



VIVE™

VIVE Cosmos Get Started Guide

Release version: 2.4

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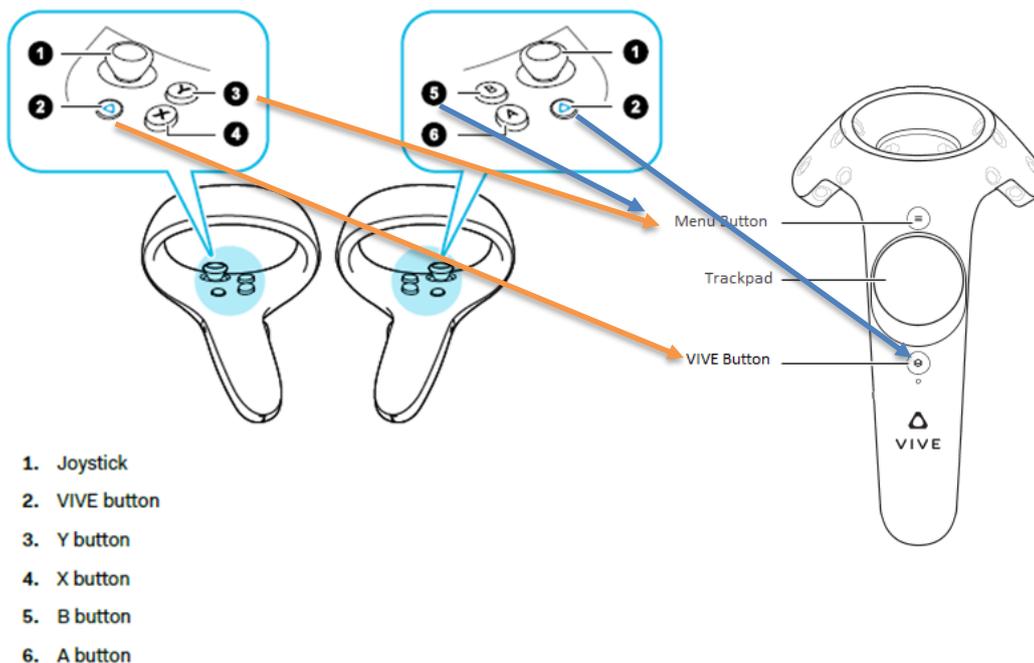
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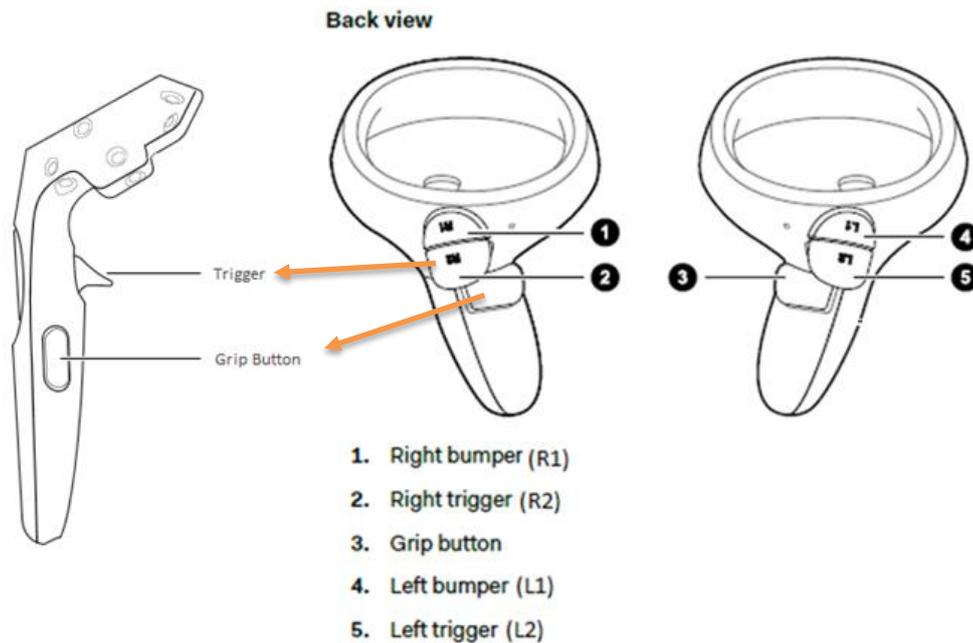
VIVE Cosmos Software Essentials

1. The VIVE Cosmos software is compatible with OpenVR SDK so you can keep using the development tools if you are using those for HTC VIVE and HTC VIVE Pro content development.
2. Please add VIVE Cosmos devices into your content support list (ex: [add one input binding file for vive_cosmos_controller](#)). The following are the name strings.

Item	VIVE Cosmos series	VIVE Pro series	VIVE Series
Input system – controller type (HMD)	vive_cosmos	vive_pro	vive
Input system – controller type (Controller)	vive_cosmos_controller	vive_controller	vive_controller
Controller model number	vive_cosmos_controller_right vive_cosmos_controller_left	vr_controller_vive_1_5	vr_controller_vive_1_5

3. VIVE Cosmos Controller key mapping





The following are button values for legacy input bindings:

Left Controller buttons	Value	Right Controller buttons	Value
Joystick - position value	k_EButton_SteamVR_Touchpad.x k_EButton_SteamVR_Touchpad.y	Joystick - position value	k_EButton_SteamVR_Touchpad.x k_EButton_SteamVR_Touchpad.y
Joystick - cap	k_EButton_Axis4.x	Joystick - cap	k_EButton_Axis4.x
Joystick - click	k_EButton_SteamVR_Touchpad	Joystick - click	k_EButton_SteamVR_Touchpad
VIVE button	k_EButton_System	VIVE button	k_EButton_System
Y button	k_EButton_ApplicationMenu	B button	k_EButton_ApplicationMenu
X button	k_EButton_A	A button	k_EButton_A
Bumper (L1) button	k_EButton_Axis3	Bumper (R1) button	k_EButton_Axis3
Trigger - value	k_EButton_StreamVR_Trigger.x	Trigger button	k_EButton_StreamVR_Trigger.x
Trigger - cap	k_EButton_Axis4.y	Trigger - cap	k_EButton_Axis4.y
Trigger (L2) - click	k_EButton_StreamVR_Trigger	Trigger (R2) - click	k_EButton_StreamVR_Trigger
Grip button	K_EButton_Grip	Grip button	K_EButton_Grip

Input 2.0 definition

Left Controller buttons	Type	SW Version: Demo 0.8.2 Value	SW Version: Demo 0.8.4 Value
Joystick	joystick	/input/joystick/click	/input/joystick/click
		/input/joystick/touch	/input/joystick/touch
		/input/joystick/x	/input/joystick/x
		/input/joystick/y	/input/joystick/y
Trigger(L2)	trigger	/input/trigger/click	/input/trigger/click
		/input/trigger/touch	/input/trigger/touch
		/input/trigger/value	/input/trigger/value
Grip button	trigger	/input/paddle_heavy/click	/input/grip/click
		N/A	/input/grip/touch
		N/A	/input/grip/value
VIVE button	button	/input/system/click	/input/system/click
		N/A	/input/system/touch
X button	button	/input/a/click	/input/x/click
		N/A	/input/x/touch
Y button	button	/input/b/click	/input/y/click
		N/A	/input/y/touch
Bumper (L1) button	button	/input/bumper/click	/input/bumper/click
		N/A	/input/bumper/touch
Skeleton	skeleton	N/A	/input/skeleton/left
Joystick_cap	N/A	/input/joystick_cap/value	N/A
Trigger_cap	N/A	/input/trigger_cap/value	N/A
Haptic	vibration	/output/haptic	/output/haptic

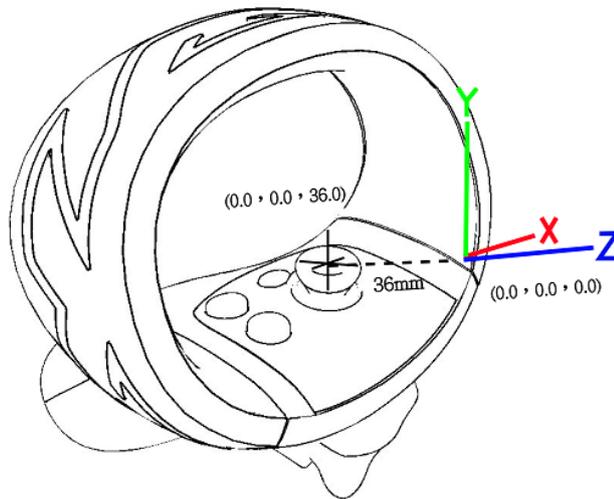
Right Controller buttons	Type	SW Version: Demo 0.8.2 Value	SW Version: Demo 0.8.4 Value
Joystick	joystick	/input/joystick/click	/input/joystick/click
		/input/joystick/touch	/input/joystick/touch
		/input/joystick/x	/input/joystick/x
		/input/joystick/y	/input/joystick/y
Trigger(L2)	trigger	/input/trigger/click	/input/trigger/click
		/input/trigger/touch	/input/trigger/touch
		/input/trigger/value	/input/trigger/value
Grip button	trigger	/input/paddle_heavy/click	/input/grip/click
		N/A	/input/grip/touch
		N/A	/input/grip/value
VIVE button	button	/input/system/click	/input/system/click
		N/A	/input/system/touch
A button	button	/input/a/click	/input/a/click
		N/A	/input/a/touch
B button	button	/input/b/click	/input/b/click
		N/A	/input/b/touch
Bumper (L1) button	button	/input/bumper/click	/input/bumper/click
		N/A	/input/bumper/touch
Skeleton	skeleton	N/A	/input/skeleton/right
Joystick_cap	N/A	/input/joystick_cap/value	N/A
Trigger_cap	N/A	/input/trigger_cap/value	N/A
Haptic	vibration	/output/haptic	/output/haptic

Render model pose tip

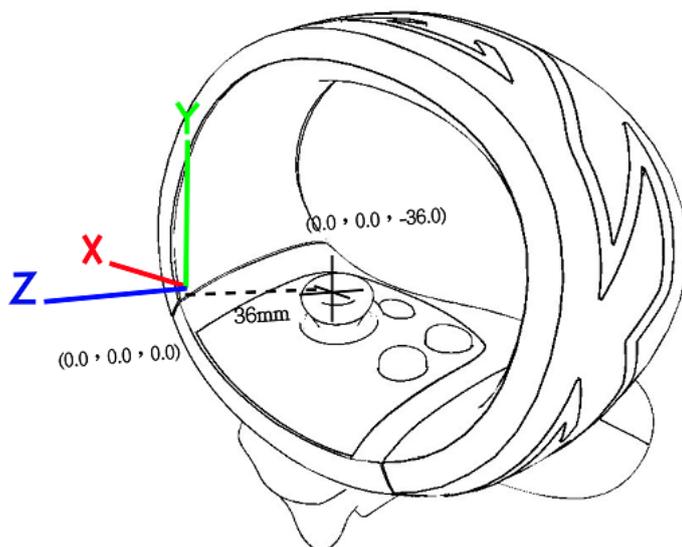
	SW Version: Demo 0.8.2 Value	SW Version: Demo 0.8.4 Value
rotation_xyz	[0.0, 45.0, 90.0]	[-30.0, 0.0, 0.0]

4. Controller origin point

Right Controller



Left Controller



5. Other Info

- 3D controller models are included with the Getting Started Guide zip file
- Two versions of the models are provided without the rings and with the LED rings (v1)
- Unity Prefabs are included for each controller (Left/Right)
- For Vive Input Utility Unity (VIU) plugin and when directly using the Unity XR APIs, the bindings are not required. Legacy bindings are automatically applied when using legacy SteamVR 1.x.

VIVE Recommendations

Scenario A: Rendering VIVE Controller model and showing incorrect hint for buttons

- **Recommendation**
 - If you are designing your own controller model then please refer to the new button mapping and change the position of the hint.
 - If you are copying the model data and building it in to your own project, we have provided the new model in the same package so you can quickly modify your asset and hint.

Scenario B: Joystick is not working correctly due to touch status

- **Symptom** Some content will retrieve the coordinate of the touchpad to simulate the swipe behavior or use a specific touch point. The functionality might seem inconsistent.
- **Recommendation**
 - A user may rest his or her thumb on the edge of the joystick cap while moving the joystick. In such a case, if the content requires the specific the position value based on touch status like

Example of generic reading axis value on touchpad

```
If (controller.GetTouch(Touchpad_Id))
```

```
    Vector2 Pos = controller.TouchPad.GetAxis()
```

- The content may not be able to acquire the movement of the joystick. You may need to review the design and check if it is possible to ignore the touch status and retrieve the coordinate directly.

Scenario C: Joystick coordinate is inaccurate

- **Symptom** The content wants to retrieve the coordinate on the touchpad where the user is touching or pressing. In some cases, the content may retrieve an inaccurate coordinate from which the user intended.
- **Recommendation**
 - Please be aware the joysticks are self-centering when released. If the content keeps reading the coordinate in each frame, then the coordinate will be changed when the joystick is re-centered.
 - Possible design change:
 - Requiring pressing / clicking before releasing
 - Change the coordinate that is not dependent on the precise area. Take the color wheel as an example. The position of the color picker will be consistent even if the application keeps reading the coordinate while the joystick is being released.



Scenario D: Swiping behavior is incorrect

- **Symptom** The content requires the user to swipe the touchpad in order to trigger some UI behavior. Such action may not work correctly on the Cosmos controllers.
- **Recommendation** Please have your own logic to calculate the vector based on the coordinate change on the touchpad. The mechanics of the joystick is different with the touchpad so please be aware and change the design to use the joystick direction natively instead of simulating swiping.

Content on VIVEPORT already?

1. Log into your VIVEPORT account
2. Update your existing title
3. Submit as Beta in the VIVEPORT Developer Console, and then invite review@viveport.com as a Beta tester.
4. The beta guide is at: <https://developer.viveport.com/documents/viveport-beta-testing-guide.pdf>
5. The general VIVEPORT submission guide is at: <https://developer.vive.com/resources/kb/viveport/viveport-documentation/viveport-submission-docs/>
6. The developer console is at: <https://developer.viveport.com>

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