



VPC CONFIGURATOR SOFTWARE

User Manual

Manual Version 1.2 - 02/2019
VPC Software Version 20190213 and newer

VPC CONFIGURATOR SOFTWARE

USER MANUAL

INTRODUCTION

This user manual will help guide you through the features and functions of the VPC Configurator Software.

The VPC Configurator Software is designed to allow accurate axes calibration, firmware updates, and other functions of various VPC devices.

Please read this guide carefully and follow the provided instructions to ensure smooth operation of all provided features including calibration, firmware updates and profile resets.

Only use the VPC Configurator Software as provided by the official VIRPIL Controls website. Ensure you are always using the most up to date version of the software otherwise you may encounter issues.

SYSTEM REQUIREMENTS

Minimum Hardware Requirements:

- 1GHz or higher x86/x64 CPU
- 2GB RAM
- Video card with DirectX 9 support
- 100 MB free hard disk space
- Broadband internet connection (for some software functions)

Supported OS:

- Microsoft Windows 7/8/10, Home and Pro versions.

The VPC Configurator Software must be used with administrative privileges.

STARTING THE VPC CONFIGURATOR SOFTWARE

To begin using the VPC Configurator Software, extract the downloaded ZIP file to a convenient location and navigate to the destination folder.

The included files and folders must not be moved, modified or deleted as this will cause the software to malfunction.

To run the VPC Configurator Software, double click on “**VPC_JOY_SETUP.exe**”.

VPC CONFIGURATOR SOFTWARE

USER MANUAL

CONTENTS

| | |
|-----------|-------------------------------|
| 4 | VPC Configurator Overview |
| 5 | Device Connection Status |
| 5 | Updating the Firmware |
| 7 | Creating a Device Profile |
| 8 | Calibrating the VPC Device |
| 9 | Basic Axis Setting |
| 10 | Axis-2-Button |
| 13 | LED Configuration |
| 14 | Virtual Axis (Button-2-Axis) |
| - | SHIFT (Modifier) Button Setup |
| - | MODE Dial Setup |
| - | Throttle Double Axes Lock |
| - | Axes ZOOM |

VPC CONFIGURATOR SOFTWARE USER MANUAL

VPC CONFIGURATOR OVERVIEW

After opening the VPC Configurator you will be shown the following window:

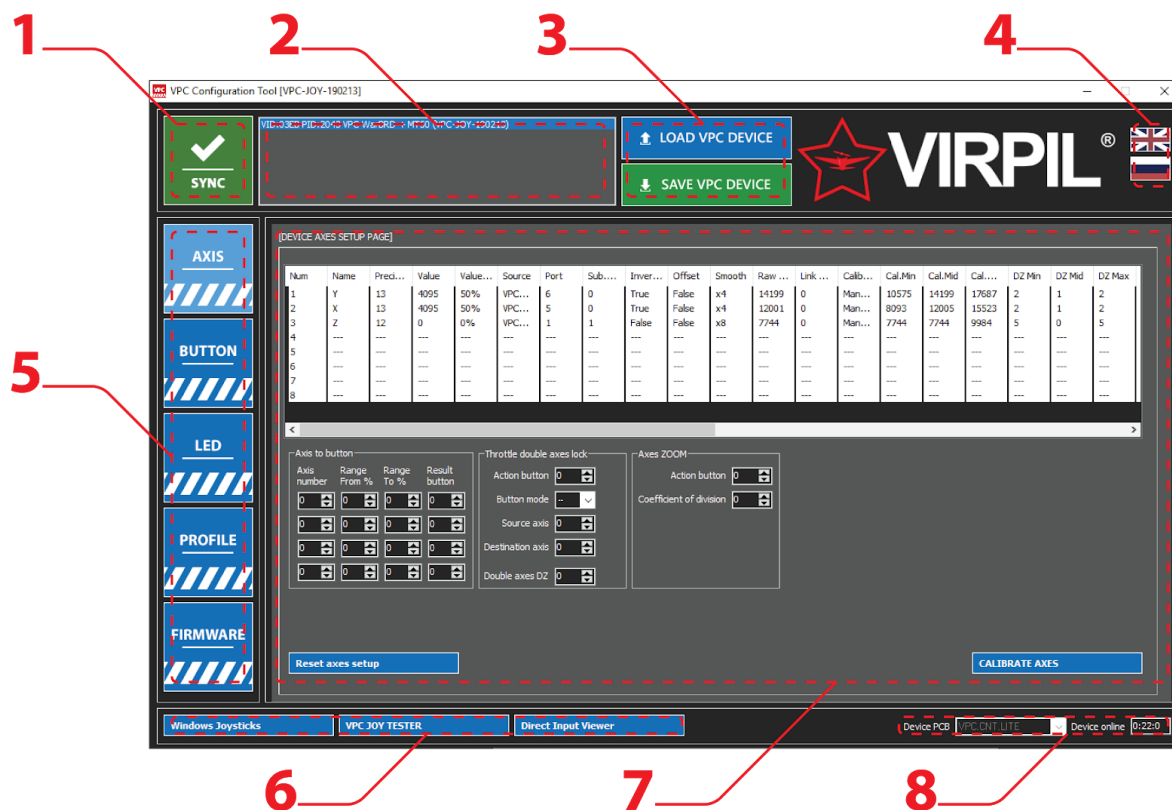


Figure 1. VPC Software Main Screen

1. Device connection status
2. Device list
3. Load & Save active device buttons
4. Language select (English/Russian)
5. Main Menu
6. Additional testing utilities
7. Main settings panel
8. Device PCB information

VPC CONFIGURATOR SOFTWARE USER MANUAL

DEVICE CONNECTION STATUS

The VPC Software will report the current connection status to the device with 3 states:



SYNC

This shows that the VPC Device is loaded, and does not have any unsaved changes.



NOT SYNC

While not indicating an error - this status is given when the VPC Device has not been loaded using the “LOAD VPC DEVICE” button (**#3 - figure 1.**), or if the user has made changes in the VPC Software that has not been saved to the VPC Device using the “SAVE VPC DEVICE” button (**#3 - figure 1.**).



N/A

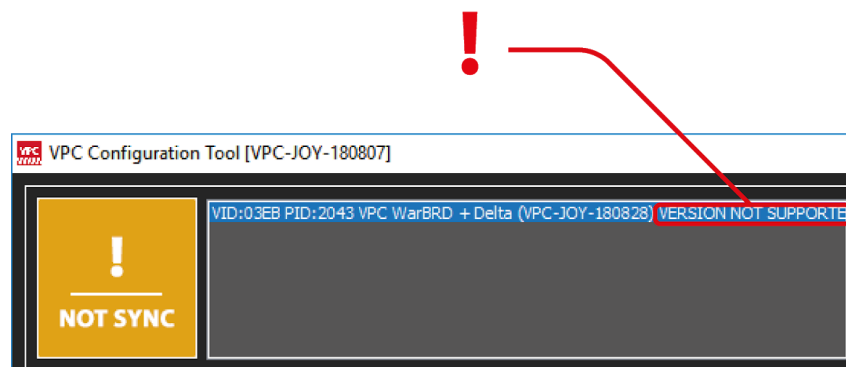
This shows that no VPC Device is currently connected.

VPC CONFIGURATOR SOFTWARE FIRST TIME USE

Here we will run through the most important tasks required by the VPC software to ensure successful first time use of your VPC device.

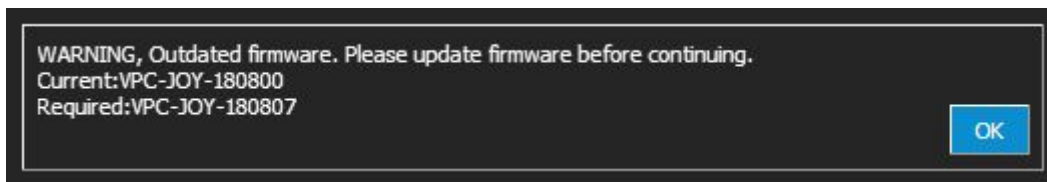
Updating the VPC Device Firmware

When using the VPC Software - always ensure you are using the latest version provided by our website. If a new VPC Software version has been released it is likely you will see the following in the VPC Software device list:



VPC CONFIGURATOR SOFTWARE USER MANUAL

If you continue to load the VPC device using the “LOAD VPC DEVICE” button (**#3 - figure 1.**) - you will receive a message alerting that the VPC device is using a different firmware version than expected:



To update the firmware to the required version, click “OK” on the above message and navigate to the “FIRMWARE” button on the main menu (**#5 - figure 1.**).

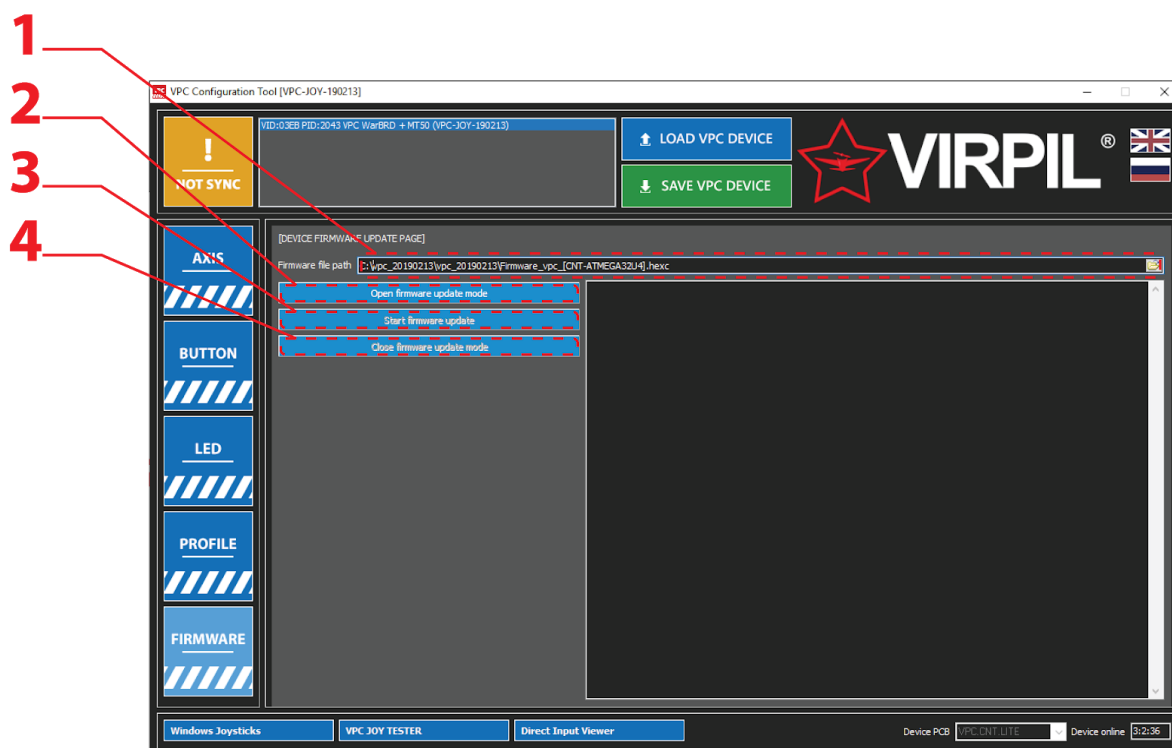


Figure 2. Firmware Update Screen

First it is necessary to confirm the path of the VPC firmware file (**#1 - figure 2.**) - please ensure the correct .hexc file is loaded that was included with the VPC Software archive. If the file path is incorrect, you will see the error “No File Bootloader” in the status window.

Next, click “Open Firmware Update Mode” (**#2 - figure 2.**). The VPC Device will unload and show as “VPC Bootloader” in the device list.

Next, click “Start Firmware Update” (**#3 - figure 2.**). You will see the progress of the firmware update, do not interrupt the VPC Software during this process. When it has completed you will see the message “Firmware update procedure finished. (please close bootloader mode)”.

Finally, click “Close Firmware Update Mode” (**#4 - figure 2.**). Your VPC Device will restart and is now running the latest firmware.

VPC CONFIGURATOR SOFTWARE

USER MANUAL

Creating a Device Profile

Creating or importing a device profile is typically required if the VPC device is showing as “VPC-reset” or “VPC-Device”, or for when the flightstick grip is being swapped to a different grip.

Start by clicking by clicking the “LOAD VPC DEVICE” button (**#3 - figure 1.**) on the top bar.

Next, navigate to the profile settings panel by clicking the “PROFILE” button (**#5 - figure 1.**) on the main menu.

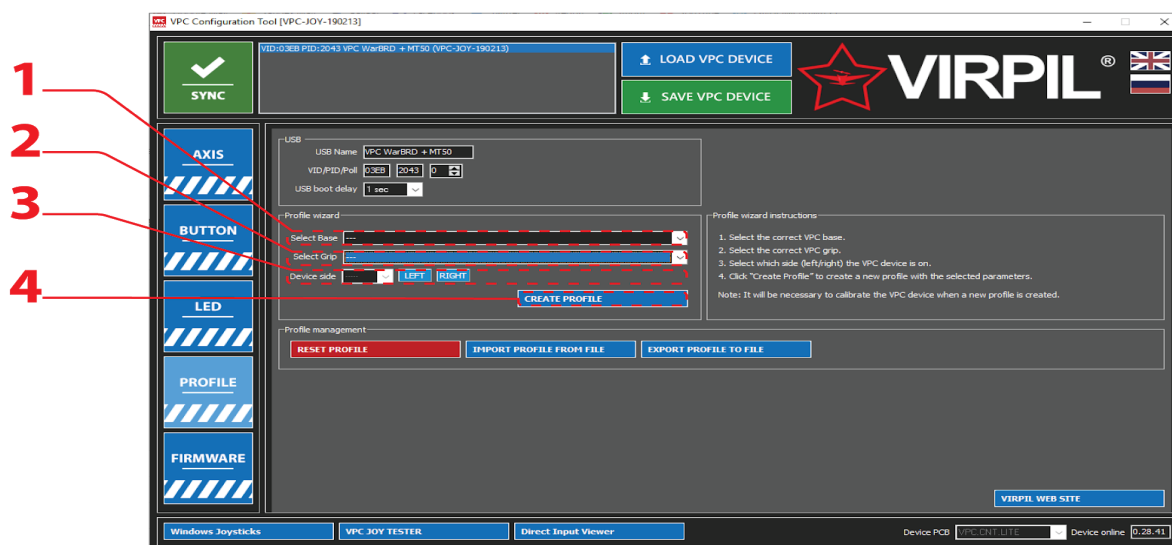


Figure 3. Profile Settings Screen

First, select the VPC base you are using using the drop down menu (**#1 - figure 3.**).

Next, select the grip you are currently using from the drop down menu (**#2 - figure 3.**)

Next, select which side the VPC device is being used on (Left/Right) (**#3 - figure 3.**). This will prevent conflicts in dual-stick setups.

Finally, click the “CREATE PROFILE” button (**#4 - figure 3.**). The profile can be saved to the VPC device by clicking the “SAVE VPC DEVICE” button on the top bar (**#3 - figure 1.**).

After creating a new device profile, it will be necessary to calibrate the VPC device axes.

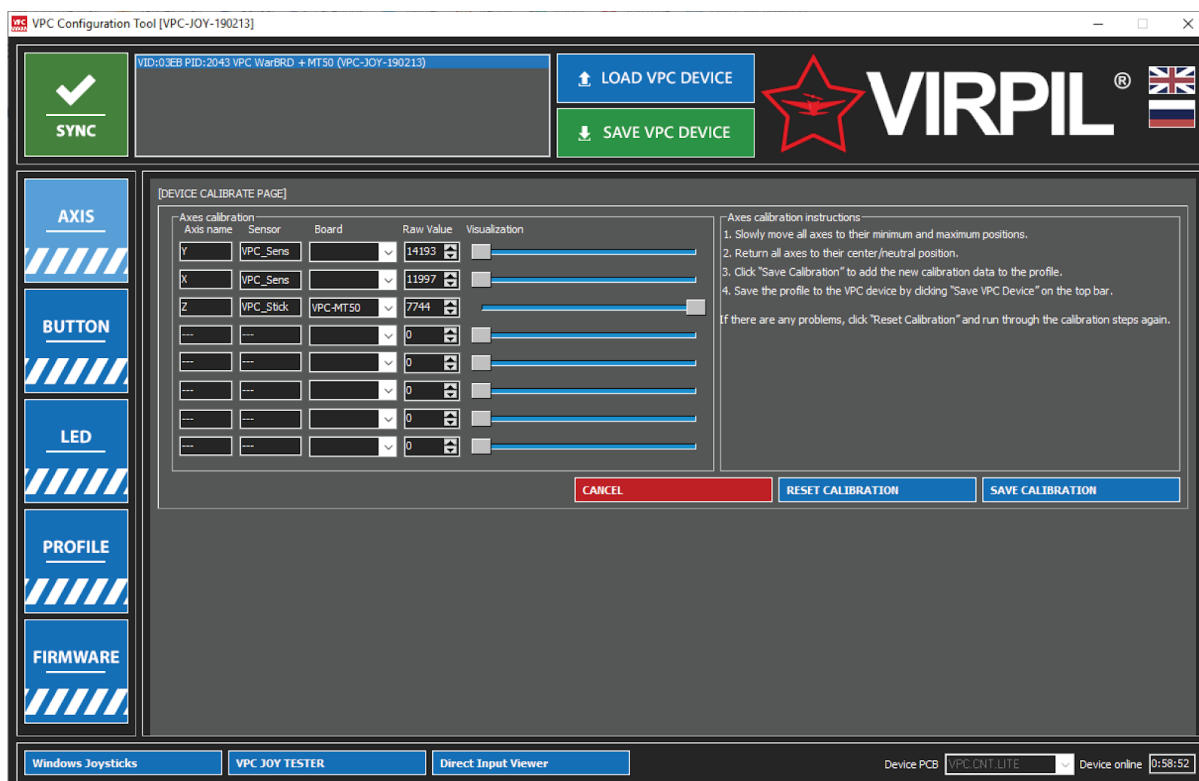
VPC CONFIGURATOR SOFTWARE

USER MANUAL

Calibrating the VPC Device

Before changing any settings in the VPC Software, always begin by clicking the “LOAD VPC DEVICE” button (#3 - **figure 1.**) on the top bar after selecting the VPC device from the device list (#2 - **figure 1.**).

In the main settings window (#7 - **figure 1.**), click the button “Calibrate Axes”. You will then be taken to the calibration screen:



To complete the calibration simply move all axes available on the VPC device from their minimum to maximum deflection ensuring the entire range is covered. Remove your hands from the device to allow any centering axes to return to their natural center and mover any dials/sliders to their rough center position. Save the calibration settings by clicking the “SAVE CALIBRATION” button.

You will be returned to the main settings window and while your calibration has been saved to the profile, it is now necessary to save the profile to the VPC device using the “SAVE VPC DEVICE” button (#3 - **figure 1.**) on the top bar.

Calibration is typically required after loading a new device profile (after a firmware update or grip change) or after changing the device physically, i.e: cams and springs change.

Your VPC device is now calibrated! You can now proceed to use your VPC device in your favourite sims.

VPC CONFIGURATOR SOFTWARE

USER MANUAL

VPC CONFIGURATOR SOFTWARE ADVANCED SETTINGS

Now that your VPC device has the latest firmware, correct device profile and precise calibration we can look into the more advanced features offered by the VPC Configurator Software.

Basic Axis Settings

On the Axis main settings window you will see a list of all available axis in the current profile/device.

| Num | Name | Predi... | Value | Value | Source | Port | Sub.... | Inversion | Offset | Smooth | Raw ... | Link ... | Calib... | Cal.Min | Cal.Mid | Cal. | DZ Min | DZ Mid | DZ Ma |
|-----|------|----------|-------|-------|---------|------|---------|-----------|--------|--------|---------|----------|----------|---------|---------|-------|--------|--------|-------|
| 1 | Y | 13 | 4095 | 50% | VPC... | 6 | 0 | True | True | x2 | 32241 | 0 | Man... | 28257 | 32279 | 36341 | 2 | 2 | 2 |
| 2 | X | 13 | 4095 | 50% | VPC... | 5 | 0 | True | False | x2 | 12009 | 0 | Man... | 8119 | 12015 | 15533 | 2 | 2 | 2 |
| 3 | rY | 12 | 4095 | 100% | VPC... | 1 | 2 | False | False | x4 | 16368 | 0 | Man... | 4640 | 7792 | 10752 | 2 | 10 | 2 |
| 4 | rX | 12 | 4095 | 100% | VPC... | 1 | 3 | False | False | x4 | 16368 | 0 | Man... | 4896 | 8080 | 11872 | 2 | 10 | 2 |
| 5 | Z | 13 | 0 | 0% | VPC... | 1 | 1 | True | False | x2 | 65535 | 0 | Man... | 1682 | 2422 | 2937 | 4 | 4 | 4 |
| 6 | Dial | 12 | 0 | 0% | Virtual | 0 | 0 | False | False | --- | 0 | 0 | --- | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

This lists all settings for each axis, the main ones being:

- Axis number
- Axis name
- Reported value
- Reported %
- Inversion
- Smoothing
- Calibration values
- Deadzone min/center/max

VPC CONFIGURATOR SOFTWARE

USER MANUAL

- Inversion

This is a simple true/false settings and allows you to invert the response of that axis.

- Smoothing

A multiplier which filters the axis response. The higher the multiplier, the smoother the axis response will be but will also induce a slight delay.

- Calibration Values

You can manually input the min, max and center calibration values based on the “RAW” sensor value. Running through the calibration process fills this automatically for all axes however this could be useful for tweaking a particular axis.

- Deadzone Values

Here you can set deadzones, for example to prevent accidental inputs.

DZ MIN - This is the deadzone value for the axis at the minimum response.

DZ MID - This is the deadzone value for the axis center.

DZ MAX - This is the deadzone value for the axis at the maximum response.

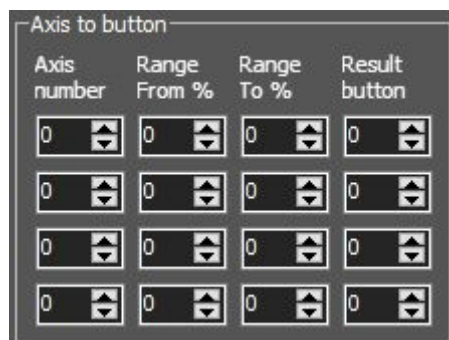
We recommend a deadzone of “2” for the X/Y axis on VPC bases. This is due to the extreme accuracy of the VPC sensors, using a deadzone of “0” would mean that the sensors would detect the tiny variances at rest each time the stick is returned to center. Even with a deadzone value of “2” any deliberate movement will always be detected!

Axis-2-Button

This versatile feature allows you to configure an axis range to issue a button press command.

As an example, we will setup a left hand VPC WarBRD Delta (part of a dual-stick setup for space sims) to press a new button when the Y-axis is pushed to past 95% - we can use this button to apply the afterburner/boost when we push our stick to max deflection.

Begin by loading the VPC device using the “LOAD VPC DEVICE” button (**#3 - figure 1.**).



It is necessary to determine the button numbers we wish to assign. Navigate to the “BUTTON” option on the main menu (**#7 - figure 1.**).

VPC CONFIGURATOR SOFTWARE

USER MANUAL

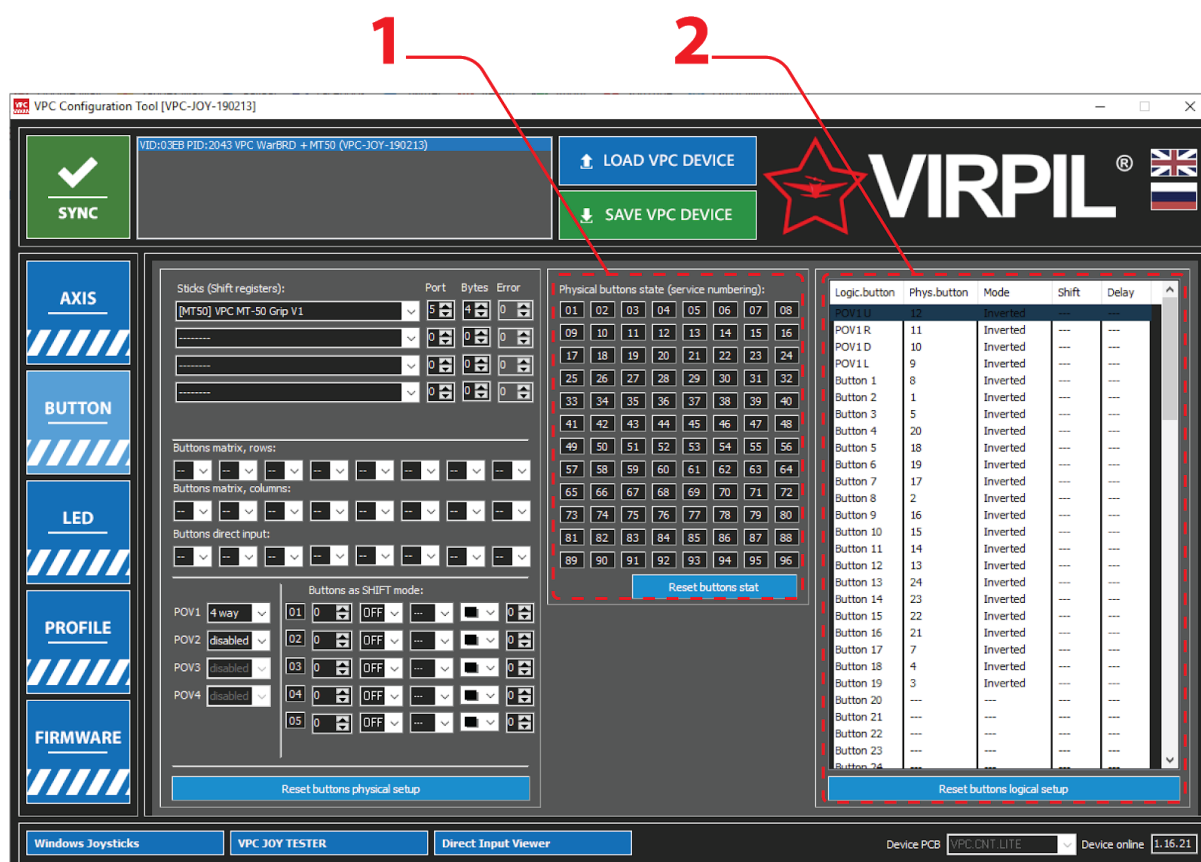


Figure 4. Button Setup Page

While there is a lot to take in on this page - for the Axis-2-Button setup we are only concerned with the Physical Buttons State (Service Numbering) (**#1 - figure 4.**) and the Logical Button Setup Panel (**#2 - figure 4.**).

So we have two options:

1. We can setup Axis-2-Button to press a button that already exists.
2. We can setup Axis-2-Button to press a new, unique button that doesn't already exist.

For option 1 - simply press the button on the grip that you wish to use for Axis-2-Button. A number will light up on Physical Buttons State (Service Numbering) (**#1 - figure 4.**). Remember this number!

For option 2 - we need to create a new logical button in our profile. First look in the Logical Button Setup Panel (**#2 - figure 4.**) to determine the highest value "Phys.button" (Physical Button). On the VPC Constellation Delta Grip this should be "23" (bound to logical button 11 in this screenshot).

Simply find the next empty logical button slot and double click on it, you will now see this menu in place of the Logical Button Setup Panel (**#2 - figure 4.**):

VPC CONFIGURATOR SOFTWARE USER MANUAL

The screenshot shows a configuration window for a logical button. It includes the following fields and controls:

- Logical name:** A text box containing "Button 23".
- Physical button:** A numeric spinner box set to "0".
- Auto-bind pressed button:** An unchecked checkbox.
- Mode:** A dropdown menu showing "---".
- Shift:** A numeric spinner box set to "0".
- Delay timer:** A numeric spinner box set to "0".
- Buttons:** At the bottom, there are three buttons: "SAVE AND NEXT" (highlighted in blue), "CLEAR", "SAVE", and "CANCEL".

Logical name should be left as it is, however in the field for "Physical button" enter the number one value higher than the previous highest physical button number - in this case it will be "24".

"Mode" should be set to "Normal" and the other settings can be left as is. Complete the setup with the "Save" button. You will see your new button in the Logical Button Setup Panel (**#2 - figure 4.**).

Navigate back to the "AXIS" page from the main menu (**#5 - figure 1.**) and find the Axis-2-Button panel beneath the main axis information list.

As mentioned - we want to set our left hand VPC WarBRD to press this new button when we push to max deflection on the Y-axis (to trigger afterburner/boost).

The screenshot shows a table titled "Axis to button" with four columns: "Axis number", "Range From %", "Range To %", and "Result button". The first row is highlighted in blue and contains the values 1, 95, 100, and 24. The other three rows contain 0, 0, 0, and 0 respectively.

| Axis number | Range From % | Range To % | Result button |
|-------------|--------------|------------|---------------|
| 1 | 95 | 100 | 24 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

For "Axis Number", refer to the axis information list, the Y-axis is listed as number "1".

"Range From %" indicates the point at which the axis will activate the button.

"Range To %" indicates the point at which the axis will stop activating the button.

"Result Button" is the button we want the axis to activate - in this example, it is number "24".

Complete the Axis-2-Button setup by clicking the "SAVE VPC DEVICE" button (**#3 - figure 1.**).

Now when we push our Y-axis past 95%, it will activate our new button which we can assign in our chosen sim!

VPC CONFIGURATOR SOFTWARE

USER MANUAL

LED Configuration

You can change the colour or brightness of the built in LEDs or to disable them entirely very simply via the VPC Configurator Software. First begin by selecting the VPC device from the device list and clicking “LOAD VPC DEVICE” (#3 - figure 1.).

Navigate to the “LED” page from the main menu (#5 - figure 1.). You will see the following options:

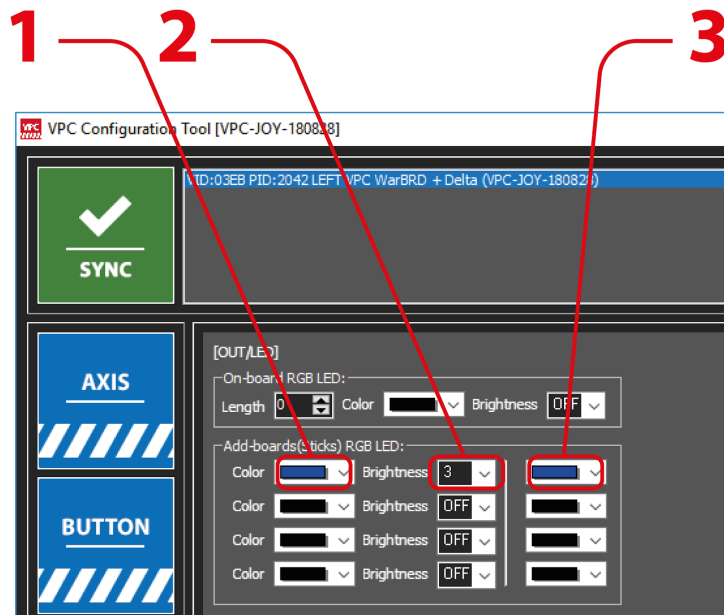


Figure 5. LED Settings Page

The first colour drop down menu (#1 - figure 5.) is to select the active colour. The currently available choices are:

- Black (Disabled)
- White
- Red
- Green
- Blue
- Yellow
- Cyan
- Magenta

The drop down menu labelled “Brightness” (#2 - figure 5.) allows to choose between 3 brightness levels.

The colour box at the end (#3 - figure 5.) shows the currently active colour.

After making any changes, click the “SAVE VPC DEVICE” button (#3 - figure 1.). When the VPC device reconnects it will have the new LED settings.

VPC CONFIGURATOR SOFTWARE

USER MANUAL

Virtual Axis (Button-2-Axis)

Using the VPC Configurator Software we can create new “virtual” axes that are controlled via digital buttons.

As an example, we will turn the scroll wheel on the VPC Constellation DELTA Grip into a virtual axis to be used as a throttle control in a dual-stick setup.

Begin by loading the VPC Device by clicking “LOAD VPC DEVICE” (#3 - figure 1.).

It is necessary to determine the button numbers we wish to assign. Navigate to the “BUTTON” option on the main menu (#5 - figure 1.).

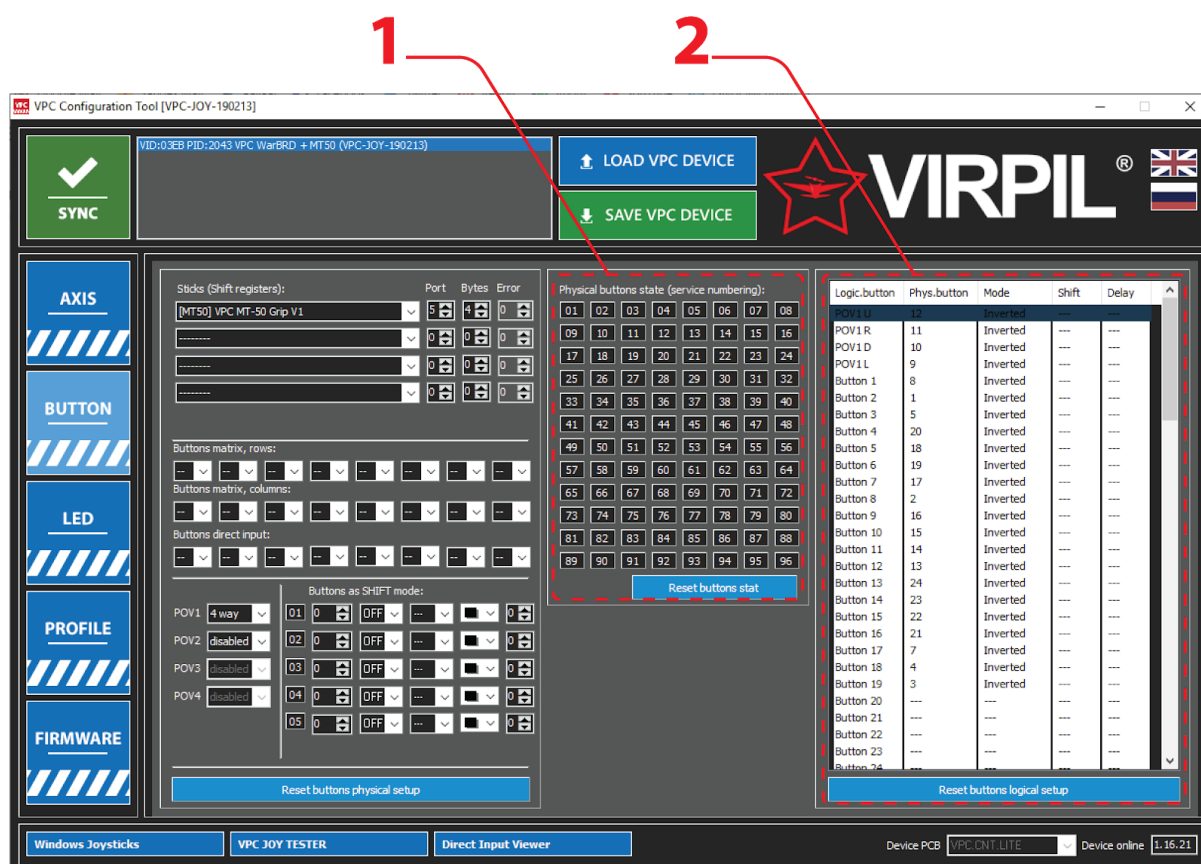


Figure 4. Button Setup Page

While there is a lot to take in on this page - for the virtual axis setup we are only concerned with the Physical Buttons State (Service Numbering) (#1 - figure 4.) and the Logical Button Setup Panel (#2 - figure 4.).

As we wish to use the VPC Constellation Delta scroll wheel for the virtual axis - we can simply activate the up and down scroll and the Physical Buttons State (Service Numbering) (#1 - figure 3.) panel will light up in blue, to show us which Physical button numbers correspond to the scroll wheel. In this case it is phys. button 01 for up scroll and phys. button 02 for down scroll, phys. button 03 is the push function of the scroll wheel.

VPC CONFIGURATOR SOFTWARE USER MANUAL

To prevent binding issues, the logical button mappings for these physical buttons need to be removed.

Unmap these physical buttons (01, 02 and 03) that correspond to the scroll wheel from the Logical Button Setup Panel (**#2 - figure 4.**). To do this, simply double click on each row for Phys.button 01, 02 and 03 and click "CLEAR" and then "SAVE".

Now scroll to the bottom of the Logical Button Setup Panel (**#2 - figure 4.**), you will see some entries named "VIRTUAL". Double click on the first "VIRTUAL" row and map the physical buttons of the scroll wheel starting with phys. button 01. Then click "SAVE AND NEXT" and map the next physical button, until all 3 physical buttons from the scroll wheel are mapped as "VIRTUAL" logical buttons.

Navigate back to the "AXIS" page from the main menu (**#5 - figure 1.**) and double click on the next empty row on the axis information list. You will be taken to the following screen:

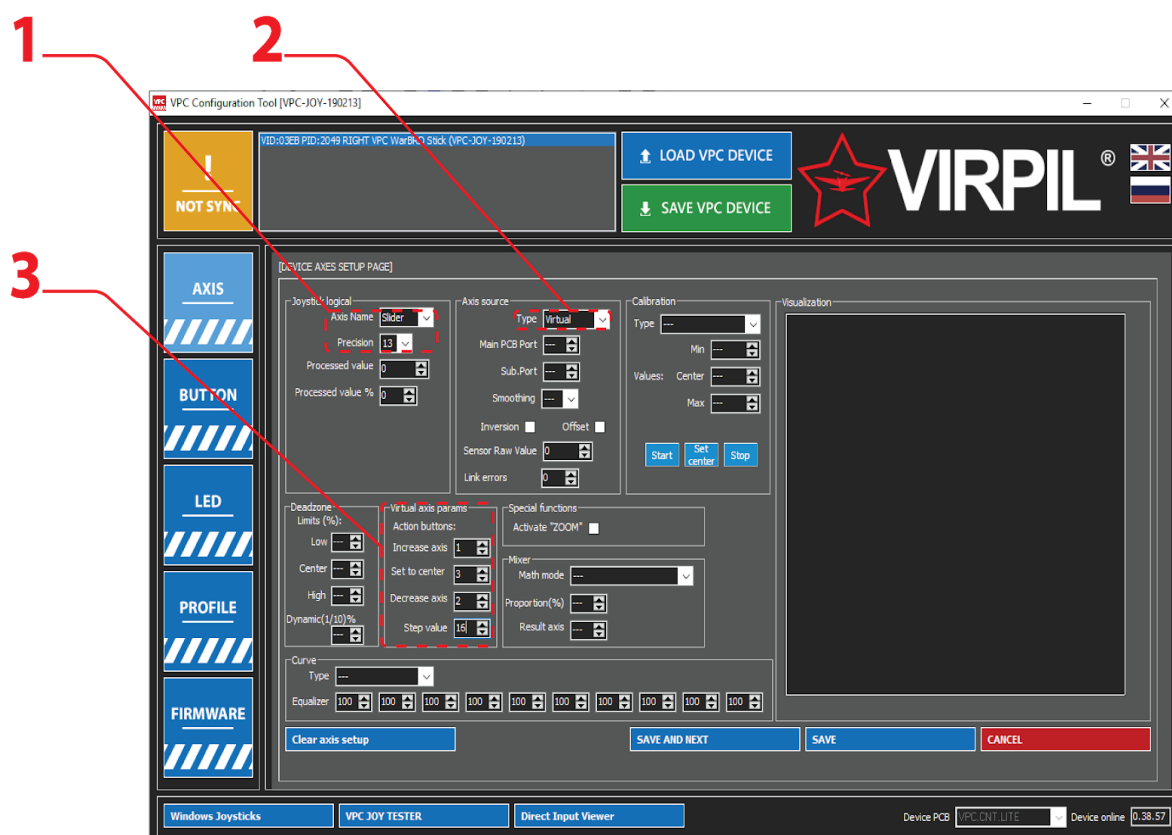


Figure 6. Axis Settings Page

First, select an unused axis name - here we will use "Slider". For the precision you have the choice from 10 bit to 14 bit, for this example we will set "13". (**#1 - figure 6.**)

Next change the axis dropdown type to "Virtual". (**#2 - figure 6.**)

Now we need to add the buttons to control this virtual axis (**#3 - figure 6.**) - as we found out on the "BUTTON" page, button 01 is scroll-up so we will set this to "Increase Axis". Button 02 is scroll-down

VPC CONFIGURATOR SOFTWARE

USER MANUAL

so we will set this to “Decrease Axis”. Button 03 is activated by pushing the scroll wheel, we will set this to center the virtual axis.

If no “Set to Center” button is set, the virtual axis will automatically center once the increase/decrease buttons are no longer being pushed. This would be useful for setting up “fake” analogue style inputs with digital hats - movement would begin slowly and speed up the longer the button is held which would then auto center when released.

The “Step Value” is how far the axis will advance with each button press. A lower number offers finer controller, however will require more button presses to reach the min and max values, whereas a higher number step value will allow the virtual axis to be controlled quickly with larger % changes with each button press. In this example we will use 16 - a step value that is a power of 2 works best (2,4,8,16,32,64,128 etc)

You can now click the “SAVE” button which will return us back to the main settings page. Click “SAVE VPC DEVICE” (**#3 - figure 1.**) to complete the virtual axis setup.

SHIFT (Modifier) Button Setup

COMING SOON!!

MODE Dial Setup

COMING SOON!!

Throttle Double Axes Lock

COMING SOON!!

Axes ZOOM

COMING SOON!!