewarding motion arcade system available. You are welcome to contact us for any questions you may have or for any service we can be of.





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2. SPECIFICATIONS

An *InJoy-PowerBoat DX* includes a complete **Motion Base**.

The dimensions given below are *InJoy-PowerBoat DX*'s installed footprint.

InJoy-PowerBoat DX @Motion System Unit

US & GB: 61.20" x 39.20"

Minimum Installed Footprint

Metric: 1.53m x 0.98m

2.1 InJoy-PowerBoat DX MOTION BASE

<i>InJoy-PowerBoat DX</i> Motion Base Simulator		
No	Item	Specification
1	Installed Dimensions / Weight (LxWxH)	<ul style="list-style-type: none"> ● 61.20" x 39.20" x 80.80" / 1058.4 lbs ● 153.00 x 98.00 x 202.00 cm / 480 kgs
2	Shipping Dimensions (LxWxH) Wooden Case Packaging	<ul style="list-style-type: none"> ● 63.20" x 41.20" x 82.80" / 1278.9 lbs ● 158.00 x 103.00 x 207.00 cm / 580 kgs
3	Motion system	<ul style="list-style-type: none"> ● 2.0 degree of freedom (D.O.F.) mini motion base: AC-powered, motor-driven actuators
4	Control inputs/feedback	<ul style="list-style-type: none"> ● Steering wheel ● 4 buttons for Start / Turbo, Weapon and View ● Throttle ● Motion stop switch
5	Player Weight Limit	<ul style="list-style-type: none"> ● 330 lbs.
6	Center of Gravity	<ul style="list-style-type: none"> ● Directly over 2 axis
7	Motors	<ul style="list-style-type: none"> ● 3Φ220VAC 1HP motors
8	Power Requirements – Plugs located at the bottom of the motion base behind the monitor.	<ul style="list-style-type: none"> ● Power requirements in USA: 110 VAC, 16 Amps, 50/60 Hz (Transformer needed) ● Power requirements in EURO: 220 VAC, 10 Amps, 50/60 Hz.
9	Chair	<ul style="list-style-type: none"> ● Deluxe sports car seat. ● Two built-in speakers for surround sound effect.
10	Audio	<ul style="list-style-type: none"> ● Inside chair – 8 watts RMS x 2, 4 ohm
11	Monitor	<ul style="list-style-type: none"> ● 32" LCD Monitor ● 15pin DB Connection
12	Computer System	<ul style="list-style-type: none"> ● Windows Embedded Operating System ● High Resolution Graphics Accelerator Card.



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3. INSTALLATION

3.1 SERVICE KIT

The following items should be included with the shipment of your *Injoy–PowerBoat DX*:

Service Kit	
Description	Qty
<i>Injoy–PowerBoat DX</i> Service Manual	1
Maintenance Box Key	1
Coin Box Key	1
Special Wrench	1

3.2 SET UP INSTRUCTIONS

3.2.1 PRE-INSTALL PREREQUISITES/CAUTIONS

Injoy–PowerBoat DX is designed for indoor use only. To ensure trouble-free and safe operation, the following conditions are recommended:

1. The game must be located out of direct exposure to sunlight, high humidity, dust, salt mist, high heat, or extreme cold. If installed in an extremely hot location, allow additional clearance between ventilation slots in the game and any structure or object that would tend to restrict air circulation.
2. The motion system produces tremendous forces onto the motion base, which may be moved around on the floor if not properly installed. Before operating the game, make sure the brackets are tightly installed. If you have questions regarding any installation requirements, contact our tech support (+886-2-2267-6317 Ext. 283 or support@imon.com.tw) at *Injoy* before proceeding.



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3.2.2 ADJUST SHOCK ABSORBER STAND

Adjust four shock absorber stands by special wrench to make sure *Injoy-PowerBoat DX* motion system is placed flat on the ground and the brackets tightly installed. (Figure 1)

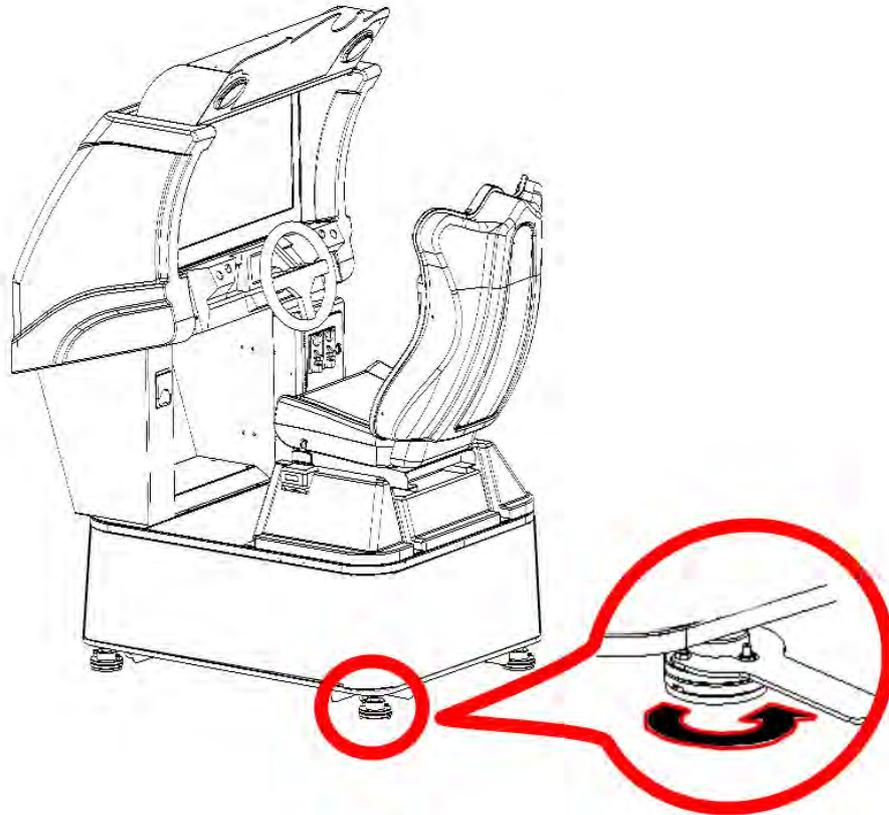


Figure 1 Adjust shock absorber stand

3.2.3 INSTALL STAIRWAY

1. Please adjust four stands of the stairway to be placed flat on the ground (Figure 2).

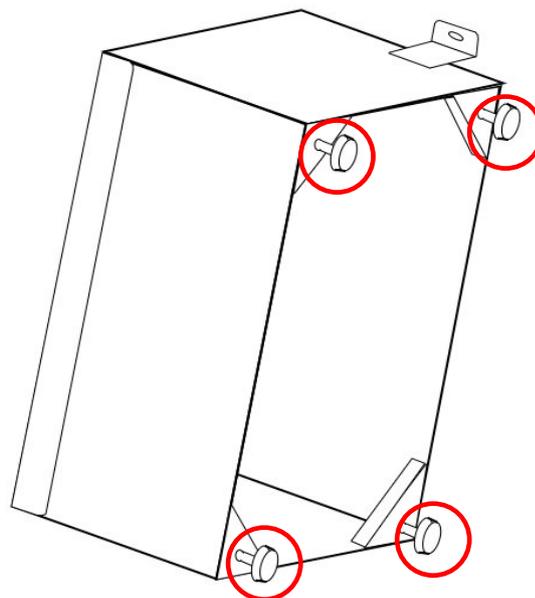


Figure 2 Adjust four stands of the stairway



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2. Install the stairway on the side of the chassis with screws (Figure 3).

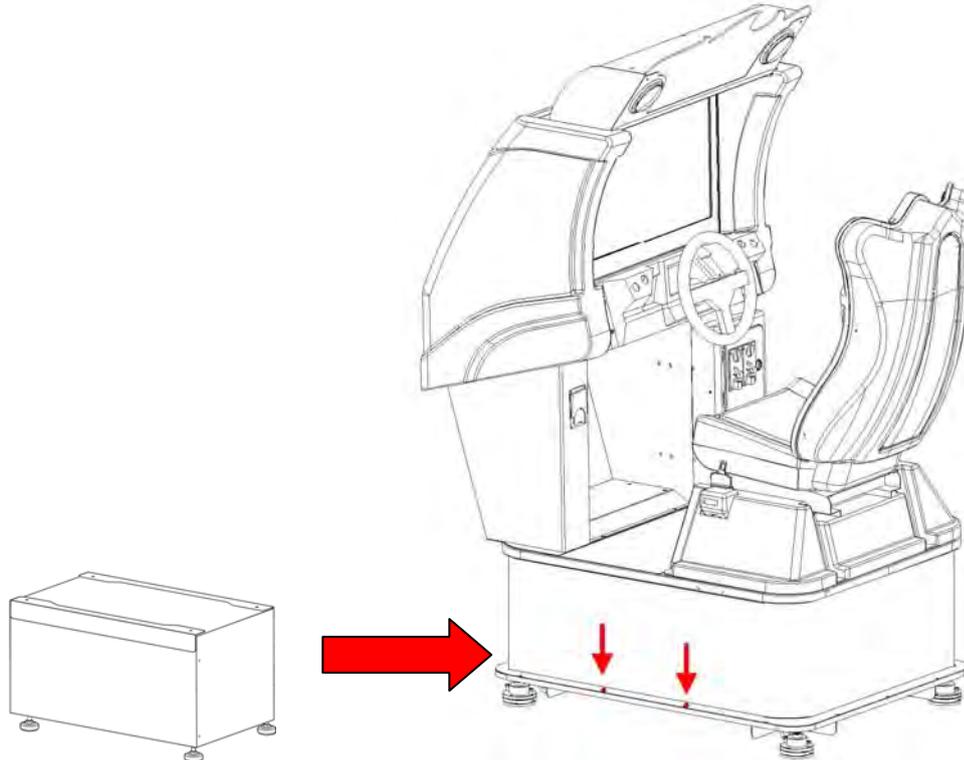


Figure 3 Install Stairway



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3.2.3 COIN ACCEPTOR SETTING

Please follow the steps to set up the coin acceptor.

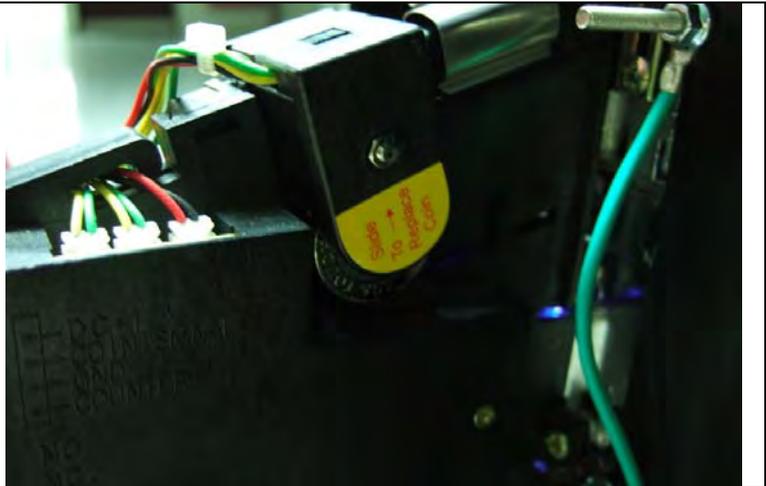
Step	Description	Diagram
1	Pull up the slider on the coin acceptor	
2	Insert the coin you would like the coin acceptor to accept for playing the game.	
3	Push down the slider to fix the coin.	



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4 The coin acceptor is set up and can now accept the inserted coin.



3.2.3 SWIPE CARD INSTALL

Figure 4 below illustrates the connection of the swipe card reader.

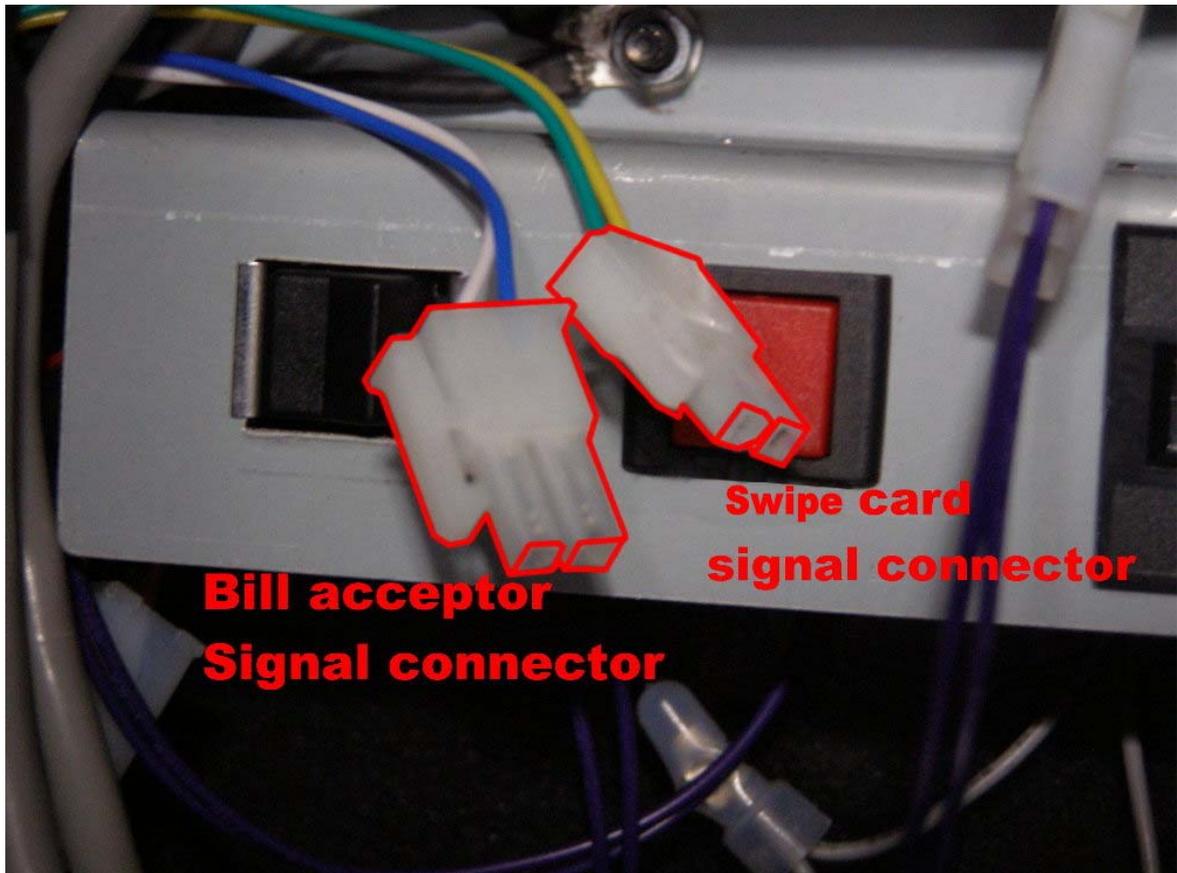


Figure 4 Swipe Card & Bill Acceptor connectors



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Figure 5 below displays the signal connection.

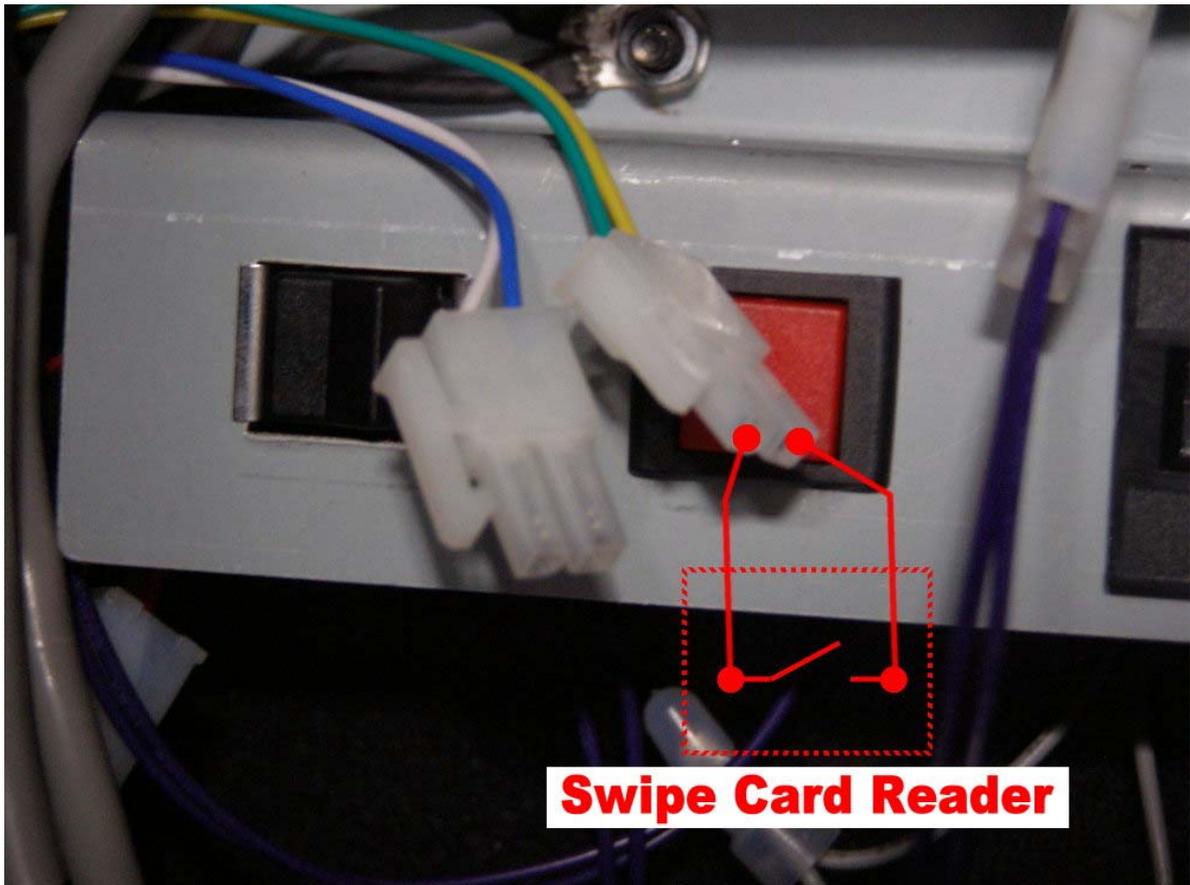
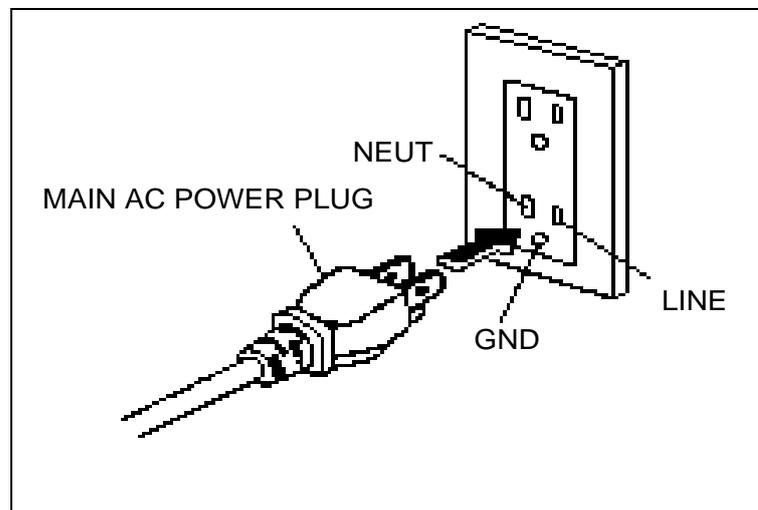


Figure 5 Swipe Card Signal

NOTE: This unit has a single power cord! The motion base requires one dedicated (15-Amp) circuit for (110~125VAC) power source, (16-Amp) for (100VAC) power source and (10-Amp) for (210~240VAC) power source! No other appliance or game should share this power source on this circuit.





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4. GAME SETTING AND INTRODUCTION

4.1 GAME SETTING (OPERATOR MENU)

To access OPERATOR MENU, after the Power is switched ON and the screen shows “insert coin”, find the OPERATOR SWITCH located inside the coin box door and move to “ON” position (Figure 6), and continue in the OPERATOR MENU mode.

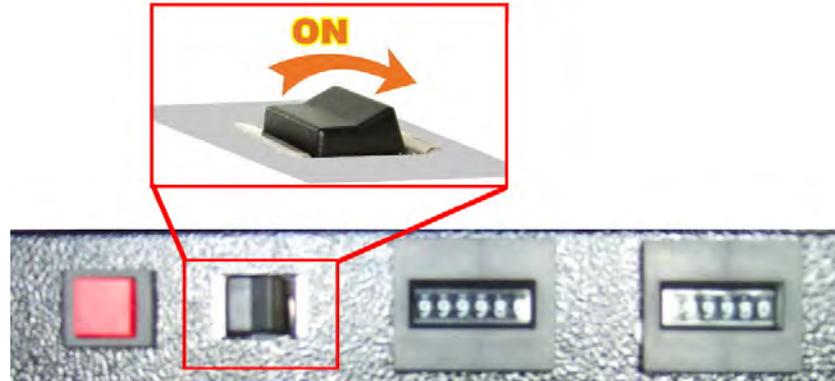
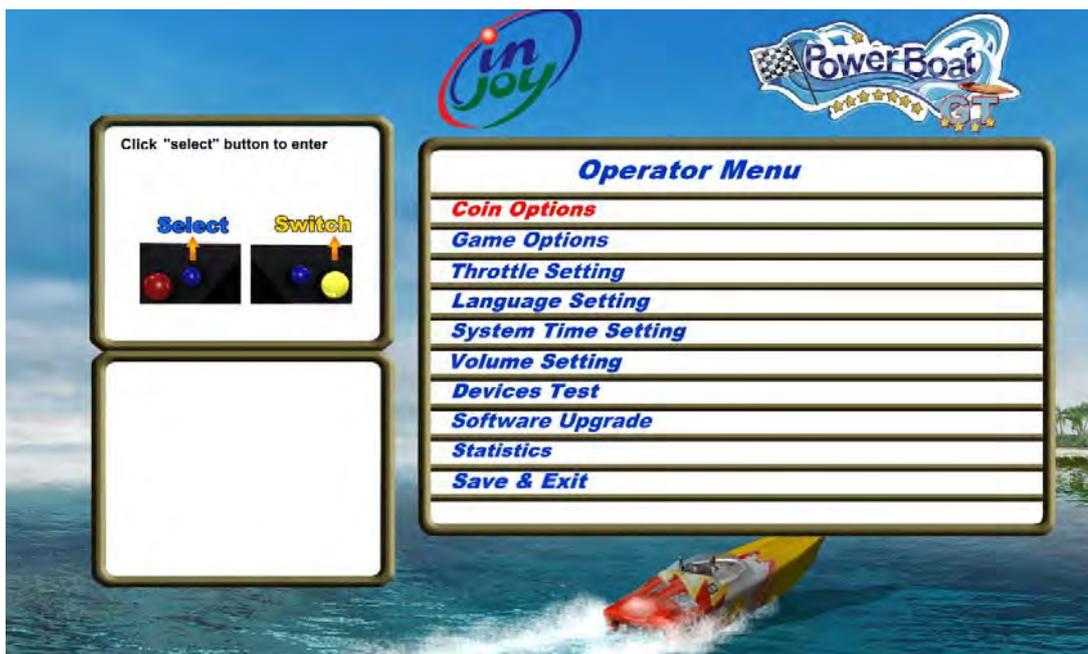


Figure 6 Operator Switch

From the OPERATOR MENU, you have direct access to game and operator settings. From sub-menus (listed below Figure 7), you have access to general game controls. The definitions of select buttons are detailed below on Page 9.

※ After done, please switch off the OPERATOR SWITCH to OFF position, and then turn off the POWER※





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Figure 7 Operator Menu

4.1.1 COIN OPTIONS

The “*Coin Options*” sub-menu allows you to set all coin options on your *InJoy-PowerBoat DX* (Figure 8).

1. “*Coins per Play*” allows you to set the number of coins, you would like a player to start the game with. The factory default setting value is 4 coins per play.
2. “*Coins per Continue*” allows you to charge a different price for continue-play than the first game play. The factory default setting value is 4 coins per play.
3. “*Currency Type*” is not to select the currency of a country, but allows selection of the forms of currency i.e. coins or bills you wish your *InJoy-PowerBoat DX* accepts. The factory default setting is Coin and another setting is the Bill Acceptor or Debit Cards. The coin acceptor is an industrial standard product.
4. “*Coins per Pulse (Coin Acceptor 1)* (Figure 9)” allows you to adapt different currency acceptors that are pulse specific to your *InJoy-PowerBoat DX*. The default value is 1.
5. “*Coins per Pulse (Coin Acceptor 2)* (Figure 9)” allows you to adapt different currency acceptors that are pulse specific to your *InJoy-PowerBoat DX*. The default value is 1.

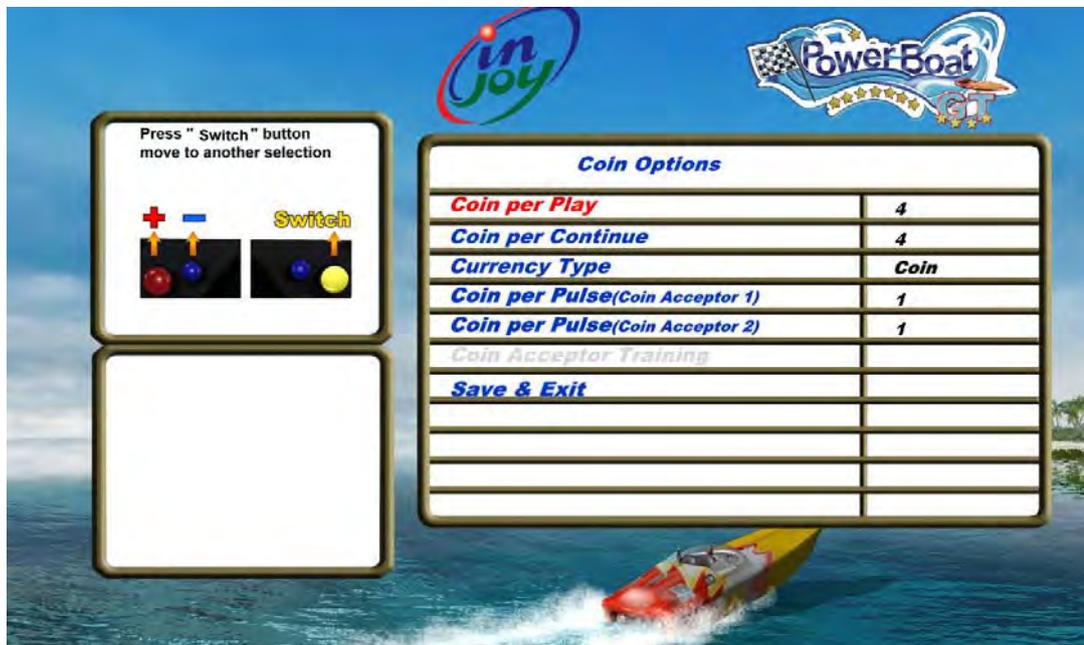


Figure 8 “*Coin Options*” sub-menu



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Figure 9 Coin Acceptor Number

4.1.2 GAME OPTIONS

“*Game Options*” sub-menu offers settings that you can adjust for each individual software title installed on your *InJoy-PowerBoat DX* (Figure 10).

1. “*Continue Timer Length*” adjusts the amount of time for the player to decide to continue playing after their game has ended. This can be adjusted by using the “+” or “-” buttons as shown in Figure 7.
2. “*Game Show Operation*” enables free game play by pressing “Switch” button.(Figure 10)
3. “*Clear High Scores*” deletes all high scores and returns to the default settings.(Figure 11)

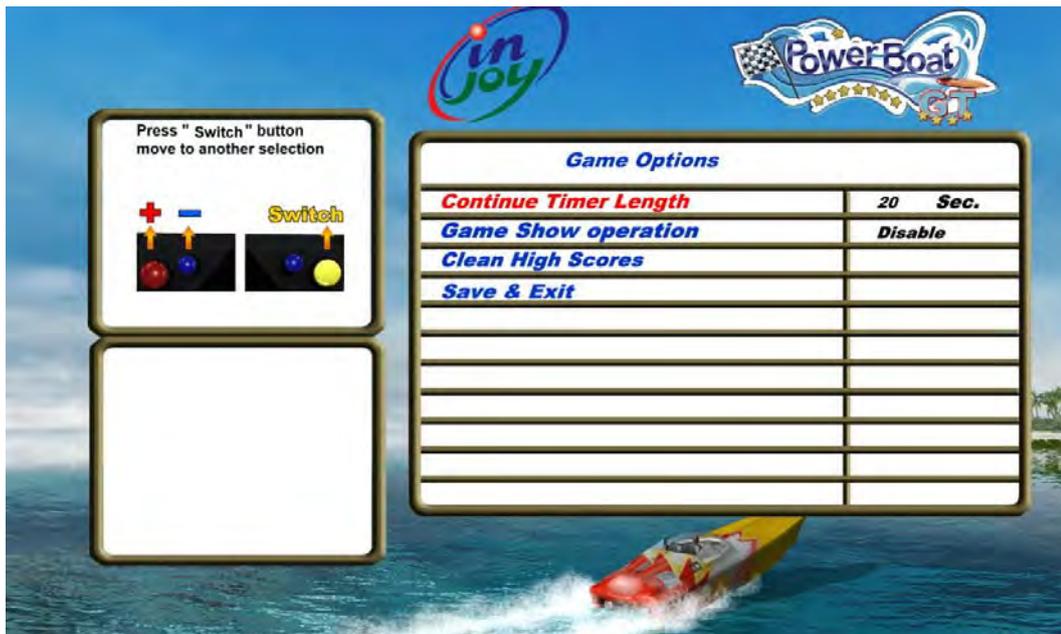


Figure 10 “*Game Options*” sub-menu



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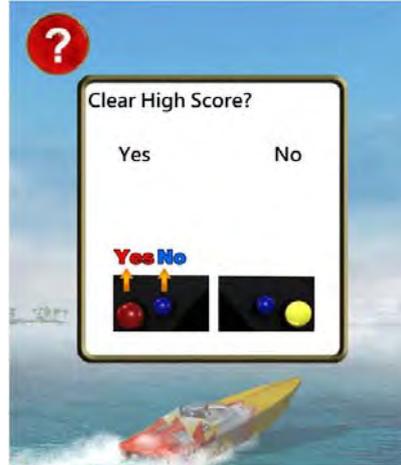


Figure 11 “Clear High Scores” Window

4.1.3 THROTTLE SETTING

To calibrate the Throttle, follow the directions on the screen and go through steps (Fig12 ~ Fig14):

1. Hold the “Calibrate” button on the Panel to calibrate the throttle (Figure 12).

※ Following step “Hold the ‘Exit’ button for 5 sec. to exit” shown in Figure 12 is to be performed only incase you want to exit while Joystick Setting is in process. ※

2. Push Throttle to up limit & down limit, and then press “Next” button (Figure 13).
3. Then Press the “Exit” button to finish Throttle calibration (Figure 14).

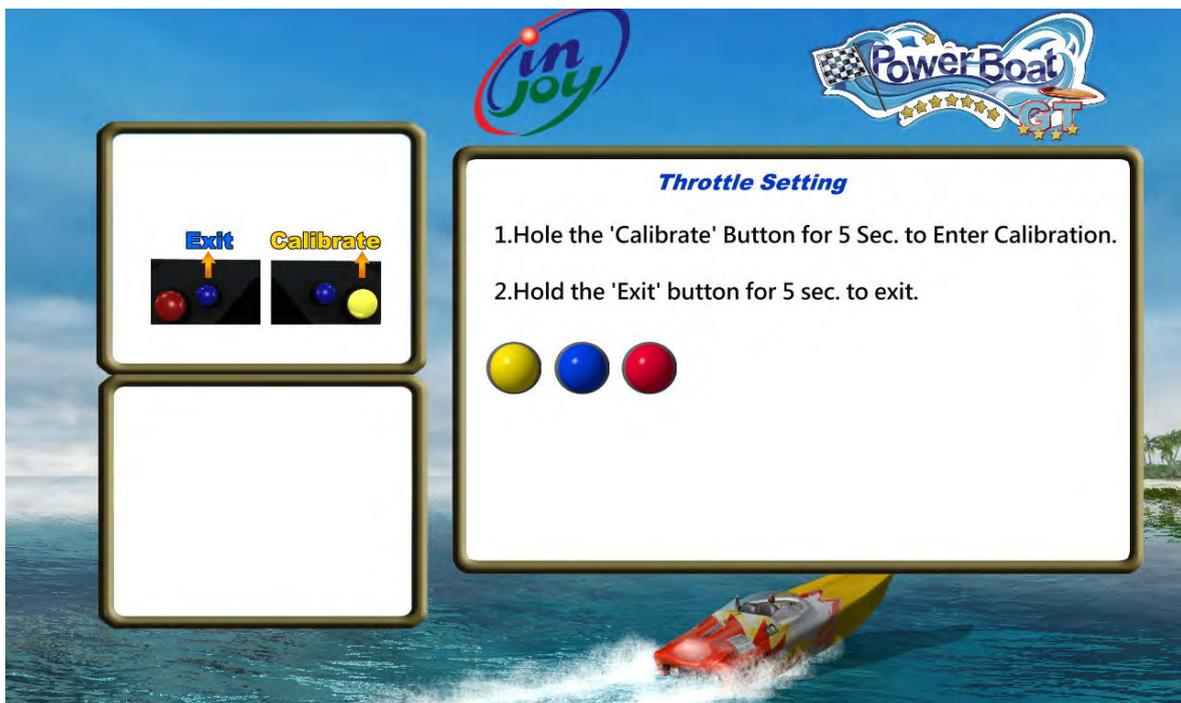


Figure 12 “Throttle Setting” sub-menus



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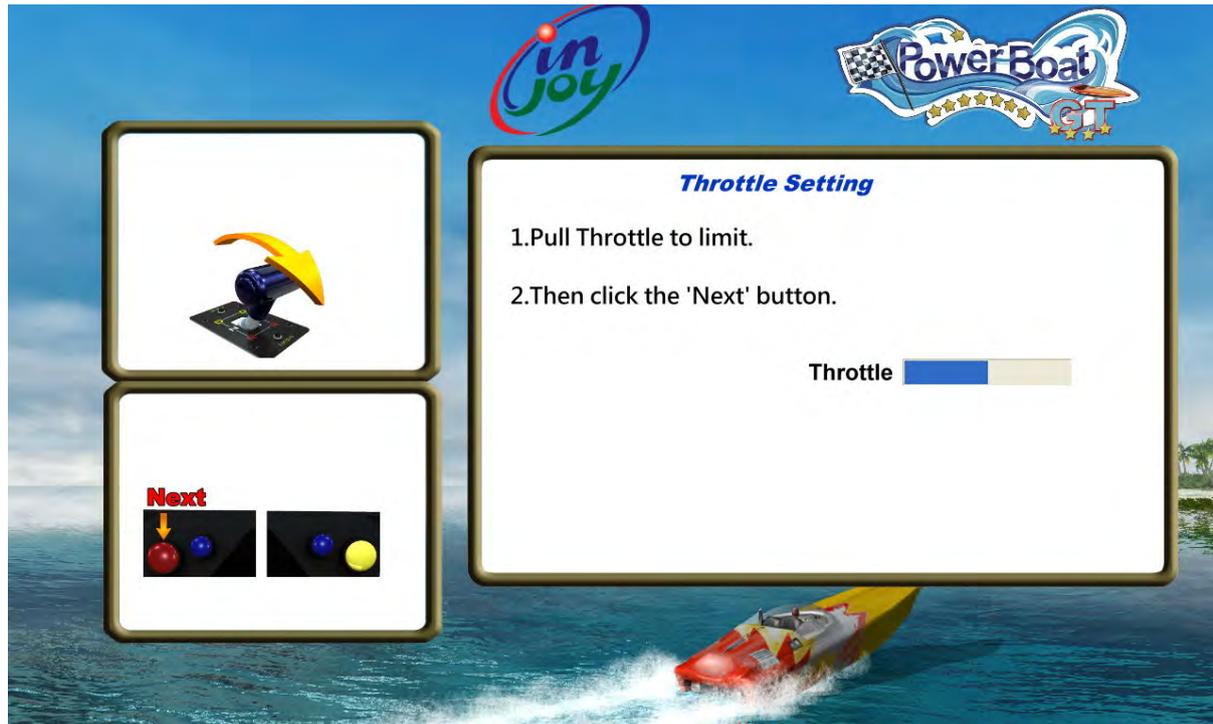


Figure 13 "Throttle Setting"

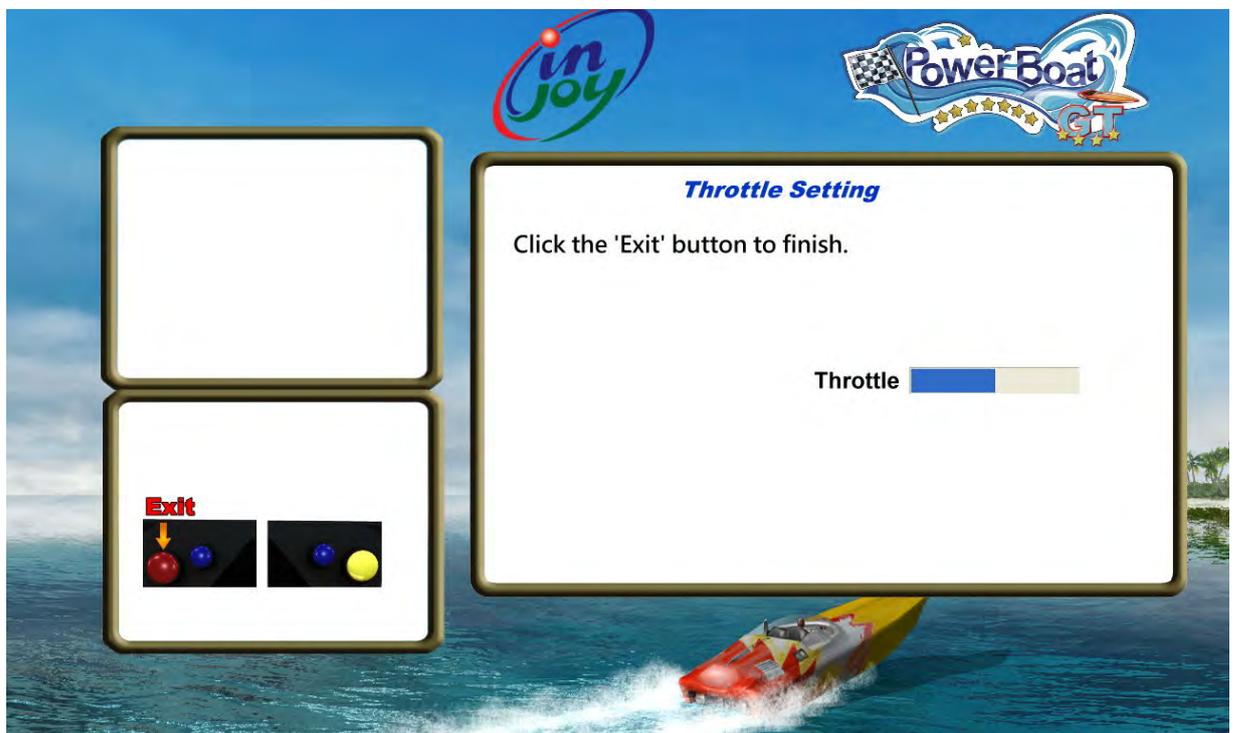


Figure 14 "Finish Throttle calibration"



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4.1.4 LANGUAGE SETTING

Language can be adjusted using the “+” or “-” buttons (Figure 15) to change game language. Currently, English and Chinese are available.

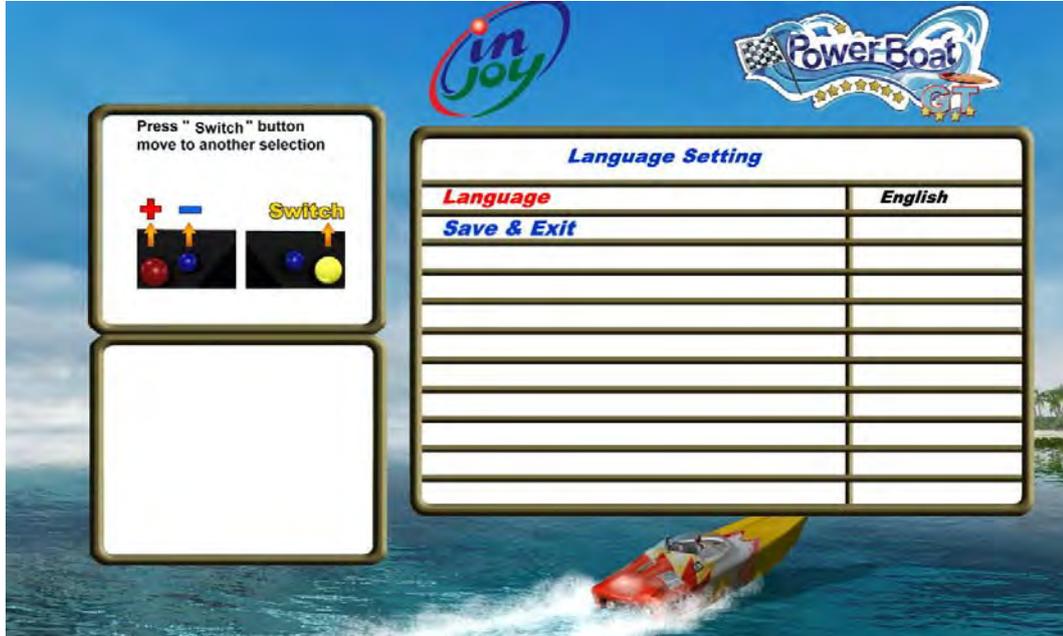


Figure 15 “Language Setting” sub-menu

4.1.5 SYSTEM TIME SETTING

Setting the system time can be accomplished using the “switch” button to choose, followed by the “+” or “-” buttons (Figure 16) to change date or time. Time is displayed in 24 hour or military time.

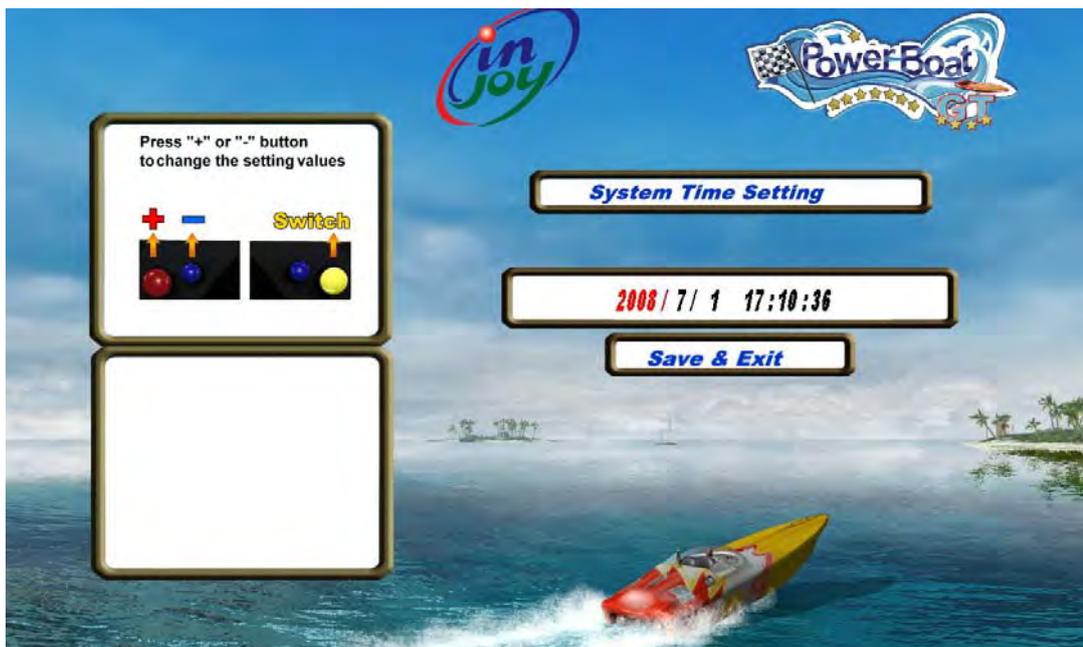


Figure 16 “System time Setting” sub-menu



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4.1.6 VOLUME SETTING

“Volume setting” can adjust the system volume (Figure 17).

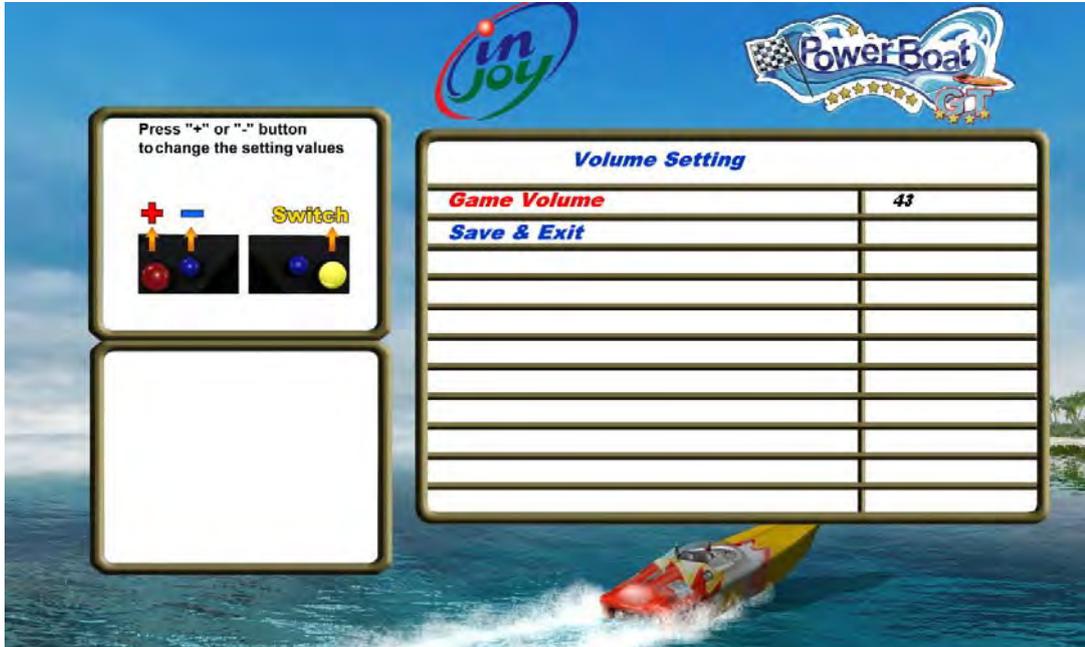


Figure 17 “Volume Setting” sub-menu

4.1.7 DEVICE TEST

“Device Test” tests whether “Coin Acceptor, Passenger STOP, Seat Belt, Free Play button” can work or not (Figure 18).

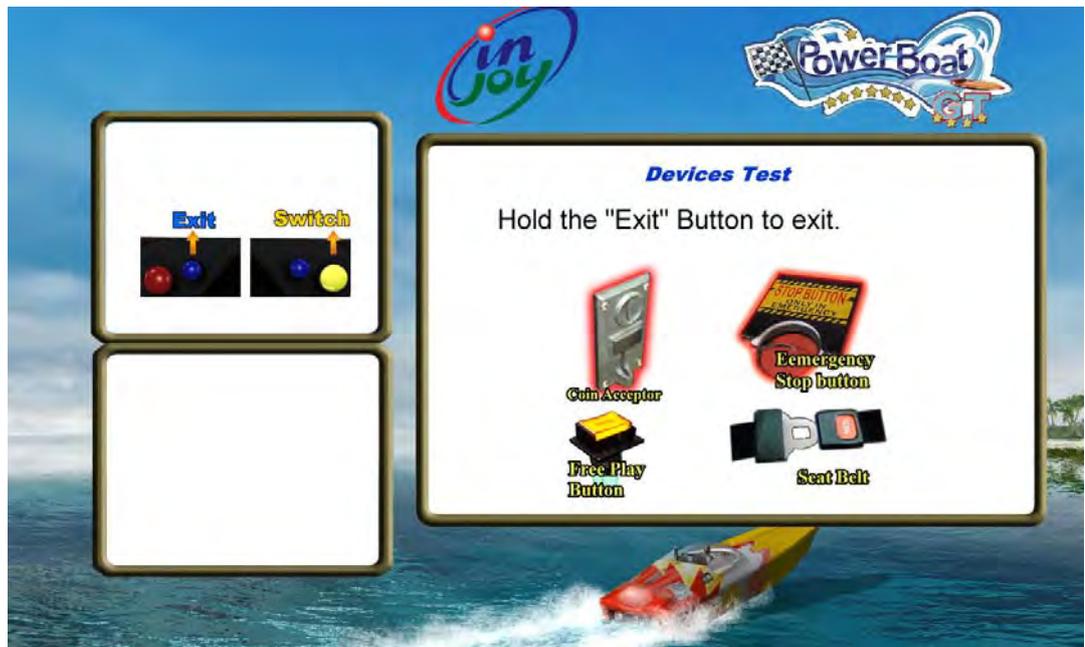


Figure 18 “Device Test” sub-menu



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4.1.8 SOFTWARE UPGRADE

Any software upgrades and/or new software game titles will be downloaded to your *InJoy-PowerBoat DX* through the use of USB Flash Disk provided by your distributor. The following explains this simple procedure, found in the Operator Menu.

1. Locate the system's PC (Industrial PC): Referring to Figure 19, Unload the dust cover located at the bottom of the motion base. You can see the PC is installed at the left corner.

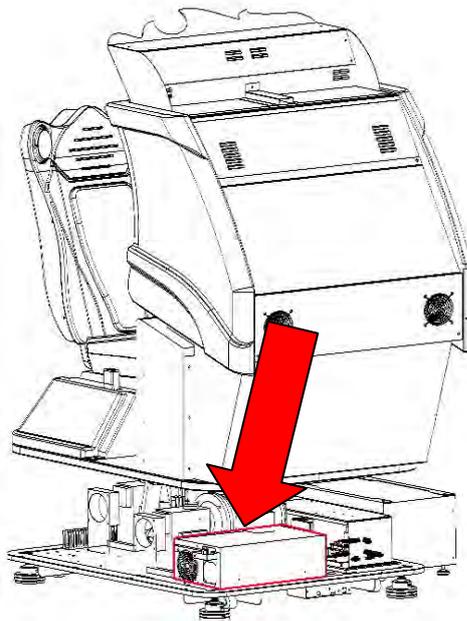


Figure 19 locate the system's PC

2. Plug in the USB Flash Disk. (Only use the USB Flash Disk provided by *InJoy* or your distributor to upgrade/download the software. The USB Flash Disk from unauthorized sources might seriously damage the system.)
3. On Operator Menu, press the “*select*” button on the panel (please refer to Figure 7) to select “*Software Upgrade*” sub-menu.
4. Press the “*upgrade*” button on the panel (Figure 20), and your software system will begin to upgrade/download the software automatically (Figure 21).



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Figure 20 “Software Upgrade” sub-menu

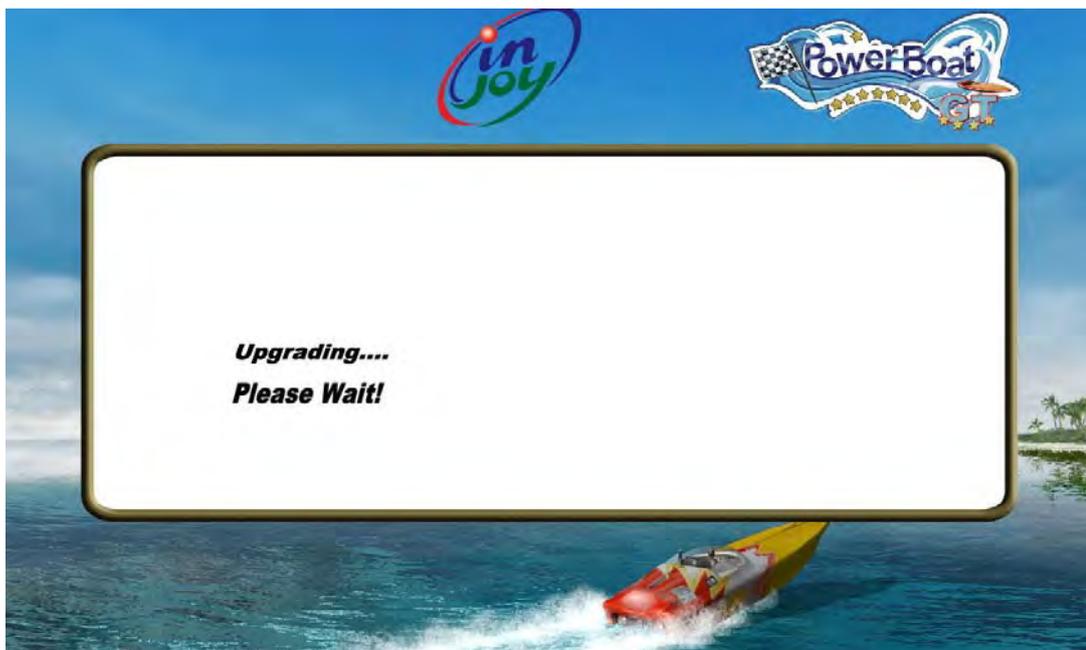


Figure 21 “Software Upgrading” Window

5. Progress will be indicated on screen and you will be notified when download is complete (Figure 22). (If you didn't plug the USB Flash Disk onto the PC, it will display an “*Upgrade fails*” window (Figure 23).



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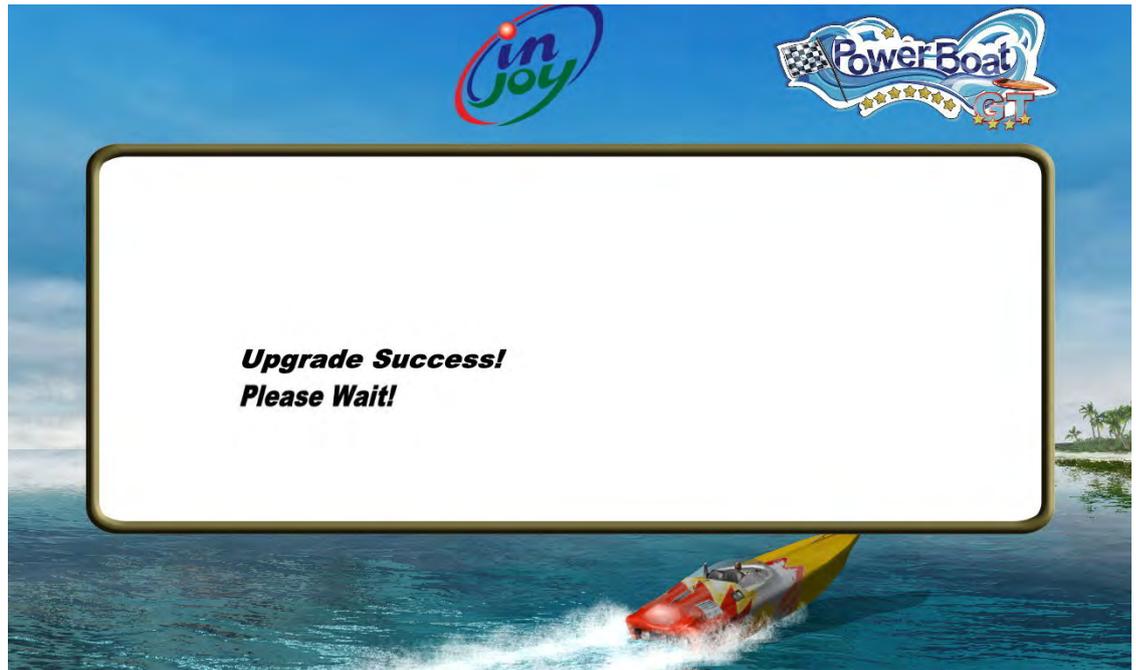


Figure 22 "Upgrade Success" Window

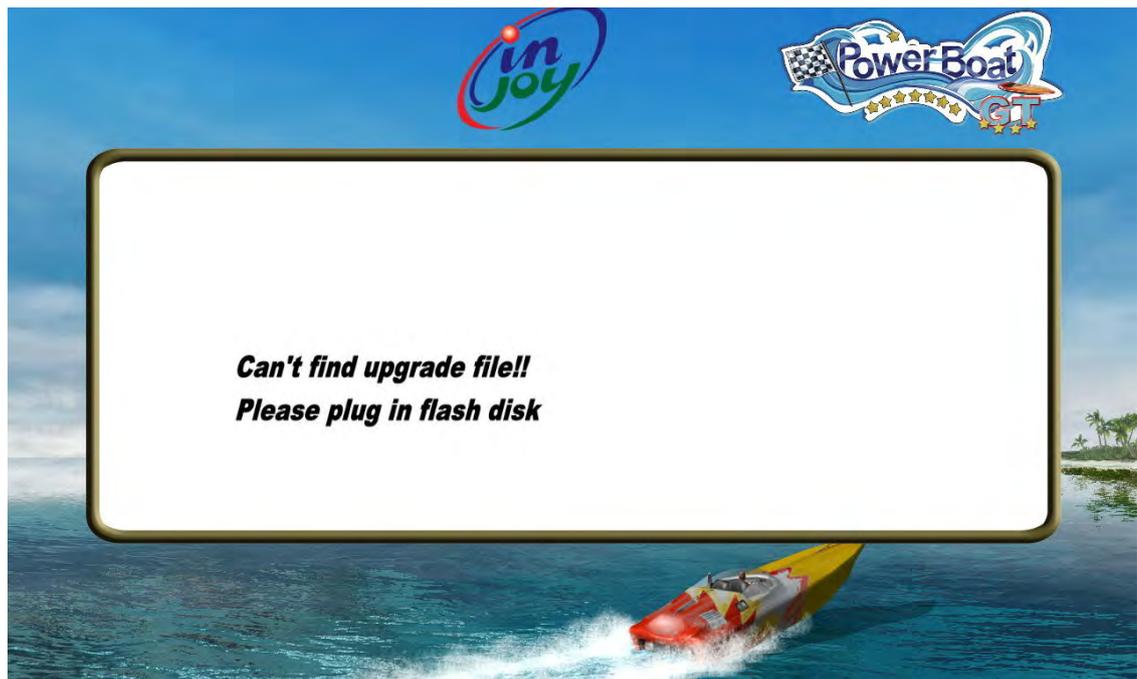


Figure 23 Upgrade fails

6. If you wish to cancel upgrade process, press the "Exit" button (Figure 20) to exit "*Software Upgrade*" sub-menu.



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4.1.9 STATISTIC

Information related to playing game is shown in the sub-menus of STATISTIC (Figure 24).

1. “Coin Count” to show the amount of coins inserted.
2. “Free Play Count” to show the number of times the Free Play has been pressed.
3. “Total Play” to show the number of times the game has been played (Total Play = Starts + Continues).
4. “Starts” to show the number of time the game has started.
5. “Continues” to show the number of time the game has been continued.
6. “Average Time per Credit” to show the average time per one coin.
7. “Average Time per Player” show the average time per one player.
8. “Clear Statistic” to clear information in “Statistic” (all value is zero after clearing)

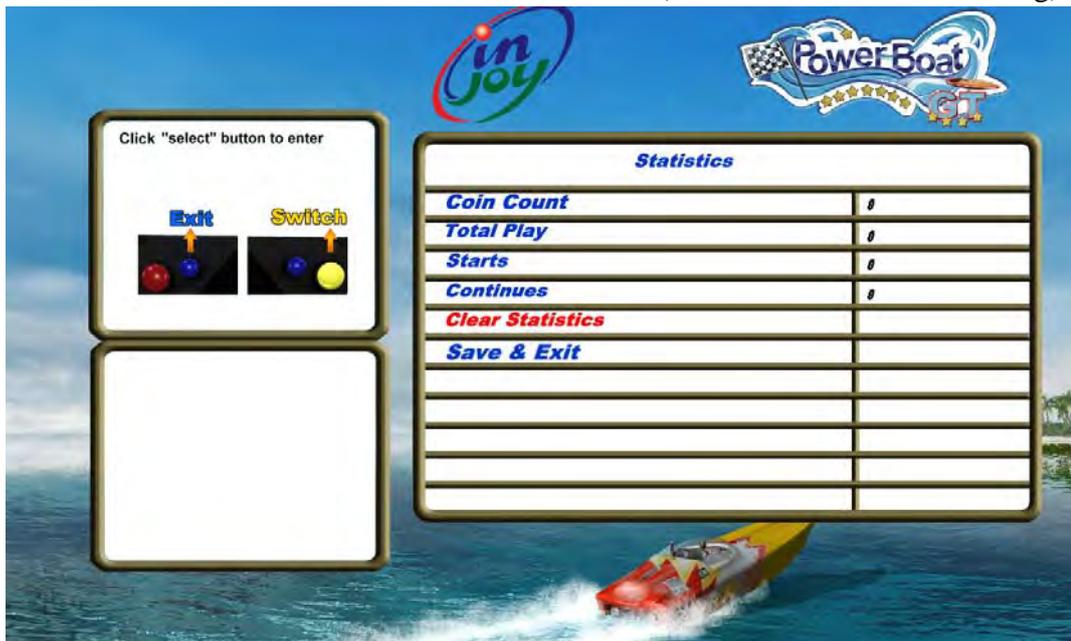


Figure 24 “Statistic” sub-menu



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4.1.10 SAVE & EXIT

After the setup is completed, the system needs to exit. Please select “Save & Exit”, and then the screen will prompt “Yes” or “NO”. If you press “YES” (Figure 25), the system will show” Shutdown.....!! Please turn the Operator switch to OFF position.” (Figure 26)



Figure 25 Save & Exit window

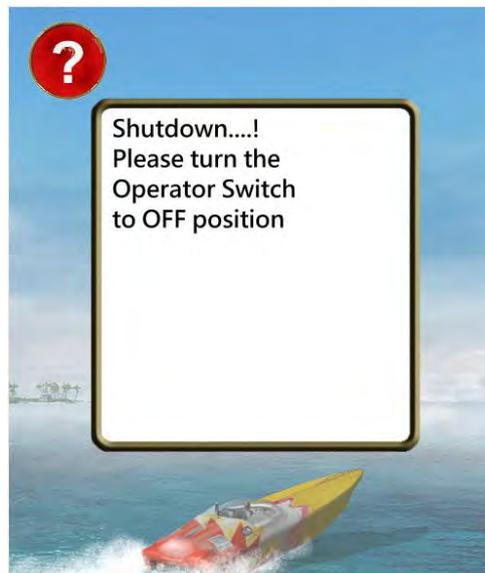


Figure 26 Shutdown prompt



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4.2 GAME INTRODUCTION

4.2.1 GAME CONTROL

The player uses the steering wheel, throttle and buttons (Figure 27) to control the boats. Click the yellow button to start the game. While playing, click the yellow button to turbo, click the blue button to fire weapon, click the red button to change View on the Screen.

The Unit control Panel is in the Coin Box show as Figure 28

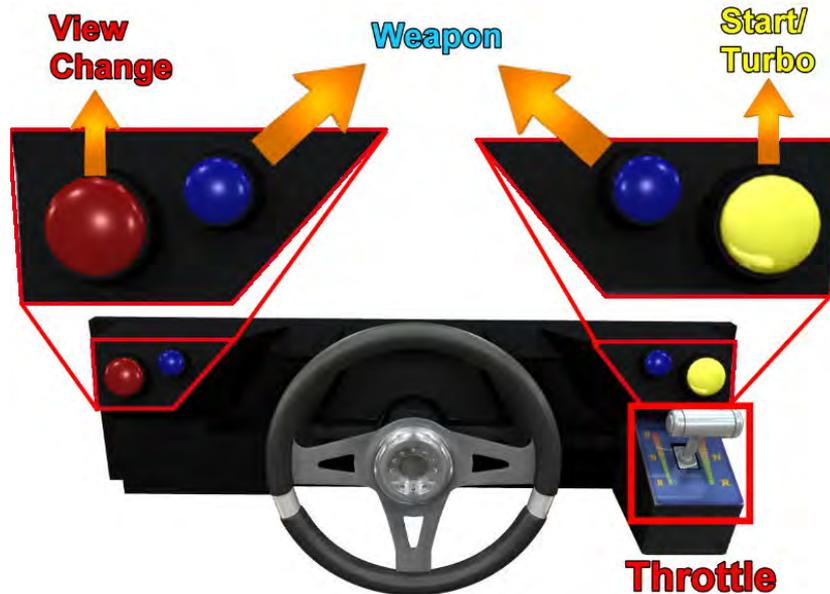


Figure 27 Game control interface

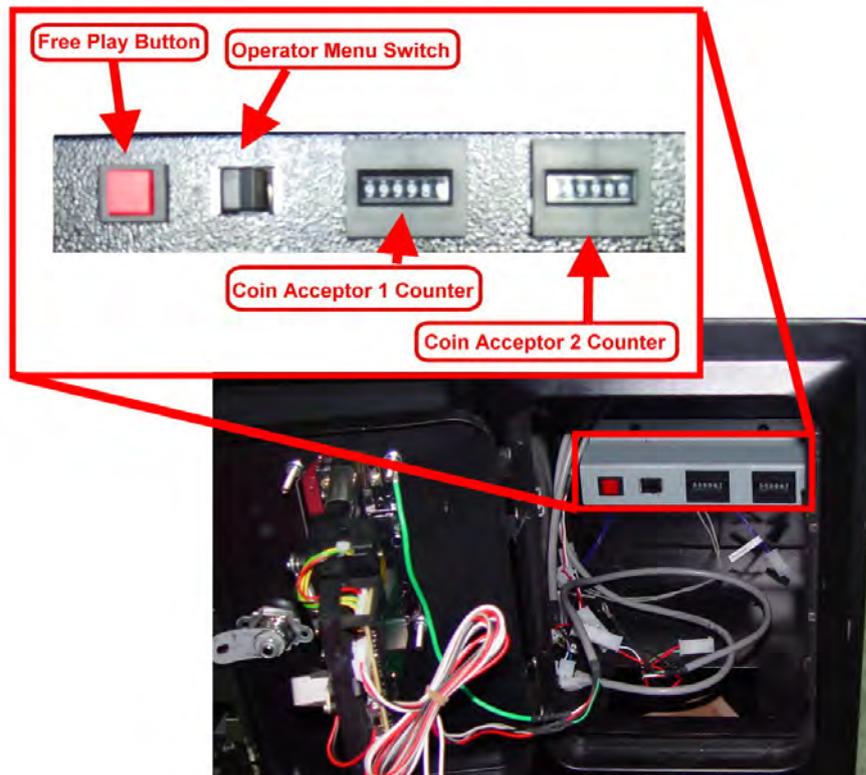


Figure 28 Unit Control Panel



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Game Weapon List

Weapon icon	Introduction
	Turbo enables the boat to speed up for a short period.
	Torpedo chases a boat in front of you
	Dragnet slows down a boat behind you.
	Missiles fire forwards and explode on contact.
	Balloon waits and drops a bomb on passing boats.
	Frogs bounce forwards and explode on contact.
	EMP stops all boats steering
	Depth charge blows boats away from you.



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5. ELECTRONIC COMPONENTS & MAINTENANCE

5.1 CHASSIS ELECTRONIC COMPONENTS

Figure 29 are the electronic components of the chassis.

Figure 30 are the control panel of the chassis.

Figure 31 are the Axis-1 and Axis-2 Linear potentiometer position.

Figure 32 are the Axis-1 and Axis-2 Photointerrupter.

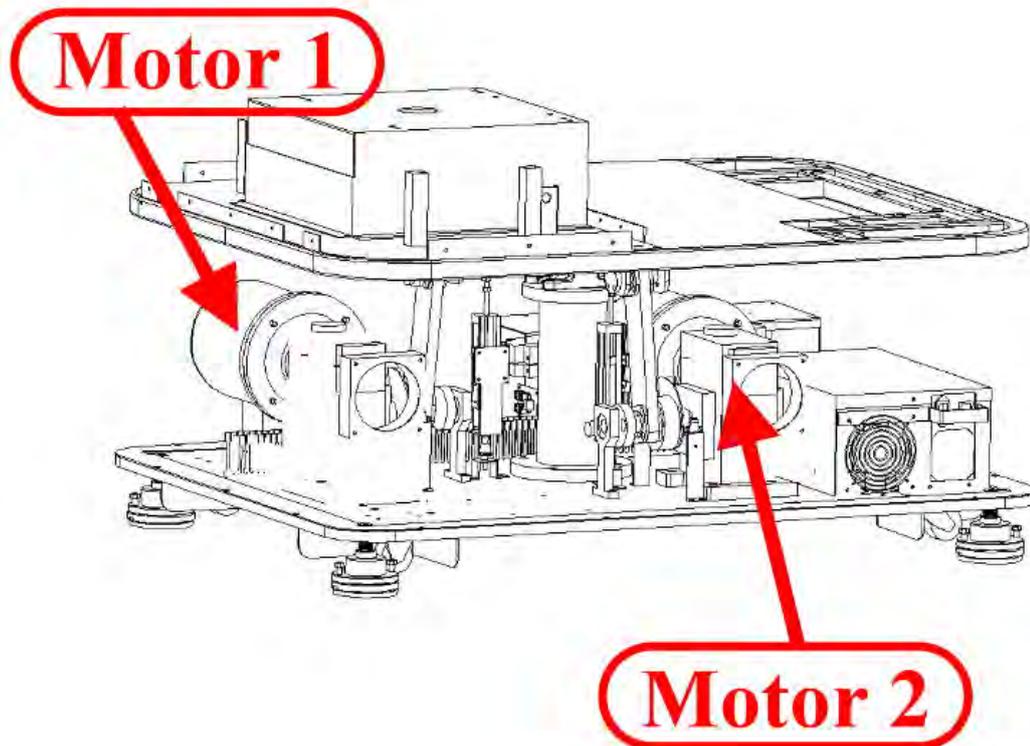


Figure 29 Chassis Electronic Components

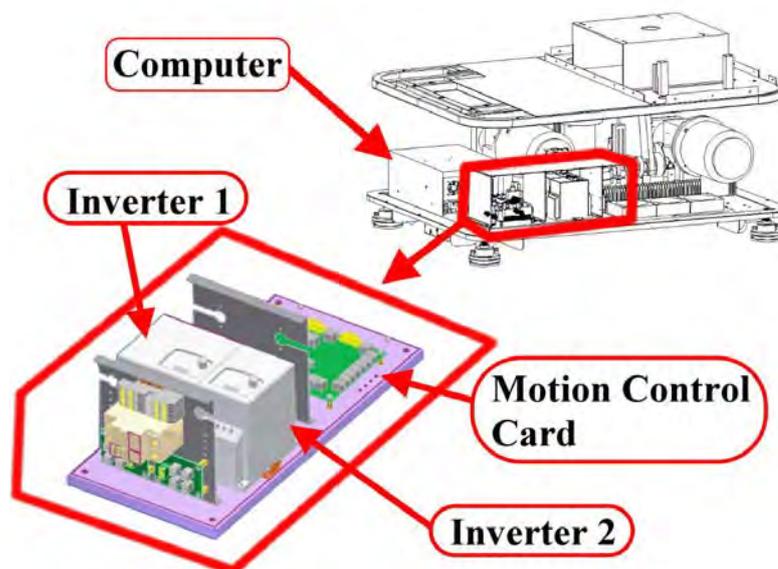


Figure 30 Control Panel



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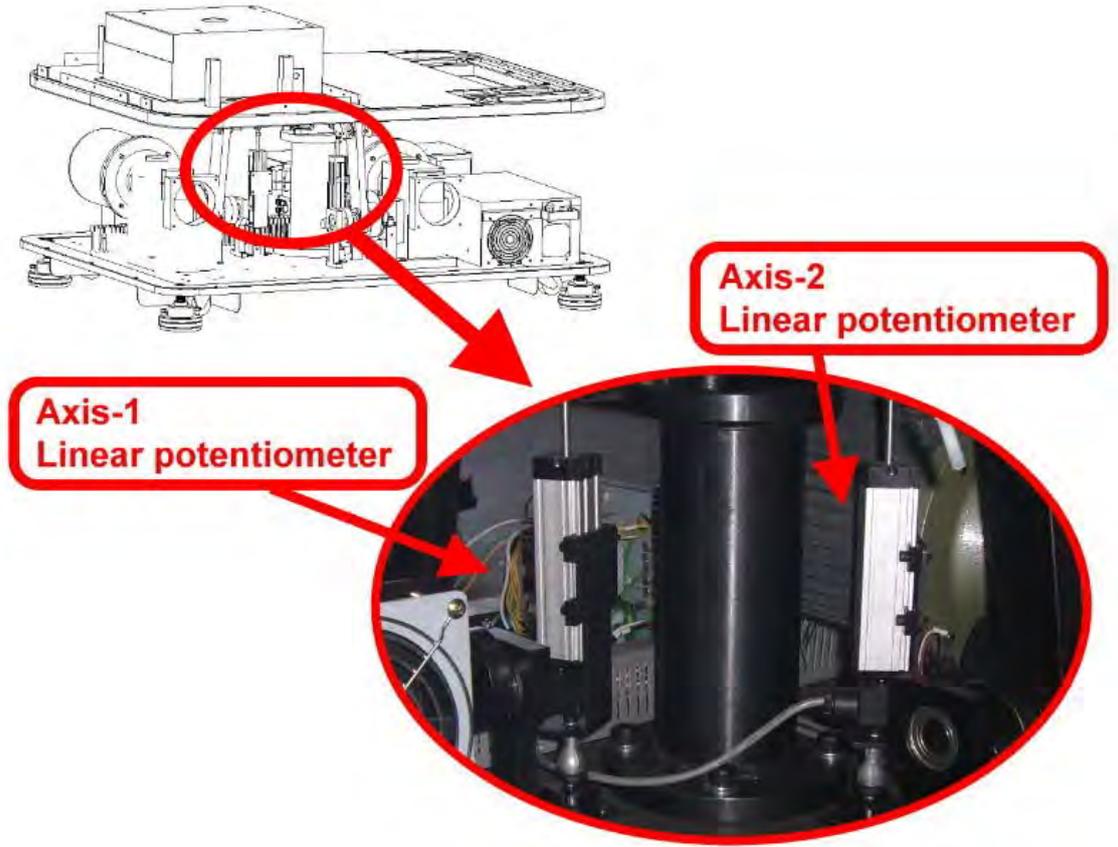


Figure 31 Axis-1 and Axis-2 Linear potentiometer position

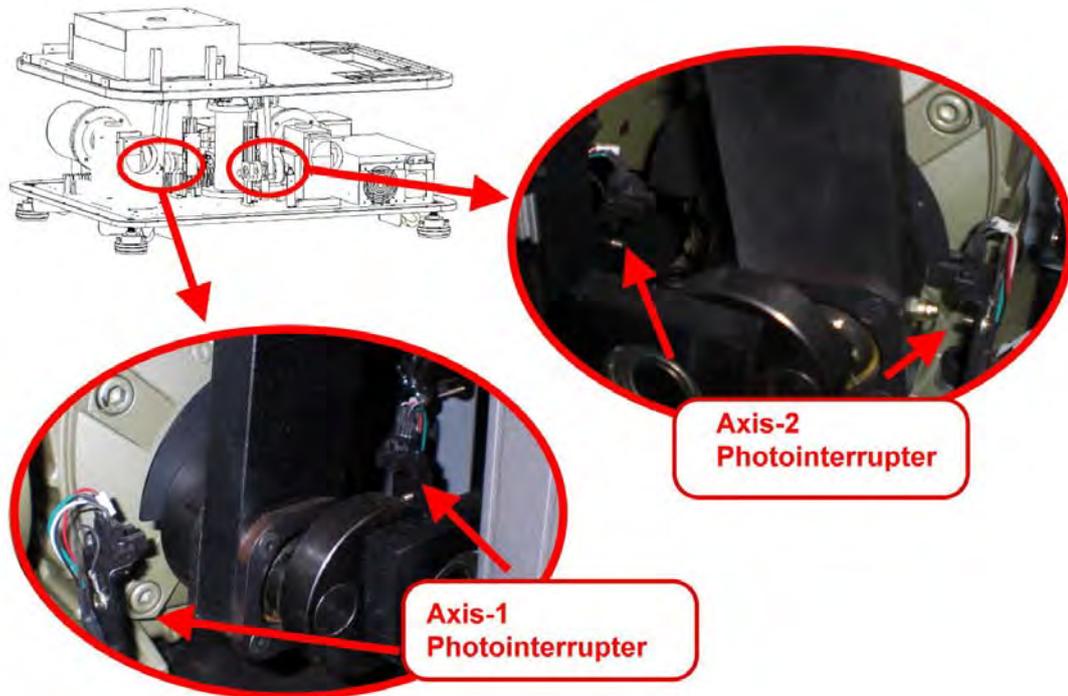


Figure 32 Axis-1 and Axis-2 Photointerrupter



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5.2 COCKPIT ELECTRONIC COMPONENTS

Figure 33 are the cockpit control panel.

Figure 34 are the cockpit electronic components.

Figure 35 are the devices of the LCD.

Figure 36 are the Steering Wheel electronic components

Figure 37 is the Throttle electronic component.

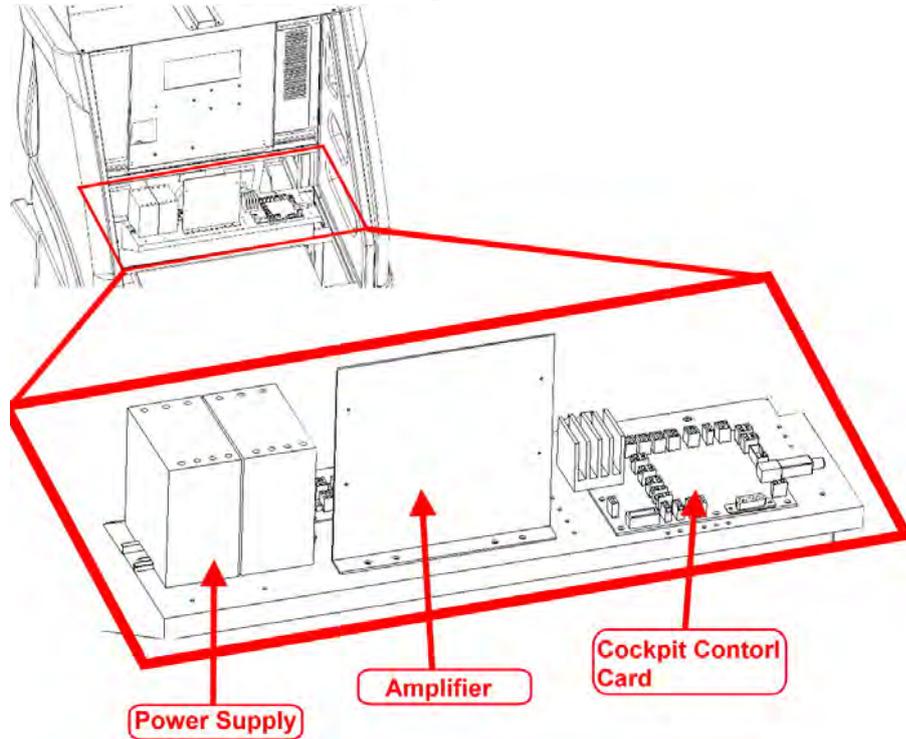


Figure 33 Cockpit control panel

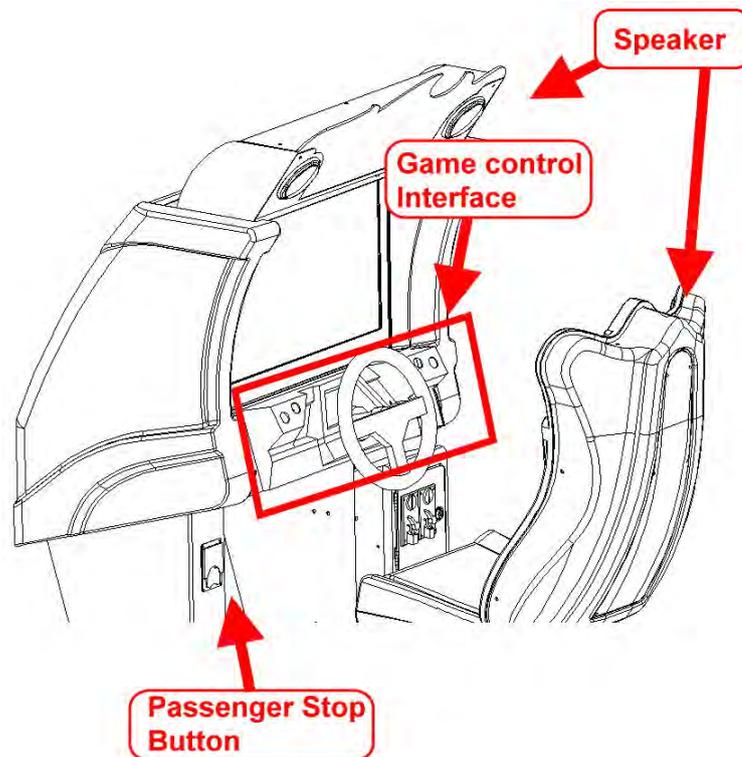


Figure 34 Cockpit electronic components



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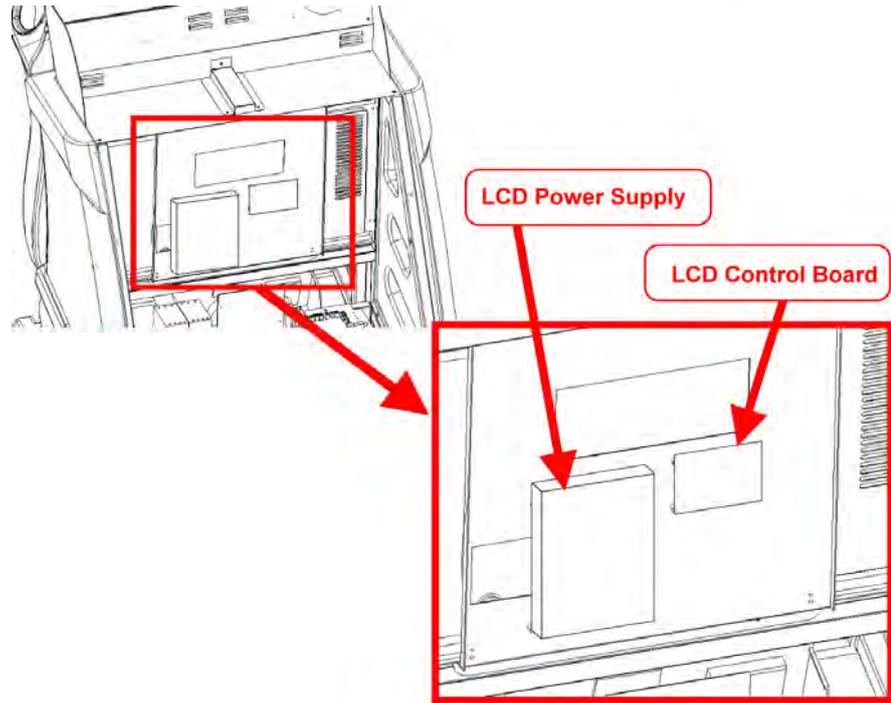


Figure 35 LCD electronic devices

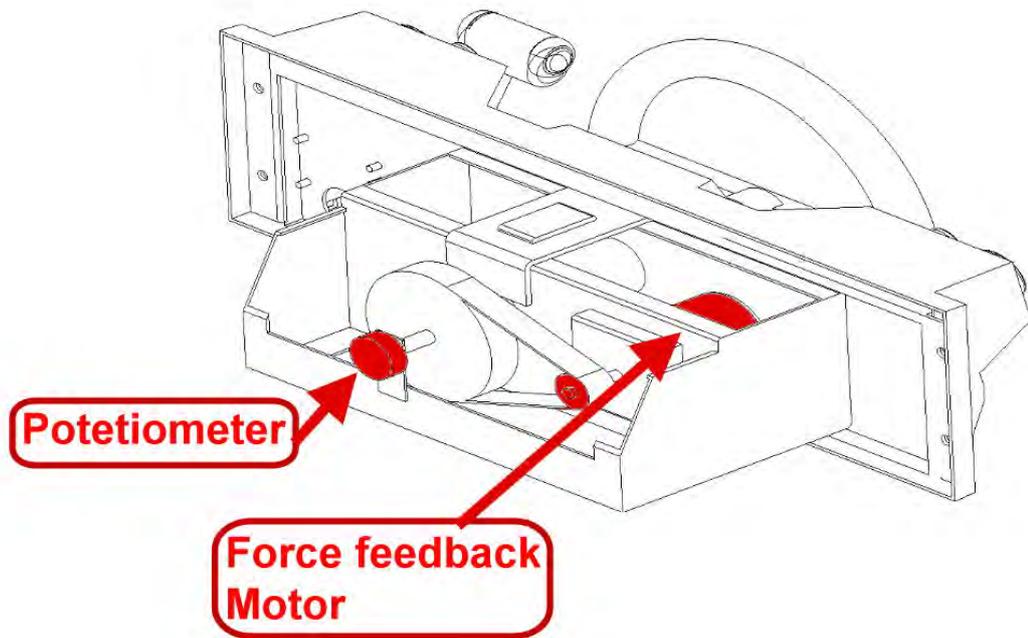


Figure 36 Steering Wheel electronic components



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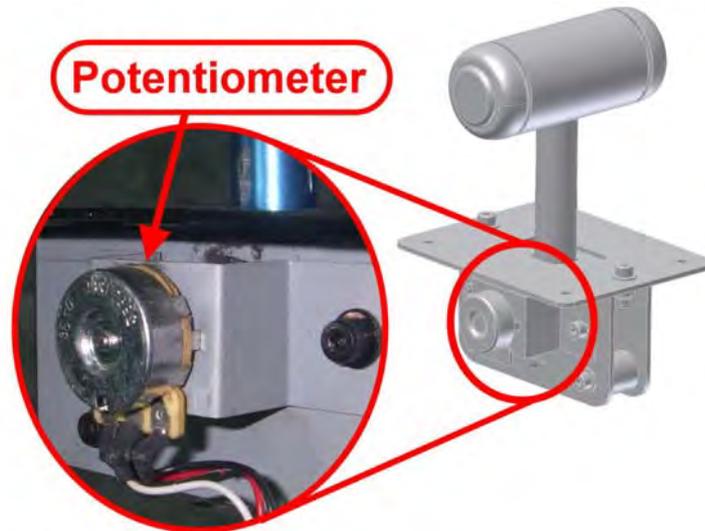


Figure 37 Throttle electronic components



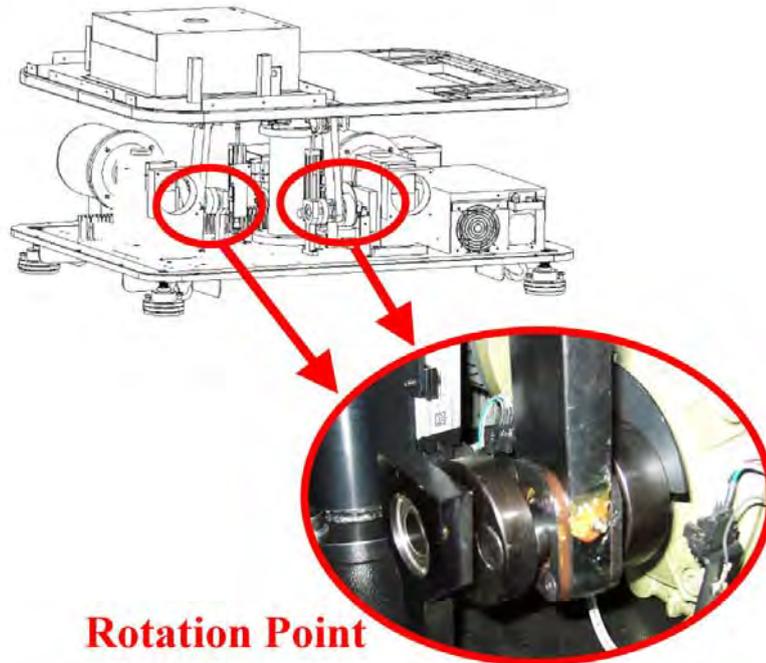
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5.3 MAINTENANCE

Figure 38 shows the chassis of the ***PowerBoat DX***, also known as the “Gear Rotation Point and Bearing Rotation Point” which needs to be lubricated every half-year.

Gear Rotation Point and “Bearing Rotation Point” is the rotation axis. When the motion starts up, the rotation axis will produce friction, and need lubrication semi-annually.



Rotation Point

Figure 38 Rotation point



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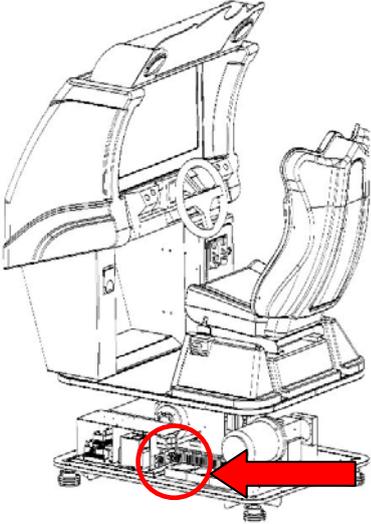
PowerBoat DX Service Manual

6. TROUBLE SHOOTING

After Unit Power on, the system will follow these steps to start up.

Step	Symptom
1	Computer boot-up, steering wheel rotates to left limit, and rotate to right limit.
2	After 40 seconds, base starts “Homing (base starts rotating and then return to center position)”.
3	When system finishes Homing, screen will show “Loading...”
4	After Loading is finished, screen will display animation video

1. Power on fail

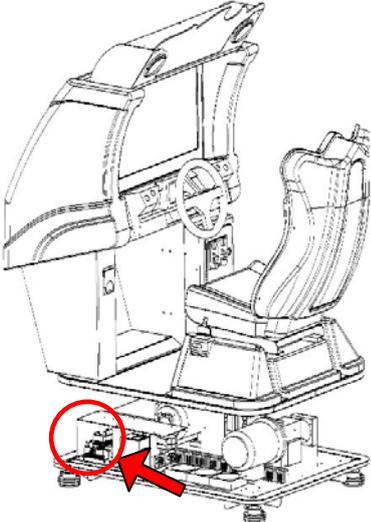
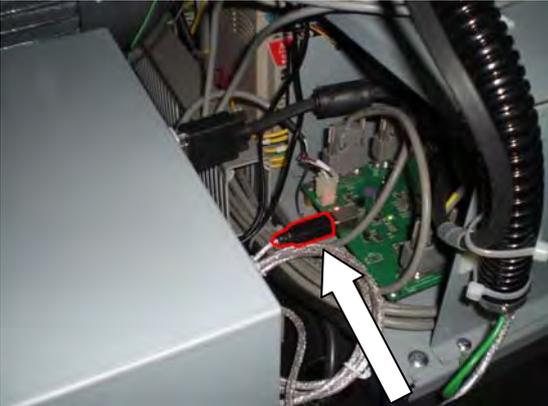
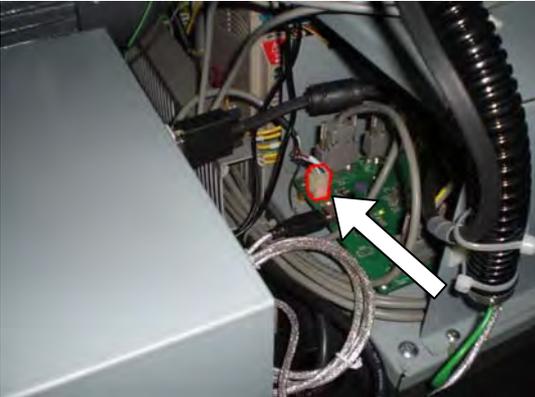
Step	Trouble shooting Guide
1	Please check the Power Source if 220V AC or not?
2	<p>Please unload the dust cover, and check the power breaker.</p> <p>If the breaker is OFF, please turn it to ON.</p> 
3	If the Power Source have 220V AC, and the breaker didn't OFF but the unit is still without Power, Please check if the power wire break off or not?



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2. After Power ON, PC boot up, but base not homing after 40 seconds.

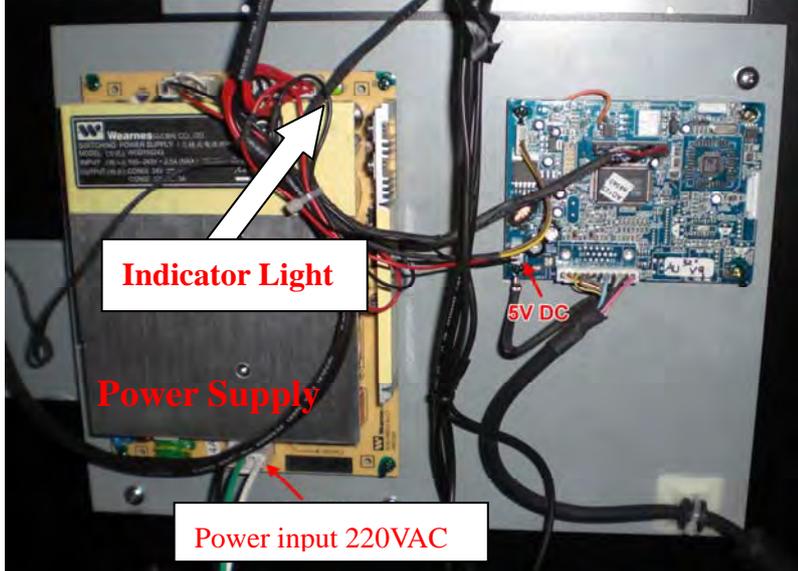
Step	Trouble shooting Guide
1	<p>Please unload the case (please don't power OFF), and check the motion control card.</p> 
2	<p>If the control card doesn't have the green light, please check the USB connector.</p> 
3	<p>If the control card doesn't have the red light, please check the input power connector.</p> 
4	<p>If the problem persists, please contact our Tech Support at: support@imon.com.tw</p>



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3. After Power ON, IPC turn ON, LCD monitor still dark

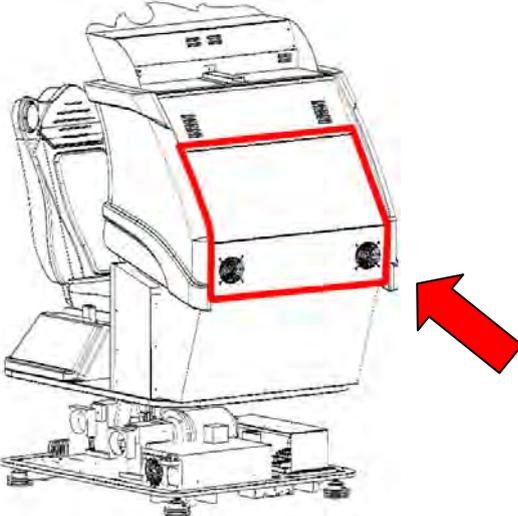
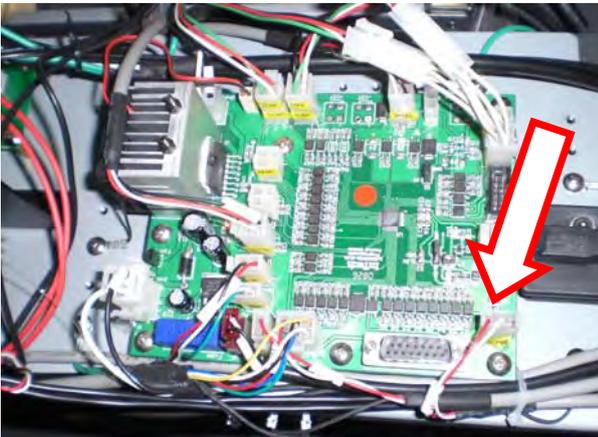
Step	Trouble shooting Guide
1	<p data-bbox="347 309 1332 389">Please check if the power supply input have 220V AC or not? And the LCD control board power has 5V DC or not?</p> 
2	<ol data-bbox="347 981 1332 1135" style="list-style-type: none"> 1. If the Power supply does not have the input power, please check the front side of the power connector. 2. If the LCD control board does not have the 5V DC power and the Indicator light is not ON, please replace a new power supply.



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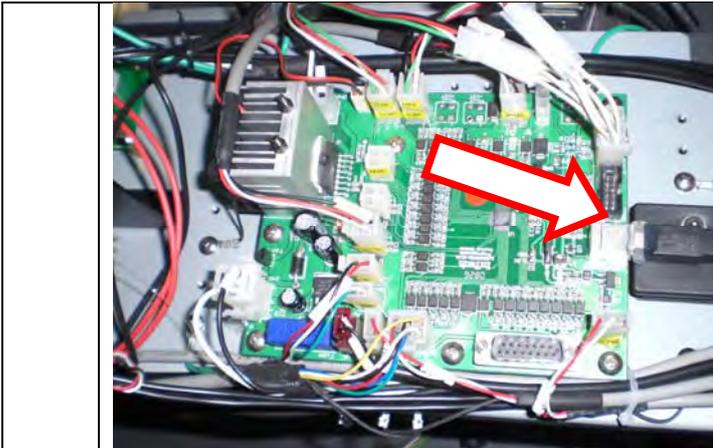
4. Control interface no respond

Step	Trouble shooting Guide
1	<p>Please unload the back cover of the LCD (Please don't power off the game)</p> 
2	<p>Please check the cockpit control board if it has Red light or not? If not, please check the wire and the connectors. If broken or damaged, replace it with new (parts to be provided by INJOY). If found ok, reconnect the wire connectors located on the control board and computer power supply.</p> 
3	<p>Please check the cockpit control board if it has Green light or not? If not, please check the USB connector or reconnect the wire connectors located on the computer USB port.</p>



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If the problem persist, please replace a new USB



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4	<p>If the problem persists, please make sure no other game shares this power source.</p> <table border="1" data-bbox="352 293 1316 488"><tr><td data-bbox="352 293 1316 338">1. AC Power Wire Diameter must be greater then 2.0mm</td></tr><tr><td data-bbox="352 338 1316 383">2. Earth connect must be indeed</td></tr><tr><td data-bbox="352 383 1316 488">3. No other appliance or game should share this power source on this circuit, otherwise <i>PowerBoat SDX</i> will break down.</td></tr></table>	1. AC Power Wire Diameter must be greater then 2.0mm	2. Earth connect must be indeed	3. No other appliance or game should share this power source on this circuit, otherwise <i>PowerBoat SDX</i> will break down.
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2. Earth connect must be indeed				
3. No other appliance or game should share this power source on this circuit, otherwise <i>PowerBoat SDX</i> will break down.				
5	<p>Please contact our Tech Support at: support@imon.com.tw, if the problem persists.</p>			