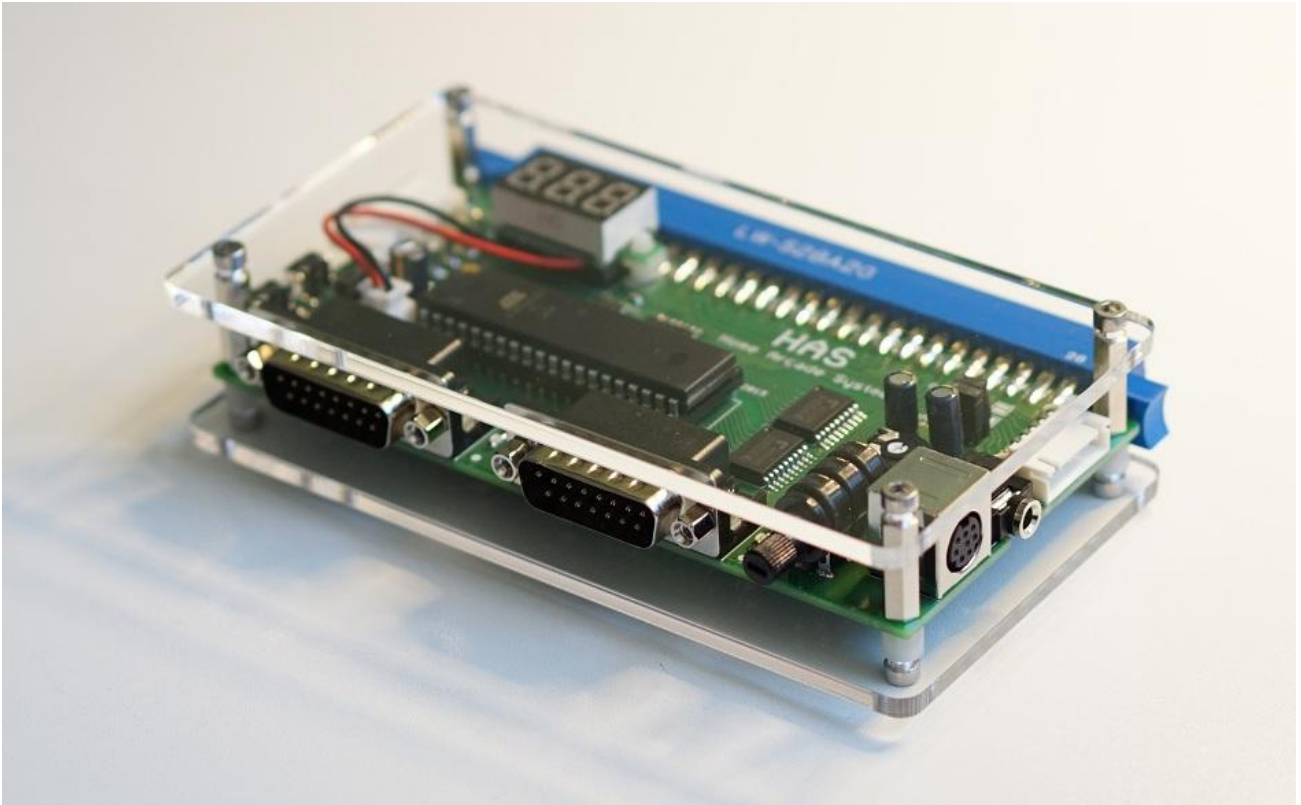


HAS v2

Home Arcade System



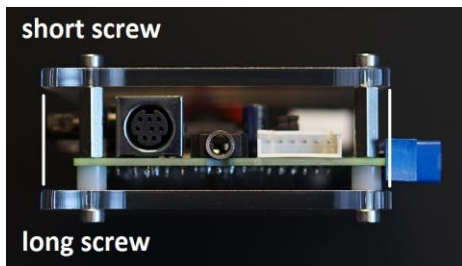
CARE, USE, SAFEGUARDS

HAS, just like every other device with exposed electronic components is ESD sensitive and prone to physical damage. Improper handling can permanently damage the device. Below is the list of the most basic rules that can help you prevent damage:

- Do not use HAS without its acrylic glass covers.
- When connecting HAS to a PCB game make sure the JAMMA connector is properly aligned to avoid damage.
- Disconnect HAS slowly and carefully, do not force it.
- Do not wear any clothing that conducts electrical charge when you hold or touch HAS or your PCB game.
- Do not place HAS on fabric, or any other fibrous surface, like carpets etc. Place it on a clean dry table, wooden floor, cardboard etc.
- It is a good practice to wear an antistatic wrist strap whenever you are handling HAS or PCB games in general. The end of the wrist strap should be attached to a good grounding point - the metal chassis of the PC, pipes, the radiator, etc.
- When not used, you can store your HAS in an antistatic bag.
- Do not keep HAS in an antistatic bag when you're actually using it ! The surface of the antistatic bag is conductive.
- Try to hold the acrylic case along its edges or at least near the bolts. Do not apply force directly to the centre of the acrylic glass.
- Do not touch contacts or surface mount components, especially the microcontroller.
- Never wipe HAS PCB, wiping can induce ESD. Use clean canned compressed air and a soft bristle brush instead.
- Keep HAS away from children and animals.
- Never connect or disconnect cables, controllers or adapters when HAS is turned ON. This may result in short circuit and can damage or even destroy the device or your PCB game.

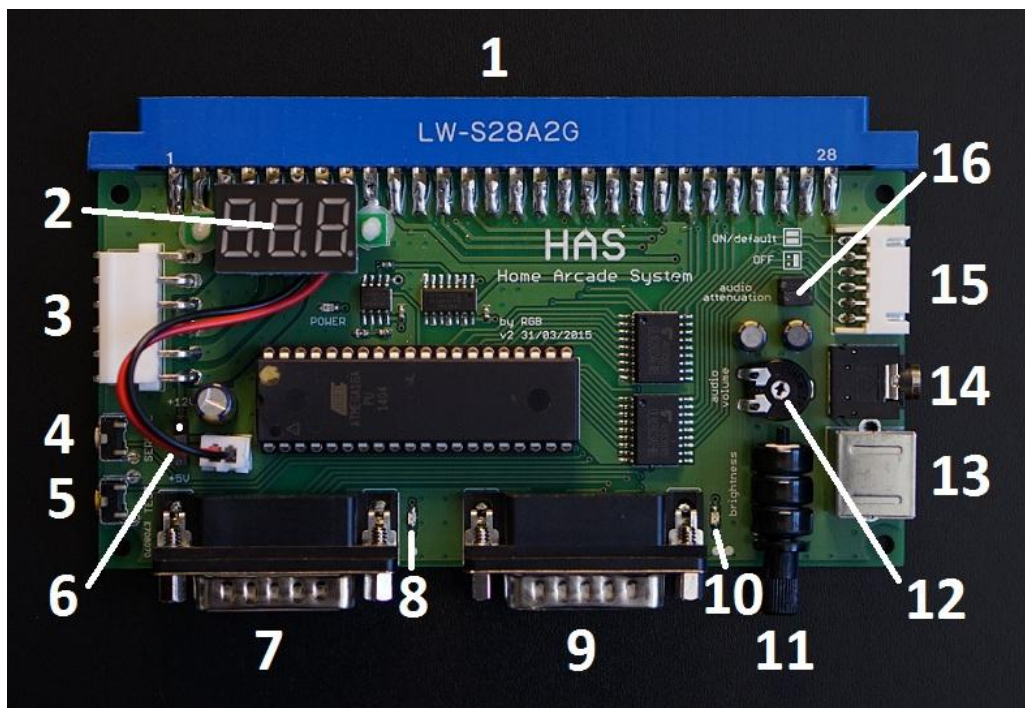
Installation

- 1 Assemble the acrylic glass case - the acrylic glass should cover the DB15 connectors and the brightness knob.



- 2 Make sure that the power supply for HAS is disconnected from the electrical outlet. Attach the HAS power supply cable to the power supply unit.
- 3 Connect the power supply cable, AV cable, controllers/converters and kick harness to HAS.
- 4 Plug in HAS to a JAMMA PCB game.
- 5 Power on HAS by connecting the power supply to the electrical outlet (never connect the PSU cable to HAS when the PSU itself is turned ON). If everything works correctly, a yellow LED will light up and both status LEDs will blink rapidly for a second.

Location of Connectors



1. JAMMA connector.
2. Digital voltmeter.
3. Power supply connector.
4. SERVICE button.
5. TEST button.
6. Measured voltage jumper. Only change the jumper position when HAS is OFF.
7. Player 1 controller port.
8. Player 1 status LED.
9. Player 2 controller port.
10. Player 2 status LED.
11. Brightness potentiometer. Turn it clockwise to darken the picture.
12. Audio volume potentiometer. Turn it clockwise to turn down the volume.
13. 8 pin mini DIN Audio/Video output.
14. 3.5mm jack audio output.
15. Kick harness connector.
16. Attenuation ON/OFF jumpers. The default position attenuates the audio. When it is in OFF position, HAS will output JAMMA amplified audio.

Side note: When you connect a cable to the 3.5mm jack audio connector, it will override the audio that goes through the 8pin mini DIN.

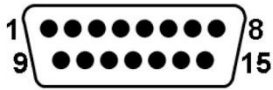
Pinout of Connectors

2. Power supply connector, 6pin 3.96mm raster, NS39 type.

GND	GND	+5V	+5V	-5V	+12V
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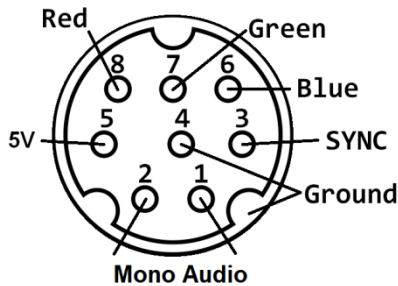
Side note: Colours of the power supply wires correspond to the colours of the table above.

7&9. Player 1 and Player 2 controller ports. The diagram shows the connector looking at HAS.



Pin	Description	Pin	Description
1	GND	9	-
2	Configurable button 5	10	Configurable button 6
3	Coin	11	Start
4	Configurable button 4	12	Configurable button 3
5	Configurable button 2	13	Configurable button 1
6	Right	14	Left
7	Down	15	Up
8	+5v	-	-

12. 8pin mini DIN. It has the same pinout as the XRGB mini and you can connect HAS to XRGB mini using a direct (1:1) 8pin mini DIN cable.



15. Kick harness connector, 6pin JST XH type. The connector can be used to connect a kick harness between HAS and your PCB game. It is for PCB games that use more than 3 buttons, but do not handle them via the JAMMA connector (CPS1, CPS2, CPS3, Namco System12 etc.).

P1 button 4
P2 button 4
P1 button 5
P2 button 5
P1 button 6
P2 button 6

Operation

Button configuration mode

❶ Press and hold down two arbitrary buttons and the START button for 3 or more seconds. After 3 seconds an appropriate status LED on the board will light up and buttons will no longer register – this means HAS has entered the buttons remapping mode and you can release the buttons.

❷ Right after you release the last of the buttons held down, you can set a new button layout by pressing buttons.

❸ Each press of a button corresponds to the JAMMA button number. If you press a button once, it will be JAMMA button 1, twice - button 2, thrice - button 3, it works up to button 6. The seventh press disables the button; the eighth press starts the countdown over. No button press means the button will not be set. Additionally, each press of a button is indicated by the status LED blink.

❹ To exit the button configuration mode and save your new layout, press the START button.

Side note: Every time you access this mode, your previous layout will be erased and you will need to set your layout anew. This is an easy and fast way to reset your settings.

Autofire mode

❶ Press and hold down one arbitrary button and the START button for 3 or more seconds. After 3 seconds an appropriate status LED on the board will light up and buttons will no longer register – this means HAS has entered the autofire mode and you can release the buttons.

❷ Right after you release the last of the buttons held down, you can enable the autofire feature by pressing buttons.

❸ Each press of a button corresponds to the autofire rate.

- One press -> 1/2 of the game's VSYNC speed,
- Two presses -> 1/3 of the game's VSYNC speed,
- Three presses -> 1/4 of the game's VSYNC speed,
- Four presses -> 1/6 of the game's VSYNC speed,
- Five presses -> 1/8 of the game's VSYNC speed,
- Six presses -> 1/10 of the game's VSYNC speed,
- The seventh press disables autofire; the eighth press starts the countdown over. No button press means the autofire will not be set.

Additionally, each press of a button is indicated by the status LED blink.

❹ To exit the autofire mode and save the settings, press the START button.

Side note: Just like in the button remapping mode, your previous autofire settings are being erased the moment you access the autofire mode. Consequently, if you want to reset all autofire settings, just enter the autofire mode and exit it without pressing any button.

TEST mode

❶ Press and hold down the START button for 10 or more seconds. After 10 seconds an appropriate status LED on the board will light up and buttons will no longer register – this means HAS has entered the TEST mode and you can release the START button.

❷ During TEST mode only physical button 1 registers and it acts as the JAMMA button TEST. It basically allows you to enter the test mode of your PCB game (if it has the test function).

❸ To exit TEST mode, press the START button.

Button layout and autofire settings reset

You can consider this a full device reset. It will erase layouts for both Player 1 and 2. To do the reset, press and hold down both Player 1 and Player 2 START buttons on the supergun start up.

Saturn to JAMMA joypad converter

Button layout in the Saturn to JAMMA joypad converter is hard programmed and is as follows:

START - Start
A - Button 4
B - Button 5
C - Button 6
X - Button 1
Y - Button 2
Z - Button 3
LEFT TRIGGER - Coin
RIGHT TRIGGER - no use