SIMAPP Pro 1.9.11

User MANUAL EN V 1.2 2023.07

WINWING

CATALOGUE

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1. Configuration

Users need to log in SIMAPP Pro before applying most functions and configurations, which includes:System Configuration,, DCS World Configuration, Prepar3D Configuration, X-Plane Configuration.

1.1. Log in SIMAPP Pro

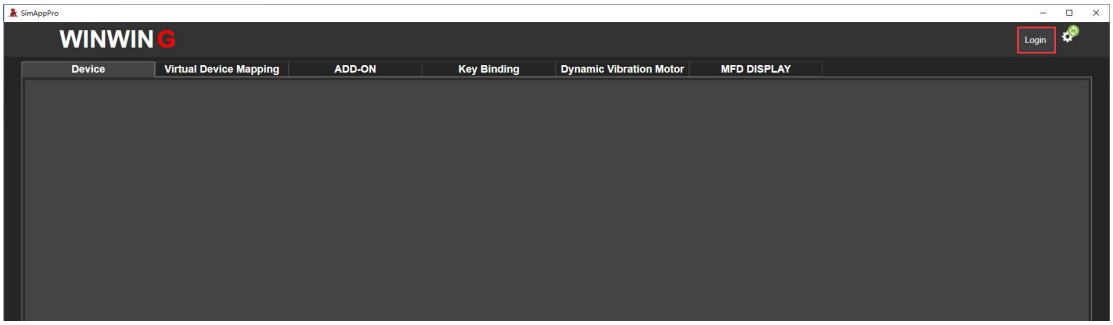
SIMAPP Pro shares the WINWING Store account, therefore no need to register twice.

1.1.1. Log in process

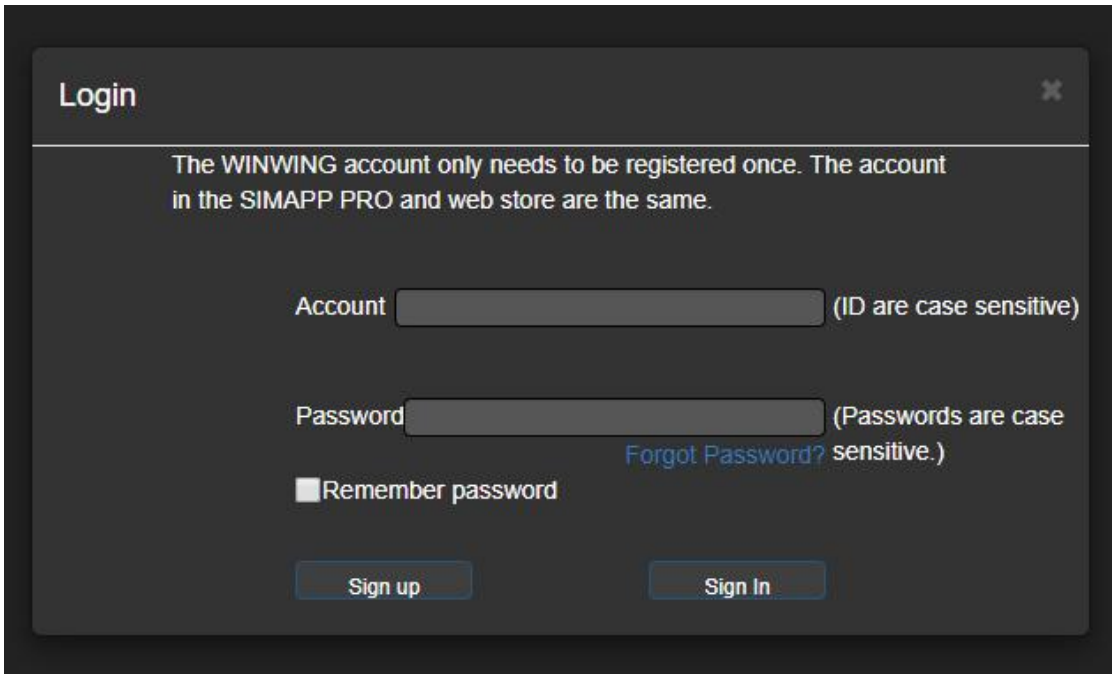
Users should log in SIMAPP Pro by doing the following:

① Open SIMAPP Pro.

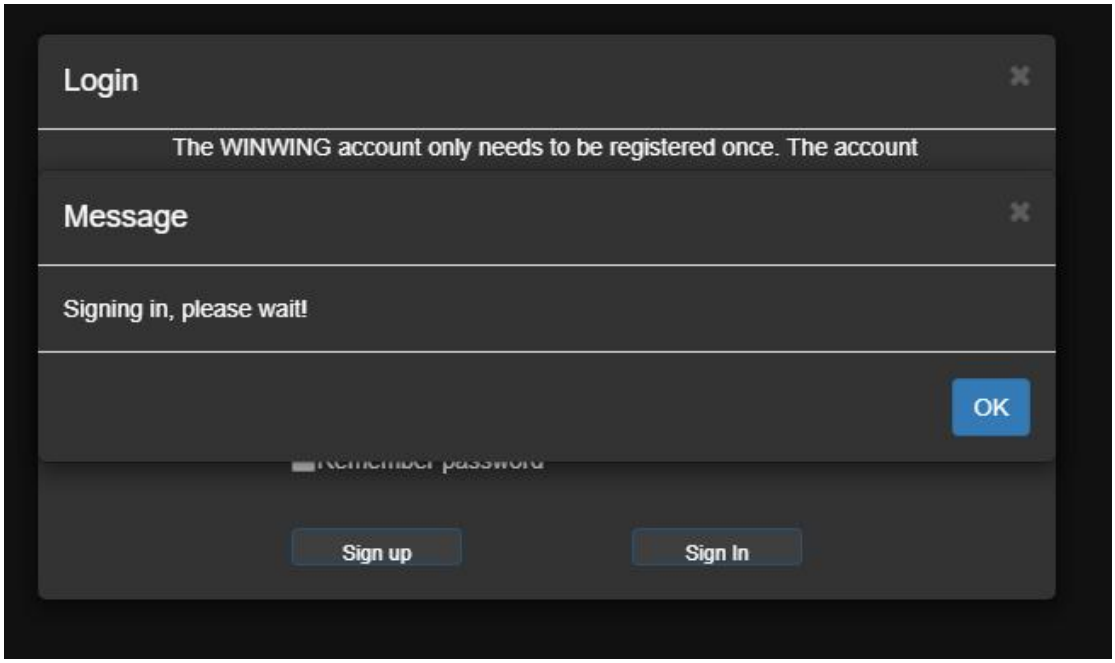
② Click the “Login” at the top right corner.



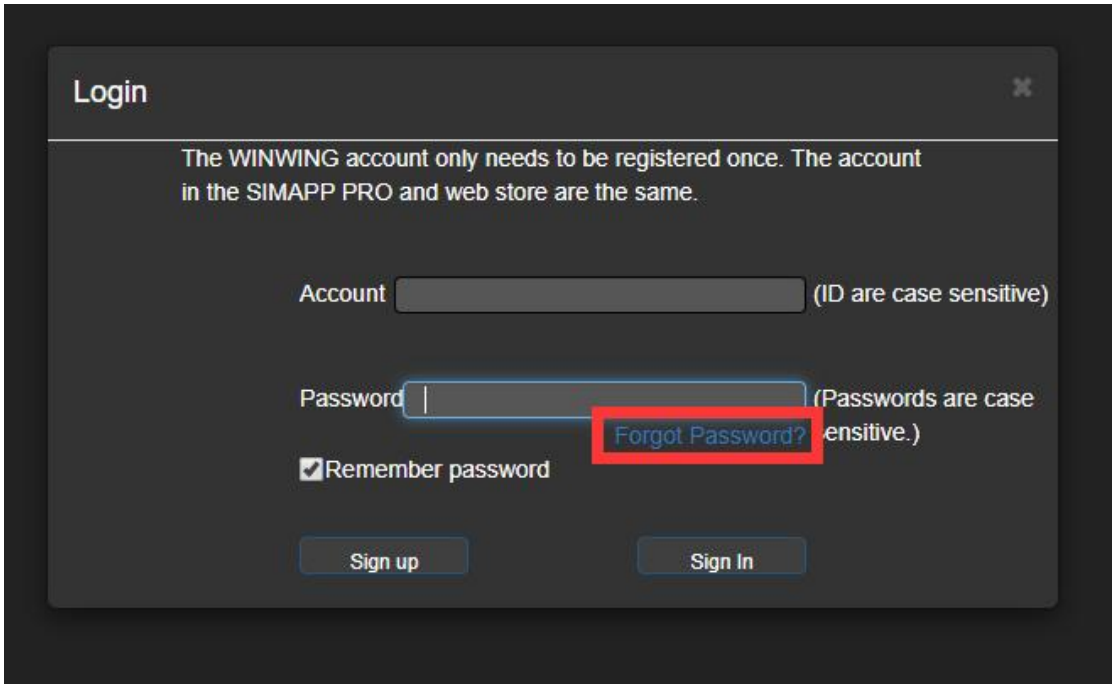
③ Enter your Account and Password.



④ Click “Sign In”, a message reads "Signing in, please wait!" will pop up, and the system will automatically verify the information and open the access to logging in.



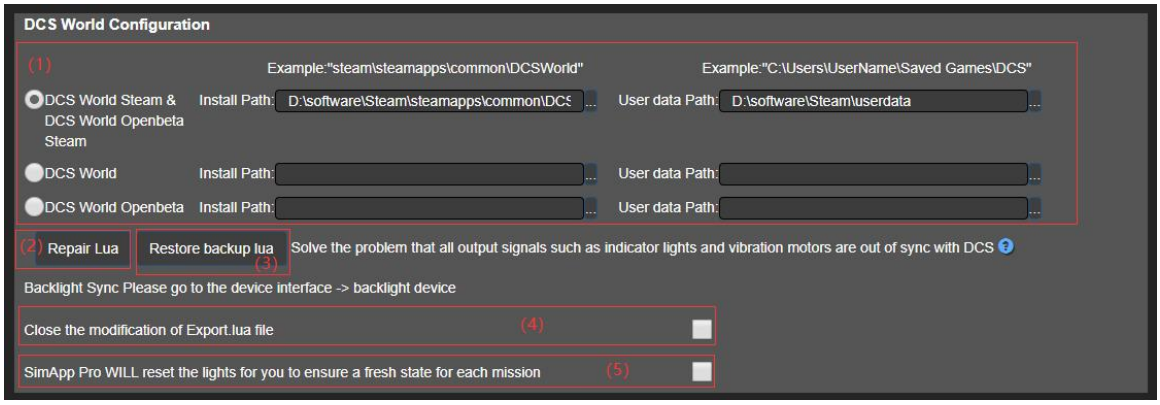
Note: click "Forgot Password?" on the "Login" page in case you forgot your password and enter your email address, click “Send Identify Code” button and you will receive the code in your email box, then you can reset a new password.



1.1.2. What functions require signing in to use?

Currently, functions in three pages, "ADD-ON", "Key Binding" and "Dynamic Vibration Motor", require users to sign in.

1.2. DCS World Configuration



SN	Function	Applications	Only after configurations can functions be realized
(1)	Game install Path selecting	There are four DCS versions, “DCS World Steam & DCS World Openbeta Steam”, “DCS World”, “DCS World Openbeta”. Please select the corresponding version in SIMAPP Pro and trace the correct DCS install path, don’t leave it blank. “Install Path”: It refers to DCS game installation path. “User data Path”: It refers to DCS game data storage path generated during gaming.	① Key binding files backup and share on cloud ② Lights synchronize with games
(2)	Repair Lua	Confirm the “Install Path” and “User data Path” are both correct and corresponding DCS version has been selected. If device lights including, A/A, or A/G, fail to synchronize with the DCS, please try to click “Restore Lua” to fix the error. The system will automatically back up the original Lua file.	① Back up the original Lua file ② Repair out-of-sync back lights or A/A, or A/G with DCS on all the devices
(3)	Restore backup Lua	To restore previous backed up Lua.	To restore previous backed up Lua.
(4)	Close the modification of Export lua file	While start SIMAPP Pro, the system will automatically modify the Export Lua file. But when selected this option, the file will not be modified.	Stop the system modifying export lua file
(5)	SIMAPP Pro WILL reset all lights to ensure them in a	All lights will completely go out while starting SIMAPP Pro and a game mission, then they will work in the game default	All lights will go out while starting each mission and then work

	new status before each mission starts.	setting process. (For example, in "Free flight at night," the lights stay on, and in "Free flight," off.)	in the game default setting process.

2. Device

“Device” page contents functions as test, calibration, firmware update, backlight setting, switch mode, etc.

2.1. Test

Users may test all physical switches on various devices on SIMAPP Pro "Test" page. Usually, because all new devices have been calibrated, no need to test them again, However, if any device is suspected malfunction, or worked abnormally, it need testing on the "Test" page. Hereafter, there are test methods for all sorts of physical switches.

2.1.1. 3-position, duet side spring return Toggle Switch

There are three positions on this switch. When toggle it to either sides, it will return to neutral automatically. During the test, toggle it to each side and confirm the switch signal is displayed synchronously on the "Test" page, which means the switch is in good condition, test passed.

2.1.2. 3 position, single side spring return toggle switch

There are three positions on the switch. When toggle it to one side, it will return to neutral automatically., but to another, it won’t.

toggle it to each side and confirm the switch signal is displayed synchronously on the "Test" page, which means the switch is in good condition, test passed.

2.1.3. Button

During test, watch the "Record Log" in "Test" page, It should display "true" while pressing, and "false", if released, which indicates the switch works normally, test passed.

2.1.4. Five way switch

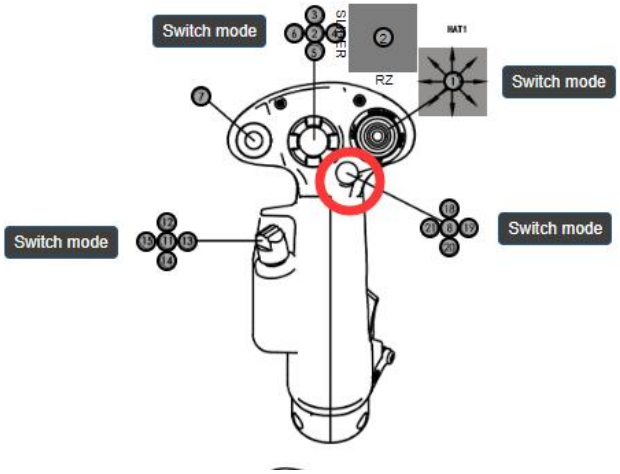
There are four directions and one press position on this switch, that’s why it is called five

way switch.

During testing, just push it to all directions and press it and confirm the corresponding displays on “Test” page alters from gray to green, which means this switch works normally.

2.1.5. Mini five way switch

The Mini five way switch is belonged to five way switch classification and the testing method is exactly the same.



2.1.6. Nine way switch

There are eight directions and one press position on this switch, that’s why it is called nine way switch.

During testing, just push it to all directions and press it and confirm the corresponding displays on “Test” page alters from gray to green, which means this switch works normally.

2.1.7. Band switch

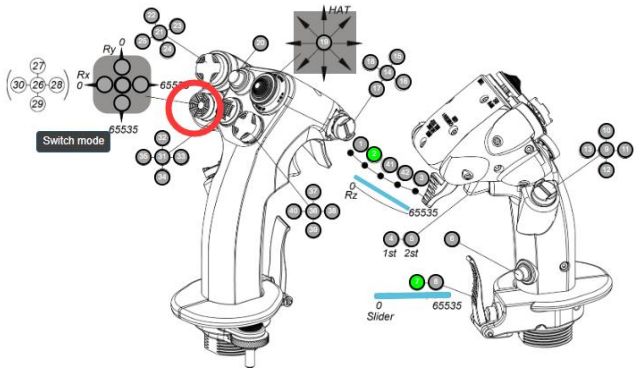
Band switch is a kind of limited (rotation Angle less than 360°) push switch . Users need to rotate it from the start point to the end, ensuring that each switch position can be triggered.

2.1.8. Stick potentiometer

Potentiometer is a sort of limited axis signal switch (rotation angle less than 360°), during test, just rotate it back and forth and confirm the corresponding signals displayed on “Test” page synchronized, which means this switch works normally, test passed.

2.1.9. Mini joystick

Mini joystick, in full name, mini joystick potentiometer, is a sort of potentiometer. During test, rotate it to the end and press it and confirm all signals shown on “Test” page synchronized, the color alters from gray to green, which means this switch functions normally.

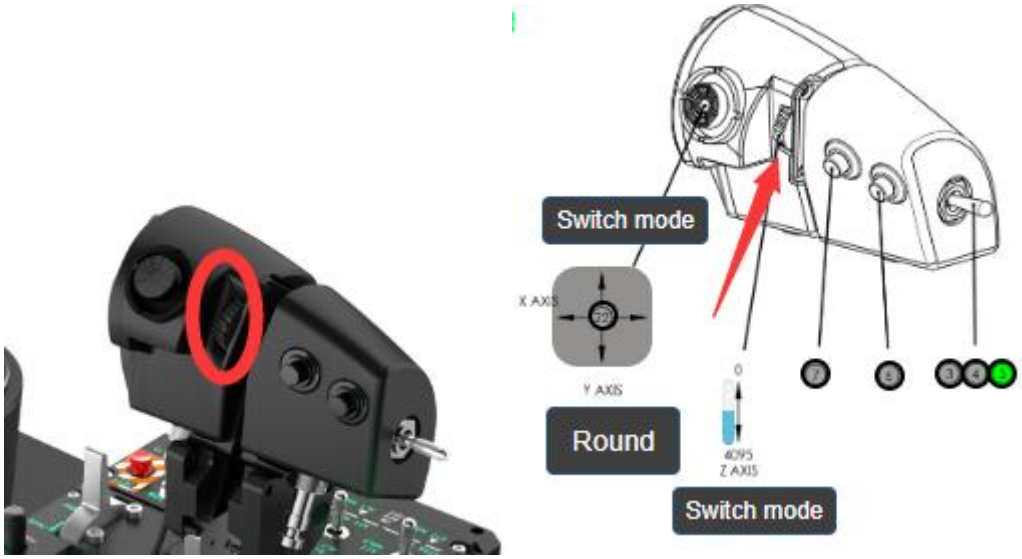


2.1.10. Thumb wheel switch

It is divided into two categories: automatic reset and non-automatic rest.

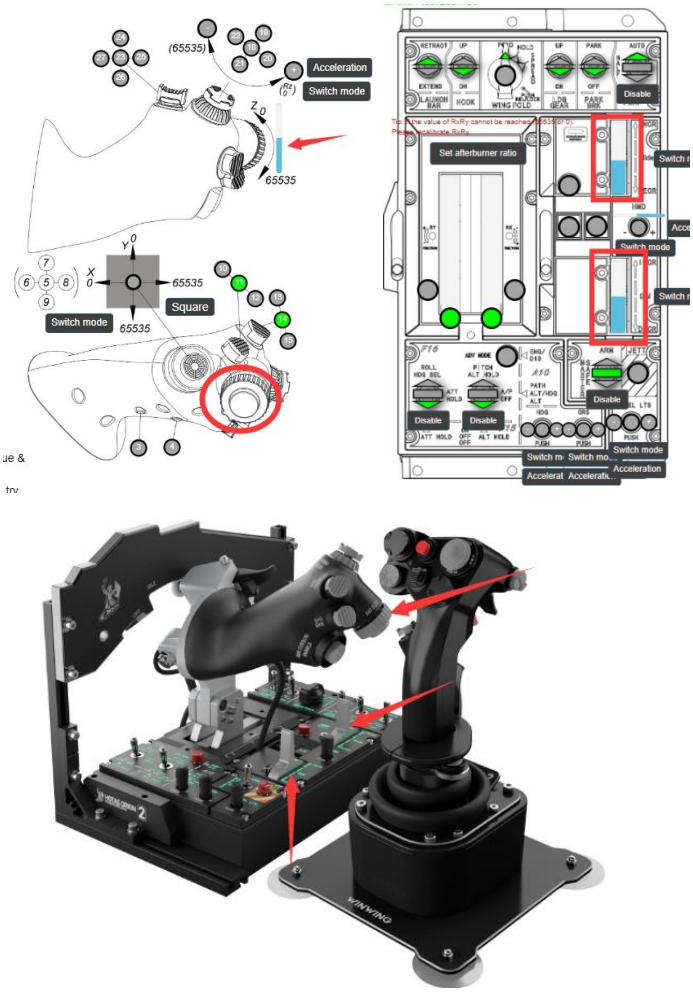
① Automatic reset (thumb wheel switches on 1 8 C metal throttle grips)

During test, toggle it and confirm the axis signal displayed on “Test” page should be synchronized with operations and the switch keeps automatically returning to neutral smoothly, which means the switch work well, test passed.



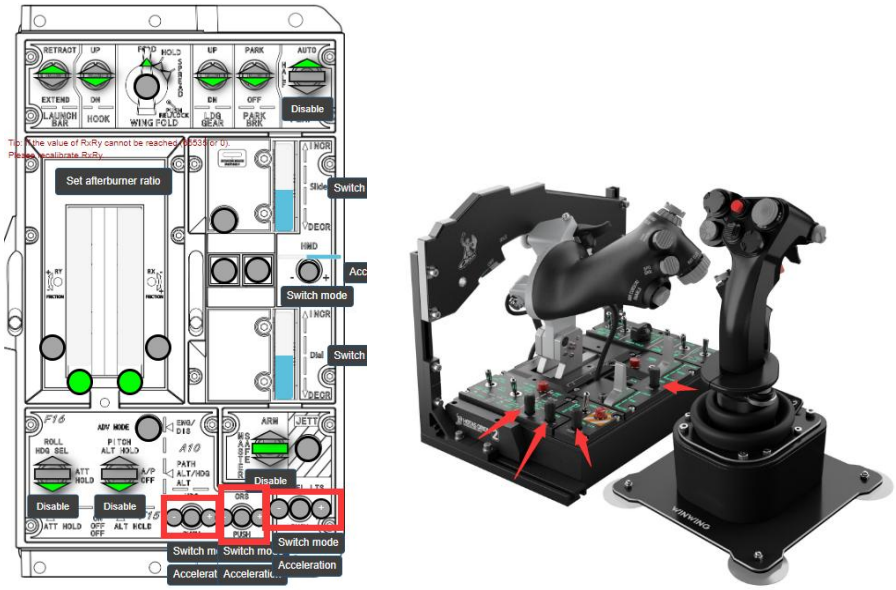
② Non-automatic reset (thumb wheel switches on 16EX on viper mental throttle grips and Orion 2 throttle bases)

During test, toggle it back and forth and confirm the data value on “Test” page, triggering from 0 and reached to 65535. (push it to both ends.) Meanwhile the axis signals displayed on “Test” should be synchronized with the operations as well.



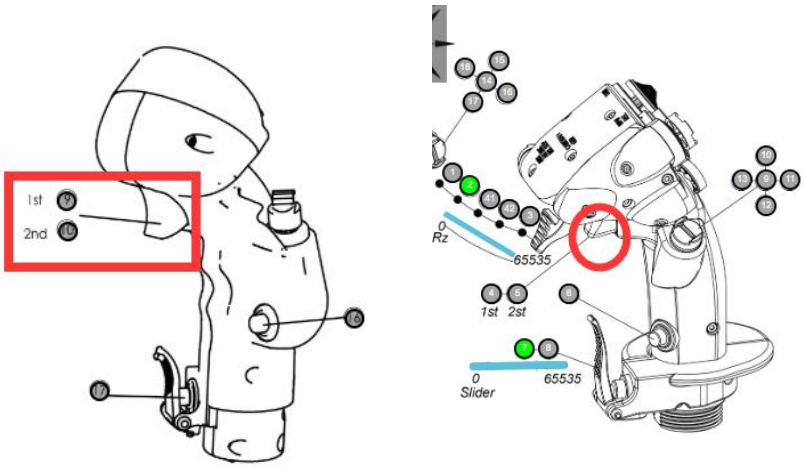
2.1.11. Encoder

Encoder can be rotated freely from both side and it outputs press signals. During test, keep rotating toward one direction and confirm the corresponding signal alters from gray to green simultaneously, which means this switch works normally, test passed.



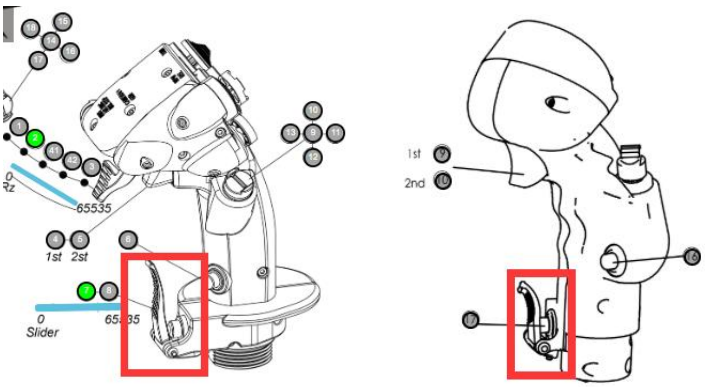
2.1.12. Two positioned trigger

Two positioned trigger has two triggering points, outputting press signals.During test, press this trigger and confirm the signals at each point on “Test” page, color alters from gray to green, indicating this trigger works normally.



2.1.13. Hall trigger

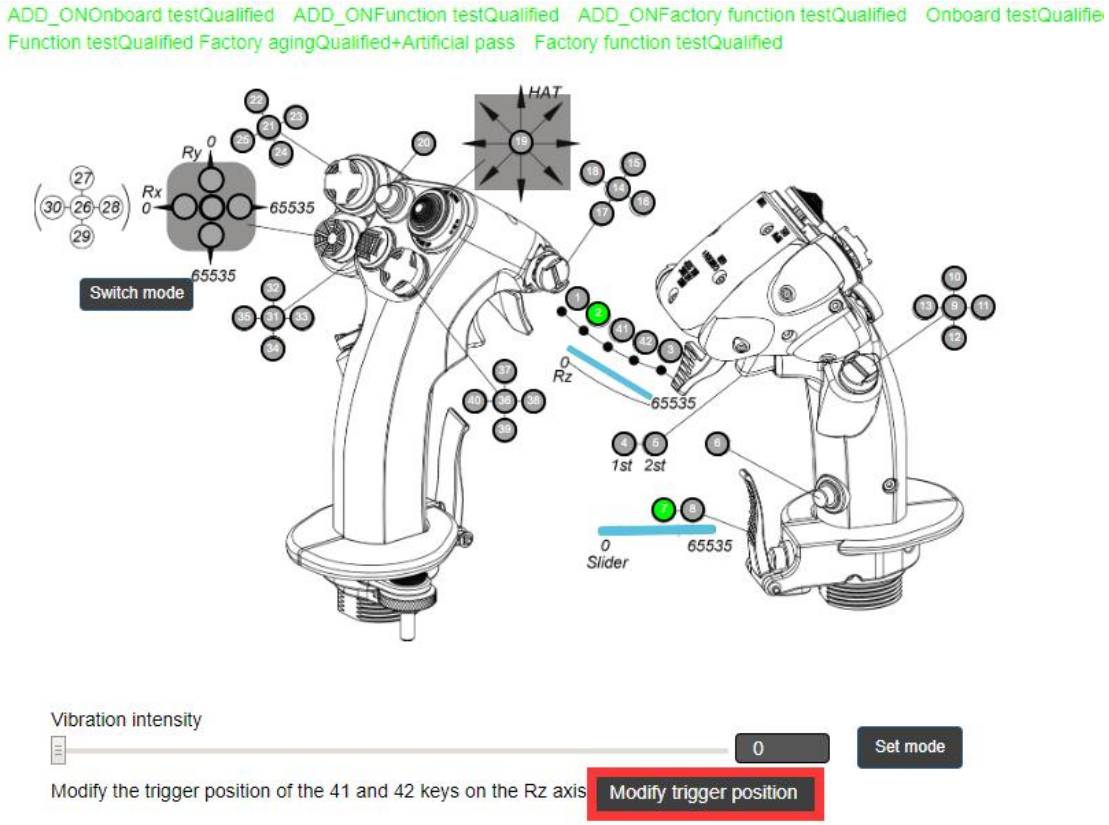
Press the trigger into each triggering point and confirm corresponding signals on “Test” page, the color should change from gray to green, which means the trigger functions correctly.



2.1.13.1. Modify trigger position

This function is only adopted on the 16 EX Viper metal joystick (with shake kit) trigger. There are five keys on the hall trigger, 1/2/42/43/3, among which, only point 43 and 43 are adjustable, (programmable) and all the rest points remain irrevocable.

In default mode, all “Device default” options have been ticked, triggering in order 2/42/43/3 and signals are evenly distributed. Cancel to select “Device default” and modify the triggering points by dragging the progress bar. (Both 42 and 43 can be modified to the same triggering points as 2 and 3’s.)



2.1.14. X and Y axis on throttle base

Only simultaneously meeting the following two requirement indicates test passed:

①Move both X and Y axis together, the less interpolation. the better performance..

②Drag X and Y axis into “OFF” position, the test page should change as demonstrated in following images, from the left one to the right.

2.2. Calibration

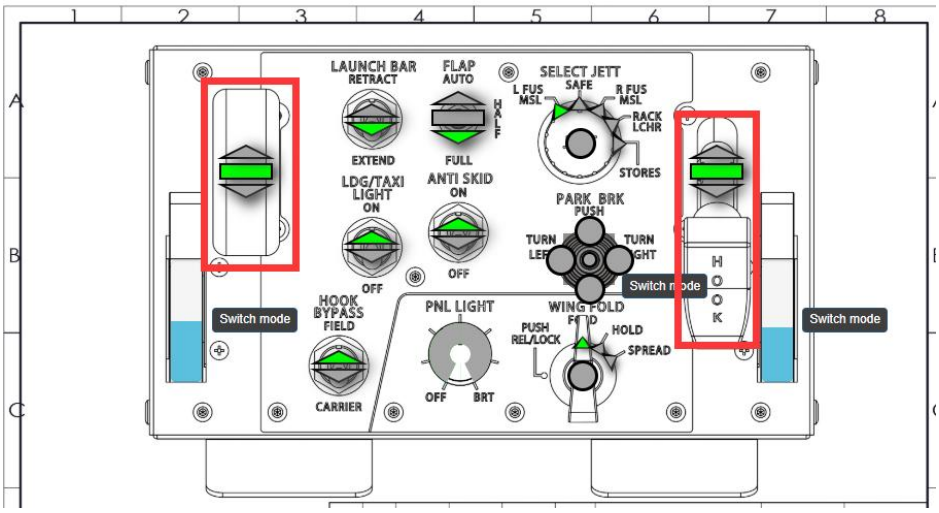
On “calibration” page, there will be a notice appearing in each step, please strictly observe the notice and operate accordingly. Switches required no calibrations include: five way switch, mini five way switch, two positioned trigger, band switch, 1 8 C metal joystick hall trigger.

2.2.1. Thumb wheel switch calibration

Toggle the switch back and forth several time and set it in neutral. It must be set in neutral position otherwise the calibration will be failed.

2.2.2. Hook and gear handle on PTO (take off) panel

Toggle them several times and set them in the neutral. Must be in the neutral, otherwise the calibration will be failed.



2.2.3. Encoder

Ordinary encoders don’t need any calibration, however the one on 16EX viper metal throttle is an exception. Calibration method: right rotate it to the end and left rotate it to the end,

finally return it to the neutral. (Don’t apply too much strength or else it might result tin damages.)

2.2.4. Mini joystick

Both RX and RY axis on mini joystick must be calibrated simultaneously, there are two steps:

①Toggle it vertically in four directions, left, right, front and rear. (Must vertically toggle in all four directions or else the calibration might be inaccurate.)

②Rotate it at least one round and press it.

2.2.5. X and Y axis on joystick base

①Click “Calibrate Z axis” and “Calibrate Rx axis”, then push the axis to the end in the order of front, rear, left and right.

②Click “Calibrate Y axis”, and push the axis as the method mentioned in step 1. (Note: must vertically push, no left or right deviation is allow, or else the calibration might be inaccurate.)

③Click”Calibrate Rx axis” and push the axis to the left and right end. (Note: must vertically push, no front or rear deviation is allow, or else the calibration might be inaccurate.)

2.2.6. X and Y axis on throttle base

① Pull both X and Y axis from “IDEL” to “MAX”, don’t pull them into “OFF” position. (For T1 base, this step must carry out together with friction calibration.)

② Synchronous calibration on X and Y axis: repeat step 1, but need a slower speed.

③Max point calibration: push both X and Y axis from “IDLE” to “MIL”, don’t push them into “MAX” position.

2.2.7. Extension trigger (Rz axis)

Currently, extension trigger only applies on 16EX Viper metal joystick (with shake kit). Don’t pull it into button 1 mechanical position, or else button 1 will loose its physical limit position. Only the physical positions of button 2-3 need calibration.

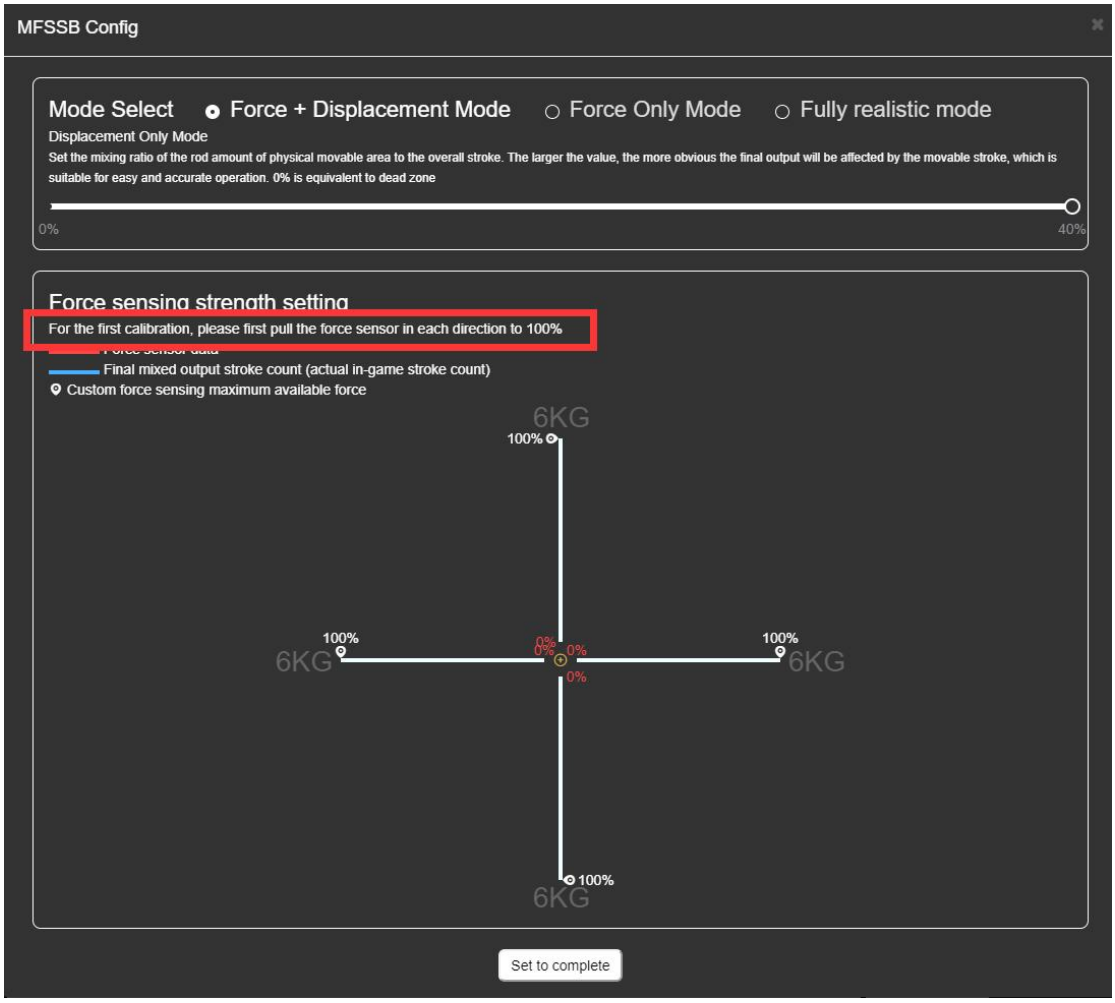
Note: don’t apply strong strength, or the calibration might be inaccurate.

2.2.8. Hall trigger

Press it from 0 to 65535 and complete the calibration.

2.2.9. MFSSB calibration (please refer to Section 2.5)

Players initially purchase movable force sensing stick bases need to pull the axis and let the force sensor in each direction into 100% position under the selected mode.

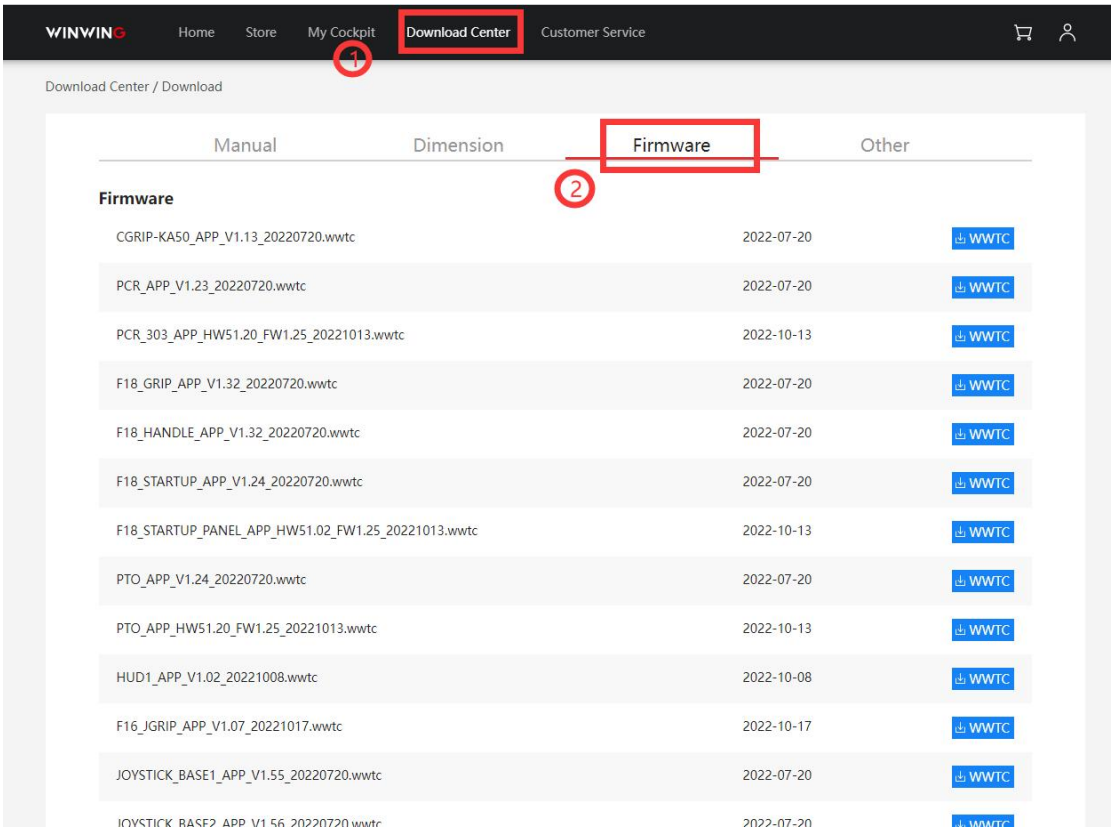


2.3. Firmware update

When a new firmware is available, a green refresh icon will appear on that device “Firmware update” page as a notification. Normally, directly clicking the corresponding button will complete the update, no need to download the firmware from our official website.

“Advanced mode” is specifically prepared for those in some special circumstances as no internet connection, and for some particular devices. (For instance, old version J1 (Super Libra)+ 16 joystick.) Steps:

①Browse our official website and download corresponding firmware to local computer.

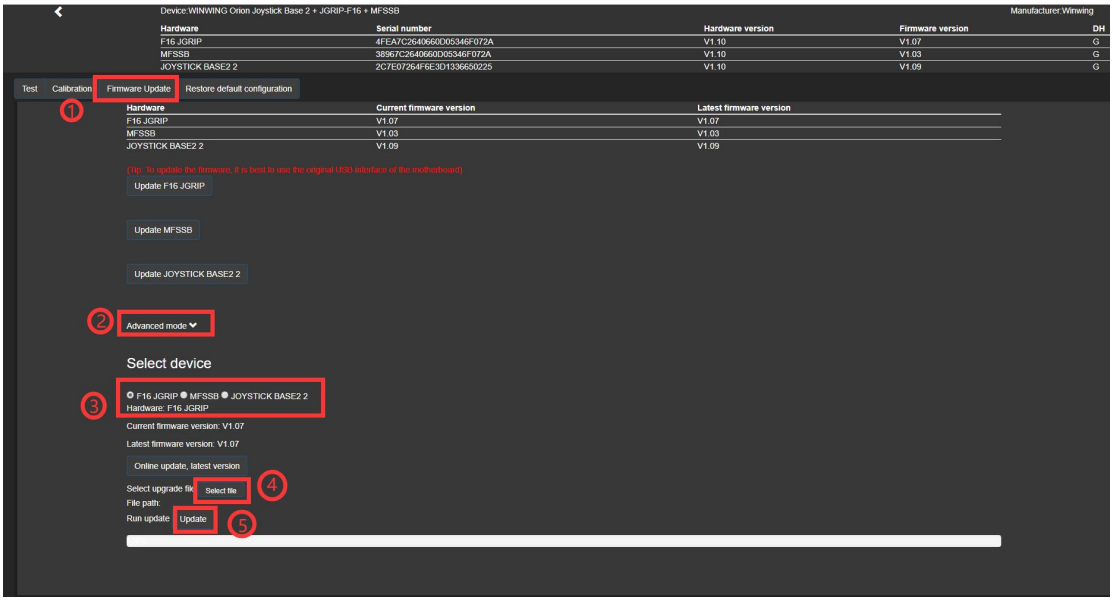


②Select “Advance mode” on “Firmware update page”.

③Select the device.

④Click “Select file” to choose the downloaded firmware

⑤Click “Update”.

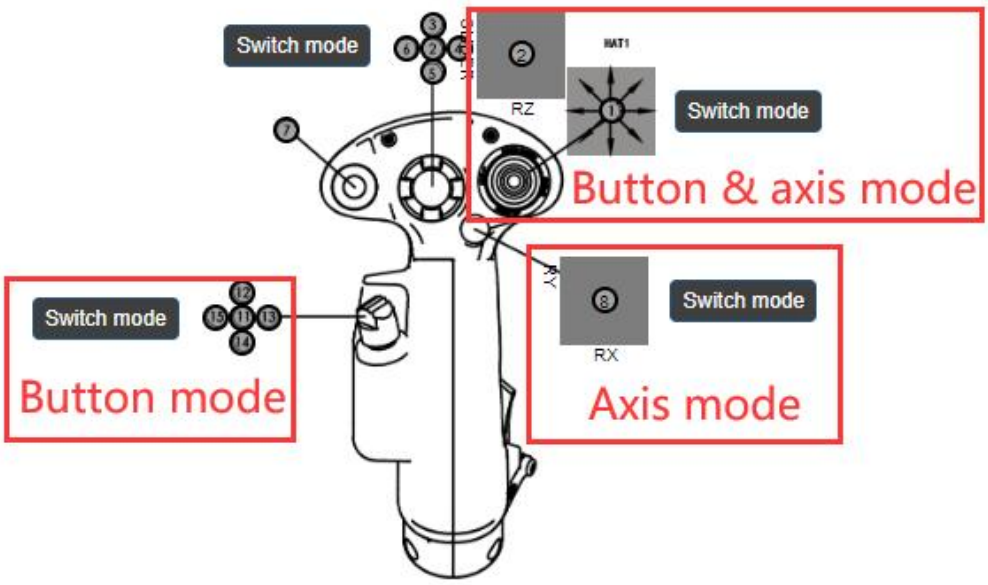


Note: “Advanced mode” is only for special circumstances. As most updates can be completed under normal update, the “Advanced mode” is not recommended.

2.4. Swap mode among button, axis and button & axis

In SIMAPP Pro "Device" page, switches/axis tagged "Switch mode" indicate they have different modes. presently, there are three modes, “Axis mode”, “Button mode” and “Axis & axis mode”. (Some switches/axes have only two modes, please refer to what the system indicate) Usually, switch/axis with different modes include: stick potentiometer (also known as the mini joystick), encoder, 5 way switch, thumb wheel.

As shown in the figure below, three modes: Button mode, Axis mode, Button mode & axis mode.

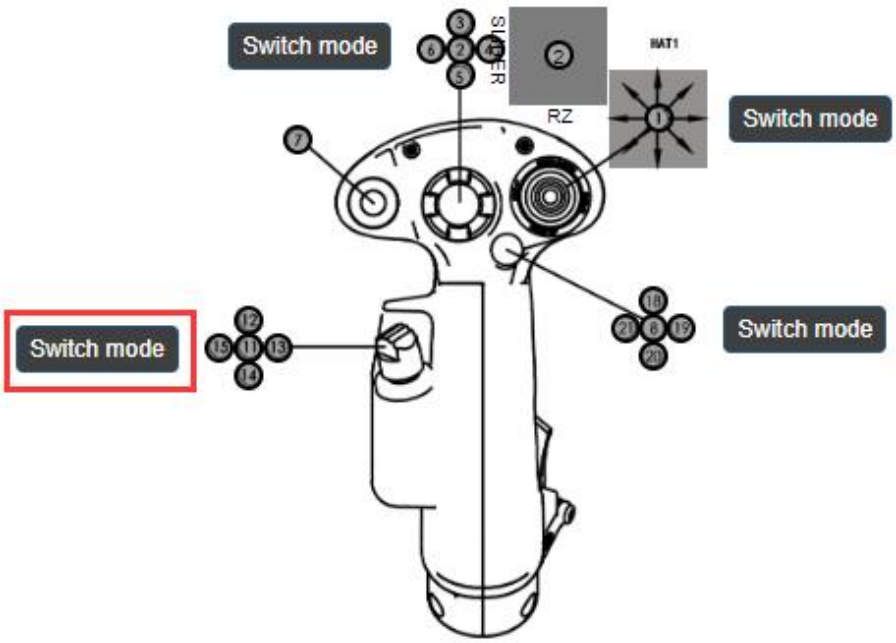


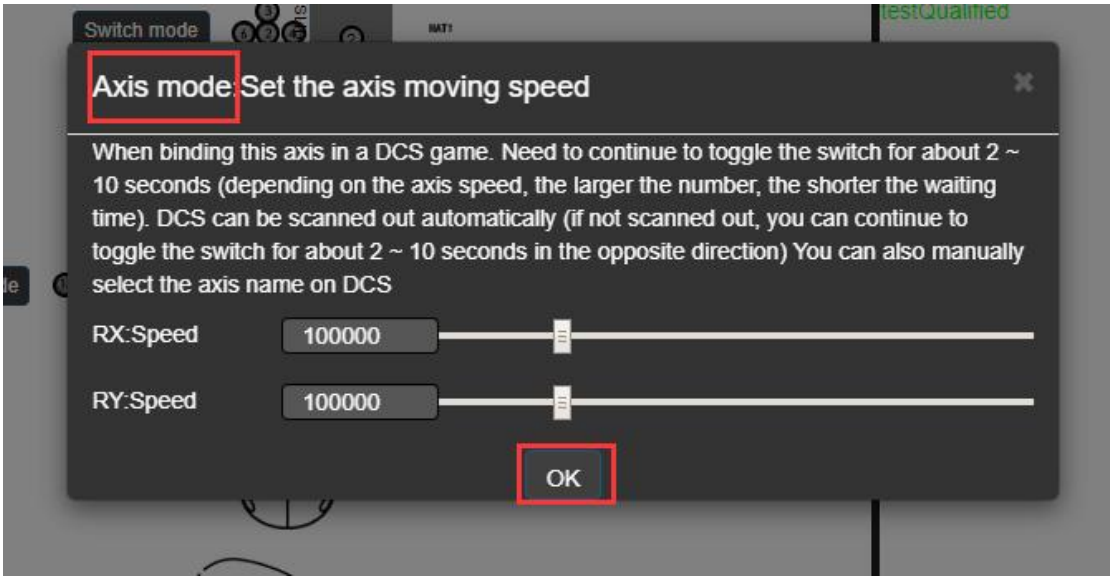
2.4.1. Operation procedure

2.4.1.1. Button mode to axis mode

Normally, Windows can only recognize 8 axes on each USB device and the superfluous will remain unidentified.. Therefore, users should make sure that there is at least one unoccupied axis available before switch any switch/axis to axis mode. If all 8 axes are occupied, SIMAPP Pro will pop up relevant notice. Please refer to the (FAQ) section for details.

As shown in the figure below, when the switch/axis is in Button mode, click the "Switch mode" button and "OK" in the pop up, then it will successfully switch to axis mode.





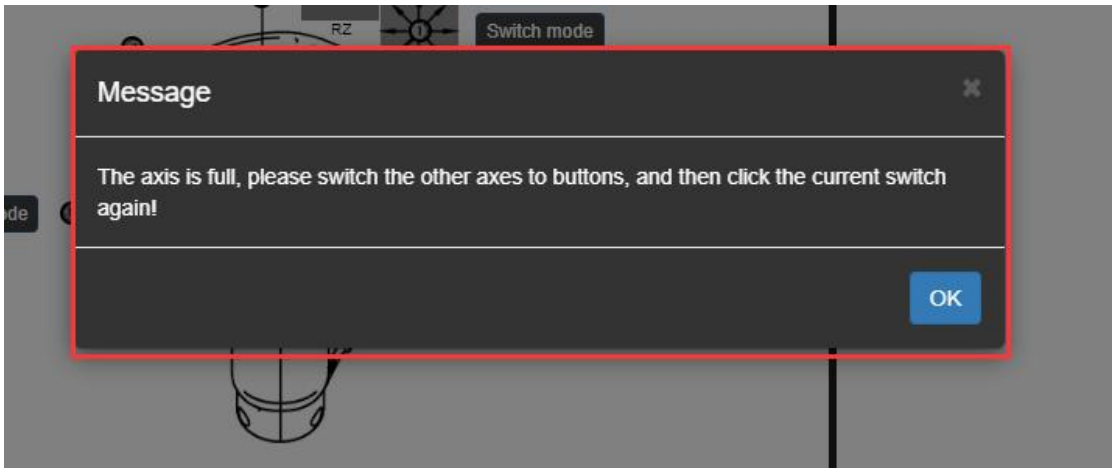
Click the "Switch mode" button again, this switch/axis will be switched to "Button & axis mode", Click it one more time, this switch/axis will be switched to "Button mode".

2.4.1.2. Axis mode to Button mode switchover

Switch/axis in axis mode needs clicking "Switch mode" button twice to switch it to button mode.

2.4.2. FAQs

① Windows can only recognize 8 axes on each USB device, and any superfluous will remain unidentified. When axis mode switching failed. following message will pop up:



Solution: Please follow the message to change other switches/axes into to the button mode, and then click the "Switch mode" button to switch this one

2.5. MFSSB

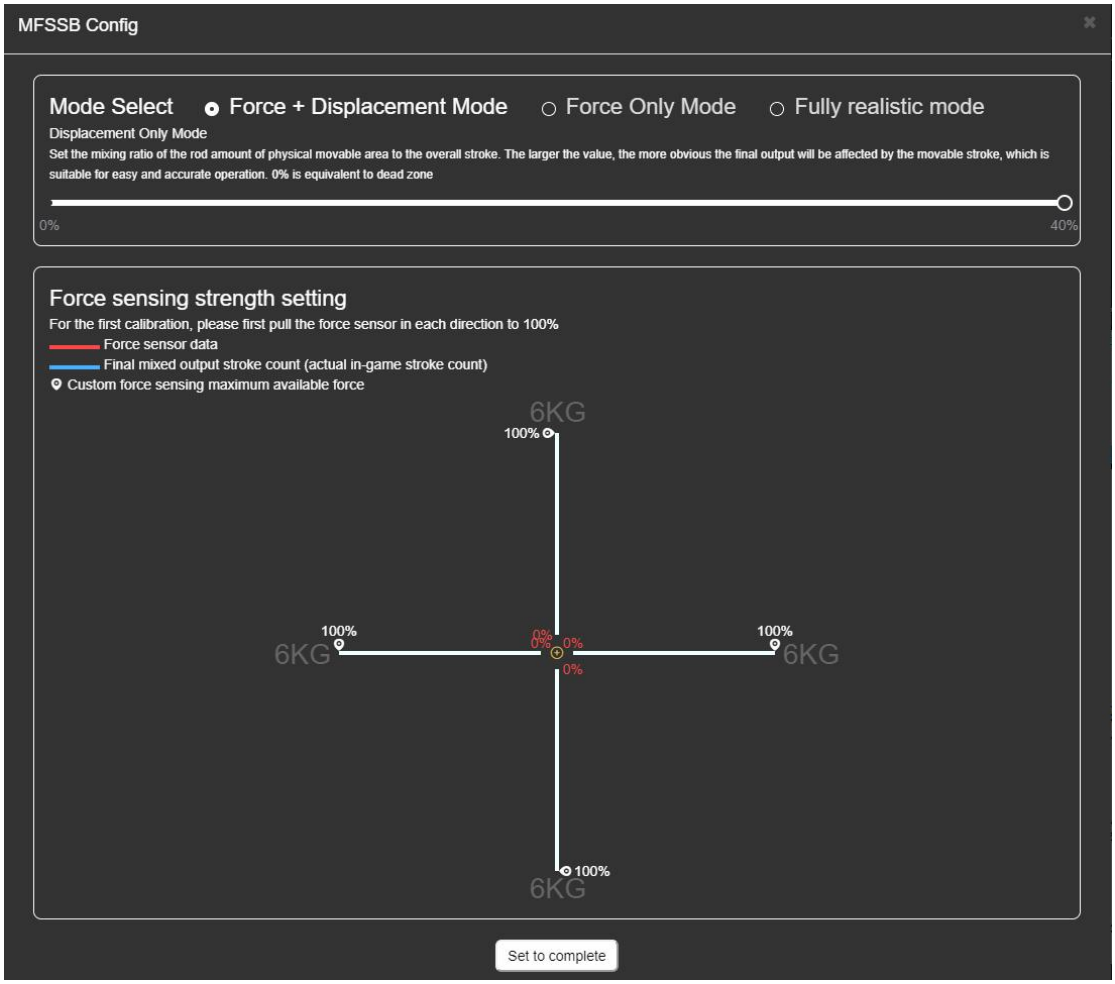
J2-2-BASE Orion2 joystick base, MFSSB version simulates the genuine 16 C fight jet force sensing operation mode. MFSSB, in full name, Moveable Force Sensor Stick Base, has a +-5 mm minute movable displacement, for minor operations. At the end of this displacement, installed force sensors, which allows users to control the flight by strength and will rapidly alter the flight into extreme poses.

2.5.1. Three modes on MFSSB

There are two sorts of sensors installed in force sensing base, displacement sensor and force sensor. When move the joystick, displacement sensor will be triggered until it reached the end, force sensor starts to trigger, merging two kind of sensing mode. There are three working mode on MFSSB.

2.5.1.1. Force+displacement mode

As both the force sensor and displacement sensor are all enabled, under force+displacement mode, these two sensing process jointly decide the signal outputs via a special algorithm.



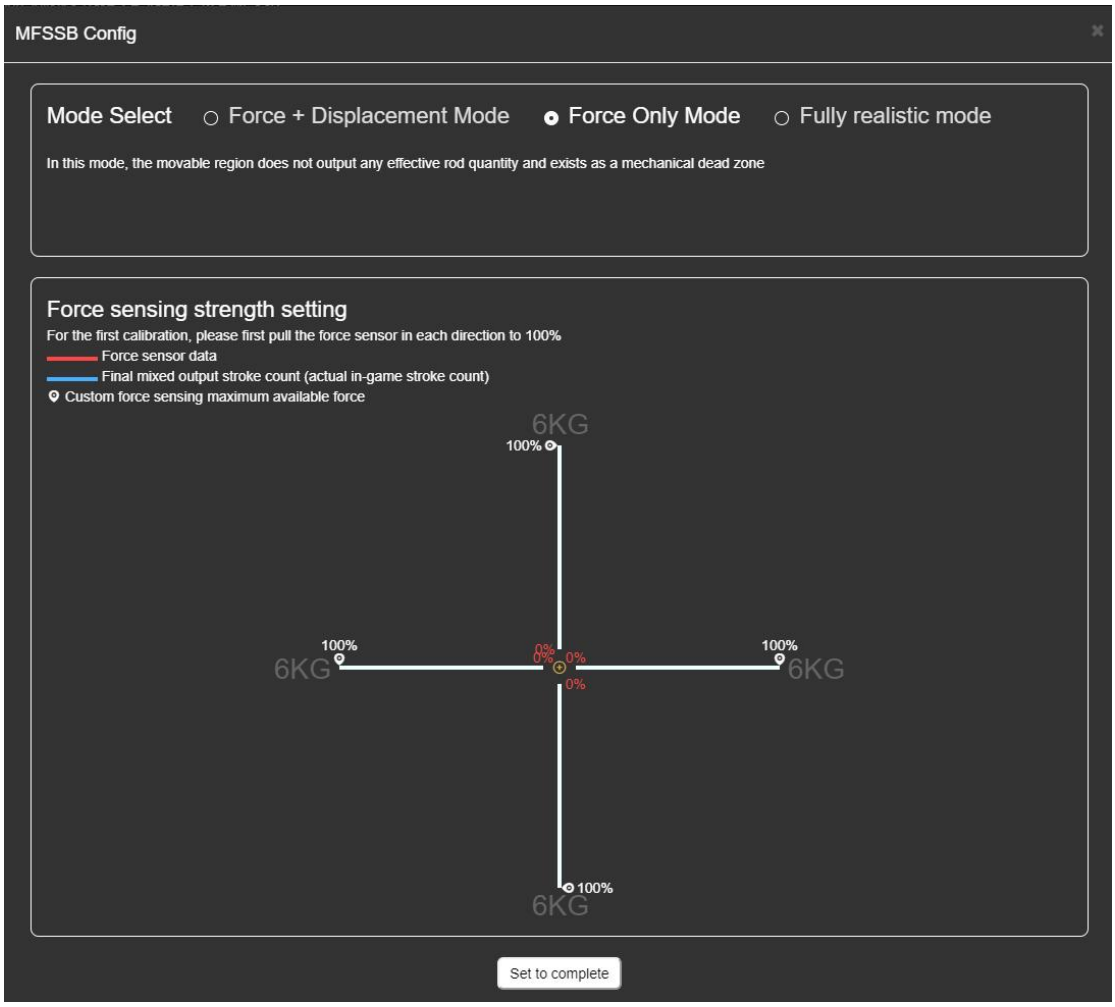
As shown above, percentage (k) indicates displacement percentage and the total force sensor output percentage is 1-k.

For instance: When the percentage (k) reached 10%, it's 10% of displacement and 90%, force. Under this mode, the ultimate output (on joystick) is determined by both force and displacement. (Exception: when k=0, it becomes "force only mode", the ultimate outputs are only determined by actual operations on the joystick.)

As shown below, force size in four directions, red line indicates the force sensor data while blue means mixed output, the actual output in the game. Players may adjust the force size. As shown below, reduce the up force from 100% to 20%, declining it from 6 kg to 1.2 kg, then it becomes that the maximum out put will be reached by only applying 1.2 kg force.

2.5.1.2. Force only mode

Under force only mode, displacement becomes null (of dead zone), no output will be triggered in displacement. Only it moves to the end and strength start to enforce, efficient output will be generated.



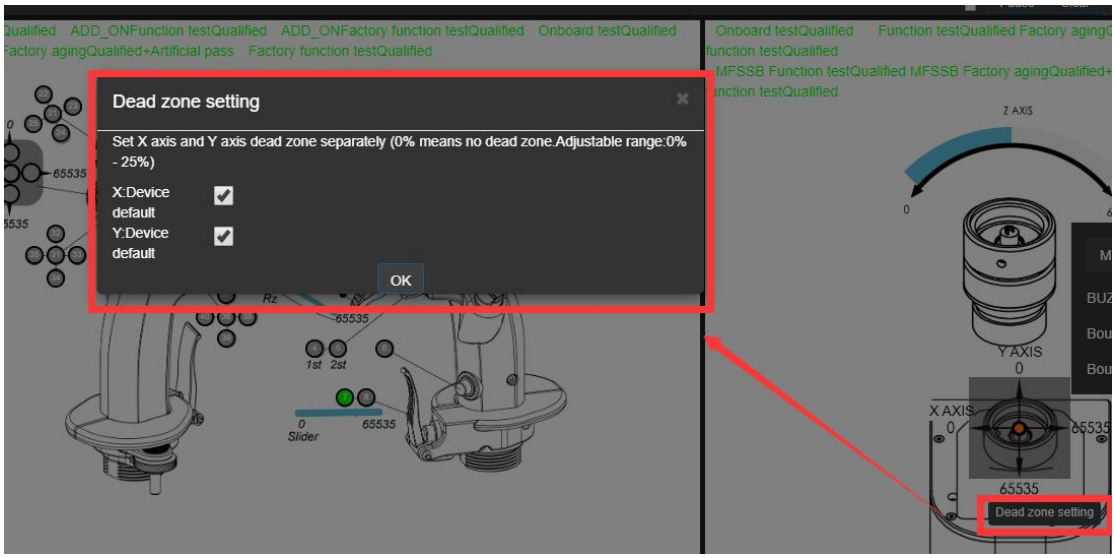
2.5.1.3. Fully realistic mode

In this mode, the genuin 16 fight jet operation is loyally duplicated, a special gift for professional aviators. (not recommend ordinary players to use this mode) The movable displacement will comply the real joystick movement, at 100%, moving the joystick to the end, the actual control reached 100%.

Note: two or three springs might be installed as the aviator's preference to strength.

2.5.2. Dead zone setting

Dead zone means the displacement that won't generate any outputs. Users are allowed to set dead zones on X and Y axis separately, adjustable range:: 0%—25%, which refers to the dead zone percentage on displacement, 0% means no dead zone.



2.6. Light setting

All lights may be set on corresponding device “Test” page.

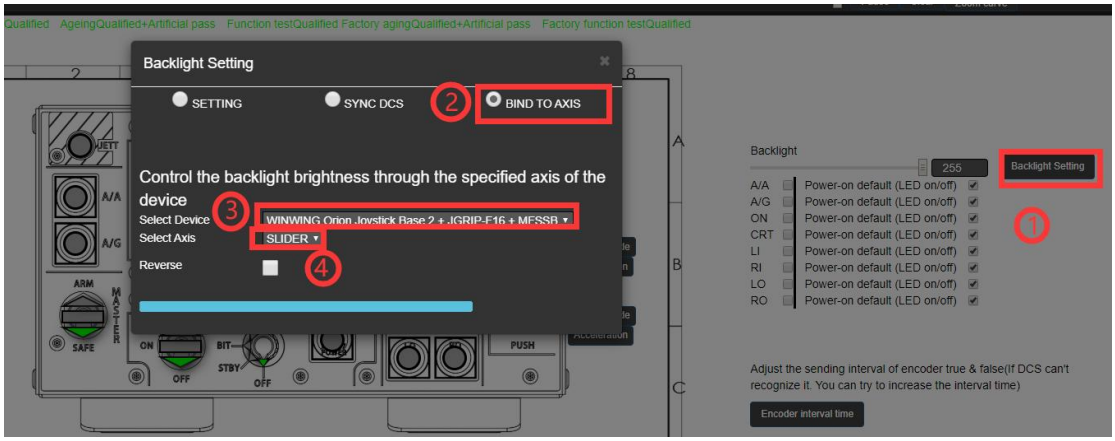
2.6.1. Backlight

Backlight includes three working mode, click “Backlight setting” to select:

① SETTING: under this mode, users need to drag the progress bar to adjust lights brightness.

② SYNC DCS: under this mode, the backlight will be synchronized with DCS, need to keep SIMAPP Pro running.

③BIND TO AXIS: light brightness adjustment may be bind to any device axis, after binding, users may operate the axis to adjust light brightness. Step: select device⟶select axis.



2.6.2. Programmable indicators

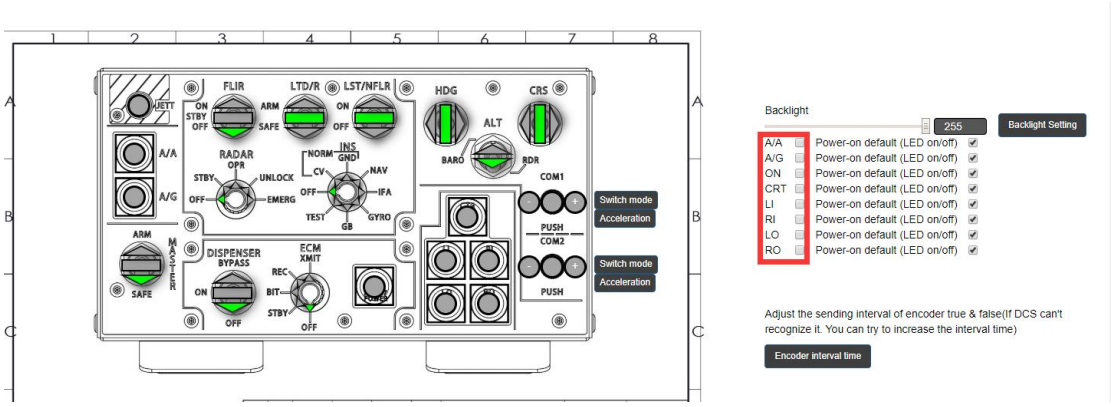
Programmable indicators include: A/A, A/G, ALR-67 POWER, CTR, LI, RI, LO, RO and the light

in gear grip on PTO panel.

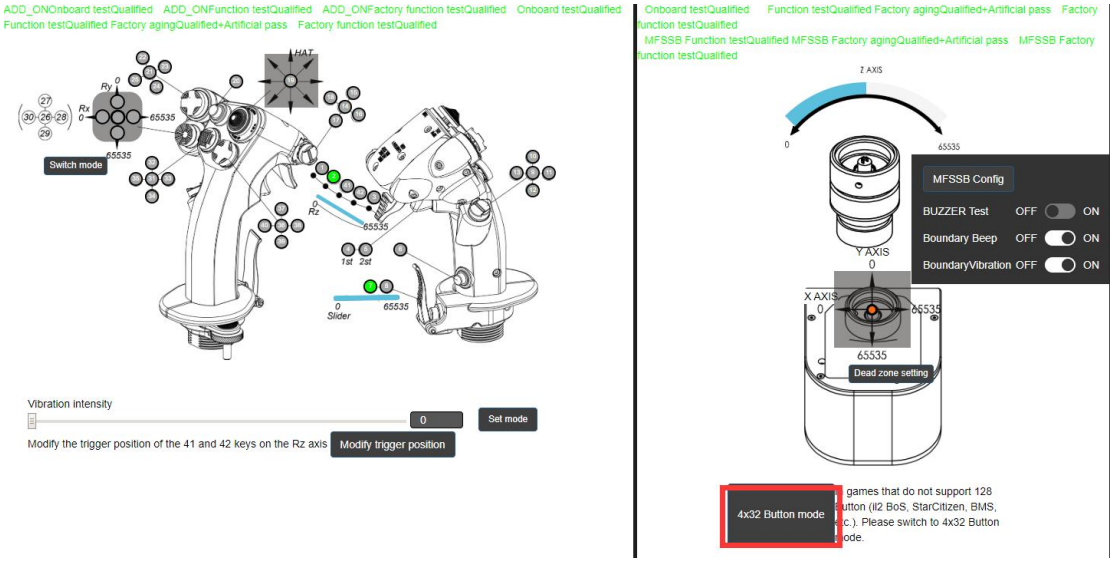
These lights may independently be turned on and off, and also may be set the status after starting the devices. (On or off). They also have three modes when switched them on, exactly the same as backlight, please refer to Backlight section.

2.6.3. LCD brightness

LCD brightness refers to the maximum brightness on LCD screens, which currently is only installed on UFCs. It can be adjust by dragging the progressive bar.



2.7. 4X32 Mode



Since Windows system limited 32 buttons on each USB device, the redundant will be unable to bind in some games as il2 BoS, Star Citizen, BMS, etc. In 4X32 mode, one single device will be virtually duplicated into four same ones, on each of which all buttons will be evenly arranged, so as to activate all buttons. Currently, these are the devices with 4X32 mode:

产品名称	编号

Product mane	Code
Super Libra Joystick Base	J1
J2-BASE	J2
Orion2 Joystick Base（J2-BASE-Ⅱ）	J2-2
Orion2 MFSSB Version	J2-2-BASE+EX2-J2-2
MFD Unit	MFD
Orion2 Throttle Base（J2-BASE-Ⅱ）	T2-2
T2-BASE	T2

3. Virtual Device Mapping（Coming soon……）

4. ADD-ON（Coming soon……）

5. Key Binding

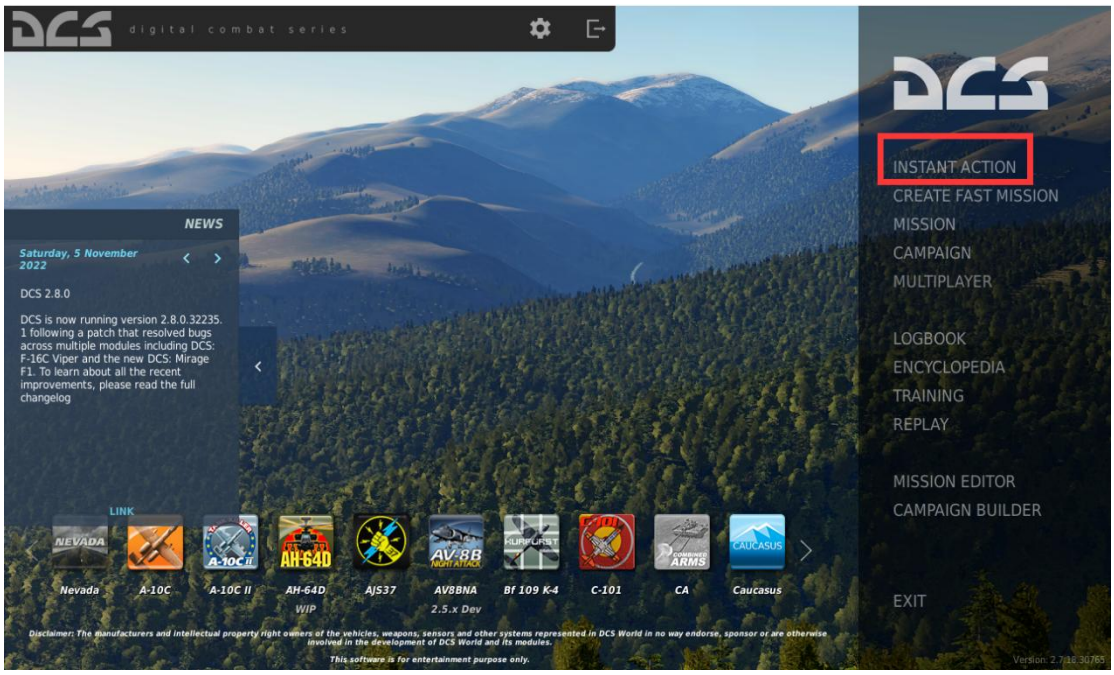
Key binding refers to binding virtual keys in games with physical keys on actual devices. In other words, players pressing physical keys on devices will control virtual ones in games. All physical keys need binding before applying them in games. Players can upload and share their binding files on cloud while they can also download files shared by others or independently bind them in games. For details, please refer to (In game binding) section. The steps to apply cloud configuration files shared by others and upload backup configuration file, please refer to (Cloud backup and share) section.

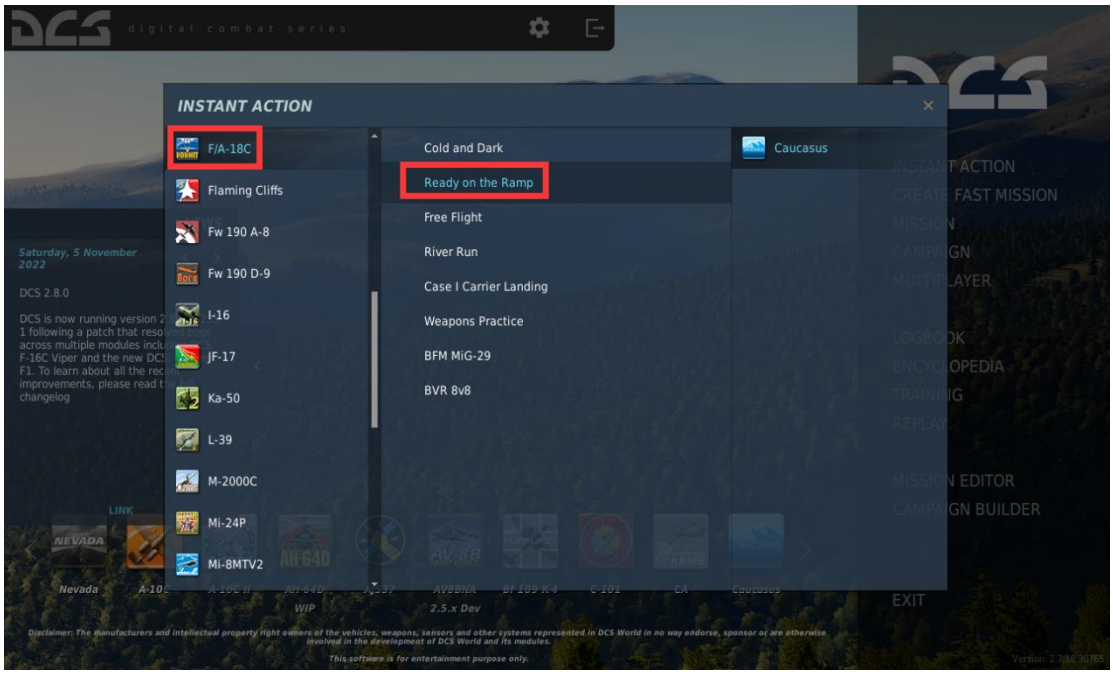
5.1. In game binding

Nowadays, popular flight simulation games include: DCS, Prepar3D, X-Plane11, etc. Players can bind all physical keys in all those games. If you prefer to applying others' binding files, please skip this section and refer to (Cloud backup and share).

5.1.1. DCS

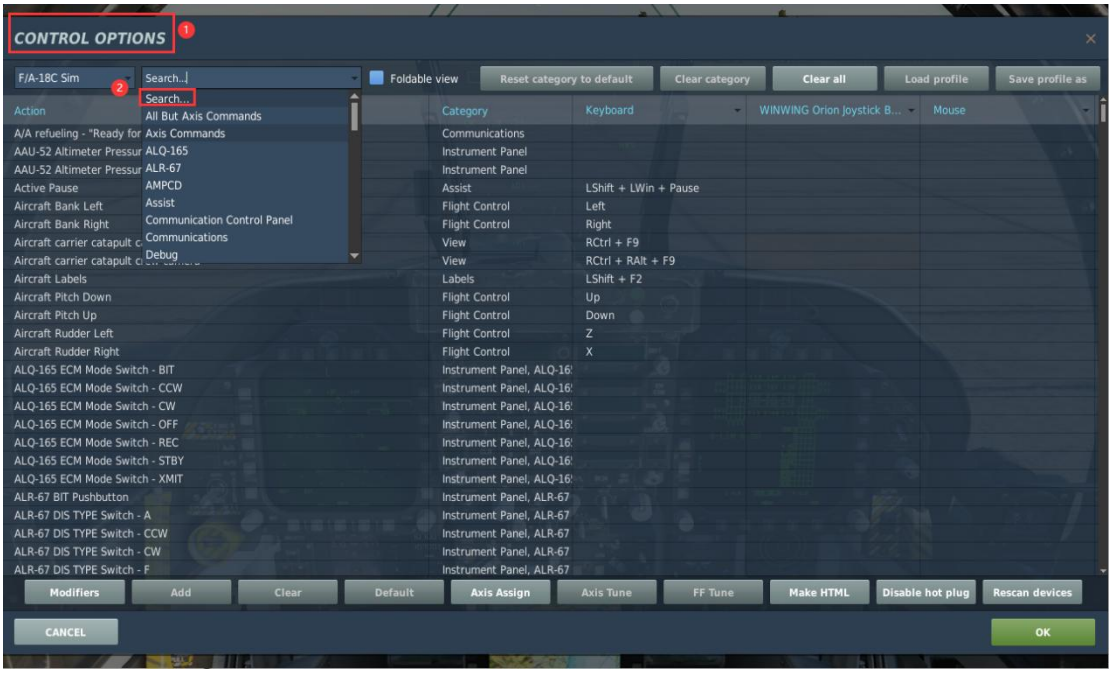
① Open DCS, enter "INSTANT ACTION" and choose your preferred aircraft (for example 18C_), then select "Ready on the Ramp", and click "Fly".



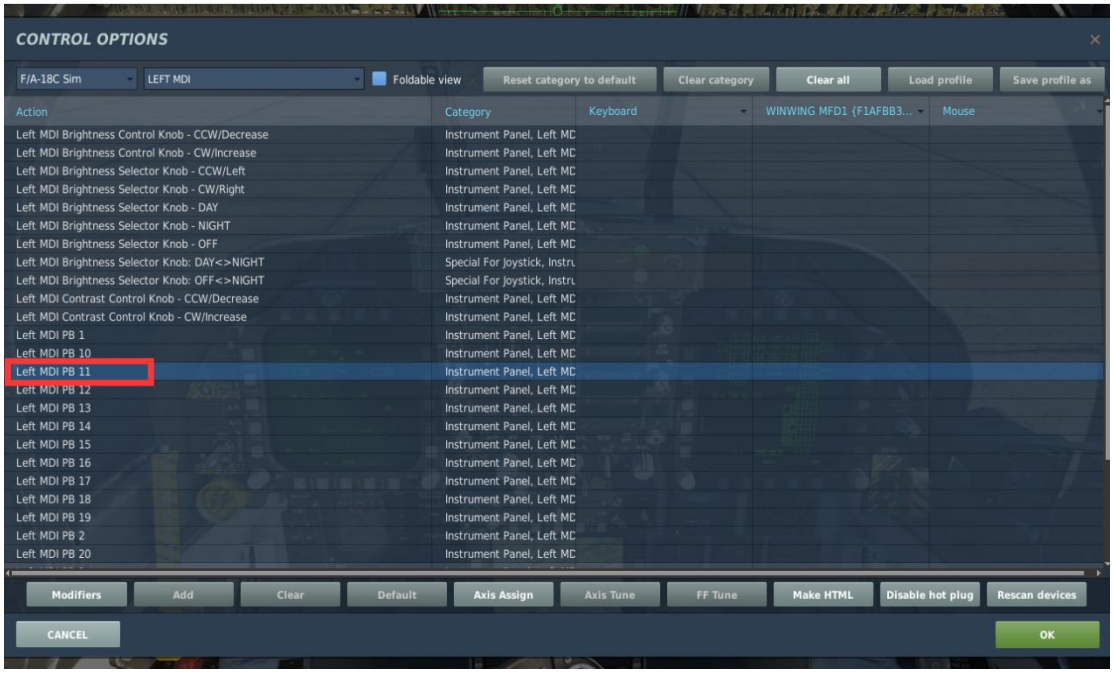


② Enter cockpit interface and select the key need binding, for example, "Left MDI PB 11" on MFD. Move the mouse cursor on the button/switch and the system will automatically identify and display its name.

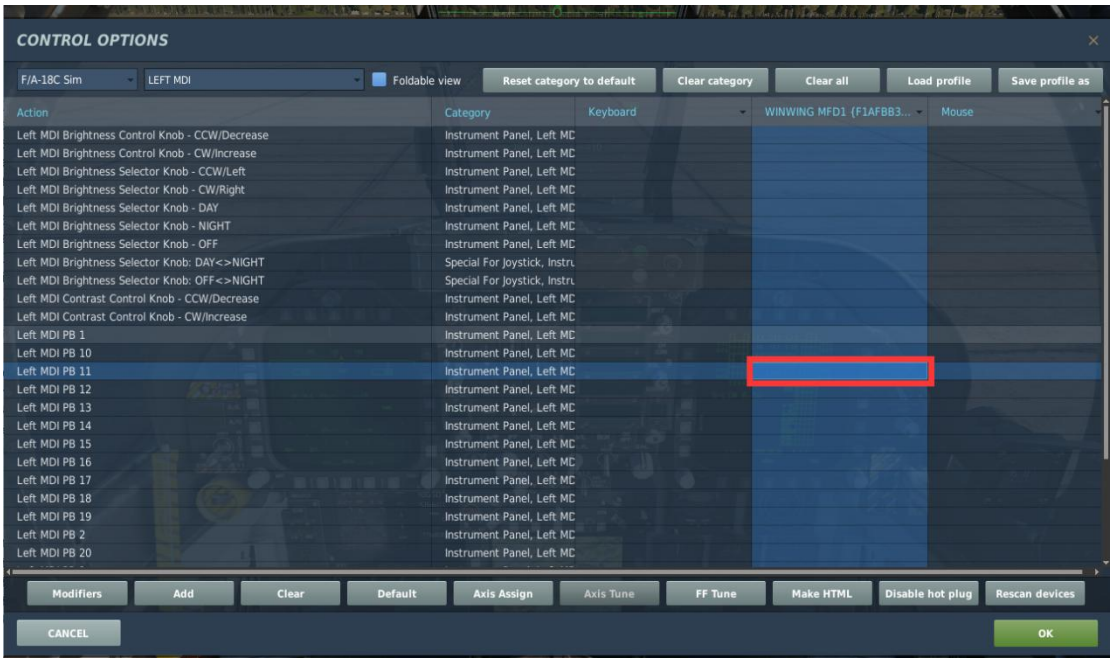
③ Press “ESC” ⟶ Click “ADJUST CONTROLS” ⟶ Enter “CONTROL OPTIONS” ⟶ Select "Search" from the pull-down menu in second option column.

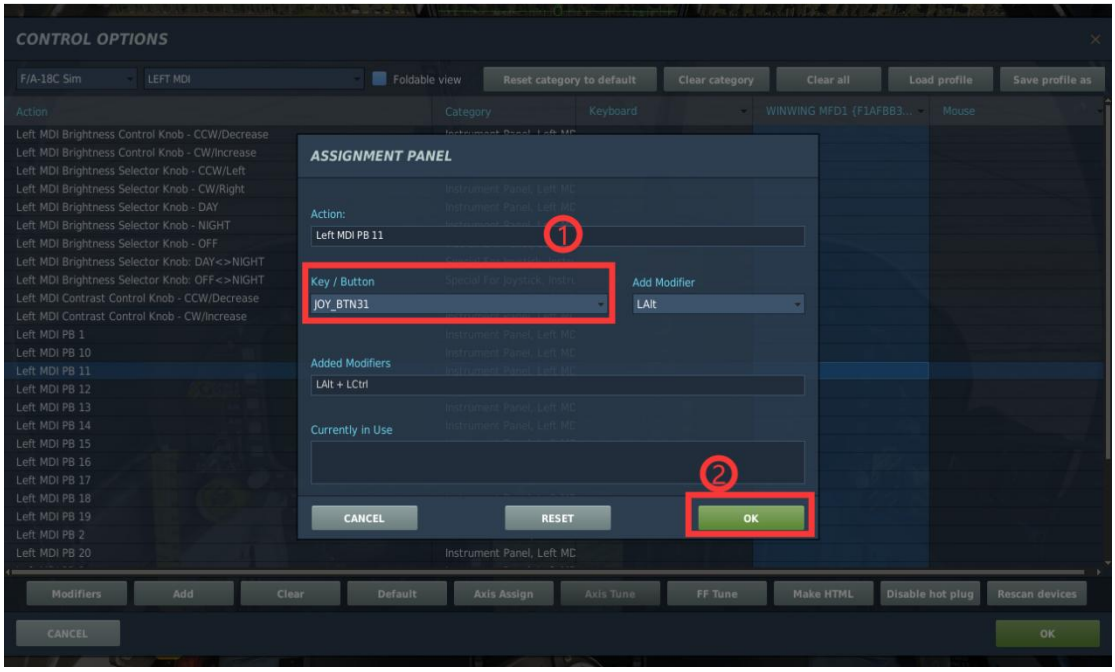


④ Input the key name recognized by the system and select it in "Action".

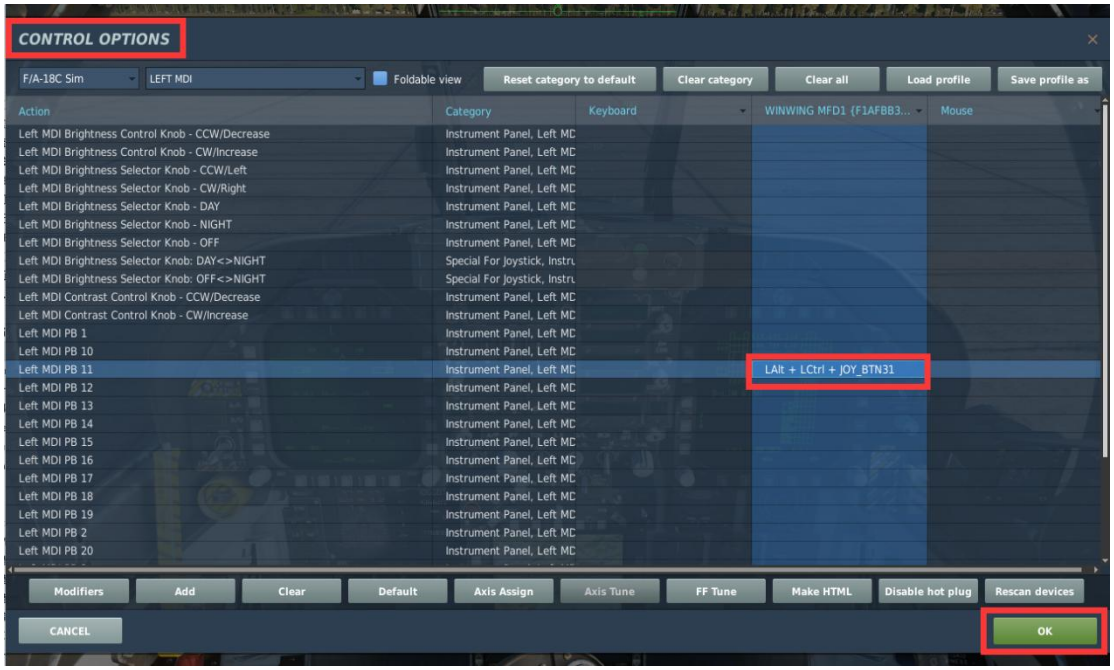


⑤ Find the button/switch to be bound, double-click the table cell area under corresponding device of the button/switch (In this case, WINWING MFD1) to open the "ASSIGNMENT PANEL", then operate/press the physical button/switch on the device and the system will automatically identify and bind it. In this example, press the "LEFT MDI PB11" button on the MFD to complete binding. (In the game, all buttons/switches can be bound to any functions).





⑥ In "ASSIGNMENT PANEL" page, click “OK” to back “CONTROL OPTIONS” page, then click “OK” to verify. Operate this bound switch to check if the corresponding virtual one in games responds. Response means binding success.



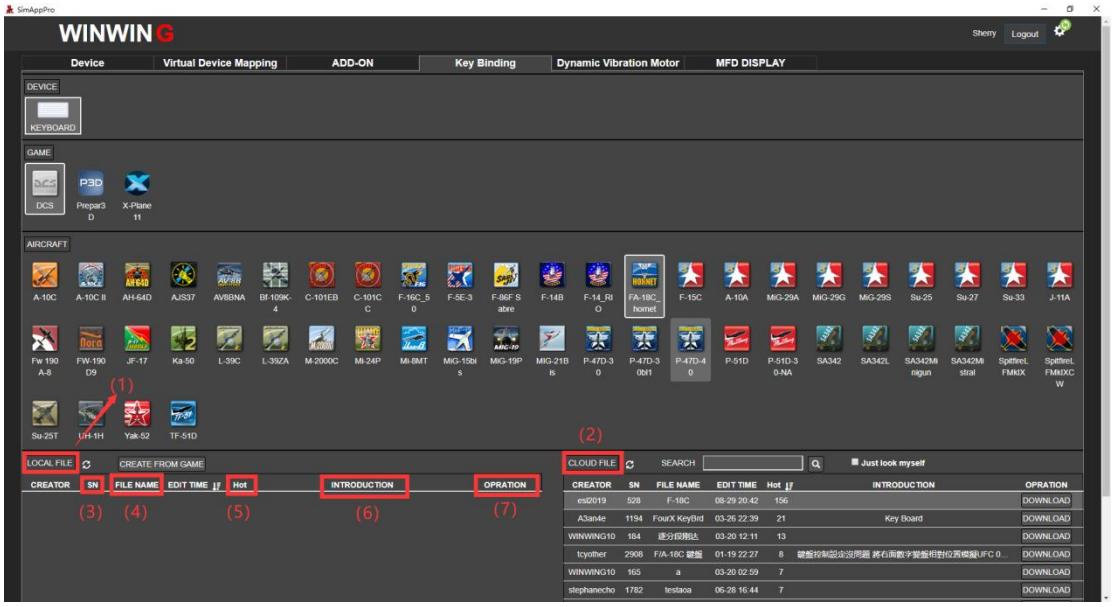
5.1.2. Prepar3D

5.1.3. X-Plane11

5.2. Cloud backup and share

5.2.1. Interface introduction

In interface introduction page, there are some explanations on terms and applications.



SN	Name	Applications
1	LOCAL FILE	Local file is a path to save the downloaded binding files. Players only need to sign in SIMAPP Pro, select the binding file in the “CLOUD FILE”, and click "DOWNLOAD" and it will be successfully saved to “LOCAL FILE”. It’s unnecessary to repeatedly download the binding files. When they log in SIMAPP Pro on different computes, all downloaded binding files will be automatically synchronized with the users account.
2	CLOUD FILE	All users are able to freely download and upload binding files in “CLOUD FILE”.
3	SN	Each click on "CREATE FROME GAME", a SN number will be generated, progressively adding in clicking orders.

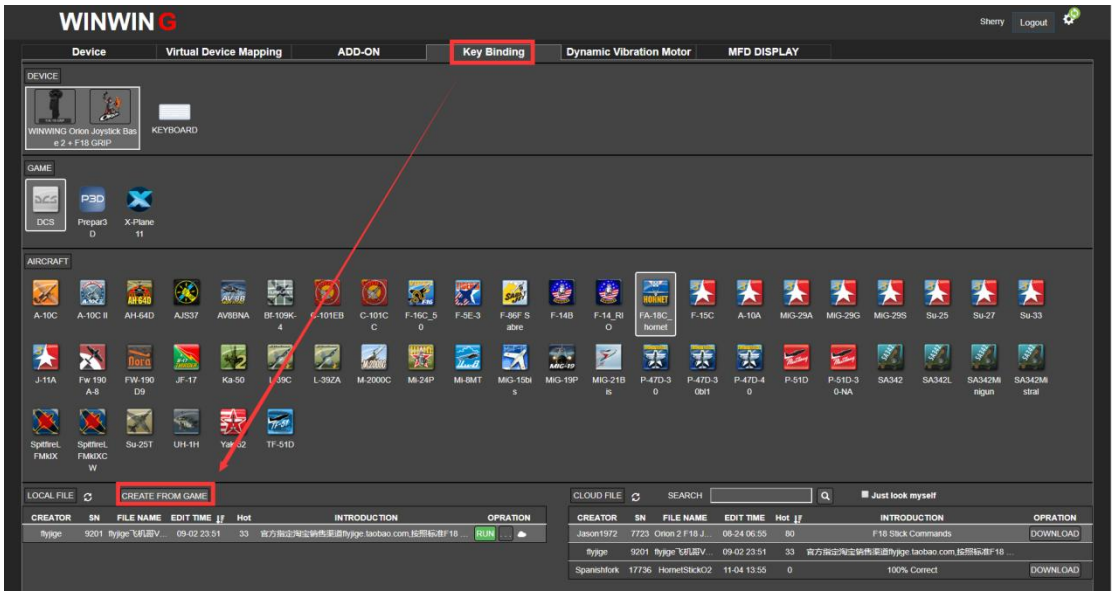
4	FILE NAME	Users are able to name their binding files.
5	Hot	The binding file downloads, more downloads means higher popularity. (Hot)
6	INTRODUCTION	Users are able to briefly describe their shared binding files and explain file content.
7	OPERATION	“OPERATION” includes “DOWNLOAD” and “RUN”. “DOWNLOAD”means users download others’ binding files from cloud (“CLOUD FILE”) to “LOCAL FILE”.

5.2.2. Backup process

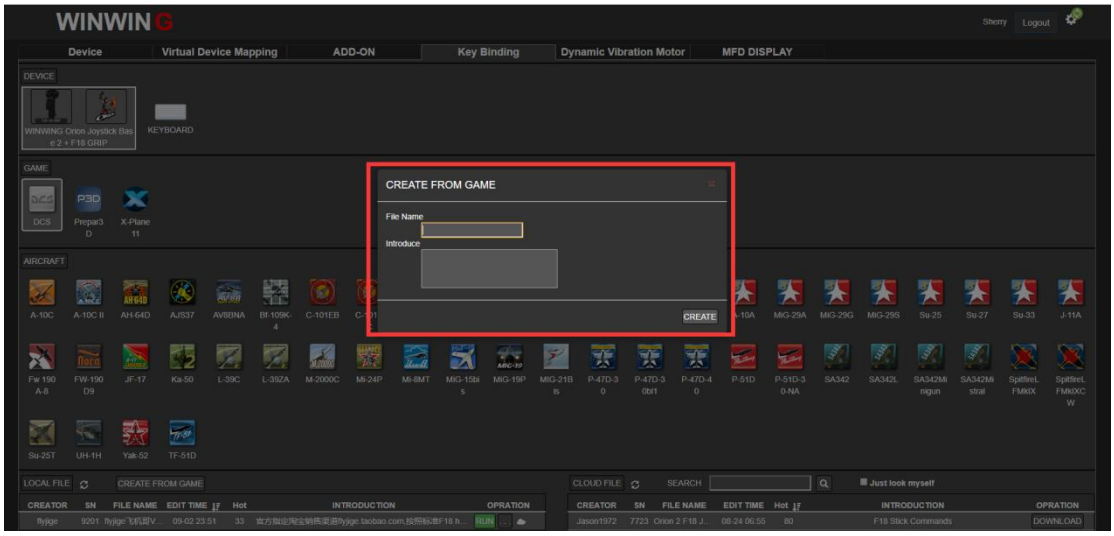
① Please refer to (Log in SIMAPP Pro) Section to log in.

② Please refer to (DCS World Configuration) to confirm both “Install Path” and “User data Path” are correct, don’t leave them blank.

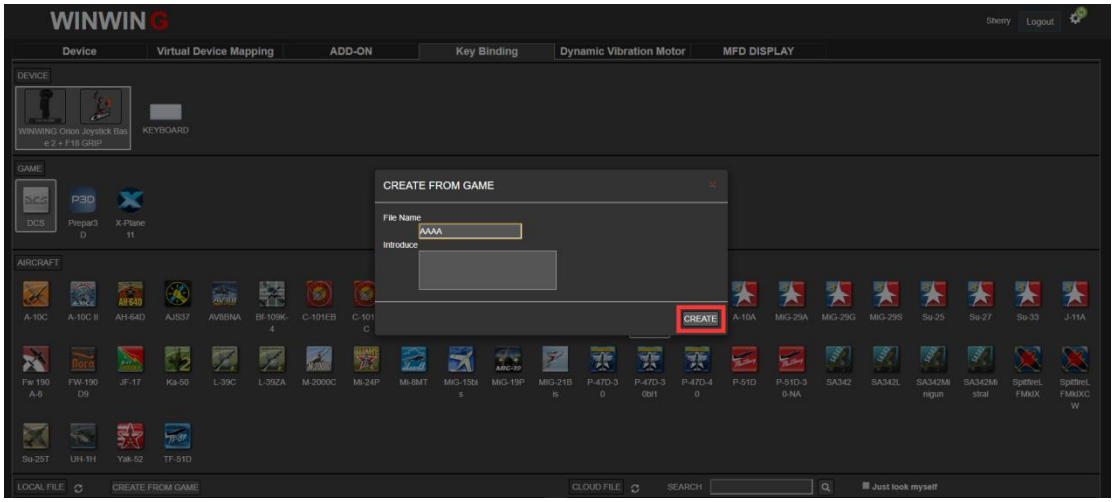
③ Click “CREATE FROM GAME” in “Key Binding” page.



④ Input file name in “CREATE FROM GAME” pop up window (Users may name it at will, and the system will automatically track the target file in the game by following the “User data Path”).



⑤ Click “CREATE”. The end.

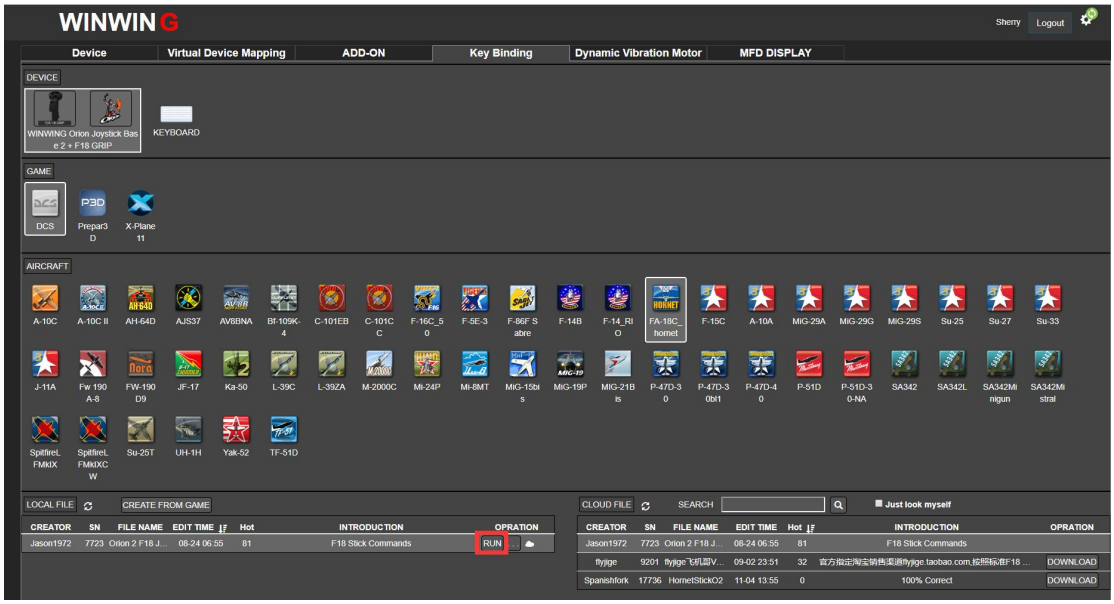


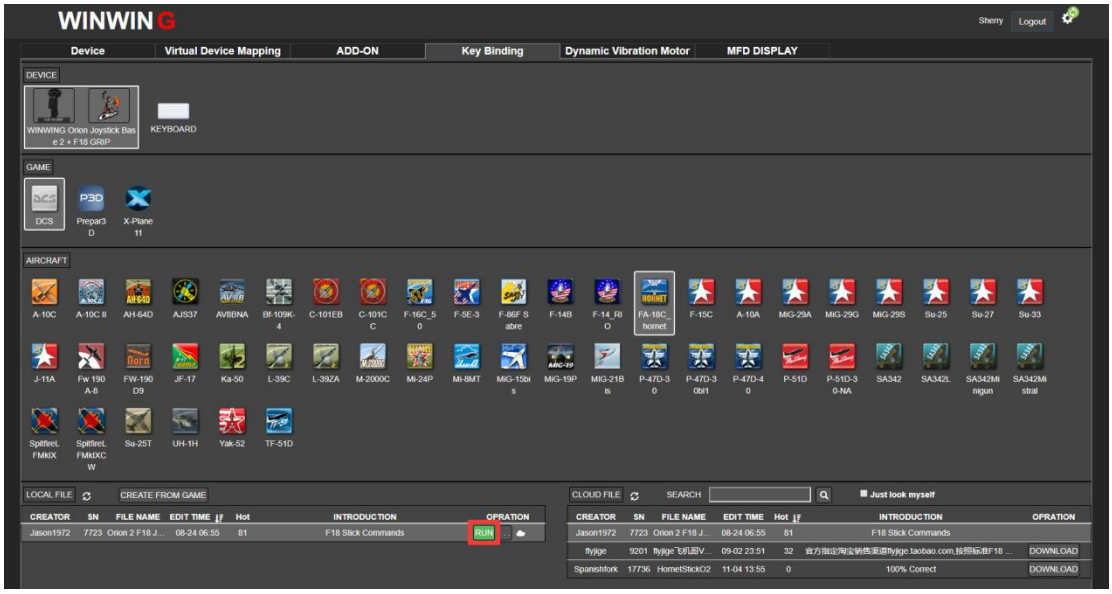
Note: This operation will back up users customized binding files. When they log in SIMAPP Pro on another computer with the same account, they may download the previous backed up binding files as long as both "Install Path" and "User data Path" are correct.

.

5.2.3. Activation process

Please refer to (Log in SIMAPP Pro) Section to log in and select the binding file that needs to activate and click “RUN” at “LOCAL FILE” left side on the “Key Binding” page. “RUN” icon will turn green as activation succeeded. Activation will always fail if the game keeps running, for details, please refer to (FAQ) Section.



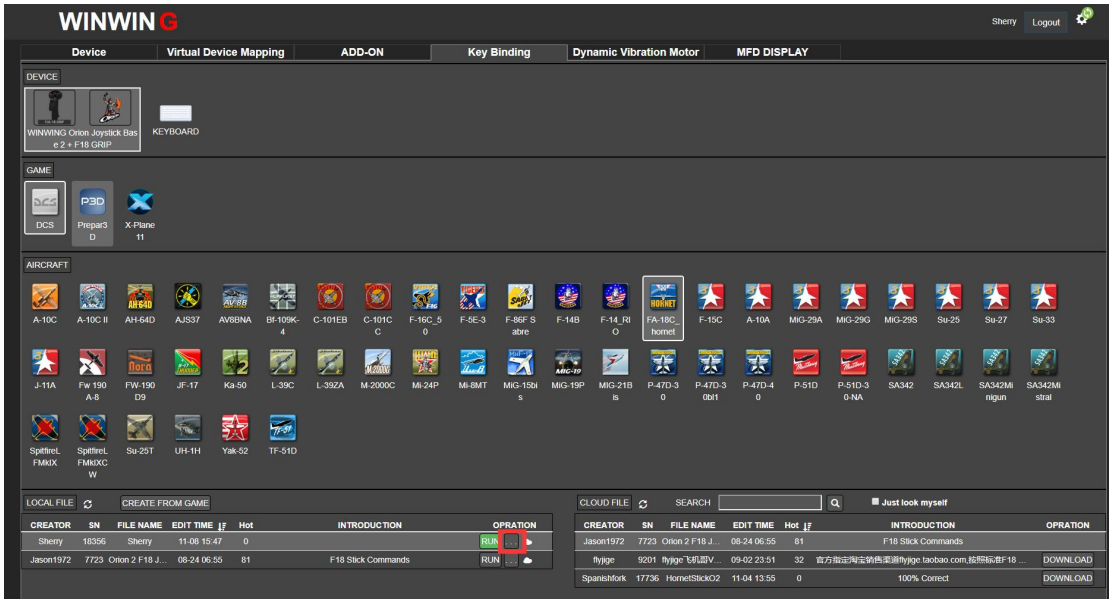


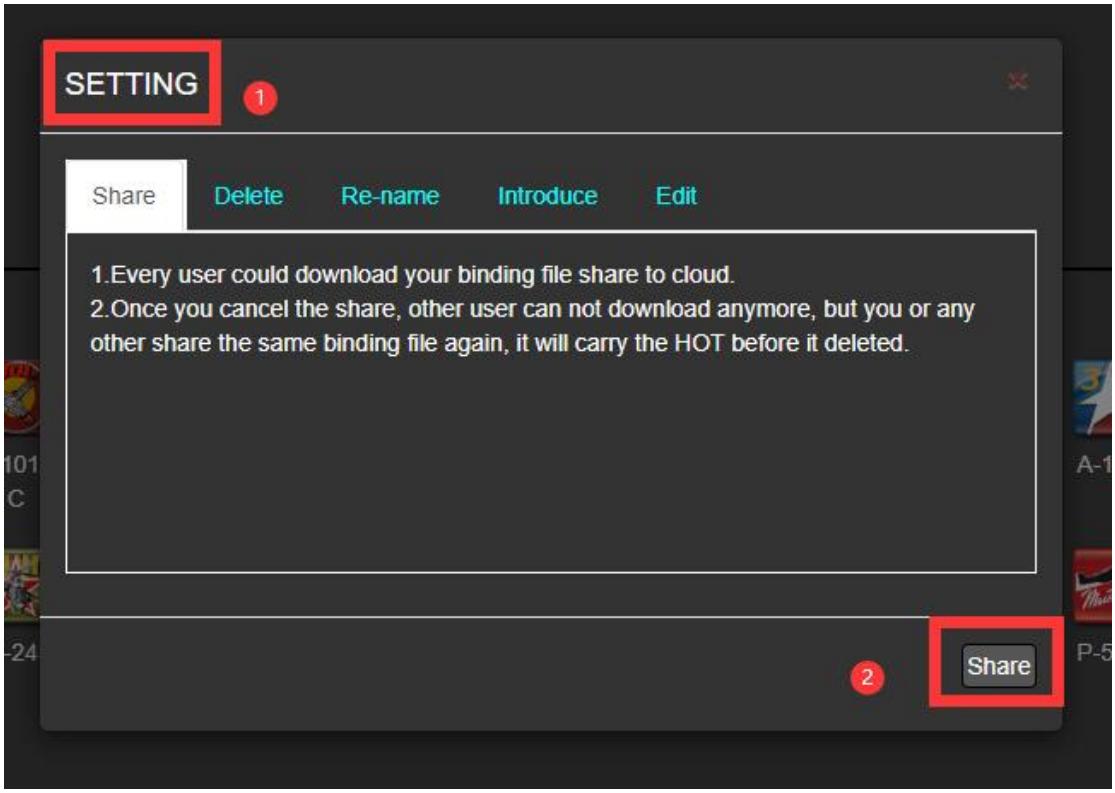
5.2.4. Share on cloud

Users can upload their backup binding files on cloud (“CLOUD FILE”) and share with others by doing the followings：

① Confirm (Backup process) have completed.

② Choose one binding file under "LOCAL FILE" in "Key Binding" page and click the three points by the "RUN" icon right side to share it on cloud.

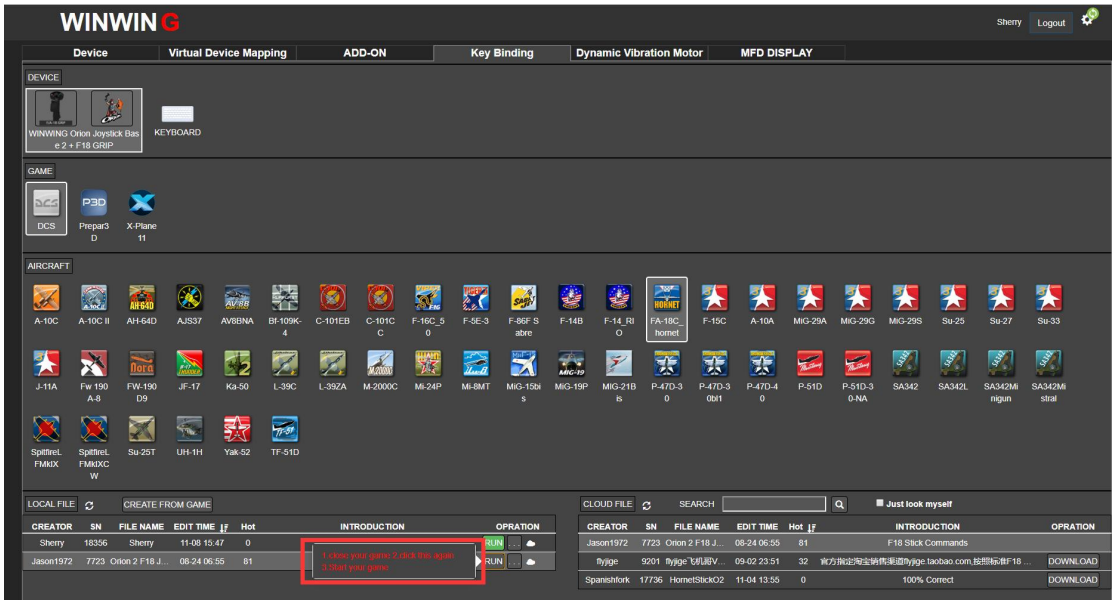




5.2.5. FAQs

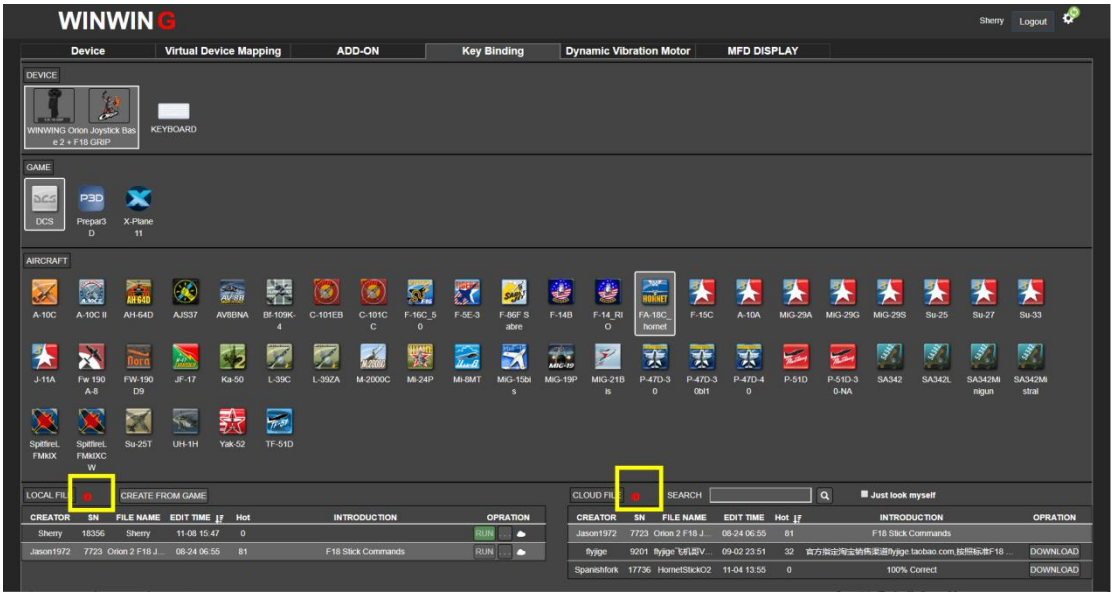
While binding switches/buttons in the “Key Binding” page of SIMAPP Pro, some questions might occur, here are the solutions:

① No bindings will succeed while the game is running, with a hint massage as shown in the figure:



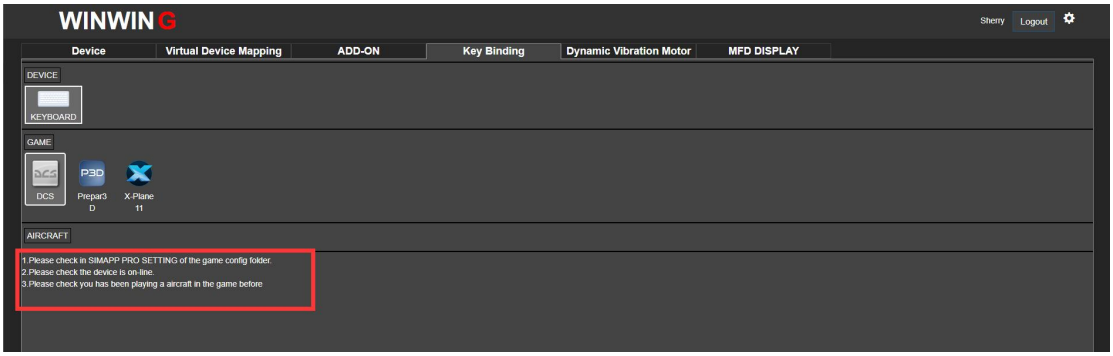
Solution: close the game and click “RUN” again.

② In SIMAPP Pro "Key Binding" page, these two "Refresh" icon by the "LOCAL FILE" and "CLOULD FILE" become red exclamation marks.



Solution: Firstly, please confirm the computer has connected to Internet and no VPN is running. If the red exclamation marks still exists, please contact our Customer Service for assistance.

③ If three hint messages appear in “Key Binding” as shown in the following picture:



Solution: Follow the instruction and confirm both two paths (Install path and user data path) are correct and aren't blank. Also make sure the device is online and an exact aircraft type have been operated (i.e. you already have opened the game and flown one planes before).

6. Vibration Motor

While aviators are sedulously pursuing more realistic operation experience and everyone is willing to enjoy flying and thrill to battle, we specially released 16EX Viper Metal Joystick Grip (with Shake kits). The high precision dynamic vibration motor in the extension will simulate the genuine vibration effect of the real aircraft stick, meanwhile, we have embedded one vibration configuration file in SIMAPP Pro. Players only need to download and save the file, free from all kinds of complicated parameter settings, and directly apply it in the game to realize the vibration effect. In addition, advanced players are allowed to customize their own vibration configuration files to create a more accurate simulation, ushering them in a stage to forge their own cockpits.

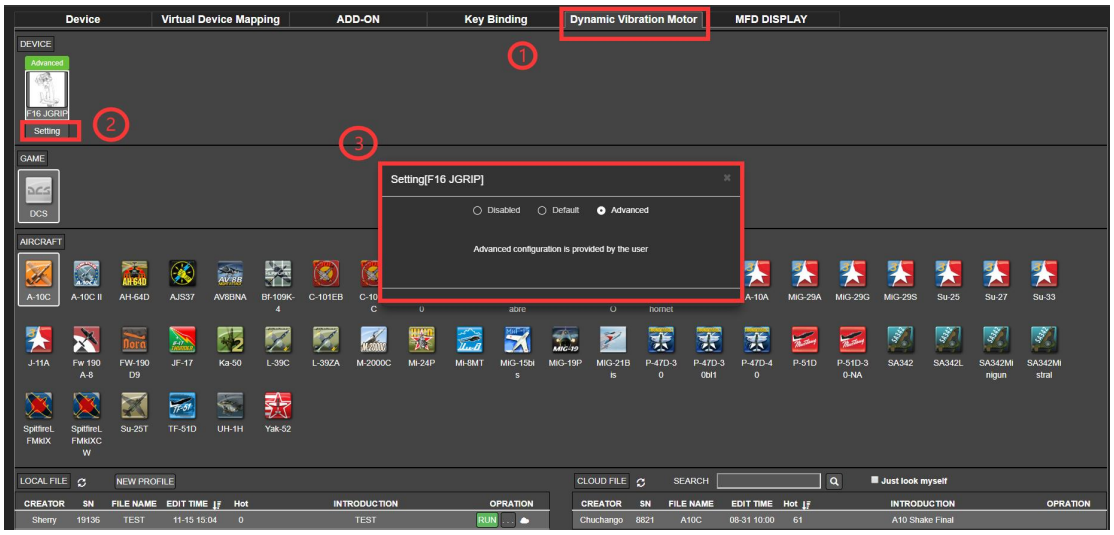
On SIMAPP Pro "Dynamic Vibration Motor" page, players are allowed to configure and adjust various vibration parameters, need log in to continue, please refer to (Log in SIMAPP Pro) Section.

Note: during either SIMAPP Pro testing or gaming, SIMAPP Pro must keep running, or else no vibration will be outputted. In default, it will automatically adopt "Default" mode. Users may customize the vibration effect in "Advanced" mode.

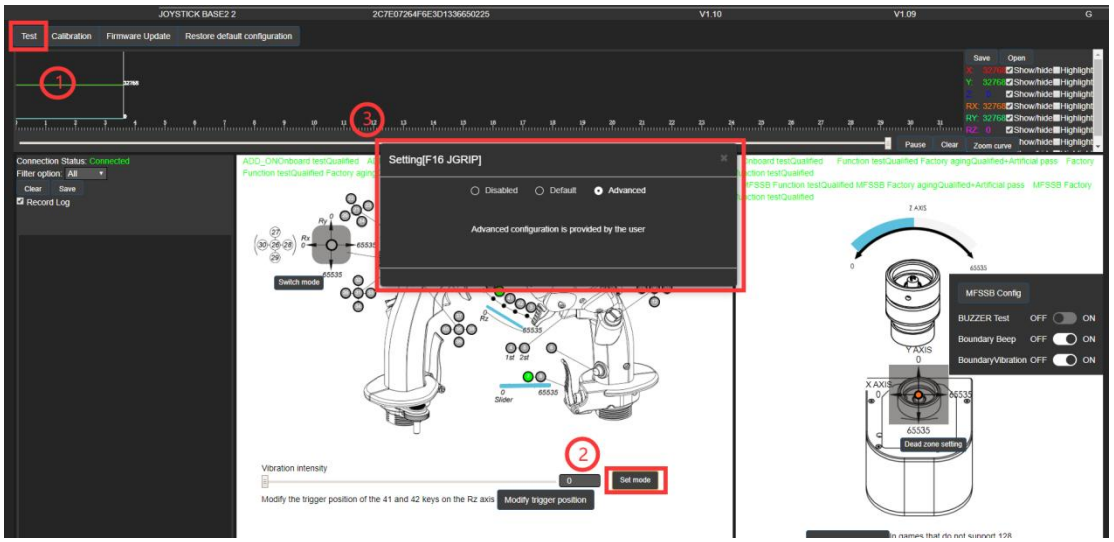
6.1. Mode description

There are three modes for vibration motor working, "Disabled", "Default", and "Advanced". There are two ways to selected/change the mode.

① Enter "Dynamic Vibration Motor" page → click "Setting" In "Device" → select mode in "Setting【16 JGRIP】" popup window.

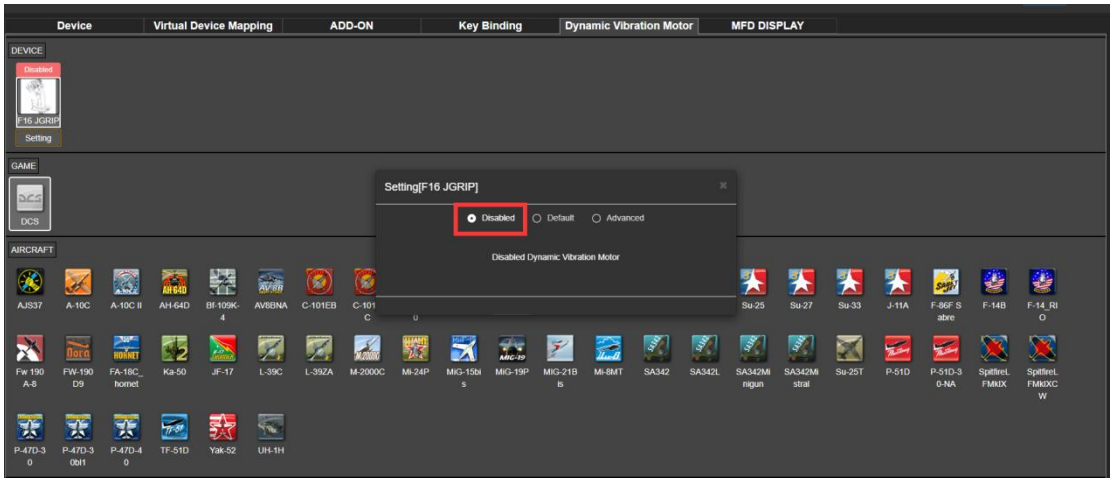


② Enter “Device” page ⟶ select the device ⟶ click “Test” ⟶ select mode in “Setting【16 JGRIP】” popup window.



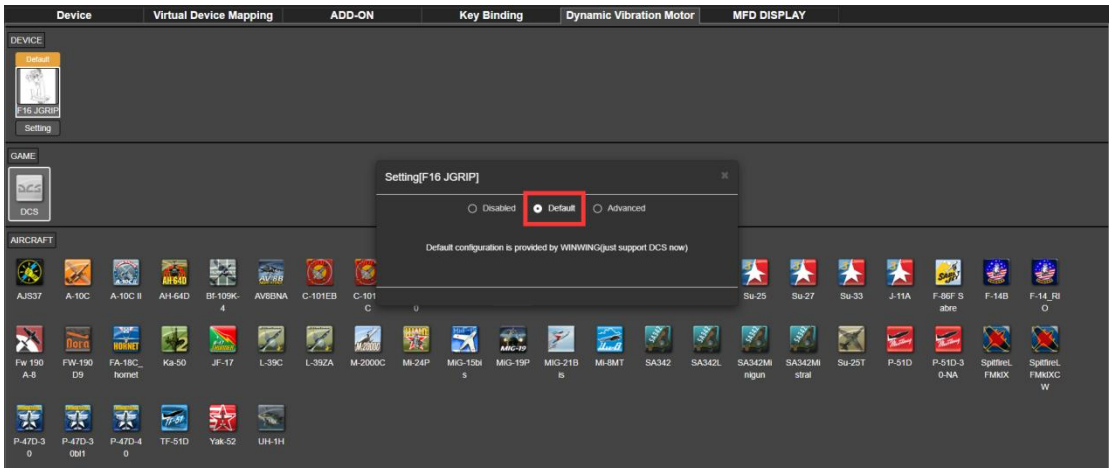
6.1.1. Disabled mode

"Disabled" means turning off all vibration functions, no vibration will be outputted.



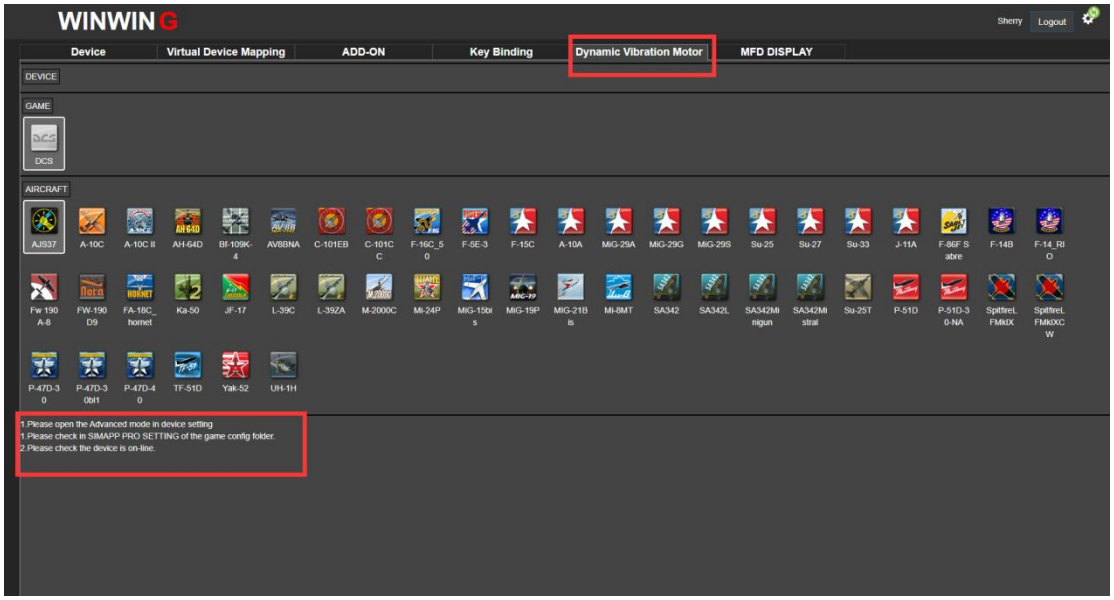
6.1.2. Default mode

In SIMAPP Pro, a default vibration mode has been embedded. In this mode, users are allowed to directly enable vibration functions without any configurations.. If you need customize vibration parameters, please select “Advanced” mode.



6.1.3. Advanced mode

In “Advanced” mode, users are authorized to either modify the default vibration parameters, or create new vibration configuration files to create new parameters. In addition, players alsomay download vibration files shared by others from cloud. In the “ [Setting 16 JGRIP]” pop-upwindow, select "Advanced" mode and confirm that both game “ Install Path” and “User data Path”are correct, don’ t leave them blank and ensure that the device (Joystick) is online.



6.1.3.1. Edit page description

There are two ways to edit vibration configuration files:

① Click “CREATE” button ⟶ Name the new file ⟶ Click “⋯” button under the “Operation” tab bar ⟶ Click “Edit” ⟶ Edit vibration parameters.

② Download the vibration configuration files shared by others from “CLOUD FILE” ⟶ Click “⋯” button under the “Operation” tab bar ⟶ Click “Edit” ⟶ Edit vibration parameters.

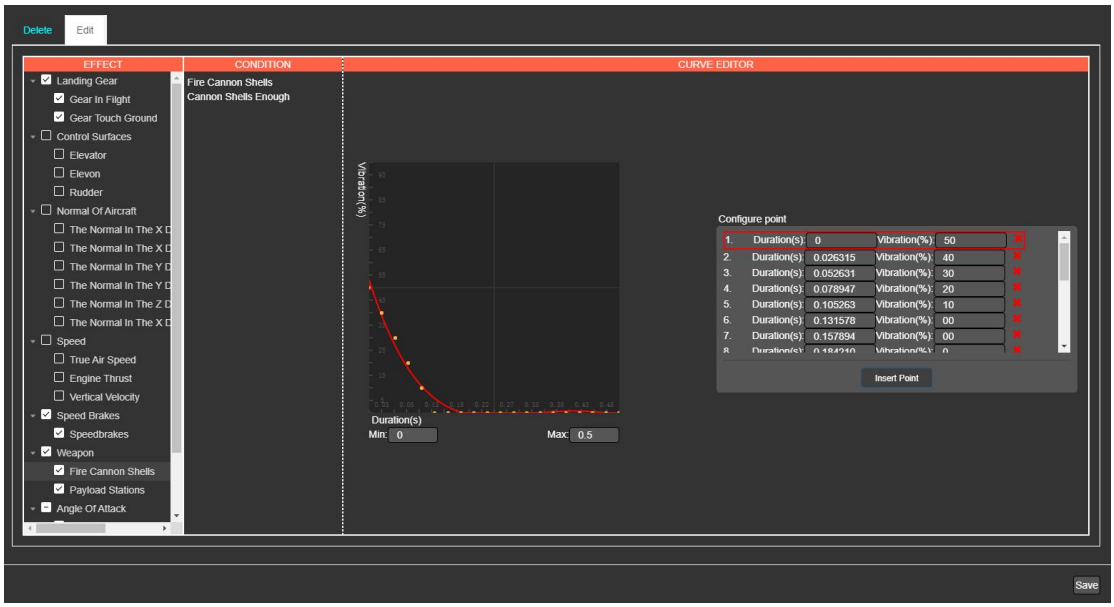
“Edit” page consists of three sections: “Effect”, “Condition”, and “Curve Editor”. "Effect" refers to the output of vibration effect. Users should check and select the relevant aircraft devices here to output the vibration effect related to these devices. "Condition" means that those devices must meet any corresponding precondition(s) before triggering vibrations. The “Curve Editor” consists “Coordinate”, “Curve Property”, and “Configuration Point”. Players should adjust the vibration curve by either directly dragging the configure point in the coordinator, or by entering vibration data in the “Configure Point” list. In the coordinator, X axis stands for the influence factor and Y axis, the vibration intensity, they jointly generate various vibration curves and achieve different vibration output. Users may click “Insert curve” button in the “Curve property” to add a new vibration curve. All vibration curves are calculated and drawn according to those discrete configuration points in coordinates, and vibration curves directly decide the output vibration intensity.

There are two vibration curve categories: 1. time-varying curve (Curve type ①), 2. parameter-affecting curve, which includes two sub-categories, A. Single parameter-affecting curve (Curve type ②) and B dual parameter-affecting curve (Curve type ③).

Here are examples for each case（vibration configuration file:No.3037, 18C）

① Vibration intensity varies with time-varying curves.(For example: Fire Canon Shells)

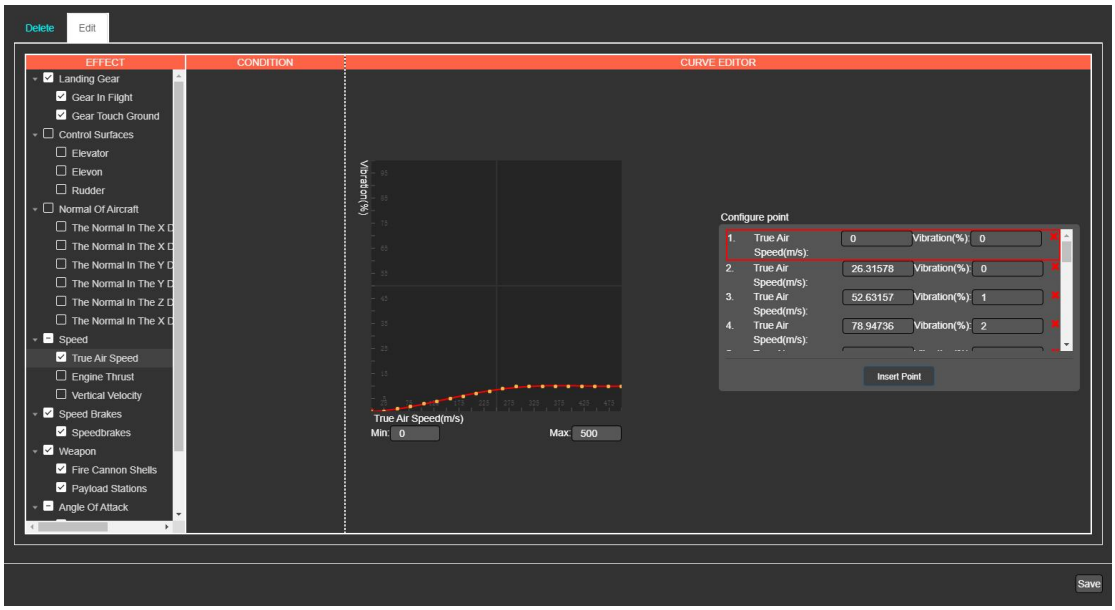
When player gives a firing command, corresponding vibration will be triggered in about 50ms delay, 50% intensity. This vibration will last about 0.18s, which means it will wear off with time, and will stop completely at 0.18s.



② Vibration intensity varies with single parameter-affecting curves. (For example: True Air Speed)

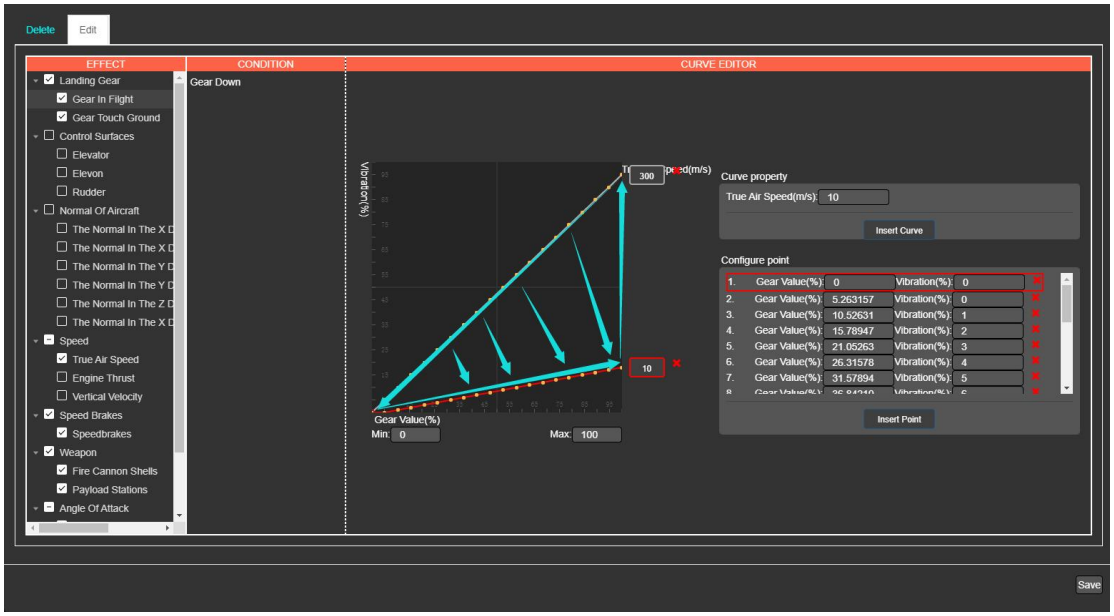
As the figure below indicates, vibration will be triggered when true air speed reached 52m/s and the intensity will increase during speeding up. If true air speed reached 289m/s, the

intensity reached the maximum output, 10%.



③ Vibration intensity varies with dual parameter-affecting curves. (Example: Gear In Flight)

When the landing gear is lowered, the vibration intensity varies with both true air speed and landing gear down value. There are two vibration curves affecting intensity. When the true air speed is greater than or equal to 10m/s, vibration will be triggered, over 300 m/s, vibration stops. As following figure indicates, vibration intensity increases with the adding gear down values, which is also a parameter impacting vibration output. When the plane is ready to take off and start taxiing, landing gear fully opened, the value is 100% and as the aircraft reached a certain altitude, gear slowly retracts,the value gradually changes from 100% to 0, vibration output varies accordingly. In sum, these two parameters jointly determine the actual vibration. In this case, considering both values are linear, the actual vibration intensity demonstrated in coordinator is a triangle.



Curve type for each vibration effect:

CN	Curve type	EFFECT	Parameter
1	③	Gear In Flight	Gear Value、True Air Speed
2	①	Gear Touch Ground	Duration
3	③	Elevator	Elevator Surface、True Air Speed
4	③	Elevon	Elevator Surface、True Air Speed
5	③	Rudder	Rudder Surface、True Air Speed
6	③	The Normal In The X Direction With Payload	True Air Speed、Acceleration X
7	③	The Normal In The X Direction With No Payload	True Air Speed、Acceleration X
8	③	The Normal In The Y Direction With Payload	True Air Speed、Acceleration Y
9	③	The Normal In The Y Direction With No Payload	True Air Speed、Acceleration Y
10	③	The Normal In The Z Direction With Payload	True Air Speed、Acceleration Z
11	③	The Normal In The Z Direction With No Payload	True Air Speed、Acceleration Z
12	②	True Air Speed	True Air Speed
13	②	Engine Thrust	Acceleration X
14	③	Vertical Velocity	Vertical Velocity
15	③	Speed brakes	Speed brakes Value、True Air Speed
16	①	Fire Canon Shells	Duration
17	①	Payload Stations	Duration
18	③	Angle Of Attack With Payload	Angle Of Attack、True Air Speed
19	③	Angle Of Attack With No Payload	Angle Of Attack、True Air Speed
20	③	Rate Of Angle Of Attack With Payload	Rate Of Angle Of Attack、True Air Speed
21	③	Rate Of Angle Of Attack With No Payload	Rate Of Angle Of Attack、True Air Speed
For more vibration effects, please contact customer service, if the requirement is accepted, the effect will be added.			

Note：① Time-varying curve

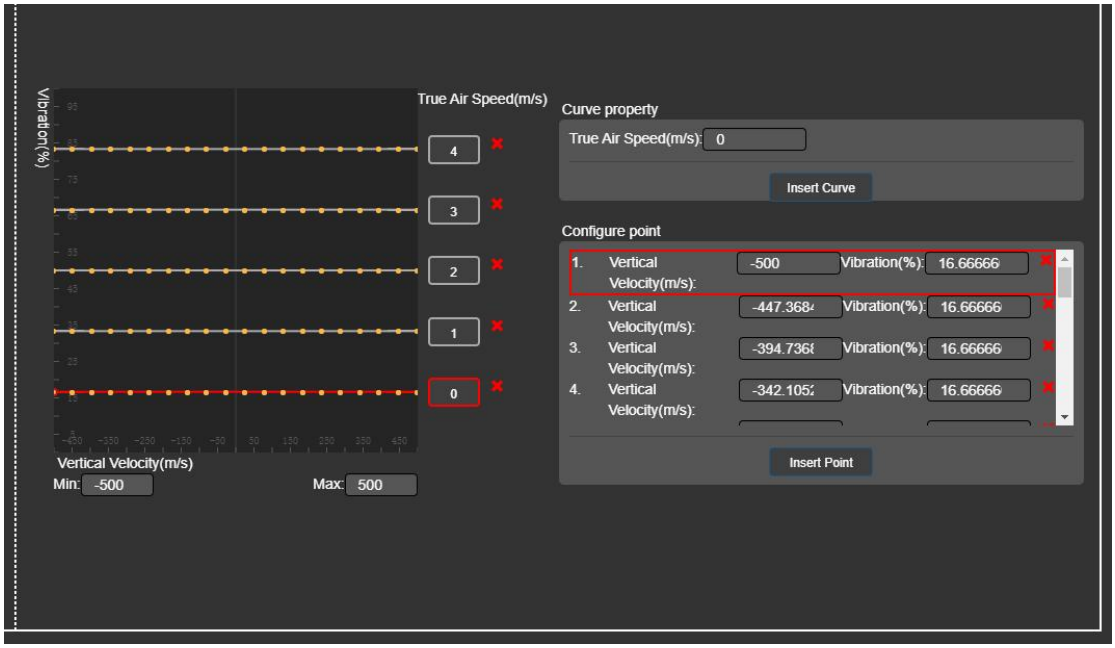
②Single parameter-effecting curve.

③Dual parameter-effecting curve

Configuration suggestions:

Since all vibration effects are only determined by vibration curves and the discrete configure

points are only used to calculate and generate curves, it is suggested for advanced players configure vibration parameters by inputting corresponding parameter values in the "Configure point" list under "Curve property", on "Edit" page right side, to generate a general curve initially, and then fine-tune it by dragging configuration points with a mouse or keyboard input, In this way it will be convenient to obtain the most accurate and reliable vibration curves.



6.2. Edit and share

In the "Advanced" mode of the "Dynamic Vibration Motor" page, users are not only authorized to customize the vibration files, but also share files on cloud (“CLOUD FILE”) and they may download files shared by others there as well.

6.2.1. Page introduction

Besides three basic information areas, "DEVICE," "GAME" and "AIRCRAFT", in “Advanced” mode, "LOCAL FILE" and "CLOUD FILE" information areas will appear in the "Dynamic Vibration Motor" page. Users may download the vibration configuration files shared by others from cloud (“CLOUD FILE”) and apply them after activation, or they may create and edit new files by themselves.

SN	Name	Applications
1	LOCAL FILE	Local file is a path to save the downloaded binding files. Players only need to sign in SIMAPP Pro, select the binding file in the “CLOUD

		FILE”, and click "DOWNLOAD" and it will be successfully saved to “LOCAL FILE”. It’s unnecessary to repeatedly download the configuration files. When they log in SIMAPP Pro on different computes, all downloaded binding files will be automatically synchronized with the users account.
2	CLOUD FILE	All users are able to freely download and upload configuration files in “CLOUD FILE”.
3	SN	Each click on "NEW PROFILE", a SN number will be generated, progressively adding in clicking orders.
4	FILE NAME	Users are able to name their configuration files.
5	Hot	The configuration file downloads, more downloads means higher popularity. (Hot)
6	INTRODUCTION	Users are able to briefly describe their shared configuration files and explain the contents.
7	OPERATION	“OPERATION” includes “DOWNLOAD” and “RUN”. “DOWNLOAD”means users download others’ configuration files from cloud (“CLOUD FILE”) to “LOCAL FILE”.

6.2.2. Activation process

Click “RUN” at “LOCAL FILE” left side on the “Dynamic Vibration Motor” page. “RUN” icon will turn green as activation succeeded.

6.2.3. Edit process

The edit process consists of two categories: edit the file created by themselves or download one shared by other play from cloud and edit it. In the new-created configuration file, flight device names and basic trigger conditions have been preset in the “EFFECT” and “CONDICTION”. Users need to configure vibration parameters in “Curve Editor”. For details, please refer to (Edit page description) Section.

① Select a configuration file in “CLOUD FILE” and click “DOENLOAD”. (Suggestion: recommend to select the file with high popularity.)

② Click “…” button under “OPERATION” to open “SETTING” page.

③ Click “Edit”.

④ In the “EFFECT” area, choose one to modify the vibration effect. Users will find condition descriptions to trigger the vibration in "CONDITION" area, which means vibration can only be triggered under this condition.

⑤ Edit curves in “Curve property”. For details, please refer to (Edit page description) Section.

⑥ Click “Save”, then click “OK”.

Note: Editing other’s file and saved, the author name will change to the editor's account name.

6.2.4. Share on cloud

Users may upload their own configuration files to cloud (“CLOUD FILE”) and share with others by doing the followings:

① Confirm (Edit page description) have completed. （Only edited or created files will be shared.）

② Choose one file under "LOCAL FILE" in “Dynamic Vibration Motor” page and click “…” button on the “OPERATION” tab bar to enter “SETTING” page.

③ Click "Share" to upload the configuration file to “CLOUD FILE”. Users may cancel the sharing at any moment. The configuration file will disappear in “CLOUD FILE” when user canceled share.

7. MFD Display screen

MFD stands for multi-functional display screen, product code: D1. While more aviators are on their way to simulate genuine feeling of flying by forging high fidelity cockpits, we developed this sort of muti-functional display screens on purpose. This product won’t require players to edit any program code, they only need to open SIMAPP Pro “MFD DESPLAY” page and complete several simple settings, easily realize to reflect displays on true flight screen to the local MFD.

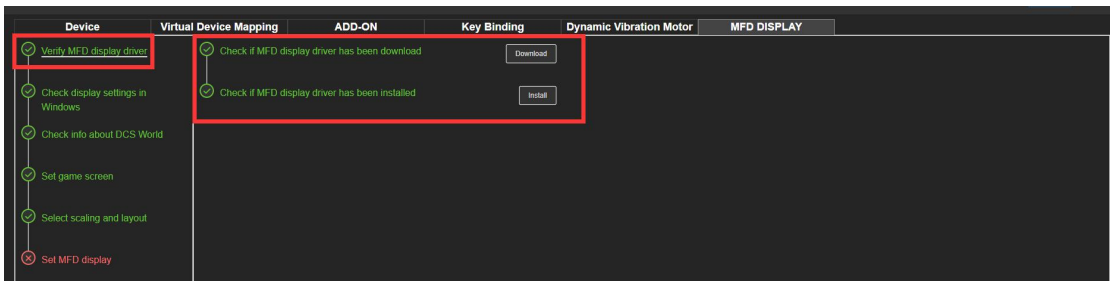
Currently, the MFD display screen is only applicable to some aircraft in DCS, more flight models will be developed in the future.

Note: This page is only for MFD display screen (D1) settings, those who own VR version MFDs such as Phoenix (no display screens) please skip this section

7.1. Operation steps

Please follow these six steps on SIMAPP Pro "MFD Display" page to complete the option. Uncompleted settings will be shown in white font and they will turn green when being successfully configured, in red if failed.

7.1.1. Verify MFD display driver



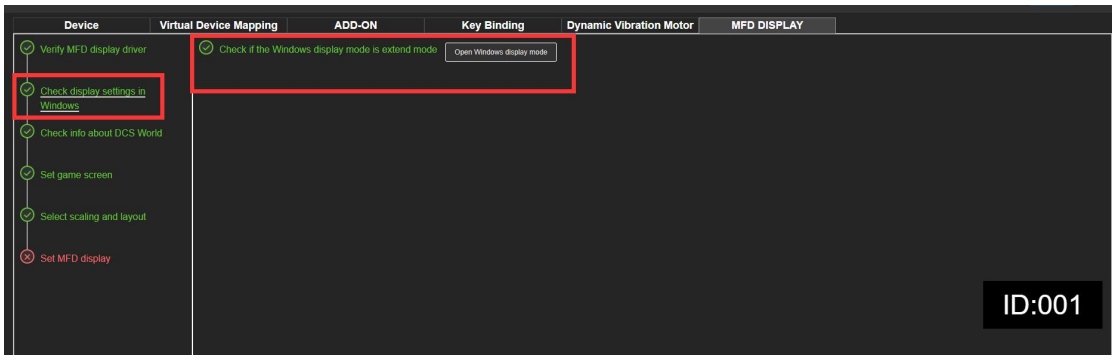
Need to install a driver for the MFD display screen as following steps:

①Click “Download” the MFD display driver.

②Click “Install” the MFD display driver.

MFD screen will start through self-check and display the computer desktop when driver successfully installed.

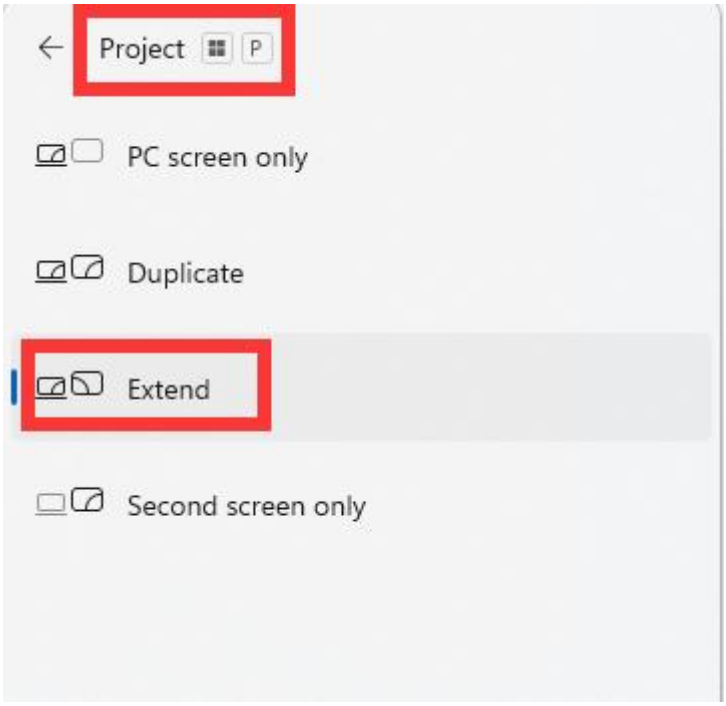
7.1.2. Check display settings in Windows



Set the Windows display settings to “Extend” mode by doing the following:

①Click “Open Windows display mode” (shortcut key: Win+P).

②In the popup window, select “Extend”.



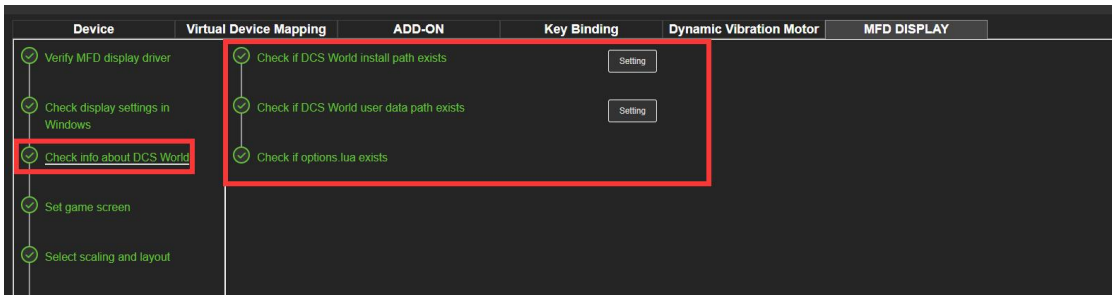
7.1.3. Check info about DCS World

Check the two paths of “DCS World Configuration” and the options.lua file by doing the following:

①Click “Setting” and confirm game “Install Path” is correct, don’t leave it blank.

②Click “Setting” and confirm “User data Path” is correct, don’t leave it blank.

③Check whether the options.lua file exists.



Note:

①There are four DCS versions. The two selected file paths must be the target paths of current running game or else the setting will be failed.

② As the options.lua configuration file will be generated when started the game, then even deleted, start and close the game one more time, it will be generated again. If the options.lua file cannot be found, check and confirm the “User data Path” is the default path.

7.1.4. Set game screen

Only non-USB monitors could be recognized as game display screens. Those who own multiple display devices may choose either one or more as game screen(s). Steps are as follows:

①Check the display.

②Click “Apply”.

7.1.5. Select scaling and layout

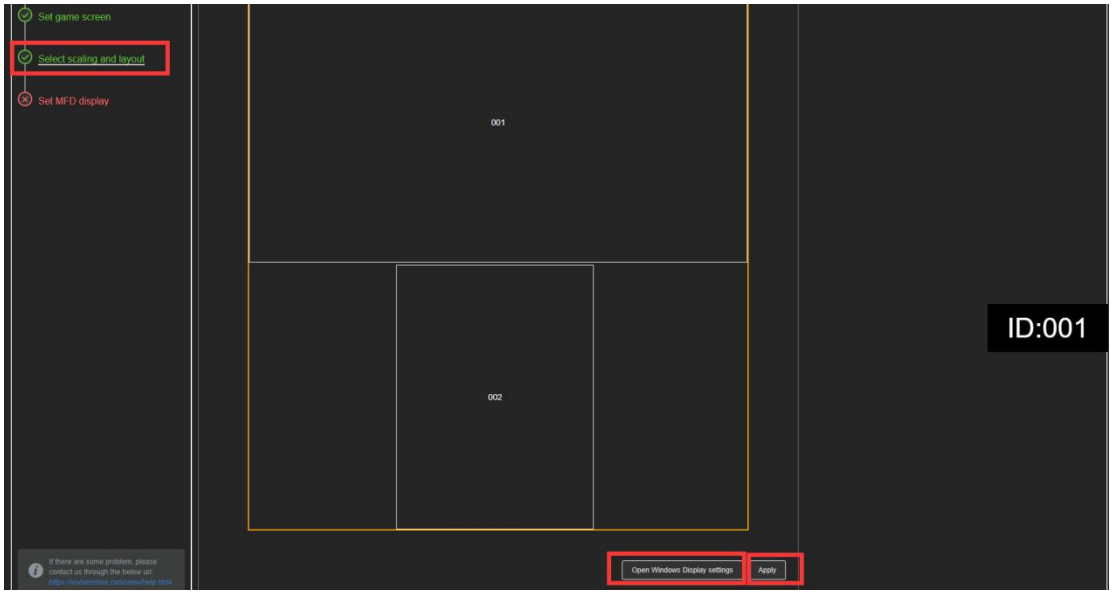
In this page, the yellow frame area is the entire display area, and the ID number displayed is the ID number of the MFD display, while the area outside the yellow frame is all black. Users can set the layout and direction of the display device according to their needs. The steps are as follows:

①Click "Open Windows Display settings" and drag the mouse to adjust the scaling and

orientation of the monitor (make sure to keep the game display screen as small as possible in case the game crashes).

②In “Windows Display settings”, click “Apply”.

③Click “Apply” in “Display”.



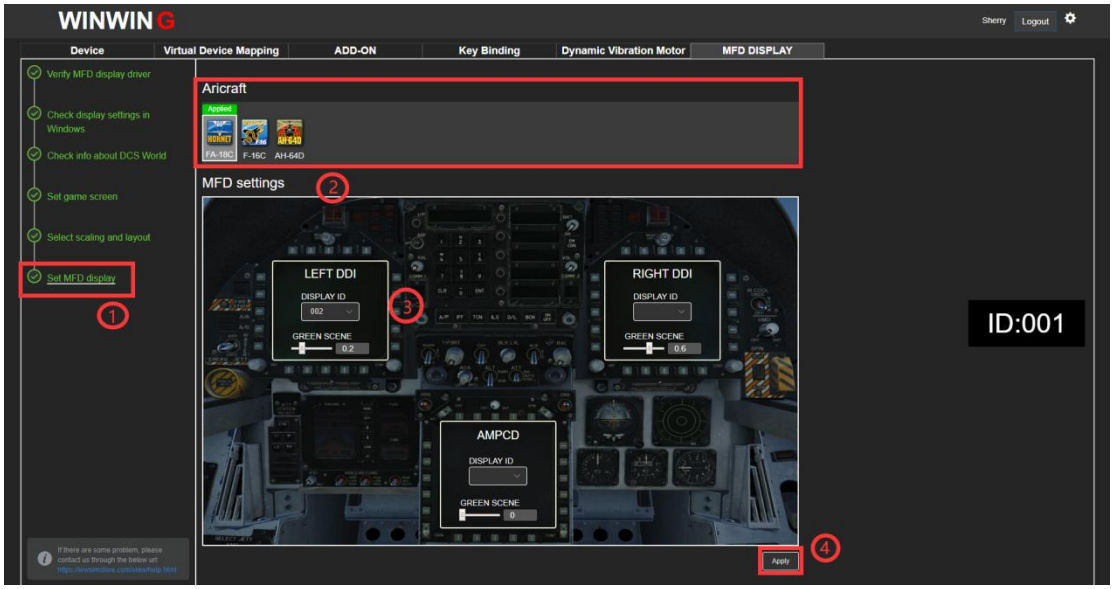
7.1.6. Set MFD display screen

① In “Aircraft”, choose an applied aircraft.

② Choose MFD screen (by ID number) from the drop-down menu on the three pages, "Left DDI", "AMPCD" and "Right DDI" in accordance with their exact placed/mounted positions so as to acquire the best gaming experience.

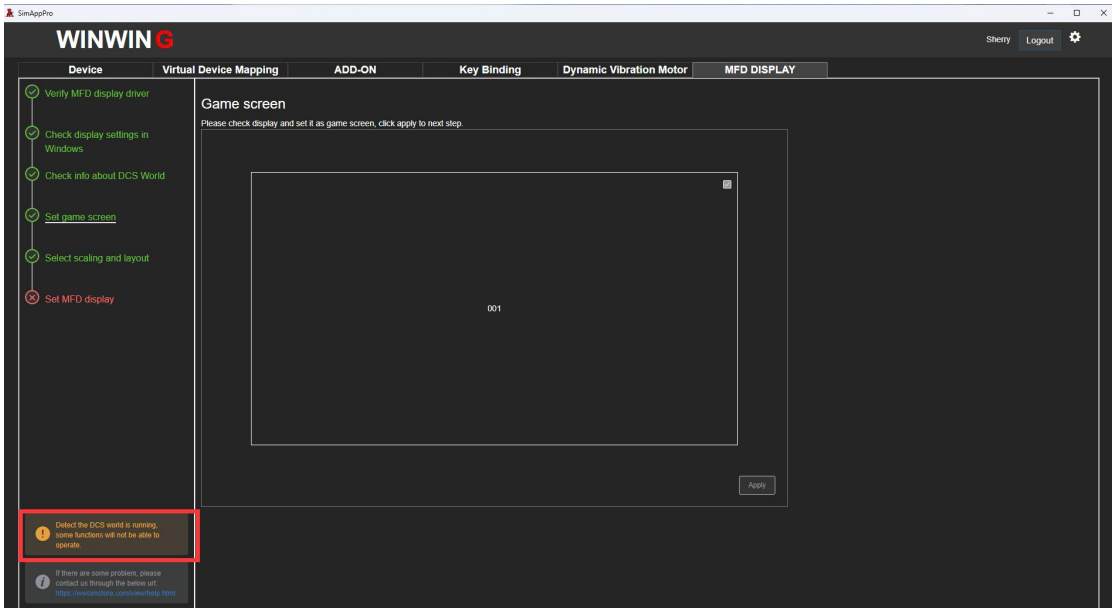
③ Drag the progress bar under "Green Screen" to adjust the green screen ratio.

④ Click “Apply” to finish.



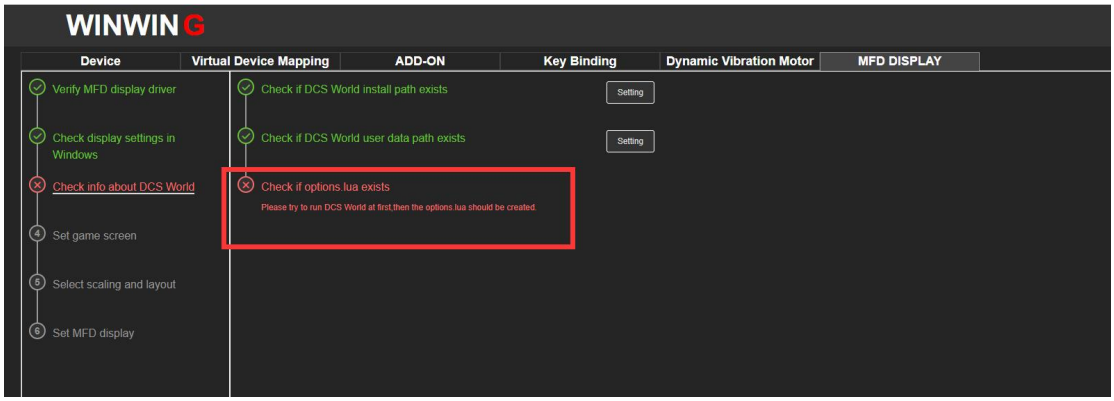
7.1.7. FAQs

① Why does the “Apply” button remain gray with a system notice: “Detect the DCS world is running, some functions will not be able to operate.”?



Solution: quit DCS.

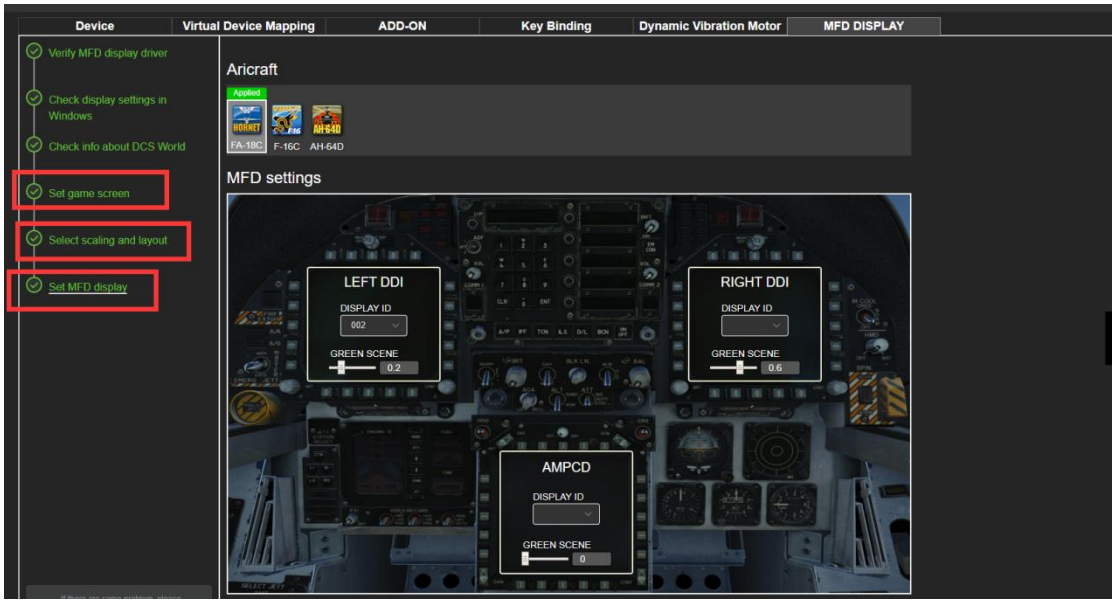
② Why does the system fail to find “Options.lua” configuration file?



Solution: confirm the “User data Path” location, set it to the default.

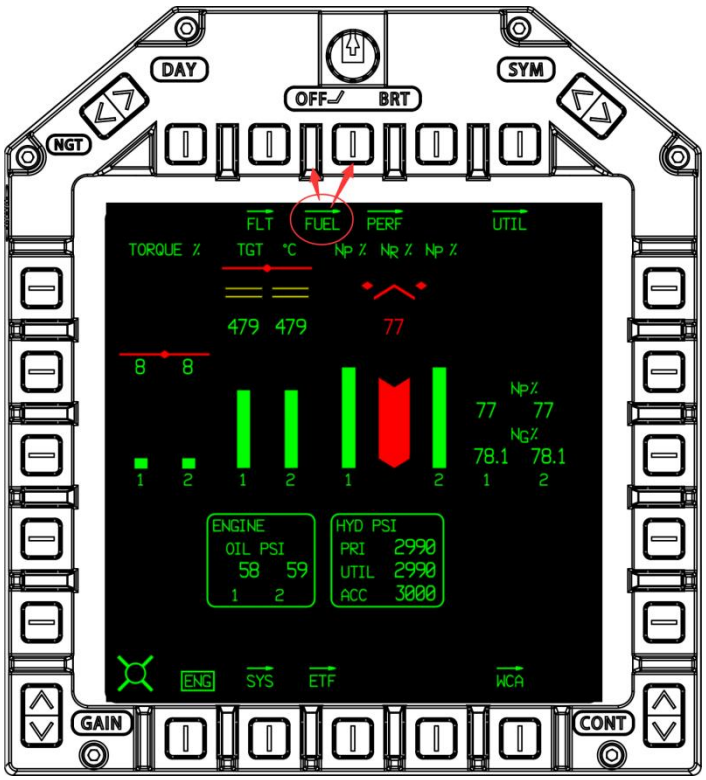
③ Are there any incompatibilities when switch from VR to mode?

Solution: In VR mode, no displays will be shown on MFD screens, need to enter DSC “OPTIONS”——>“VR” and cancel “Enable Virtual Reality Headset” and restart the game. 【if MFD screen displays wrong images, quit DCS, repeat steps: (Set game screen)——>(Select scaling and layout)——>(Set MFD display screen)——> restart the game.】



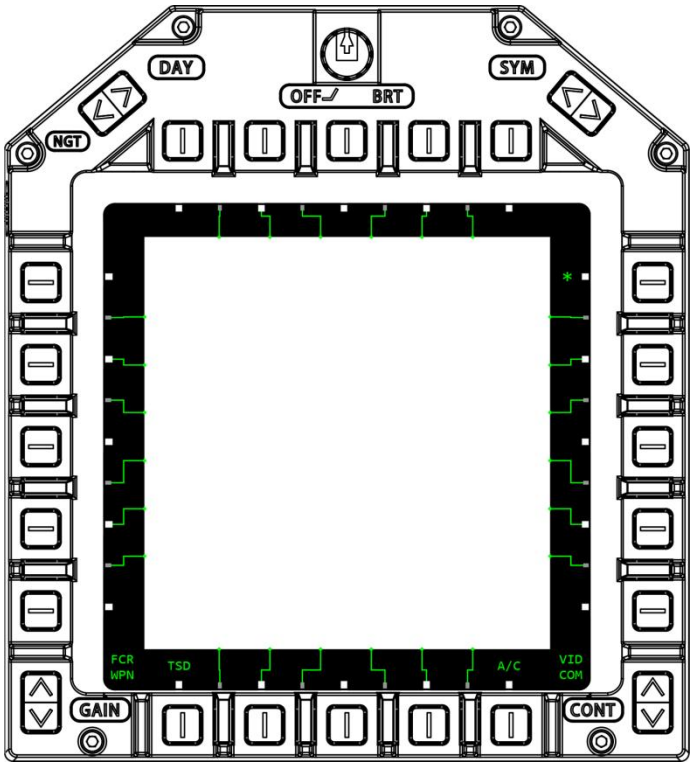
7.2. MFD display key guide

MFD display key guide is used to address the issue of mismatched key positions between MFD devices and certain aircraft models. As shown in the figure below, when users need to trigger FUEL in the red circle, they doesn't know whether to click the vertical button indicated by the left arrow or the square button indicated by the right arrow.

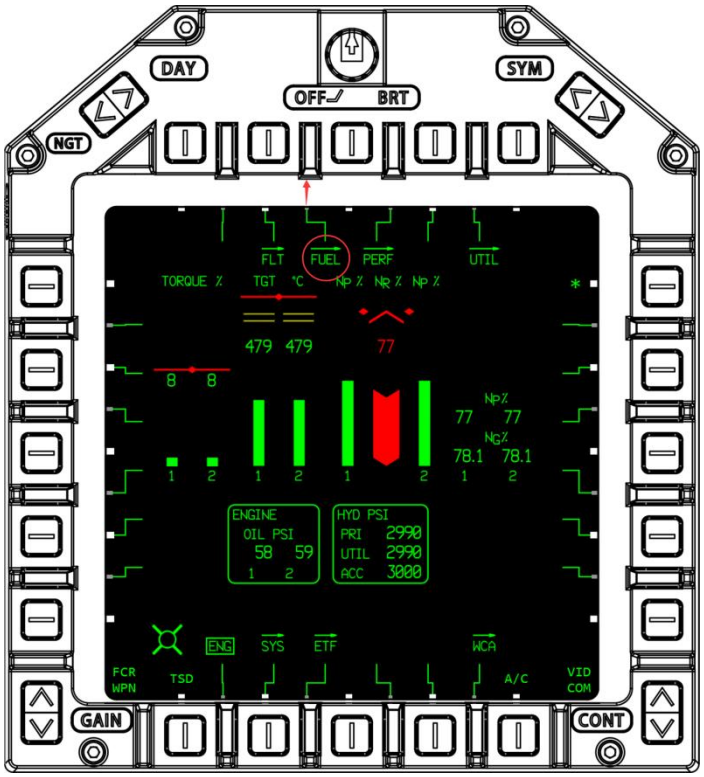


The approach of MFD display key guide involves reducing the size of DCS World's

exported MFD display and adding a new layer of guide lines around the blank space.



When users need to activate specific functions within the MFD screen, the "MFD display key guide" feature conveniently directs them to click on the corresponding buttons on their MFD device.



7.2.1. FAQs

① MFD screen has blank areas around it.

Solution: some aircraft models have added a button guide feature. If the SimApp Pro's MFD display interface is set to a model with the button guide (e.g., AH-64D), but you are using a different model without the button guide in the game (e.g., 18), you may experience blank areas around the MFD screen. Make sure that the selected aircraft model in SimApp Pro's MFD display interface matches the one selected in-game.

7.2.2. Acknowledgements

With many thanks to “SHINELITH”, for his valuable scheme, during this section. And thanks to the "JQ-10/1027" for the strong recommendation.