

PIRANHA GAMES



HOTAS Remapping Documentation

Introduction

This documentation will go over how to remap your HOTAS devices to work with Mechwarrior5. To add your device, first you will need to find your Product Id, and Vendor Id of your device, we will go over how to find that in the next section.

```
START_BIND
NAME: THRUSTMASTER TWCS Throttle
VID: 0x044F
PID: 0xB687
BUTTON: InButton=GenericUSBController_Button1, OutButtons=Throttle_Button1
BUTTON: InButton=GenericUSBController_Button2, OutButtons=Throttle_Button2
BUTTON: InButton=GenericUSBController_Button3, OutButtons=Throttle_Button3
BUTTON: InButton=GenericUSBController_Button4, OutButtons=Throttle_Button4
BUTTON: InButton=GenericUSBController_Button5, OutButtons=Throttle_Button5
BUTTON: InButton=GenericUSBController_Button6, OutButtons=Throttle_Button6
BUTTON: InButton=GenericUSBController_Button7, OutButtons=Throttle_DPad1_Up
BUTTON: InButton=GenericUSBController_Button8, OutButtons=Throttle_DPad1_Right
BUTTON: InButton=GenericUSBController_Button9, OutButtons=Throttle_DPad1_Down
BUTTON: InButton=GenericUSBController_Button10, OutButtons=Throttle_DPad1_Left
BUTTON: InButton=GenericUSBController_Button11, OutButtons=Throttle_DPad2_Up
BUTTON: InButton=GenericUSBController_Button12, OutButtons=Throttle_DPad2_Right
BUTTON: InButton=GenericUSBController_Button13, OutButtons=Throttle_DPad2_Down
BUTTON: InButton=GenericUSBController_Button14, OutButtons=Throttle_DPad2_Left
BUTTON: InButton=GenericUSBController_Hat1, OutButtons=Throttle_Hat_1
BUTTON: InButton=GenericUSBController_Hat2, OutButtons=Throttle_Hat_2
BUTTON: InButton=GenericUSBController_Hat3, OutButtons=Throttle_Hat_3
BUTTON: InButton=GenericUSBController_Hat4, OutButtons=Throttle_Hat_4
BUTTON: InButton=GenericUSBController_Hat5, OutButtons=Throttle_Hat_5
BUTTON: InButton=GenericUSBController_Hat6, OutButtons=Throttle_Hat_6
BUTTON: InButton=GenericUSBController_Hat7, OutButtons=Throttle_Hat_7
BUTTON: InButton=GenericUSBController_Hat8, OutButtons=Throttle_Hat_8
AXIS: InAxis=HOTAS_R2Axis, OutAxis=Throttle_Axis1, Invert=TRUE, Offset=0.5, DeadZoneMin=-0.08, DeadZoneMax=0.08, MapToDeadZone=TRUE
AXIS: InAxis=HOTAS_RZAxis, OutAxis=Joystick_Axis2, Invert=FALSE, Offset=-0.498039, DeadZoneMin=-0.1, DeadZoneMax=0.1, MapToDeadZone=FALSE

START_BIND
NAME: THRUSTMASTER T.16000M Joystick
VID: 0x044F
PID: 0xB10A
BUTTON: InButton=GenericUSBController_Button1, OutButtons=Joystick_Button1
BUTTON: InButton=GenericUSBController_Button2, OutButtons=Joystick_Button2
BUTTON: InButton=GenericUSBController_Button3, OutButtons=Joystick_Button3
BUTTON: InButton=GenericUSBController_Button4, OutButtons=Joystick_Button4
BUTTON: InButton=GenericUSBController_Button5, OutButtons=Joystick_Button5
BUTTON: InButton=GenericUSBController_Button6, OutButtons=Joystick_Button6
BUTTON: InButton=GenericUSBController_Button7, OutButtons=Joystick_Button7
BUTTON: InButton=GenericUSBController_Button8, OutButtons=Joystick_Button8
BUTTON: InButton=GenericUSBController_Button9, OutButtons=Joystick_Button9
BUTTON: InButton=GenericUSBController_Button10, OutButtons=Joystick_Button10
BUTTON: InButton=GenericUSBController_Button11, OutButtons=Joystick_Button11
BUTTON: InButton=GenericUSBController_Button12, OutButtons=Joystick_Button12
BUTTON: InButton=GenericUSBController_Button13, OutButtons=Joystick_Button13
BUTTON: InButton=GenericUSBController_Button14, OutButtons=Joystick_Button14
BUTTON: InButton=GenericUSBController_Button15, OutButtons=Joystick_Button15
BUTTON: InButton=GenericUSBController_Button16, OutButtons=Joystick_Button16
BUTTON: InButton=GenericUSBController_Hat1, OutButtons=Joystick_Hat_1
BUTTON: InButton=GenericUSBController_Hat2, OutButtons=Joystick_Hat_2
BUTTON: InButton=GenericUSBController_Hat3, OutButtons=Joystick_Hat_3
BUTTON: InButton=GenericUSBController_Hat4, OutButtons=Joystick_Hat_4
BUTTON: InButton=GenericUSBController_Hat5, OutButtons=Joystick_Hat_5
BUTTON: InButton=GenericUSBController_Hat6, OutButtons=Joystick_Hat_6
BUTTON: InButton=GenericUSBController_Hat7, OutButtons=Joystick_Hat_7
BUTTON: InButton=GenericUSBController_Hat8, OutButtons=Joystick_Hat_8
AXIS: InAxis=HOTAS_XAxis, OutAxis=Joystick_Axis2, Invert=FALSE, Offset=-0.498039, DeadZoneMin=-0.1, DeadZoneMax=0.1, MapToDeadZone=FALSE
AXIS: InAxis=HOTAS_RZAxis, OutAxis=Joystick_Axis3, Invert=FALSE, Offset=-0.5, DeadZoneMin=-0.2, DeadZoneMax=0.2, MapToDeadZone=TRUE
AXIS: InAxis=HOTAS_YAxis, OutAxis=Joystick_Axis1, Invert=FALSE, Offset=-0.498039, DeadZoneMin=-0.3, DeadZoneMax=0.3, MapToDeadZone=TRUE
```

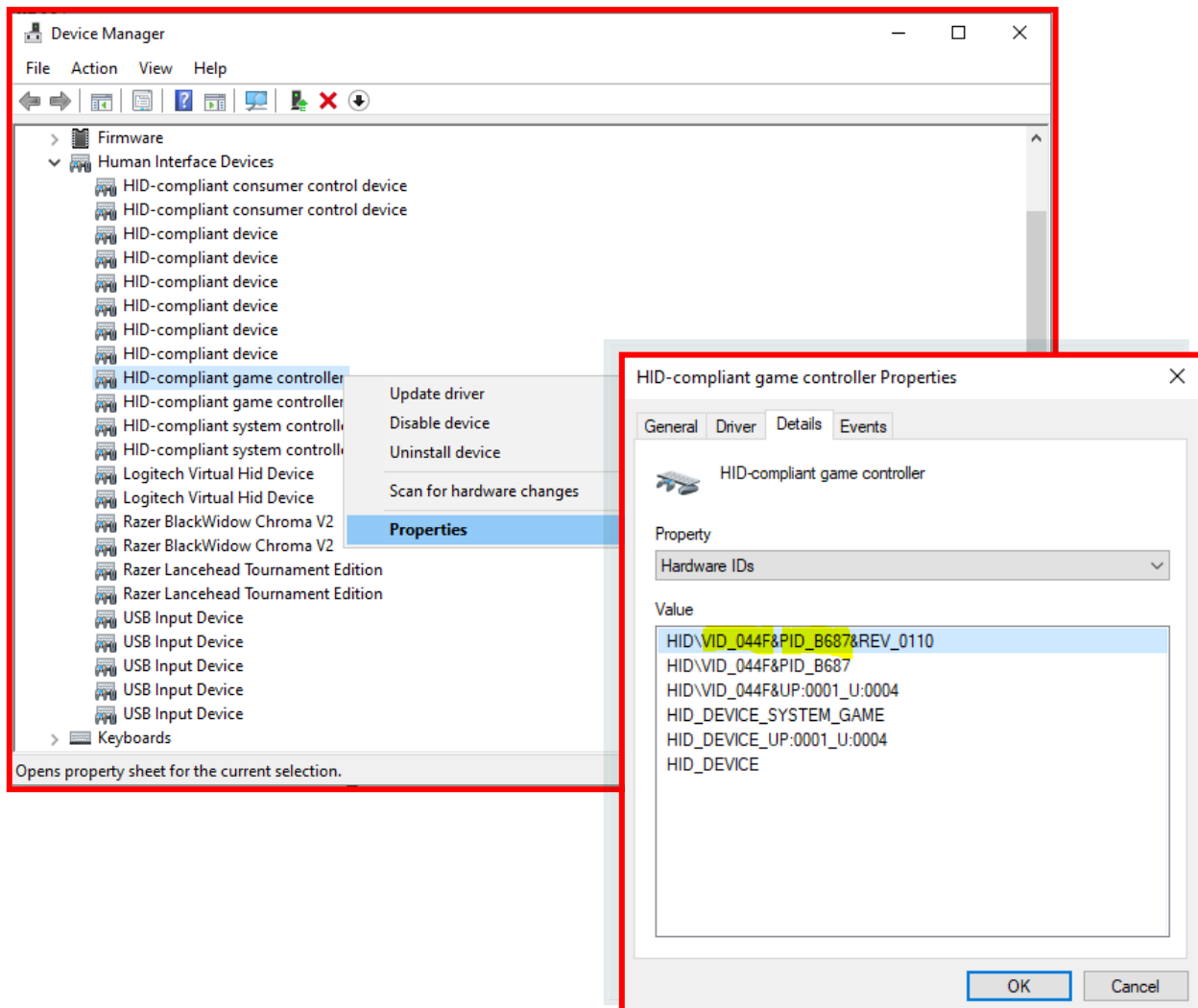
Vendor/Product Id

Every USB device has a different configuration of Vendor, and Product Ids. This is how we can tell the input differences between two devices (Joystick/Throttle). Without this distinction you wouldn't be able to bind your buttons, hats, or axis.

To find your Vendor Id, and Product Id:

Open the Device Manager and click the '**Human Interface Devices**' dropdown. The H OTAS devices in here are called '**HID-compliant game controller**'. To make sure you are getting the Ids for the right device, it's best to make sure you only have one device plugged in at a time, if not, it might be difficult to tell which game controller is which. Right-Click the '**HID-Compliant game controller**', and click on '**properties**'. In the properties window, navigate to '**Details**', and select **Hardware IDs** in the property drop down. From the value section, write down the numbers for the VID, and PID in hexadecimal format (i.e. 0x0000). This will be used in the Remap file.

For example: "HID\VID_044F&PID_B687&REV_0110", Your Vendor Id would be 0x044F, and your Product Id would be 0xB687.



Setting up the 'HOTASRemapping' file

After the first boot of the game a file will be created in your Saves folder:

C:\Users\{User} \AppData\Local\MW5Mercs\Saved\SavedHOTAS\HOTASMappings.Remap

A binding consists of:

- **NAME:** Makes it easier to come back and make changes, also helpful if you send the file around.
- **VID/PID:** The unique combo of Vendor Id and Product Id used to differentiate between multiple devices.
- **BUTTON:** Used for mapping generic buttons to specific buttons (This stops buttons from overlapping between devices).
 - **InButton:** The generic engine button to detect
 - **OutButtons:** The list of mapped buttons that will be sent out. Multiple keys can be bound by emplacing a '+' between them.
- **AXIS:** Used for mapping generic axis to specific Joystick/Throttle Axis.
 - **InAxis:** The generic engine axis that will be detected
 - **OutAxis:** The axis that will be sent out.
 - **Invert:** Inverts the input, this is applied before the offset.
 - **Offset:** This is applied to an axis value before sending to
 - **DeadZoneMin/DeadZoneMax:** This makes it so no axis input gets sent through within these two values.
 - **MapToDeadZone:** If true, the value sent out will start from 0 after leaving the dead zone instead of the DeadZoneMin/DeadZoneMax values.

All allowed Buttons, and Axes will be provided on another page.

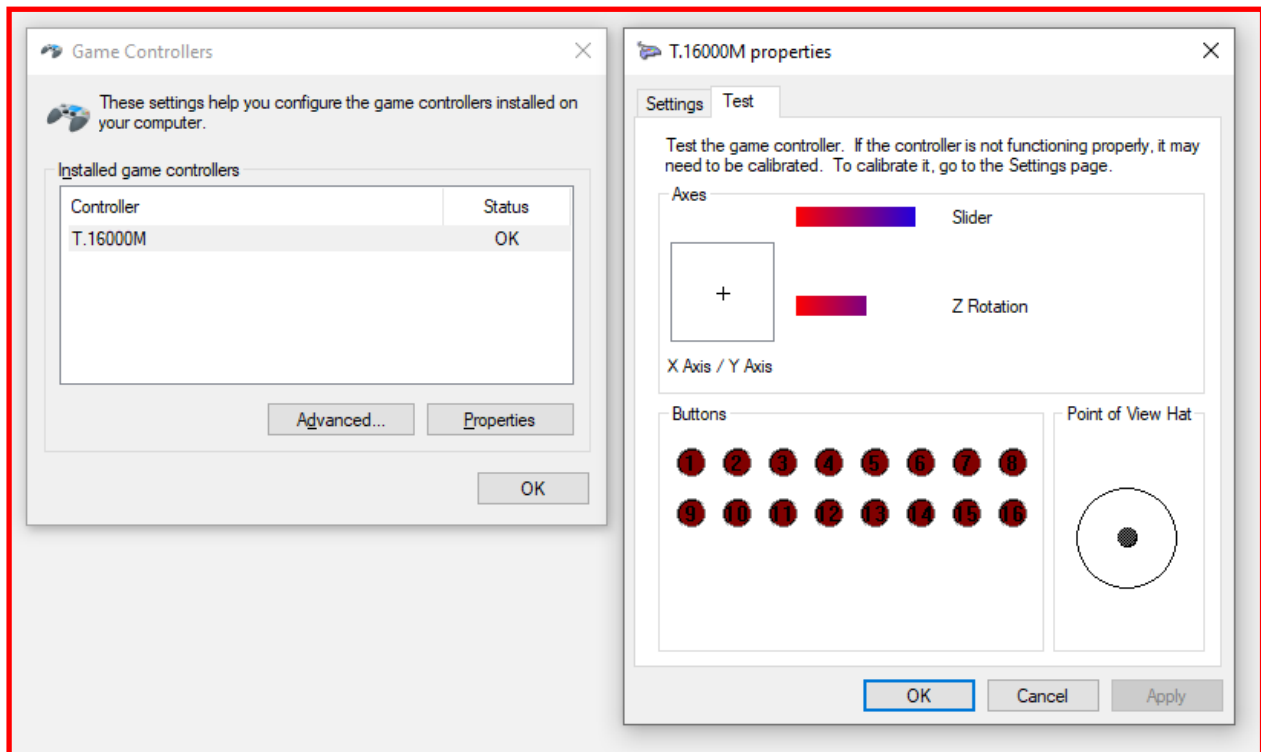
Since most axes go from 0.0 to 1.0, and we want the middle point to be 0, you will want to add an offset of -0.5.

If it is the throttle axis you probably want to invert it, and since the inversion happens before applying the offset, then the offset should just add 0.5. See the image below for an example.

```
AXIS: InAxis=HOTAS_YAxis, OutAxis=Joystick_Axis1, Offset=-0.5  
AXIS: InAxis=HOTAS_XAxis, OutAxis=Joystick_Axis2, Offset=-0.5  
AXIS: InAxis=HOTAS_RZAxis, OutAxis=Joystick_Axis3, Offset=+0.5  
AXIS: InAxis=HOTAS_ZAxis, OutAxis=Throttle_Axis1, Invert=TRUE, Offset=0.5
```

How to figure out exactly what buttons and axes your controller has

Search “**Set up USB game controllers**” in the start menu, select your controller, and click properties. With this you can see how many buttons need to be set up, and some useful info on your axes.



The axes to mapping axis conversion:

- X-Axis > HOTAS_XAxis
- Y-Axis > HOTAS_YAxis
- Z-Axis > HOTAS_ZAxis
- Z Rotation > HOTAS_RZAxis

These can also be different depending on the HOTAS device, for example: the slider on the T.16000 is the HOTAS_ZAxis. There are also generic axis you can use, we will go over all allowed axes, and buttons on the following pages.

Allowed InAxis

- HOTAS_XAxis
- HOTAS_YAxis
- HOTAS_ZAxis
- HOTAS_RZAxis
- GenericUSBController_Axis1
- GenericUSBController_Axis2
- GenericUSBController_Axis3
- GenericUSBController_Axis4
- GenericUSBController_Axis5
- GenericUSBController_Axis6
- GenericUSBController_Axis7
- GenericUSBController_Axis8
- GenericUSBController_Axis9
- GenericUSBController_Axis10

Allowed InButtons

- GenericUSBController_Button1
- GenericUSBController_Button2
- GenericUSBController_Button3
- GenericUSBController_Button4
- GenericUSBController_Button5
- GenericUSBController_Button6
- GenericUSBController_Button7
- GenericUSBController_Button8
- GenericUSBController_Button9
- GenericUSBController_Button10
- GenericUSBController_Button11
- GenericUSBController_Button12
- GenericUSBController_Button13
- GenericUSBController_Button14
- GenericUSBController_Button15
- GenericUSBController_Button16
- GenericUSBController_Button17
- GenericUSBController_Button18
- GenericUSBController_Button19
- GenericUSBController_Button20
- GenericUSBController_Button21
- GenericUSBController_Button22
- GenericUSBController_Button23
- GenericUSBController_Button24
- GenericUSBController_Button25
- GenericUSBController_Button26
- GenericUSBController_Button27
- GenericUSBController_Button28
- GenericUSBController_Button29
- GenericUSBController_Button30
- GenericUSBController_Button31
- GenericUSBController_Button32
- GenericUSBController_Button33
- GenericUSBController_Button34
- GenericUSBController_Button35
- GenericUSBController_Hat1
- GenericUSBController_Hat2
- GenericUSBController_Hat3
- GenericUSBController_Hat4
- GenericUSBController_Hat5
- GenericUSBController_Hat6
- GenericUSBController_Hat7
- GenericUSBController_Hat8

Allowed OutAxis

- Joystick_Axis1
- Joystick_Axis2
- Joystick_Axis3
- Joystick_Axis4
- Joystick_Axis5
- Throttle_Axis1
- Throttle_Axis2
- Throttle_Axis3
- Throttle_Axis4
- Throttle_Axis5

Allowed OutButtons

- Throttle_Button1
- Throttle_Button2
- Throttle_Button3
- Throttle_Button4
- Throttle_Button5
- Throttle_Button6
- Throttle_Button7
- Throttle_Button8
- Throttle_Button9
- Throttle_Button10
- Throttle_Button11
- Throttle_Button12
- Throttle_Button13
- Throttle_Button14
- Throttle_Button15
- Throttle_Button16
- Throttle_Button17
- Throttle_Button18
- Throttle_Button19
- Throttle_Button20
- Throttle_Hat1
- Throttle_Hat2
- Throttle_Hat3
- Throttle_Hat4
- Throttle_Hat5
- Throttle_Hat6
- Throttle_Hat7
- Throttle_Hat8
- Throttle_DPad1_Up
- Throttle_DPad1_Down
- Throttle_DPad1_Left
- Throttle_DPad1_Right
- Throttle_DPad2_Up
- Throttle_DPad2_Down
- Throttle_DPad2_Left
- Throttle_DPad2_Right
- Throttle_DPad3_Up
- Throttle_DPad3_Down
- Throttle_DPad3_Left
- Throttle_DPad3_Right
- Throttle_DPad4_Up
- Throttle_DPad4_Down
- Throttle_DPad4_Left
- Throttle_DPad4_Right
- Joystick_Button1
- Joystick_Button2
- Joystick_Button3
- Joystick_Button4
- Joystick_Button5
- Joystick_Button6
- Joystick_Button7
- Joystick_Button8
- Joystick_Button9
- Joystick_Button10
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- Joystick_Button14
- Joystick_Button15
- Joystick_Button16
- Joystick_Button17
- Joystick_Button18
- Joystick_Button19
- Joystick_Button20
- Joystick_Hat1
- Joystick_Hat2
- Joystick_Hat3
- Joystick_Hat4
- Joystick_Hat5
- Joystick_Hat6
- Joystick_Hat7
- Joystick_Hat8
- Joystick_DPad1_Up
- Joystick_DPad1_Down
- Joystick_DPad1_Left
- Joystick_DPad1_Right
- Joystick_DPad2_Up
- Joystick_DPad2_Down
- Joystick_DPad2_Left
- Joystick_DPad2_Right
- Joystick_DPad3_Up
- Joystick_DPad3_Down
- Joystick_DPad3_Left
- Joystick_DPad3_Right
- Joystick_DPad4_Up
- Joystick_DPad4_Down
- Joystick_DPad4_Left
- Joystick_DPad4_Right