Aamon Octo (PC-800) User Manual

PURGATORY PROPS

Product Overview

The Aamon Octo requires **9-24V DC** for power.

Power can be supplied using the barrel jack or the INPUT terminal block (use for more than 2.5A).

The Octo features 8 output channels, they are recorded 4 at a time. Buttons 1,2,3,4 are the same buttons used to record 5,6,7,8.

Recording an Animation

To record the animation:

1. Hold the *REC 1-4* button until the LED turns red
2. Release the *REC 1-4* button
3. Press the output buttons (*1,2,3,4)* to control the outputs
4. Press either *REC* button to stop recording
5. Hold the *REC 5-8* button until the LED turns red
6. Release the *REC 5-8* button
7. Press the output buttons (5,6,7,8) to control the outputs
8. Press either *REC* button to stop recording

If the LED single flashes red when recording, Input 1 is being recorded, a double flash indicates Input 2 is being recorded.

You can record 1.5 hours of animation on the Aamon Octo!

Changing the Input to Record

When powered on, the controller defaults to recording for Input 1. If you wish to switch between recording Input 1 and Input 2, press and hold the *3/7* button (labeled *Input Rec Select*).

A single yellow flash indicates you will be recording for Input 1. A double orange flash indicates you will be recording for Input 2.

Playing a Recorded Animation

To play your recorded animation, press the Play button associated with the input you wish to trigger (*Play1* or *Play2*). A flashing yellow light indicates Input 1 is playing, a flashing orange light indicates Input 2 is playing.

Recording the Ambient Animation

To record the ambient animation:

1. Press and hold the *4/8* button
2. Release the *4/8* button when LED turns magenta
3. Press the *REC* button for the outputs you wish to record
4. Press any *REC* button again to begin recording
5. Press the output buttons to control the outputs you selected
6. Press any *REC* button to stop recording

Ambient sound files placed on the MicroSD card will automatically play with no need to record an ambient animation.

Playing the Ambient Animation

The ambient animation will automatically loop until the controller is triggered.

The LED will flash green when the ambient animation is playing.

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Write Protect Mode

The write protect mode prevents recording a new animation. This can be toggled by holding the *Play1* button when turning on the controller until the LED flashes red.

When in Write Protect Mode, the LED will be purple instead of green when waiting for a trigger.

Volume Adjustments

With the controller in standby or playing the ambient animation press the *1/5* button to lower the volume, press the *2/6* button to increase the volume.

When the LED flashes blue you have reached maximum or minimum volume.

At full volume, the amplifier will use 60 watts, this means you will need AT LEAST a 5A power supply.

Ambient Resume

Ambient Resume mode (read **Controller Configuration** for setting Ambient Resume) makes the controller resume in the same spot in the ambient animation it was at when it was interrupted by a trigger. The sound and the outputs will resume when the recorded animation is done playing.

No Loop Mode

When the controller is in No Loop Mode (read **Controller Configuration** for info on setting No Loop Mode) the controller will not continue to trigger if the input is still set. Once the input has been triggered, the trigger must be cleared before it will trigger again.

Pre & Post Delays

The pre delay is a recorded amount of time that happens when the controller is triggered. After the delay has happened the trigger sound and recorded animation will play.

The post delay happens after the recorded animation, once the post delay has finished the controller will go back to standby mode or play the ambient animation.

During testing, press the Play/Rec button to skip the delay you have set.

MP3 Mix Mode

MP3 Mix Mode (read **Controller Configuration** for info on setting this Mode) changes how the controller plays sound files. Instead of playing a single sound file during the Ambient or Trigger animation, the controller will play all of them consecutively allowing you to chain together different sounds into one long sound.

Trigger After Ambient Mode

Trigger After Ambient Mode (read **Controller Configuration** for info on setting this Mode) allows you to use the Ambient animation as a timer for your controller. Once the Ambient animation has finished playing it will automatically trigger the Trigger animation.

Alternate Inputs Mode

This mode allows the controller to have two different animations for a single trigger. You record both Input 1 and Input 2 animations, then when Input 1 is activated it will switch between the two animations each time it plays.

Lock Until Input 2 Mode

This mode is meant for escape rooms. When Input 1 is triggered the controller will play the recorded animation and go into lock mode. The only way to release lock mode is by triggering the controller with Input 2. This will play the Input 2 animation and then send the controller back to standby, acting as a controller reset.

Output 0 will remain on during Lock Mode.

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Output Layering

Output Layering is the process of recording outputs individually instead of all at once, allowing for finer control.

To layer the outputs, follow these steps:

1. Press and Hold the *REC* button you require until LED turns red
2. Press the buttons for the outputs you wish to toggle (while still holding the *REC* button)

Pressing one of the output buttons will result in the LED flashing either red or green.

A *red* flash indicates that output has been disabled (and will not be recorded). Any existing recording for that output will persist.

A *green* flash indicates that output is now enabled, and any existing recording for it will be overwritten.

For layering on the Ambient Animation, toggle the outputs between steps 3 and 4 from the previous instructions on recording an Ambient Animation.

The controller will remember which outputs were on/off. If you turn an output off and record, then go to record again that output will remain off! All outputs will turn on when switching between Trigger/Ambient recording, or when the controller is powered off and back on.

Inverting Outputs

Due to the limited number of buttons on the Octo inverting outputs is a little more complicated than on the Quadro.

An inverted output means that it will by default be on. When you are recording and press the button it will turn off the output.

Follow the table below when turning on the controller to invert the outputs.

Power Up Button Combination	Output to Invert
1	Output 1
2	Output 2
3	Output 3
4	Output 4
1 + 2	Output 5
1 + 3	Output 6
1 + 4	Output 7
2 + 4	Output 8

When powering on the controller only hold one of these button combinations.

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Cloning

Cloning is the process of making an exact copy of one Octo on another Octo. This process makes it easy to create dozens of the same animation, without needing to record the animation on each controller. To clone your controller, first set the configuration and animations.

Cloning requires a MicroSD card and for the target controller to NOT be in Write Protect mode.

Once you are ready to clone, follow this process:

1. Turn off the controller
2. Press and Hold *Play1 + 2 + 4*
3. Turn on the controller
4. When the LED turns blue let go of *Play1* (but continue to hold *2 + 4*)
5. Release all buttons when LED turns red

Once the LED turns red you will get a colorful light show on the LED. This is the controller writing the configuration and animations to the MicroSD card.

When the LED turns green the process has been completed.

Now, create copies of ALL the files on the MicroSD card or save the entire folder structure (sound files and all) to a computer for later duplication.

When you put a MicroSD card with the cloned files in another Octo (not in Write Protect Mode) it will **AUTOMATICALLY** load the saved configuration and animations when powered on. It will then remove the save files from the MicroSD Card (so they MUST be saved somewhere else).

You have now cloned an Octo.

Firmware Update

When updating the firmware follow these steps:

1. Turn off controller
2. Place firmware update file (`PC-800.BIN`) on the MicroSD card
3. Put MicroSD card back into controller
4. Turn on controller (the LED will be off for a few seconds while the firmware updates)
5. Four blue flashes indicate firmware was updated

If you do not receive four blue flashes, turn off the controller and try powering it back on again. If you do not receive the four blue flashes after five attempts, it is possible that you are trying to update to the same firmware version.

Identifying Firmware Version

To check your firmware version, delete the `version.txt` file on the MicroSD card, and turn back on the controller. Doing this will regenerate the `version.txt` file with the details of your controller.

The `version.txt` file will be regenerated after a firmware update.

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Controller Configuration

The Aamon Octo has different settings that can be configured by using different button combinations when turning on the controller.

Turn the controller on while holding the buttons as listed below, you will see the LED flash blue. Keep holding the buttons. **When the LED flashes red you may release the buttons as the configuration was set.**

Power Up Button Combination	Configuration
1, 2, 3, 4 (and combinations)	Toggle Inverted Outputs (see *Inverting Outputs* section for details)
Play1	Toggle Write Protect
Play1 + 1	Output 0 Default Mode
Play1 + 2	Output 0 Start Mode
Play1 + 3	Output 0 End Mode
Play1 + 4	Output 0 Start & End Mode
Play1 + 1 + 2	Output 0 Strobe Mode
Play1 + 1 + 3	Toggle No Loop Mode
Play1 + 1 + 4	Toggle Ambient Resume
Play1 + 2 + 3	Record Pre Delay
Play1 + 2 + 4	Record Post Delay
Play1 + 3 + 4	Clear Pre & Post Delays
Play1 + 1 + 2 + 3	Toggle MP3 Mix Mode
Play1 + 1 + 2 + 4	Toggle Trigger After Ambient
Play2	Toggle Alternate Inputs
Play2 + 1	Toggle Input 1 Interruptible
Play2 + 2	Toggle Input 2 Interruptible
Play2 + 3	Toggle Lock Until Input 2

The next configurations require you to hold *Play1* at the start but then **release *Play1* when the LED flashes blue and keep/begin holding the buttons listed.**

Power Up Button Combination	Configuration
1	Toggle Normally Closed Input 1
2	Toggle Output 0 Invert
3	Toggle Normally Closed Input 2
2 + 4	Save Program to SD Card (see *Cloning* section for details)

Factory Reset

Factory resetting the controller clears the configuration and erases the recorded animation.

1. Power on while holding *Play1*
2. Keep holding for 30 seconds after the LED flashes red
3. Release when LED turns blue (DO NOT TURN OFF CONTROLLER AT THIS POINT)
4. When LED flashes green and then flashes red again, the controller has been reset

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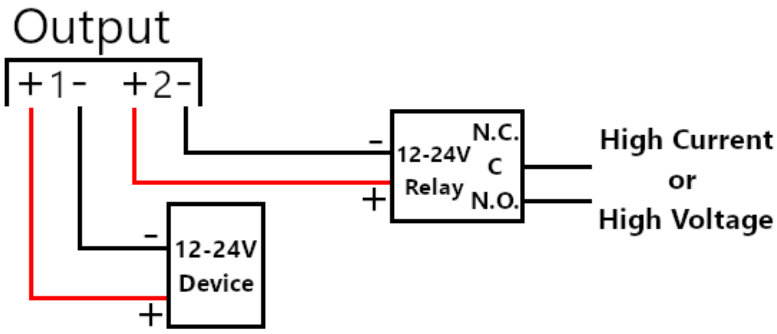
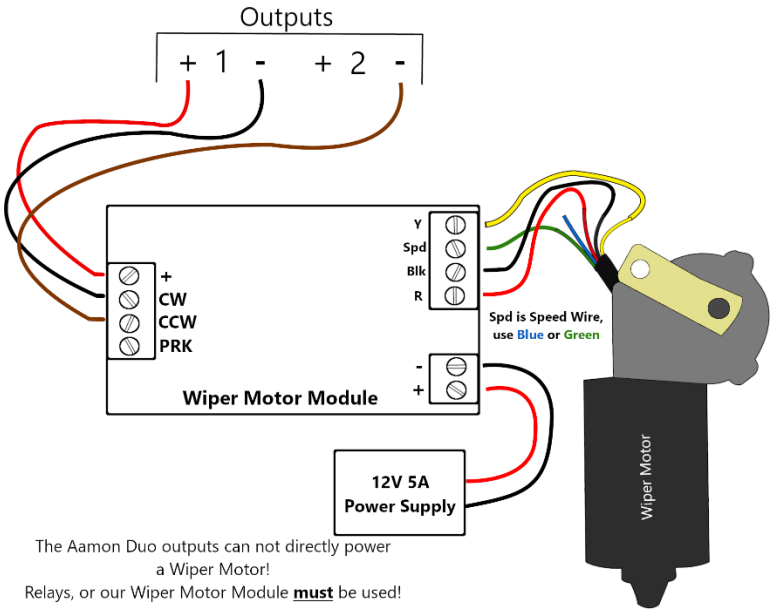
Output Wiring

The Octo has solid-state outputs. So the voltage output is the same as what the controller is being powered with. If you need to control AC voltages, or high current devices you MUST use a relay!



Basic Wiring for Solenoids and Relays

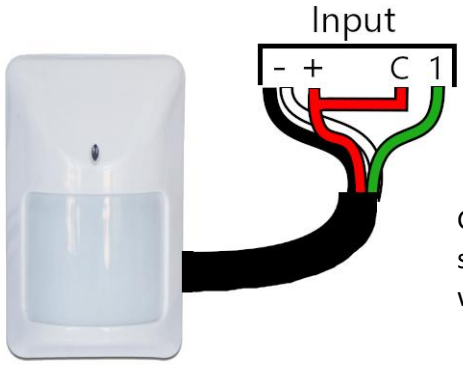


Wiring to control Wiper Motor using our Wiper Motor Module

For detailed examples and explanations on wiring please watch the videos for the Aamon Octo.

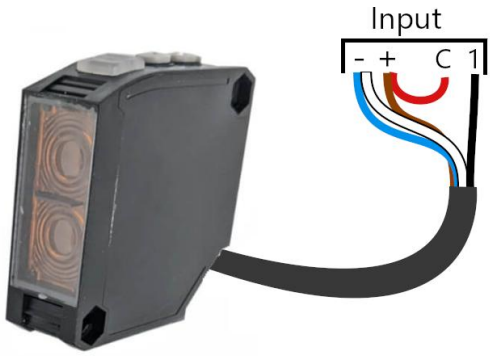
Trigger Wiring

The Aamon Octo will trigger when there is 5-24V between the C terminal and the 1 terminal. This allows you to trigger the Aamon Octo using a variety of sensors, as well as directly from other solid-state electronics (Arduinos, prop controllers, etc).

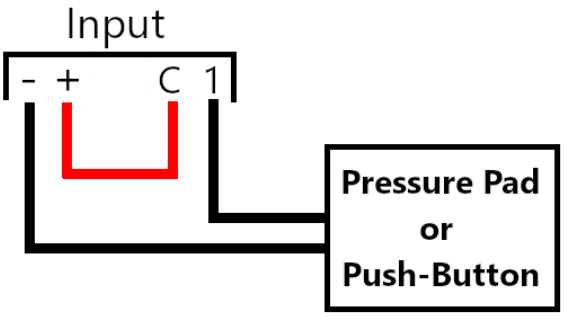


Green wire is the same as a yellow wire

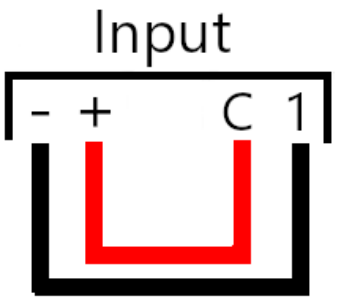
PIR Motion Sensor Wiring



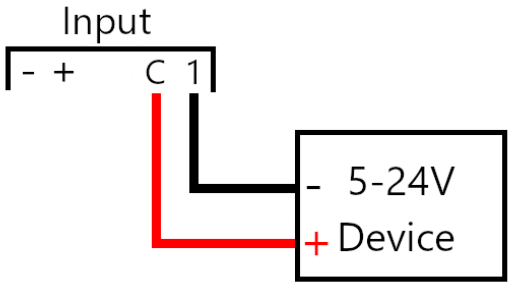
Diffused/Reflective Beam Sensor Wiring



Switch Wiring



Looped Input Wiring



Solid-State Device Wiring

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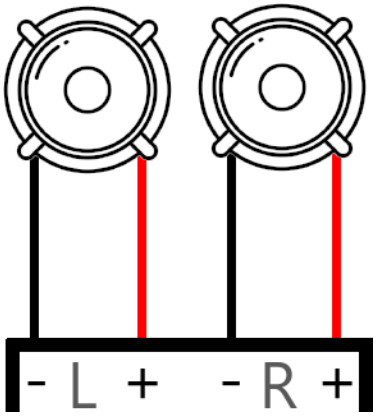
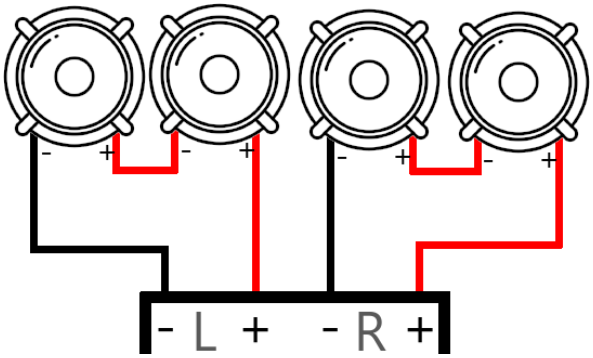
Speaker Wiring

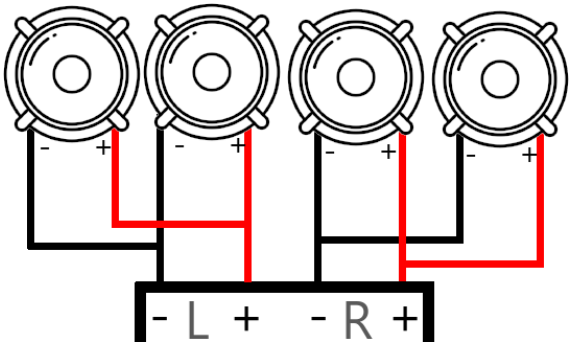
The Octo supports both 4 and 8 Ohm speakers, it can play at full volume using both. Speakers should be rated for at least 50W. Speaker wiring diagrams:



Two 4-8 Ohm Speakers

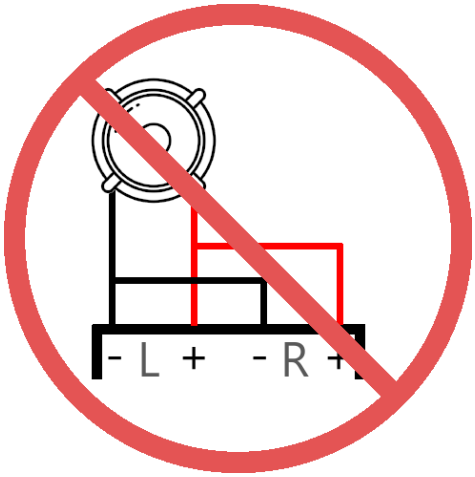


Four 4 Ohm Speakers in Series



Four 8 Ohm Speakers in Parallel

DO NOT CONNECT A SPEAKER ATTEMPTING TO MAKE A MONO MODE!



The Octo *does not support a mono mode*, hooking speakers up in this configuration may damage the internal amplifier. If you need mono audio hook up one speaker, which will only output 30 watts.

Diagrams in the left column are the only valid speaker configurations supported by the Octo.

Sound Issues

If you experience audio clipping, or distorted audio try increasing your power supply current (12V 5A or 24V 3A are recommended for absolute loudest).

If you continue to experience clipping or distortion your audio may be too loud playing from the MicroSD card. This can be solved by lowering the volume on the controller or lowering the amplification of the audio file on a computer.

If you experience audio cutting out after extended periods of time, try lowering the volume on the controller just slightly.

MicroSD Card Format/Structure

The included MicroSD card comes with the basic folder structure needed for the Aamon Octo.

The **AMB** folder contains MP3 files that play during the ambient animation.

The **IN1** folder contains MP3 files that play during the Input 1 animation.

The **IN2** folder contains MP3 files that play during the Input 2animation.

Inserting a blank SD card into an Octo will automatically create these folders.

Both folders need to have files named ###.mp3 start at 000.mp3 and going to 254.mp3

If you skip a number, the controller will not continue past the number skipped and will loop back to 000.mp3

No Audio?

Follow these steps if you have no audio:

1. Make sure the controller volume is turned up (see *Volume Adjustments* section)
2. Turn the controller off and back on after putting in a MicroSD card (or have the controller off when inserting)
3. Make sure your file is a MP3 file, if not it needs to be converted to MP3 (using a program like Audacity or a free online website)

Output Zero Behavior

Output Zero can control standard devices and be used to trigger optically isolated inputs on controllers, or controllers that it shares a GND with, by using the GND output as the trigger.

Output Zero can operate in four different modes. The mode can be set using a series of button presses when the controller turns on (see **Controller Configuration**).

Default Mode
The output is on for the entire length of the animation.

Start Mode
The output is on for 1 second at the beginning of the animation.

End Mode
The output is on for 1 second after the animation.

Start and End Mode
The output is on for 1 second at the beginning of the animation, and for 1 second after the animation.

Strobe Mode
The output will strobe instead of being steady.

*Output Zero can be set to inverted (see **Controller Configuration**). When inverted, the output will be on until the animation is played. During playback it will turn off instead of on, depending on the mode it is in.*

Output Zero has no function during the ambient animation.

For detailed examples on using Output 0 please watch the videos for the Aamon Duo.

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DMX Address Configuration

DMX addresses are configurated via text files on the MicroSD card. The controller will attempt to read addresses from the following 3 files on the SD Card:

```
DMX1.txt
DMX2.txt
DMXAMB.txt
```

These files can have up to 512 lines, each line should be the address (1-512) you want to record. The order of the addresses does not matter to the controller.

You need all 3 files if you want the Octo to transmit different addresses for the different recordings. If you want Input 1, Input 2, and Ambient to all transmit the same addresses then only use `DMX1.txt`

DMX Recording

You can record DMX into the Octo by using any DMX transmitter (stand alone or computer connected).

You must set the DMX addresses before you record.

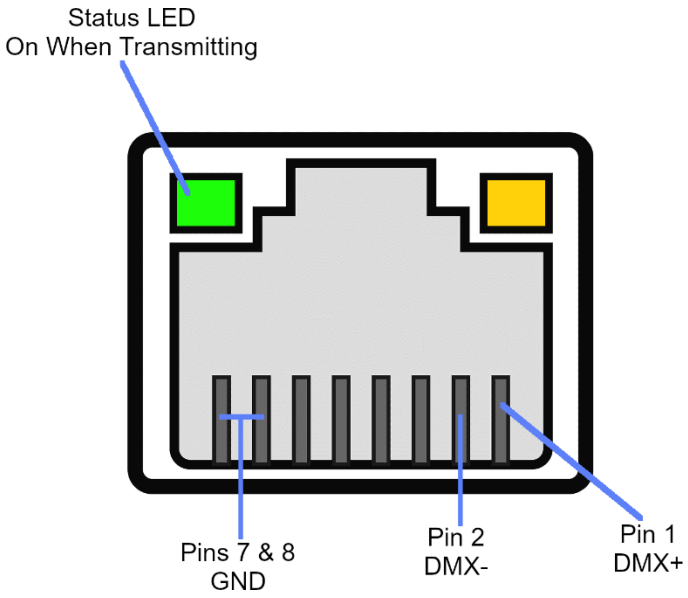
To begin recording DMX follow this procedure:

1. Press and hold *4/8* until the LED turns solid cyan then release (hold past color for Ambient Record)
2. Press the appropriate button for what you want to record
    a. *Play1* for Input 1 DMX
    b. *Play2* for Input 2 DMX
    c. *4/8* for Ambient DMX
3. Press any *Play/Rec* button to begin recording

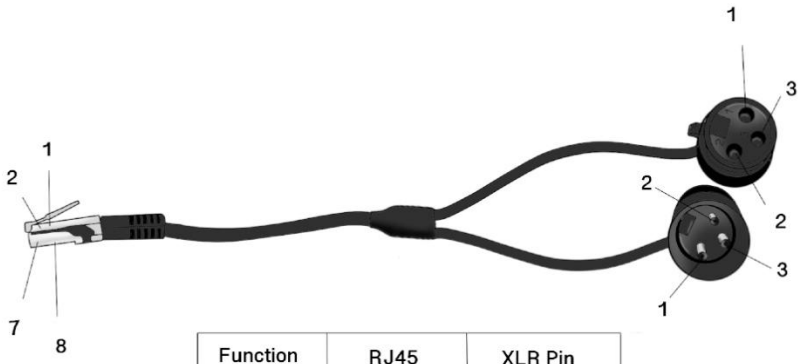
When the LED starts flashing cyan you are recording DMX. The controller will receive a DMX signal and save values based on what is received.

DMX Wiring (ANSI E1.11)

Below illustrates the wiring of the RJ45 jack to connect to your DMX network. We suggest using the RJ45 DMX Adapter we sell, but alternatives do exist and will work if the wirig matches below.



It is recommended to have a DMX termination resistor on each end of your DMX network.



Function	RJ45	XLR Pin
GND	7,8	1
DMX -	2	2
DMX +	1	3

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What is AbyssBus?

AbyssBus is a proprietary standard for communication between controllers, programmers, and accessories for the Aamon Octo. It will allow for future expansion of your animatronics and haunt. The standard interface for the AbyssBus is an RJ45 jack, you may use any 8-wire twisted pair copper cable with RJ45 plugs, commonly referred to as "Ethernet Cable."

By default, the Octo will output power on the AbyssBus jack, this is to power accessories. The power is internally fused to 1A.

Connecting Octos Together

You can chain two Octos together using the AbyssBus to create a 16-channel controller. They will trigger and activate at the same time, both are able to play separate sounds.

Connect both AbyssBus jacks together with an "Ethernet" cable. You will notice that when power is applied to one Octo that the other will receive power via the AbyssBus.

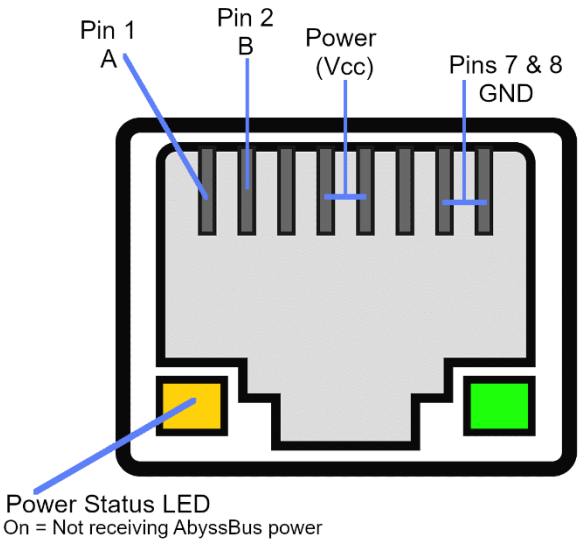
DO NOT CONNECT POWER SUPPLIES TO BOTH OCTOS IN THIS CONFIGURATION

Since the unpowered Octo is fused to 1A over the AbyssBus you may need extra power depending on the number of outputs you are using or if the amplifier power. If the unpowered Octo turns off during operation you may need to add extra power.

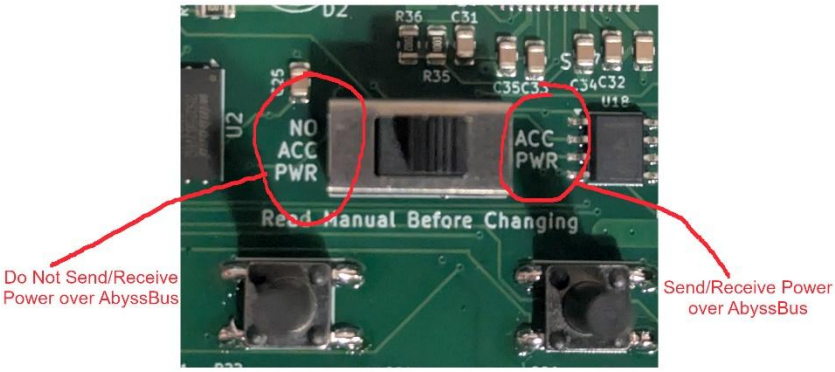
Open one of the Octos and flip the internal switch to "NO ACC PWR" this will disable sending/receiving power of the AbyssBus and allow you to connect a power supply to both Octos.

AbyssBus Wiring

Below is the standard pinout for the RJ45 jack on the AbyssBus.



DO NOT CONNECT THE ABYSS BUS TO ANY ETHERNET HARDWARE INCLUDING COMPUTERS OR SWITCHES



Internal Switch for AbyssBus Power

Troubleshooting

For more information, visit our Help & Support Center at `purgatoryprops.com/support`

Can Not Record Animation

If the LED turns off instead of red when you hold a *Play/Rec* button, then your controller is in Write Protect Mode. Please refer to the **Write Protect Mode** section to learn more.

Outputs Are On When Not Playing

If one or more outputs are on when the controller is on, then they are set to inverted output. Please reference the **Controller Configuration** section if this is not the desired behavior.

LED Is White When Turning On

If the LED turns white when turning on the controller, and will not trigger, then the controller is in warm-up mode. This mode is to prevent false triggers from PIR sensors when first turning on. The controller will be ready to play once the PIR has warmed up, or once 1 minute has passed.

Controller Does Not Trigger

When the controller is powered on confirm there is an animation recorded by pressing a *Play/Rec* button. The LED should turn yellow, and the animation will play.

If there is an animation recorded, but the LED does not turn yellow when the Input is triggered verify that the input wiring is correct.

To test the input circuitry, follow the wiring diagram for Looped Input (*Trigger Wiring* section). This should trigger the animation. If it does not, please contact us.

LED Color Guide

Color	Meaning
White	Warm-Up Mode
Green	Standby
Green (flashing)	Ambient Playback
Purple	Standby, Write Protected
Purple (flashing)	Ambient Playback, Write Protected
Yellow (flashing)	Playback Input 1 Animation
Orange (flashing)	Playback Input 2 Animation
Blue	Saving/Memory Operation (DO NOT TURN OFF)
Red (Solid)	Ready-to-Record (holding *Play/Rec* button)
Red (Single Flashing)	Recording Input 1 Animation
Red (Double Flashing)	Recording Input 2 Animation
Magenta (Flashing)	Recording Ambient Animation
Cyan (Flashing)	Recording DMX
Red (Pattern Flashing)	Error Code (see next section)

LED Error Codes

When the LED flashes red a number of times, then is off for 3 seconds before flashing the same pattern again this means the controller has an error condition.

Below details the number of flashes and the error it indicates.

Flash Count	Error
3,5	Controller damaged
4	No Audio Files
7	No SD Card (when an SD card is required)

This table details when a specific functionality was added to the controller (either hardware or software). If you are wondering why your controller doesn't have a specific feature, then it's probably because you bought it before the date listed below.

Date	Hardware Revision	Firmware Version	Functionality
September 2025	A	1	Initial PC-800 Release
April 2026		3	Expanded DMX capabilities to 512 channels SD Card REQUIRED. Any channel data above 20 will be stored on the SD card not in the internal storage