

VERSION [2.0.0.1]

# REALTRIM PROFESSIONAL



PRESENTED BY: KURT KÄFERBÖCK



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## KEY FEATRUES

- Independent trim system parallel to the P3D trim system
- Automatic trim system change when using autopilot
- Own trim instrument
- Convenient configuration program
- Very good performance
- The application works with external processes at the device driver level

RealTrim Professional is a unique new implementation of the standard P3D Flight Simulator trimming system. The new implementation is completely independent and runs in parallel with the P3D trimming system. As in reality, you adjust the pressure on the flight yoke by holding the elevator in its given position while keeping your joystick or flight yoke comfortably in the middle position. The leading air on the trim wing, keeps the elevator permanently in its position. You can see this on the flight yoke as well as on the elevator. The control horn remains in the trimmed position and cannot be pulled backwards or forwards over its maximum stop. The trimming process does not take more than three seconds.

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## 1 ABOUT REALTRIM PROFESSIONAL

I recommend this application to all Flight Simulator friends, who like to fly realistically with smaller and medium-sized planes and want to control their square rounds as well as their landings themselves. In reality, the pilot pushes or pulls the flight yoke into a stable flight position and then presses a button or turns on a trim wheel until it feels no more pressure on its control organs. The aircraft is trimmed and the flight yoke remains independently in its drawn or pressed position. The trimming that P3D implements can only conditionally readjust this behavior. For example, if you turn the trim wheel, neither the elevator nor the flight yoke moves, but the airplane changes its angle of inclination in the direction in which you previously rotated the trim wheel. This can lead to completely unrealistic flight conditions, since with a fully upward trimmed airplane, the elevator and the flight yoke is still in the middle position and you could give a full impact in one direction. In reality, you can't do this, of course. The limits are given by the maximum angle of the elevator. In the simulator, in order to trim the airplane, you have to constantly alternately actuate the joystick and the trim wheel. Imagine you are in a square round and want to land the plane. You keep your joystick pulled for a light descent and glide down the glide path with the right sink rate. Realistically, you want to go through the landing checklist and need your hands. In reality, a short handle to the trim wheel would suffice to compensate for the pressure on the flight yoke in a few seconds.

With RealTrim professional you can now trim as fast as real pilots are accustomed to.

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## SYSTEM REQUIREMENTS

Operating System	Windows 10 (64 bit) Windows 8.1 SP2 (64 bit ) Windows 7 SP1, SP2 (64 bit)
Flight Simulator	P3DV4 64 bit

**RealTrim Professional does not work with Windows Vista or Windows XP**

### 3 HOW DOES A TRIM WING WORK

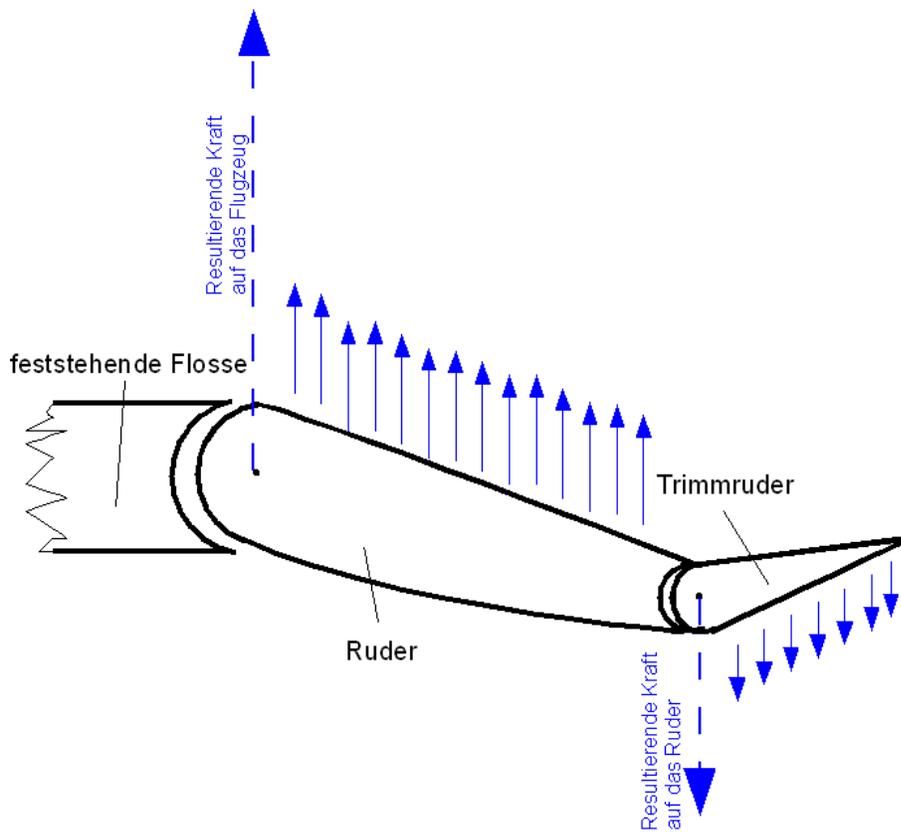


Bild Wikipedia 2017

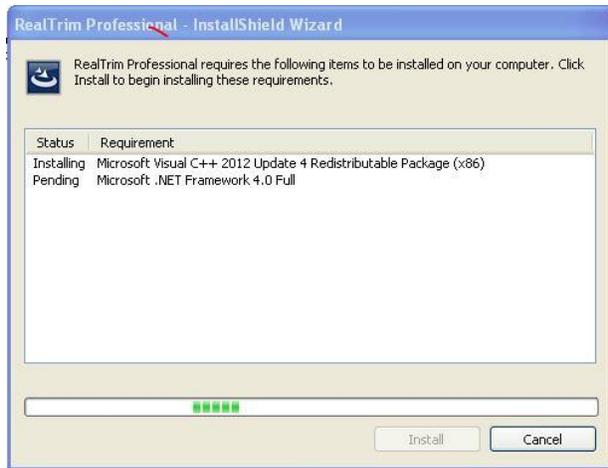
The trim rudder is a small rudder on an airplane's elevator. With the trim, rudder forces can be neutralized for different flight situations. The trim rudder, with its own generated air and the large lever arm, pulls the trailing edge of the rudder at which it is attached, from the original neutral position into a new "normal position". This will neutralize the force on the controllers for this new attitude. The pilot does not have to exert any force on his control bodies. The pilot does not have to exert any more power on his control organs. The trim rudder is turned on or lowered by turning a trim wheel or by pressing a button that is usually attached to the control wheel.

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## 4 INSTALL AND REGISTER

### STEP 1

RealTrim Professional requires certain components on your computer. If these are not available, you will see the following window. Press "Install" here. During the installation, a restart might be necessary. Perform this if prompted. The setup program automatically resumes the process after the restart.



### STEP 2

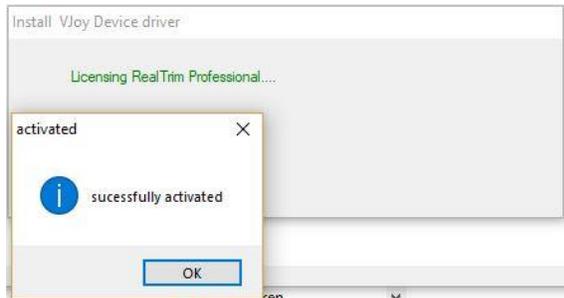
Copy your SERIALKEY and your PRODUCTKEY into the fields provided and then confirm with the "Activate" button.

The licensing process requires a working Internet connection.



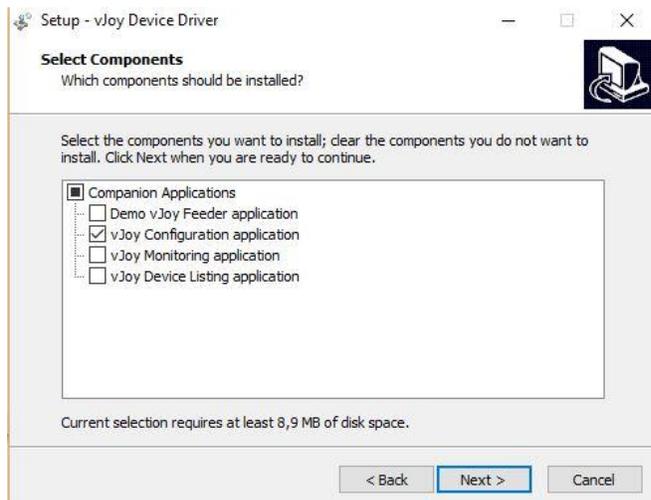
### STEP 3

After a successful validation you will see the following message box.



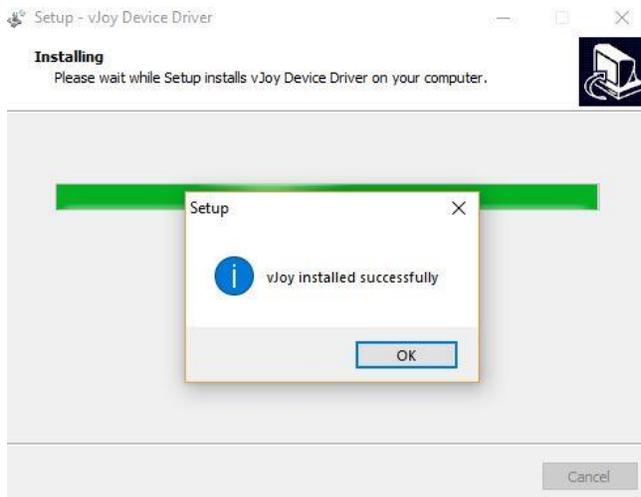
### STEP 4

The Setup program installs a virtual driver that is certified by Microsoft and developed by Shaul Eizikovich. The selection as shown below is already preset correctly. The installation of the driver can take several minutes. Please wait until the installation is completed. You recognize this by the message box shown in step 5



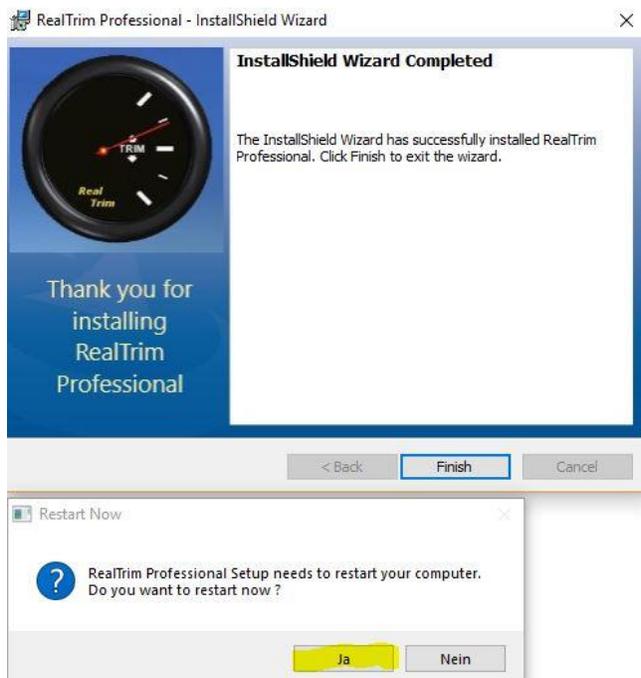
## STEP 5

After successful driver installation you will see the following window



## STEP 6

You may not see the following window because it is obscured by another window. In this case, please close concealing windows or click on the flashing icon in your taskbar to bring the setup program to the foreground. Press the "Finish" button. Then your computer needs to be restarted.



## STEP 7

To complete the setup, it is necessary to invoke the installed RealTrim configuration application. This sets the Vjoy driver correctly on the first startup. The setup program has created a new start menu item with all related programs and documents. Within this you will also find the configuration program. Under Windows 10, it is best to follow the link below to display the start menu item.

C:\ProgramData\Microsoft\Windows\Start Menu\Programs\RealTrim

It may happen that the path to your flight simulator is not found. In this case you will see the following dialog. Please enter the path to your Flight Simulator. For the FSX STEAM edition this would be for example.

C:\Program Files (x86)\Steam\steamapps\common\FSX



## 5 CONFIGURATION PROGRAM

The screenshot shows the 'Language' configuration window with several callouts pointing to specific features:

- Properties of the marked simulator object:** Points to the 'Input devices' section, which includes a dropdown for 'PC Game Controller', 'Elevator axis' set to 'Y axis', 'Trim button joystick' set to '1', 'Calibrate center point' set to '27391', 'Trim key' set to '""', and an 'Enable' checkbox.
- Access to this manual:** Points to a blue icon with a book symbol in the top right corner of the window.
- List of installed planes:** Points to the 'SimObject' list, which includes aircraft like 'Alabeo Extra300S P3D', 'beech\_baron\_58', 'Beech\_King\_Air\_350', 'Bombardier\_CRJ\_700', 'C-130', 'C-130 Base', 'C130J\_AI', 'C-130J-30', 'Carenado 390\_Premier\_IA', 'Carenado 390\_Premier\_IA\_LITE', 'Carenado A36 BONANZA P3D', 'Commercial\_Airliner', 'DeHavilland\_Beaver\_DHC2', 'DH\_Dash8\_100', 'F-14', 'F15', 'F16', 'F-16 Base', 'F-16A', 'F-16AM', 'F-16C', 'F35A', 'Fury\_1500', 'Grumman\_Goose\_G21A', 'IRIS Raptor Driver', 'Jet Fighter 27', 'Jet Fighter 29', 'JF\_C69', and 'JF\_electra\_10'.
- Trim gauge:** Points to a preview image of a cockpit instrument panel showing a trim gauge.
- Save and close:** Points to the 'Close' button at the bottom left.
- Path to Flight Simulator:** Points to the file path 'C:\Program Files\Lockheed Martin\Prepar3D v'.
- Size of the trim gauge:** Points to the 'Middle' radio button under the 'Size' section, which also includes 'Small' and 'Large' options.

## 6 CONFIGURE AN AIRPLANE FOR REALTRIM PROFESSIONAL

First, connect your joystick with which you want to control the elevator to your computer and then open the configuration application from RealTrim Professional. You can find them in the Start menu under the folder RealTrim. Then select an airplane from the airplane selection list. I recommend that you first select the Beech Baron 52 to which the parameters explained below are preset.



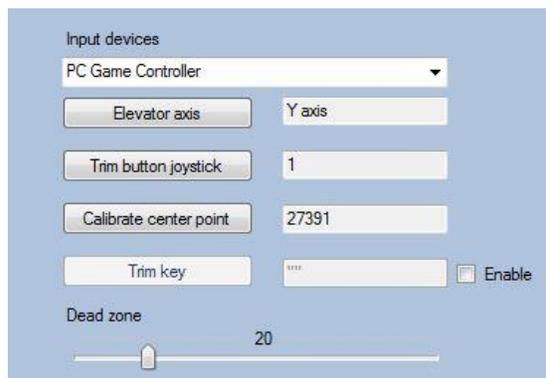
## Joystick Konfiguration



Select your joystick from the input device list.

Center your joystick and click on „Elevator axis“.

As soon as the adjacent text box turns red, drag the elevator axis from your joystick to the stop in one direction and keep it drawn until the red color disappears again.



Click on "Trim button" in the application and then on the button of your joystick, which you want to use for trimming. Center your joystick and then click „Center Joystick axis“. Click on “Trim key” and then on the keyboard key, which you want to use for trimming. You can enable or disable this feature by the checkbox “Enable”. Move the slider to adjust the dead zone from your Joystick. A value of 10 equals 5% of the total length in one direction on the elevator axis. Do not set any dead zone on elevator in the simulator.

Click on "Install". A green R next to the airplane means that it is configured. Check that the Settings data left to the selected aircraft still fit. When changing an airplane, its data will be read and overwrites the settings dialog.

It is important to read the next chapter "Preparing the Flight Simulator for the new trim system".

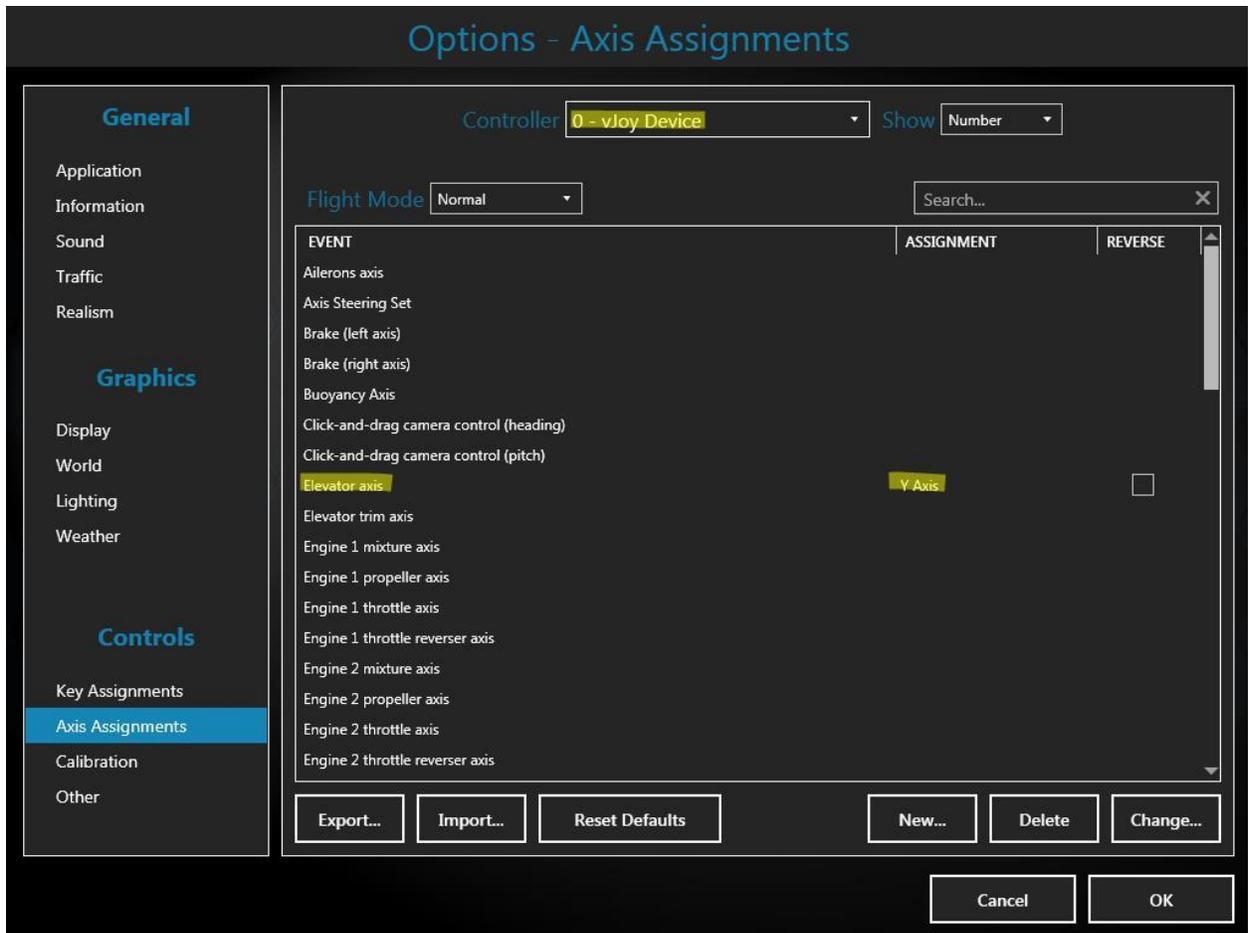
## Removing the trimming system from an airplane

To remove an installed airplane, press the Uninstall button.

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## 7 PREPARING THE FLIGHT SIMULATOR FOR THE NEW TRIM SYSTEM

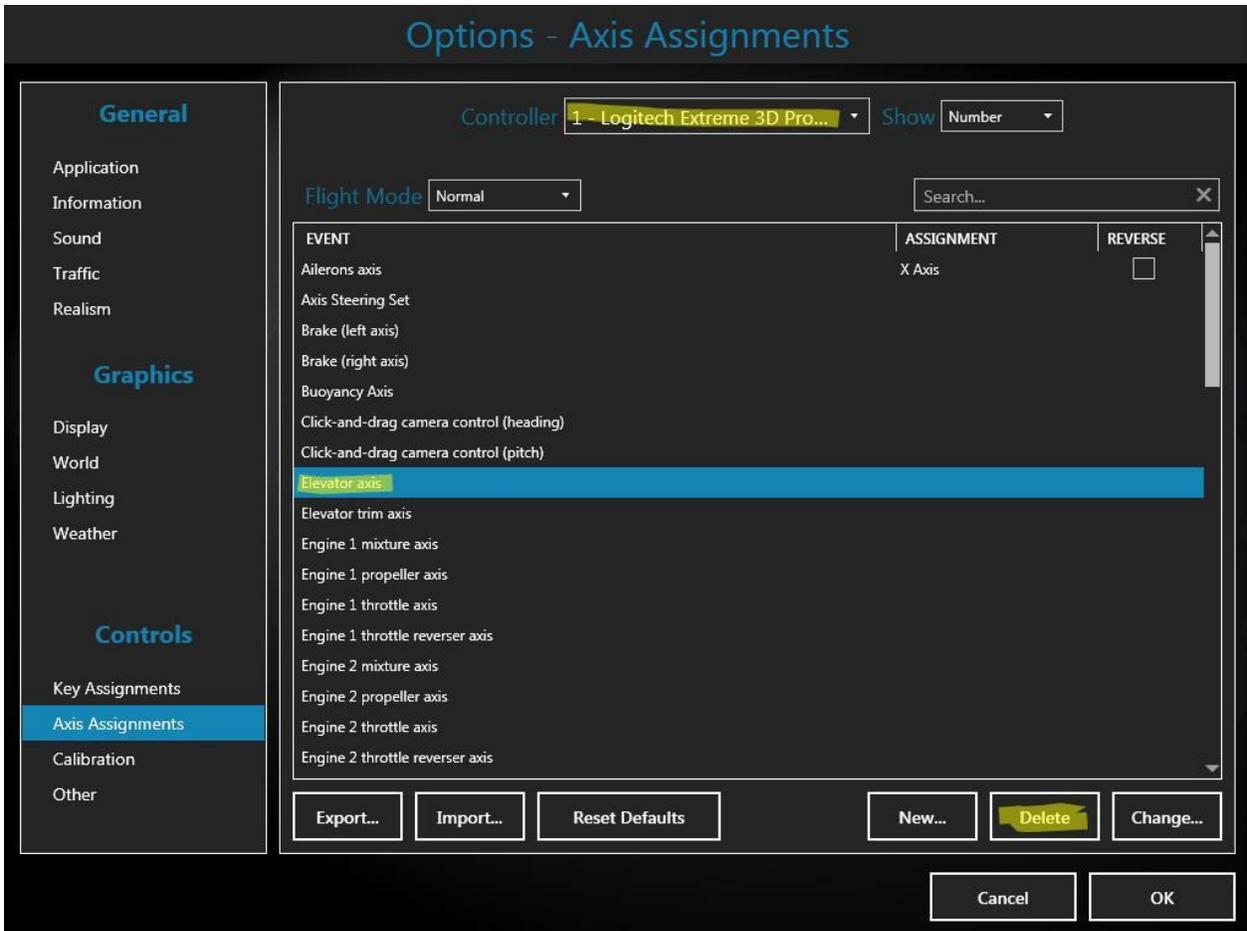
Start P3D Simulator and open the "Settings-Controls dialog". At the top of the device selector box you see a new entry "VJoy device". If you select it, you will see the image shown below. The RealTrim configuration program automatically sets up the VJoy device in your simulator on its first start.



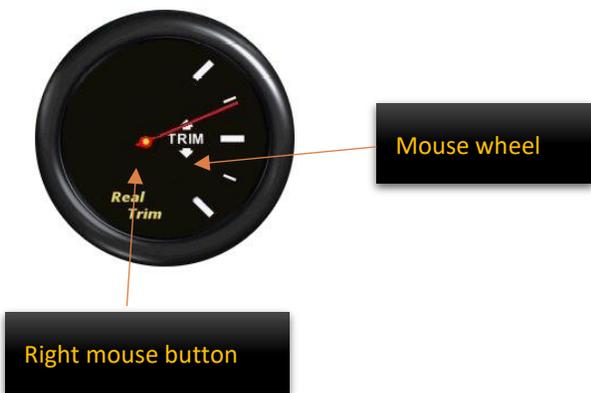
Switch to the Control Axes tab and select your physical joystick as the input device.

**Important!**

Delete the elevator axis assignment from your physical joystick. This will be redirected to the new "vJoy" device.



## 8 TRIMMING WITH REALTRIM PROFESSIONAL



Use the right mouse button to switch between analogue and digital display.

Use the mouse wheel to increase or decrease the trim.

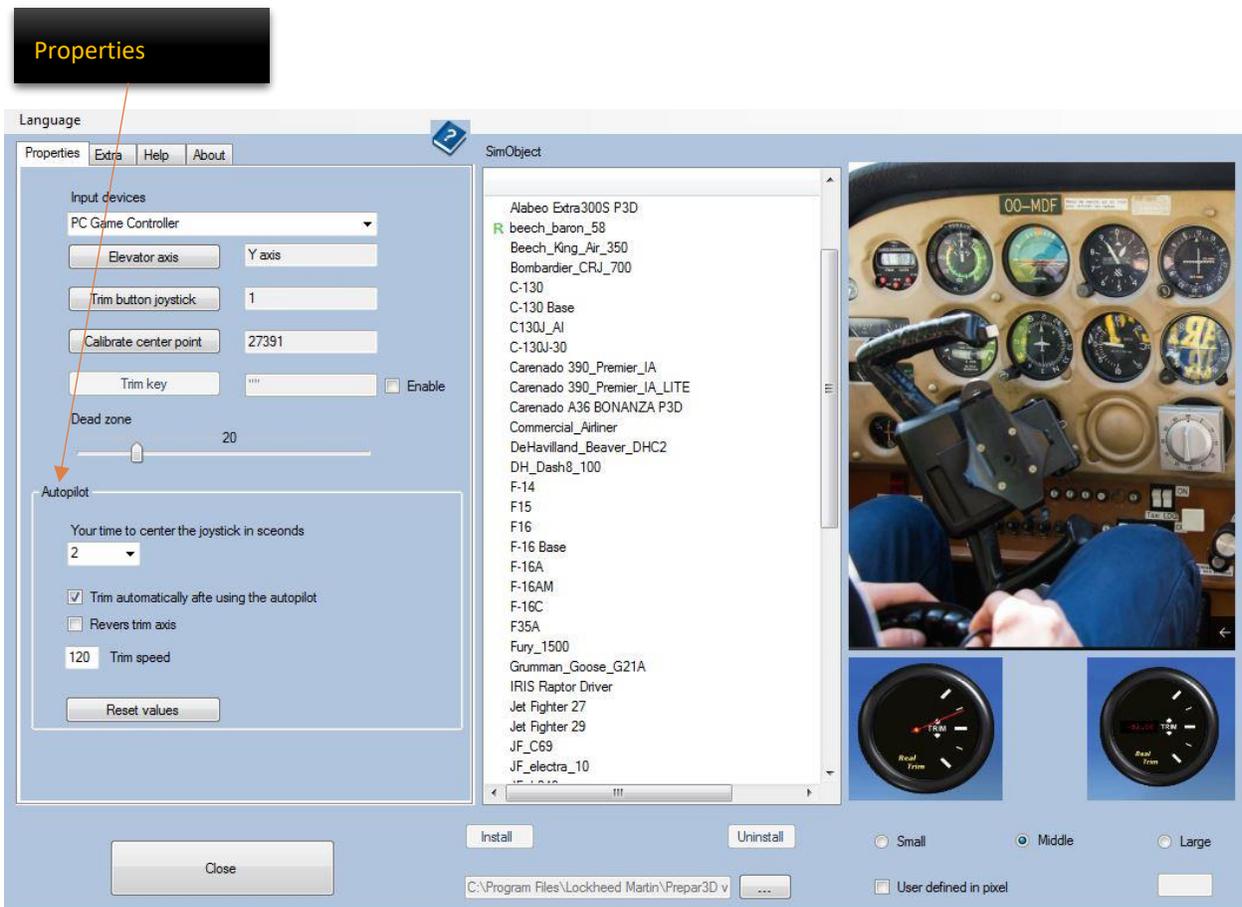
Click the "CallStack" button to show or hide the instrument.

## Trimming

Keep your joystick as constant as possible and wait until the aircraft has stabilized. Press your trim button and release it again. Then bring your joystick back to its central position. You have three seconds to complete the trimming process. Then you will see the trim set by RealTrim on your trim instrument. The flight yoke remains as in reality in its trimmed position. If necessary, you can use the mouse wheel on the trimming instrument to make corrections..

## 9 USING AN AUTOPILOT UNDER REALTRIM PROFESSIONAL

Under the trimming system from P3D, autopilots are controlled via the built-in trim. RealTrim Professional will automatically adjust the trim system between the P3D Trim system and the RealTrim system when you turn on the autopilot. At power-up, RealTrim slowly shifts its own system to neutral, while P3D trim counteracts. Once you disable the autopilot, RealTrim will automatically transfer the trimming value set by P3D to its own system. For this purpose, the values that you can set in the configuration application under Autopilot must be exactly adapted to the respective aircraft. Please read the chapter Settings – autopilot



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## 10 SETTINGS - AUTOPILOT

### **Time in seconds to center the joystick**

Set the time you need to press the trim button and bringing the joystick to its central position.

### **Automatic trimming after using the autopilot**

This checkbox is enabled by default. After using an autopilot, the RealTrim system attempts to convert the P3D Trim value set by the autopilot into a corresponding amount of its own trimming system. This means for you that in the same flying situation, as well as in reality, you always have to see and adjust the same trim level. If you turn this feature on, you must fly and set the following parameters for each aircraft. The default values are optimized for the Beech Baron 52 and is a good starting point for other aircrafts. You can also disable this feature. In this case, the RealTrim system would consider the trim value set by P3D autopilot to be a new zero value for itself. The RealTrim instrument displays neutral position, otherwise you can continue to use the system as usual.

### **Revers trim axis**

Some add-on manufacturers use an opposite trim direction with their autopilot.

In this case, you can reverse the trim direction (Trim UP becomes Trim Down and vice versa)

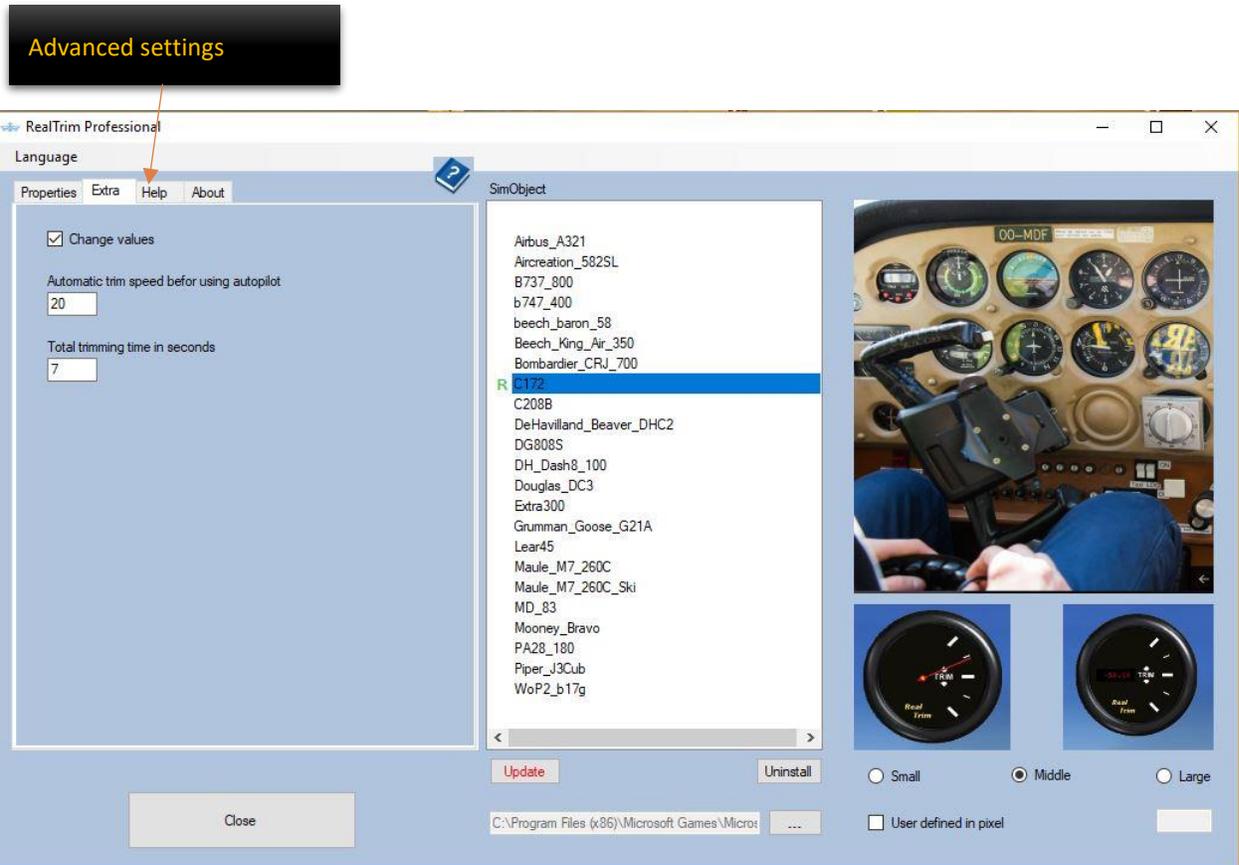
### **Speed for automatic trimming**

This value is used by RealTrim to adjust the sensitivity of the automatic trim system change after using an autopilot. This value must be met for each aircraft. Large values mean high sensitivity. Low values mean low sensitivity. The set standard value is optimized for the Beech Baron 52, but could still be adjusted due to different input devices and computer speeds. The best way to do this is to either increase or decrease the set value by 10.

## Example

Go into a light climb and turn on the autopilot for a climb rate of, for example, 300 f / min. Once the aircraft has reached a stable climb rate through the autopilot, deactivate it and wait about 7 seconds. If the nose has noticeably dropped too much, increase the speed value by 10 units. Conversely, if the nose has risen too fast, reduce the speed value by 10 units. Please note that trimming does not equate to keeping a certain rate of climb. As you climb, the air density is constantly changing and you need to either increase or trim your performance periodically.

## Advanced settings



In order to change the advanced settings the checkbox "Change" has to be activated.

### **Automatic trim speed before using autopilot**

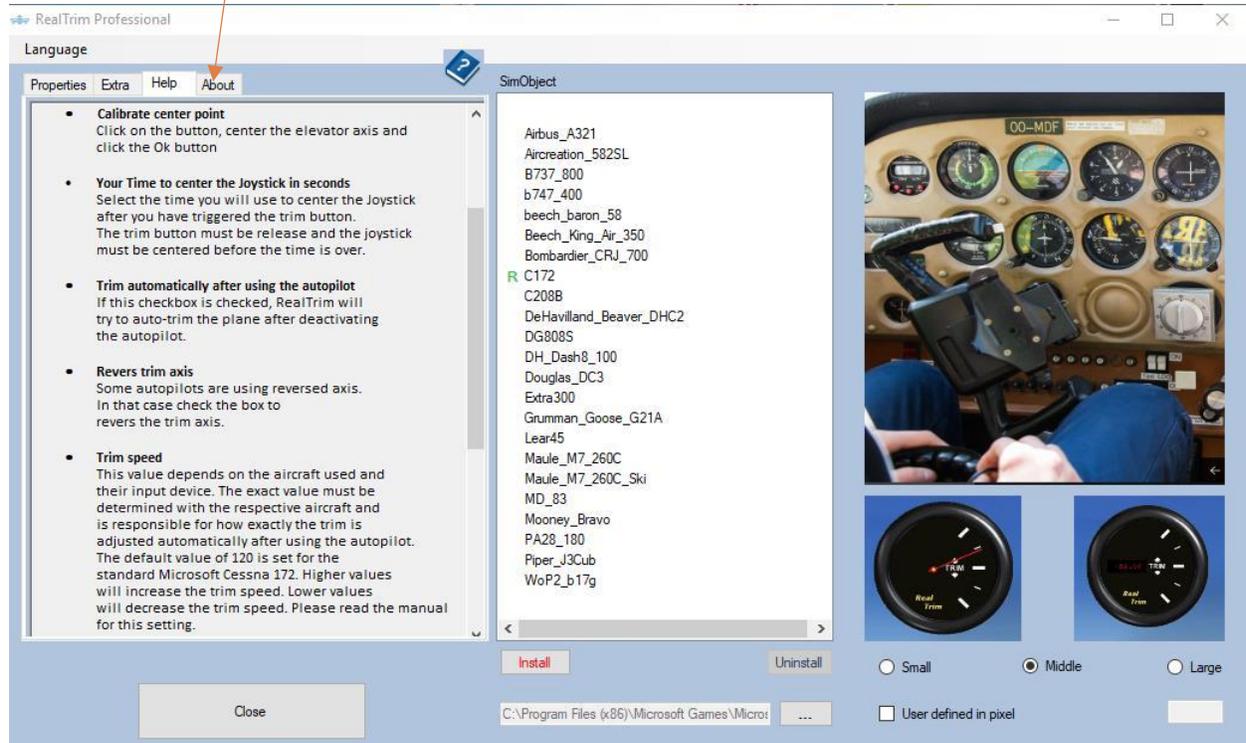
This value determines how fast RealTrim drives its own system to zero while the autopilot takes over. Lower values mean slower retraction. Larger values mean faster return.

### **Total trimming time in seconds**

This value determines how long RealTrim has time to adjust its trim after disabling the autopilot.

## Help

### Short help



Within the Help tab, a short description of all adjustable parameters is displayed (Available in English only)

## 11 SUPPORT

RealTrim Professional will not let you receive automatic updates. New versions of RealTrim Professional are released at <http://realtrim.blublu.at>