

# Audio Demonstrator

Model AS-OST2



**Ascentic**<sup>®</sup>  
RETAIL ENGINEERING  
by Audio Authority<sup>®</sup>

# AS-OST2 Mono vs. Stereo Audio Demonstrator

The AS-OST2 Audio Demonstrator showcases audio performance differences between mono and stereo playback using selectable speaker outputs and digital control interfaces. It supports both mono and stereo audio output and includes optical speaker switching capabilities.

This demonstrator is suitable for a variety of applications. The featured configuration highlights the comparison between a single-speaker (mono music playback) setup and a two-speaker (stereo movie playback) setup. Audio playback is controlled through an Ascentic MediaHub or a standalone BrightSign player. Additional control inputs may be added to either the player or the AS-OST2 unit.



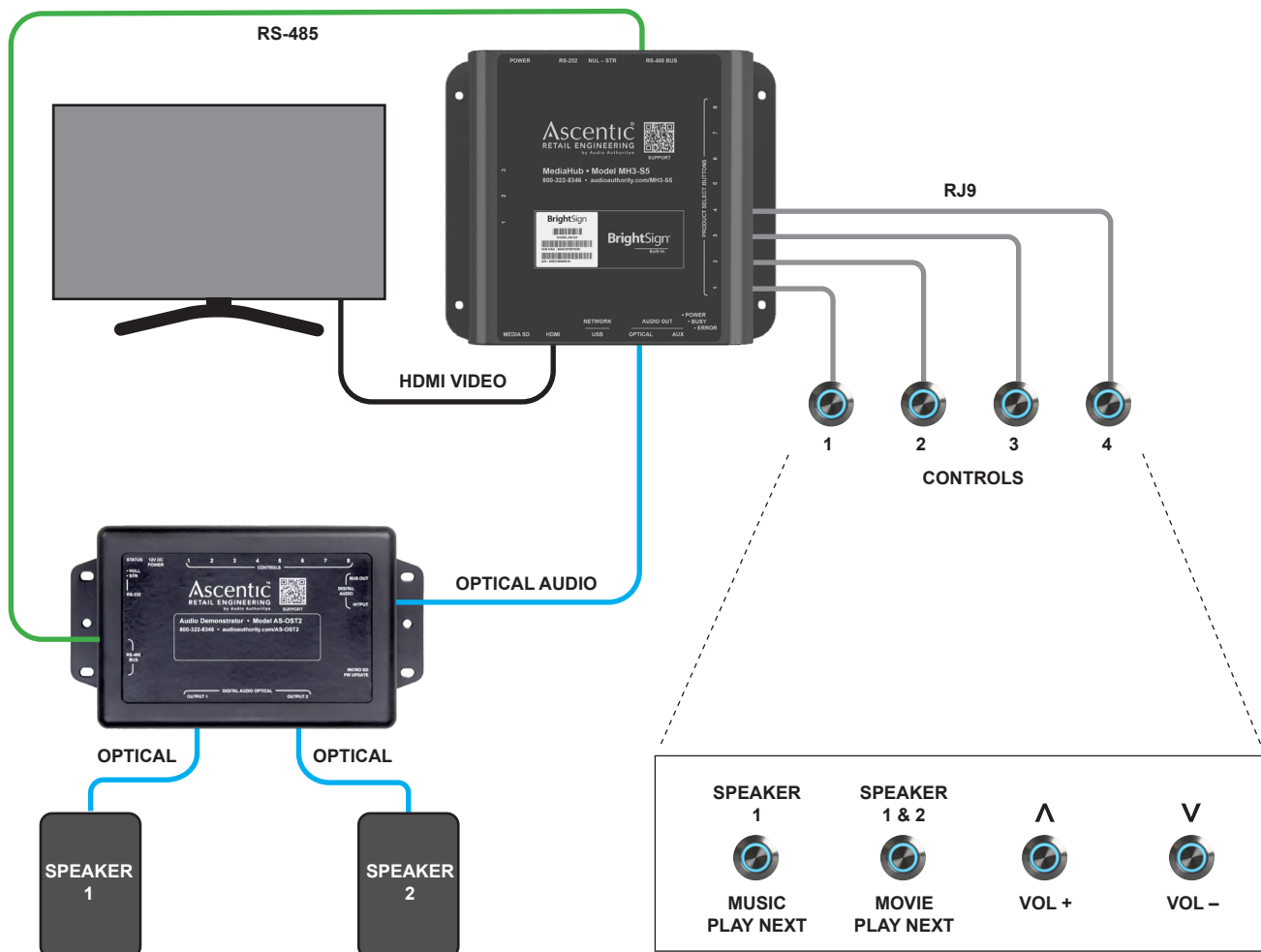
## Connections Overview

- Speaker Outputs: Mini-optical jacks
- Command Interfaces: RS-232 and RS-485 using RJ45 connectors
- Power Supply: 12V DC, 1.5A via 5.5mm center-positive barrel connector
- Audio Input: Digital optical input only (no analog support)
- Firmware Updates: Micro SD card slot

## Example System Use Case

Two speakers are displayed. They can be activated individually or simultaneously:

- When one speaker is active (e.g., whole-house music), both left and right channels are routed to a single speaker.
- When both speakers are active (e.g., stereo movie mode), each speaker plays its designated left or right channel.



Controls

Push-button controls allow users to:

- Cycle between music or movie tracks
- Select speaker configurations
- Adjust volume within customized limits
- Controls and Audio Routing:
  - Music: Play Next
  - Movie: Play Next
  - Speaker 1 | Speaker 2 | Speaker 1 & 2
  - Volume Up / Down
  - Optical Audio Input
  - RJ9 Controls
  - RS-485 Commands
  - HDMI Video Input



Commands

The AS-OST2 is designed to respond to compound commands for a faster response. For instance, a command, “set single output”, may include a command to mute the other output at the same time.

Media Commands		Set Both Outputs Unique	Set Single Output	Set Single Output	Set Both Outputs Same	Set Both Outputs Same
Output 1	Mono L	X				
	Mono R					
	Stereo			X		X
	Mute		X		X	
Output 2	Mono L					
	Mono R	X				
	Stereo		X			X
	Mute			X	X	

Serial Command Protocol

The Model AS-OST2 has the default device ID 912. It can send and receive serial commands via RS-485 at 57600 Baud, 8-N-1, and half-duplex; and via RS-232 at 115200 Baud, 8-N-1, and full-duplex. Both configuration ports utilize a modular RJ-45 jack with the following pinouts:

RS-485 Pinout:

Pin #	Function	Pin #	Function
P1	Orange White - Ground	P5	Blue White - Power Bus (12V Devices Only)
P2	Orange - Ground	P6	Green - Data B Negative
P3	Green White - Data A Positive	P7	Brown White - Ground
P4	Blue - Power Bus (12V Devices Only)	P8	Brown - Ground

RS-232 Pinout:

Pin #	Function	Pin #	Function
P1	Orange White - Ground	P5	Not Connected
P2	Orange - Ground	P6	Green - RX or TX
P3	Green White - TX or RX	P7	Brown White - Ground
P4	Not Connected	P8	Brown - Ground

# RS-232 Command Reference

The AS-OST2 supports serial communication via RS-232 using a consistent message format. Messages are categorized as SET, QUERY, or RESPONSE / EVENT, and follow the structured syntax below.

## General Format

- SET Command Format: [DEV=912,1;COMMAND]
- QUERY Command Format: [DEV=912,1;COMMAND?]
- RESPONSE / EVENT Format: (DEV=912,1;RESPONSE)

## Basic Control Commands

Command Name	Type	Function	Command Format
REBOOT	SET	Reboots the device	[DEV=912,1;REBOOT]
RESET DEFAULTS	SET	Restores factory defaults and reboots	[DEV=912,1;RESET;DEFAULT]

## Button LED Control

Command Name	Type	Function	Command Format
BUTTON LED ON	SET	Turns on specified LED (or all with *)	[DEV=912,BTN=\$;LED=ON]
BUTTON LED OFF	SET	Turns off specified LED (or all with *)	[DEV=912,BTN=\$;LED=OFF]
BUTTON LED BLINK	SET	Blinks specified LED (or all with *)	[DEV=912,BTN=\$;LED=BLINK]
BUTTON LED BLINK FAST	SET	Blinks specified LED (or all with *)	[DEV=912,BTN=\$;LED=FAST]
BUTTON LED BLINK SLOW	SET	Blinks specified LED (or all with *)	[DEV=912,BTN=\$;LED=SLOW]
PRESSED BUTTON LED ON	SET	Turns on specified LED (or all with *)	[DEV=912,BTN=\$;PRLED=ON]
PRESSED BUTTON LED OFF	SET	Turns off specified LED (or all with *)	[DEV=912,BTN=\$;PRLED=OFF]
PRESSED BUTTON LED BLINK	SET	Blinks specified LED (or all with *)	[DEV=912,BTN=\$;PRLED=BLINK]
PRESSED BUTTON LED BLINK FAST	SET	Blinks specified LED (or all with *)	[DEV=912,BTN=\$;PRLED=FAST]
PRESSED BUTTON LED BLINK SLOW	SET	Blinks specified LED (or all with *)	[DEV=912,BTN=\$;PRLED=SLOW]

## Button Press Events

Event Name	Function	Event Format
BUTTON PRESS	Reports button press	(DEV=912,BTN=\$;PRESS)
BUTTON RELEASE	Reports button release	(DEV=912,BTN=\$;RELEASE)

## Audio Output Commands

Command Name	Type	Function	Command Format	Response Format
SET SINGLE OUTPUT	SET	Sets output to a specific mode	[DEV=912,1;AUDIOPASS;OUT=#;\$]	—
QUERY SINGLE OUTPUT	QUERY	Requests mode of a specific output	[DEV=912,1;AUDIOPASS;OUT?=#]	(DEV=912,1;AUDIOPASS;OUT=#;\$)
SET BOTH OUTPUTS UNIQUE	SET	Independently sets Output 1 and 2	[DEV=912,1;AUDIOPASS;OUT=1;\$,2;\$]	—
SET BOTH OUTPUTS SAME	SET	Sets both outputs to the same mode	[DEV=912,1;AUDIOPASS;OUT=*\$]	—
QUERY BOTH OUTPUTS	QUERY	Requests mode of both outputs	[DEV=912,1;AUDIOPASS;OUT?=*]	(DEV=912,1;AUDIOPASS;OUT=1:\$) (DEV=912,1;AUDIOPASS;OUT=2:\$)

Notes: # = 1 or 2 (output number)  
\$ = OFF, NORMAL, LEFT, RIGHT, or SWAPPED (mode)

## Version Queries

Command Name	Type	Function	Command Format	Response Format
APP VERSION	QUERY	Retrieves application firmware version	[DEV=912,1;APP;VERSION?]	(DEV=912,1;APP;VERSION=\$)
BOOTLOADER VER	QUERY	Retrieves bootloader firmware version	[DEV=912,1;BOOT;VERSION?]	(DEV=912,1;BOOT;VERSION=\$)

## Boot and Initialization Events

Event Name	Function	Event Format
BOOT INITIALIZATION	Indicates device has booted or rebooted	(DEV=912,1;UP;COUNT=#)

State options available for each command:

- ARC Set = ON/OFF
- CECRAW = Hex byte pairs separated by colons (e.g., 05:44:43)
- Mute Set = ON/OFF
- Volume Set = 0 - 100
- LEDs = See Pushbutton LED Commands

Pushbutton LED Commands:

The structure is "[DEV=#;BTN=\$;LED=%]"

- # is the device ID (912)
- \$ is the single, multiple, or all button positions
  - Single = single integer, 1-20
  - Multiple = comma separated integers, 1-20
  - All = \*
- % sets the LED state
  - OFF
  - ON
  - BLINK (NORMAL SPEED)
  - FAST
  - SLOW

## Troubleshooting Guide

### Issue: No Serial Communication

- Ensure all connectors are fully seated
- Confirm correct protocol settings (RS-232 vs RS-485)
- Toggle the RS-232 Null/Straight switch

### Issue: No Audio Output

- Ensure all connectors are fully seated
- Confirm the correct output is selected via control software
- Verify playback from a known-working digital audio source and optical cable
- Ensure the input device provides digital optical signals only (analog audio is not supported)