HA-8-3 Game Console/Joystick Ideas

Thumb sticks from Adafruit or Sparkfun
https://www.adafruit.com/product/512

Connections to HA-8-3 Joystick Headers P7-P10:
Vcc   Pin 3, Vref, +10v
XOut   Pin 10, Ai0/2/4/6
YOut   Pin 9, Ai1/3/5/7
Sel   Pin 8, IOA0/2/4/6
GND   Pin 1, GND

This is for the typical HA-8-3 configuration, where Port A is input and Port B is output. The configuration/direction of DIO pins on the AY-3-8910 is software configurable.

https://www.adafruit.com/product/3489
Available in five colors. Very rugged pushbutton – designed for gameplay. Integral LED with built-in dropping resistor for easy hookup to 5v circuit.

https://www.servocity.com/2-function-joystick-ball-stick/
10K potentiometers – much easier to control than the thumbstick.

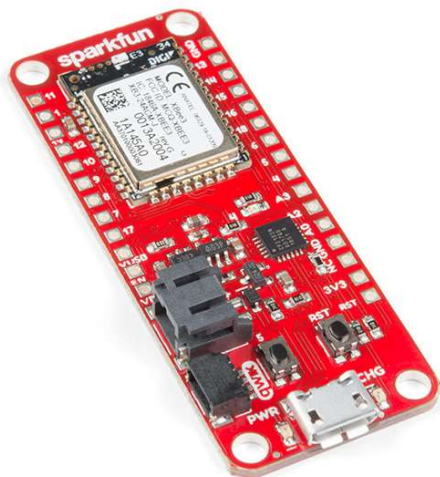https://www.servocity.com/4-function-joystick/
THREE 10K potentiometers. The pushbutton at the top of the stick is especially convenient for gameplay.

WIRELESS remote control! A terrific "starter kit" to cut the cord. Requires a though-hole XBEE 2 or 3 RF module for the transmitter, and an XBEE 2 or 3 + breakout board for the receiver. The receiver must be scratch-built (easy, just a few components). This Sparkfun kit can be assembled in many different ways – two thumbsticks, or one thumbstick plus four pushbuttons. Includes two front "fire" buttons in all configurations. The XBees allow direct connection to the HA-8-3 because they can translate the analog voltage input at the remote end to a PWM varying-voltage output at the receiving end. As far as the HA-8-3 and software is concerned, it's looking at a directly attached potentiometer – no software changes are required, and the XBee remote can be plugged in directly to the joystick connector.

Sparkfun XBee 3 "Thing" contains just about everything needed to build a custom wireless transmitter OR receiver for a wireless joystick. Has on-board LiPO battery charging circuitry.

Here's a receiver built from the Sparkfun XBee "THING", put in a small plastic enclosure:

This same wireless receiver works with either the Sparkfun wireless remote, or the custom built wireless remote shown here:

The "fire" button located at the top of the joystick is very convenient to use with gameplay. You can play with one hand, and don't have to remove your hand from the joystick control to send button commands.

Here's a wired controller, with five potentiometers and three pushbuttons:

Tensility ultra-flexible UL2464 28awg cable was used to connect to the HA-8-3-1.