

The Access Controller

Making gaming accessible



White Paper by Alex Cuvelier
Access ~~Controller~~-controller designed by Sony
November 22, 2024

Executive Summary

The purpose of this document is to ~~showcase show~~ how Sony's ~~Access controller~~ can provide ~~an accessible controller~~ accessibility for PlayStation 5 gamers with disabilities ~~using the PlayStation 5~~.

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The video game industry has seen a dramatic increase in accessibility options in video games, including in-game options to aid players with visual and hearing impairments. However, the options for players whose disabilities limit their movement have been slower to improve.

Until 2023, the ~~only two modern option options~~ for an accessible controller ~~was were~~ the Xbox Adaptive Controller, ~~a hub for external third party inputs~~ and the Logitech Adaptive Gaming Kit. The Xbox Adaptive Controller retails for \$129.99 CAD, and ~~a the~~ Logitech Adaptive Gaming Kit ~~that contains the necessary extra inputs~~ costs \$129.99 CAD. This high price point left players with disabilities without an easy and affordable option to play games on a PlayStation 5.

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Commented [JG3]: The "hub for external third-party inputs" is unnecessary. Delete this phrase. Provide this level of detail later in the document.

~~Designed by Sony for the PlayStation 5. The the~~ Access Controller ~~controller~~ is a fully customizable controller ~~native to the PlayStation 5~~ that allows players to configure their optimal setup based on their unique physical needs. The Access Controller ~~controller~~ is an all-in-one solution that enables players to overcome many of the most common limiting factors of using a standard DualSense controller. The Access controller was developed ~~in partnership~~ with ~~groups stakeholders from the~~ accessibility community, including AbleGamers, Stack-Up, and Special Effect, to ensure that the features would meet the needs of the players it was designed for. ~~Those features include:~~

- **Swappable button and stick caps:** ~~The ability allow to reconfigure the best~~ layout for the player's mobility.
- **360° orientation** ~~Orientation and adjustable stick length:~~ ~~to allow players~~ ~~to~~ The ability to position the Access controller anywhere ~~they players~~ choose.
- **Interconnectivity:** The ability to connect the Access control to another Access ~~Controller~~ ~~controller~~, a DualSense controller, and up to four external inputs through 3.5 mm jacks ~~to create the optimal controller setup~~.
- **Customizable:** The ability ~~30 customizable profiles to allow players~~ to set up and swap 30 profiles between configurations for different games and uses.

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PlayStation.

The Access Controller i

The Access controller is the premiere accessibility hardware solution to many of the barriers that players face in modern gaming. The Access ~~Controller~~ controller is available now for \$119.96 CAD.

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Glossary

Accessibility: The efforts and decisions that work towards making products and services usable by people with disabilities [1].

Disability: Any condition that impairs a person's movement, senses, or ability to engage in activities [1].

Console: A specialized computer that is hooked to an external display and is used to play video games. Though modern consoles may have many functions, their primary use is always to play video games [2].

Controller: A handheld electronic device that is used to interact with consoles either through a wired or wireless connection. Controllers typically feature a layout of buttons and sticks that serve as the user's input methods [3].

1. Introduction

The purpose of this white paper is to inform gamers with disabilities about a new controller option that allows them to meet their individual needs while playing the PlayStation 5.

Accessibility in video games has long been a topic of discussion in the industry, but not one that has always gotten the attention it deserves. Studies show that over 45% of US adults with disabilities play video games [4]. That's over 19 million people in the US alone who have been underserved by the gaming industry [5].

Thankfully, accessibility in gaming is ~~increasing as a focus for catching the attention of~~ both video game developers and hardware manufacturers. Accessibility settings in games are increasingly commonplace, including options to aid gamers with hearing or visual impairments. The solutions for gamers whose disabilities limit their movements have been slower to improve.

~~The first accessibility focus controller was the Hands Free Controller (HFC) for the Nintendo Entertainment System (NES) in 1989. In 1989, Nintendo Entertainment System created the Hands Free Controller (HFC), the first accessibility-focused controller [6].~~ The HFC used a "sip and puff" method to register inputs ~~along with using~~ a chin-operated joystick. The HFC was far from mainstream. It was only sold ~~through in~~ Nintendo's customer service line and could not be bought in stores. ~~Even then, At the time,~~ this unit cost \$167.70 CAD, ~~adjusted for inflation, Adjusted for inflation,~~ that's a price tag of \$426.91 CAD in 2024—a prohibitive price for many customers.

Modern options for accessible controllers have greatly improved, such as the Xbox Adaptive Controller, ~~which works as a hub for external inputs with a few buttons of its own.~~ However, gamers who want to enjoy one of the most popular modern video game consoles, the PlayStation 5, have been left with few satisfying options.

Until now.

The Access controller from Sony presents an all-in-one solution to many of the most common limiting factors for gamers with disabilities.

This white paper will discuss the following:

- A look into the accessibility trends ~~of accessibility~~ in the gaming industry

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- An examination of the Access controller
- A reflection on how the Access controller can benefit ~~the user~~users

2. Accessibility in Video Games

This section will describe what the landscape of disabilities in gaming looks like and how the current hardware solutions are meeting the needs of gamers with disabilities.

2.1 Accessibility on the Rise in Gaming

Recently, there has been a substantial upswing in including accessibility options in video games. Released in 2020, *The Last of Us 2* was a monumental achievement in accessibility options. With more than 60 customizable settings, *The Last of Us 2* allowed gamers to tailor their experience to meet their unique needs [7]. Options, such as subtitles and joystick sensitivity adjustments, have been long-standing aids for gamers across the ability spectrum, ~~but new~~New additions, such as high-contrast modes and combat vibration cues, have opened games like *The Last of Us 2* and *God of War Ragnarök*—with over 70 customizable setting—to an enormous audience who otherwise would not have been able to enjoy these titles [8].

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2.2 Accessibility Shortcomings in Hardware

While gameplay features are becoming increasingly customizable, the hardware that allows gamers to interface with games has not kept up. It is no secret that conventional video game controllers leave much to be desired for people with physical disabilities. Limiting factors, such as precise finger positioning and small button sizes, can make conventional controllers impossible for some gamers to use. Making controllers accessible was often left to third-party companies, requiring customers to buy additional input devices and adapters to allow these pieces of hardware to work with their consoles.

There are many popular controllers that make gaming more accessible for people with disabilities. Most prevalent today is the Xbox Adaptive Controller, which describes itself as “a unified hub for devices that helps make gaming more accessible” [CITATION]. This product features ~~only~~a directional pad and two mappable buttons for ~~the price of~~\$129.99 CAD and requires additional inputs ~~that~~are not sold by Microsoft. Logitech sells an Adaptive Gaming Kit containing additional input hardware that functions with the Xbox Adaptive Controller for an additional \$129.99 CAD, bringing the cost of ~~just a one function functional~~controller for a person with a disability to \$259.98 CAD.~~7~~

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2.3 Accessibility and the PlayStation 5

Previously, players who wanted an accessible controller for the PlayStation 5 would have to use ~~one of the~~ third-party ~~options~~ ~~option~~ that ~~require~~ ~~requires~~ external inputs and an adaptor to allow the hardware to connect to the console. An ideal solution for gamers with a disability would be a controller that is:

- Native to the PlayStation 5 for a seamless experience
- Fully customizable to accommodate a wide range of physical needs
- Available at a reasonable price

~~Now, the~~The Access controller is available as a fully customizable input native to the PlayStation 5. This will allow players to purchase an all-in-one solution for only \$119.96 CAD that offers solutions to the most common barriers to gaming that people with disabilities face.

3. The Access Controller

This section will provide a description of the Access controller, a brief history of its development, a look at what comes in the box, and how ~~the user~~users can configure the Access controller to meet their needs.

3.1 The Access Controller Defined

The Access controller is a customizable controller kit for the PlayStation 5 designed for accessibility. The Access controller features swappable button caps, an adjustable analog stick, fully configurable inputs allowing for multiple profiles, the ability to connect with another Access controller or ~~DualShock~~ DualSense controller, and additional accessories through 3.5 mm expansion ports to create the optimal interface for the user. The Access ~~Control~~ controller was designed with ~~input and~~ guidance from the accessibility community through collaboration with ~~groups including~~ AbleGamers, Stack-Up, and Special Effect [9].

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3.2 Developing the Access Controller

Sony ~~first~~ introduced the Access controller in January ~~of 2023~~ under the name as Project Leonardo. The goal was to enable the 1.3 billion people worldwide who live with significant disabilities to play games in a way that is easier and more comfortable for them [9]. ~~Accessibility features in video games have been on the rise, but the hardware has not kept pace [10].~~ The Access controller is Sony's premiere

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hardware option that addresses the following main difficulties affecting players with disabilities:

- Holding a standard controller for long periods
- Pressing small buttons accurately
- Positioning fingers and thumbs optimally

By listening to and working with the community, Sony created a device that users can customize to meet their individual needs and allow them to play the games they love without the difficulties imposed by their disabilities.

3.3 Unboxing the Access Controller

Inside the accessibility-focused packaging, designed to be opened single-handedly, you will find the following [1]:

Table 1 - The components of the Access controller and their functions

| Component | Function |
|--|---|
| <ul style="list-style-type: none">• Access controller• USB cable• Quick start guide and safety guide | Everything that is Items needed for the user to set up and to begin using the Access controller. |
| <ul style="list-style-type: none">• 8x Pillow button caps• 4x Flat button caps• 4x Curve Button-button caps• 2x Overhang button caps• 1x Wide flat button cap | A selection of different shaped <u>Unique</u> button caps allow s the user <u>users</u> to configure the Access Control-controller to their range of mobility. |
| <ul style="list-style-type: none">• Standard stick cap• Dome stick cap• Ball stick cap | Joystick caps of different shapes and textures allow-give the user <u>users</u> optimal control. |
| <ul style="list-style-type: none">• 23x Tags | Used-Tags used to mark the customized layout of the buttons with the input .(R1, Triangle, L3, etc.) . |

The figures below show a detailed look at some of the Access controller's features.

- Figure 1 shows the major physically customizable components of the Access controller.
- Figure 2 shows the expansion ports and USB-C ports on the side of the Access controller.
- Figure 3 shows the 10-24 mounting screw placement for AMPS mounting.

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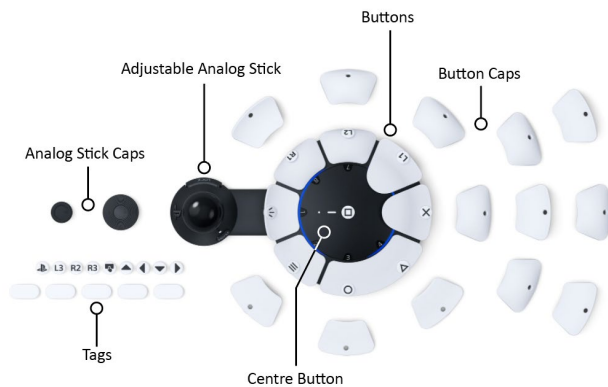


Figure 1 - Customizable components of the Access controller [12]



Figure 2 - Side view of Access controller ports [13]

Figure 3 - Bottom view of ~~AMPS~~ screw-holes [13]

3.4 Using the Access Controller

Once ~~the user has~~users configured the buttons and analogue stick to their ideal layout, they can further customize the Access controller through the PlayStation Menu. Settings, such as analogue stick sensitivity and deadzone, can be calibrated to a user's personal needs, buttons can be remapped or disabled, and users can create up to 30 control profiles, allowing users to switch layouts for different games quickly [14].¹

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4. Benefits of the Access Controller

The Access controller is the only device that allows players to tailor their experience with the PlayStation 5 to reflect their individual needs. The Access controller works as a stand-alone option while still allowing players to expand their setup by connecting to another Access controller, a DualSense controller, or up to four external inputs through industry-standard 3.5 mm jacks. The main features and benefits of the Access controller are explained in the table below.

Table 2 - Features and Benefits of the Access ~~Controller~~controller

| Feature | Benefit |
|---|--|
| <ul style="list-style-type: none">Swappable Button and Stick Caps | Allows the user to configure the controller in the best way to suit their mobility needs. |
| <ul style="list-style-type: none">Adjustable Stick Length | Allows the stick to be placed at an ideal distance for the user's comfort. |
| <ul style="list-style-type: none">360° orientation<u>Orientation</u> | Allows the Access controller to be placed wherever is most comfortable for the user. |
| <ul style="list-style-type: none">Expandable Configuration and 3.5 mm Jacks | Allows for creating the optimal setup for the user's gaming experience. |
| <ul style="list-style-type: none">30 Custom Profiles | Allows the user to set unique controller configurations and three <u>thirty</u> profiles that can be swapped at will depending on the user's needs in-game. |

If you are ready to experience a new level of accessibility on the PlayStation 5, visit the [PlayStation Access controller website](#) for more information or to get your Access controller today for only -\$119.96 CAD.



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