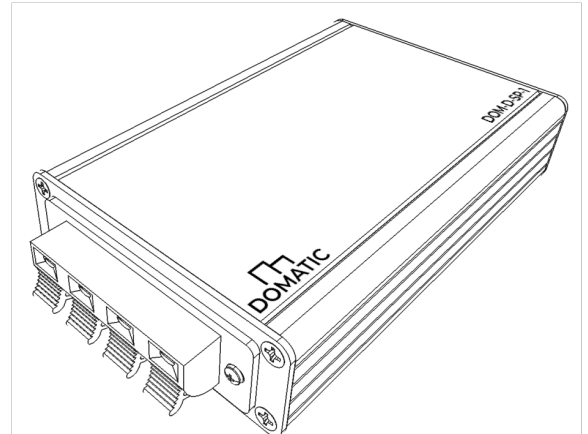


# 80W Speaker Amplifier

DOM-D-SP-1 | 2× 40 W Stereo | AirPlay · Chromecast | Domatic Bus

The 80W Speaker Amplifier drives a stereo speaker pair at up to 40 W per channel from a single Domatic Bus connection. With support from the PowerHub it presents itself on the building network as an available speaker target – playable from any iPhone, iPad, Mac (via Apple AirPlay) or Android phone, Chrome browser, or Google Cast app (via Google Chromecast).

Active player session metadata – track, artist, artwork, position, play state – is available to applications on the Domatic PowerHub, enabling rich player-control surfaces on wall-mounted touchscreens and other on-premises interfaces.



## Key Features

- ✓ Stereo amplifier – up to 40 W per channel ( $\leq 95$  W within the NEC Class 2 budget)
- ✓ Apple AirPlay / Google Chromecast receiver
- ✓ Player session metadata (track, artist, artwork, position, state) exposed to PowerHub applications
- ✓ Single 2-wire CL2 input from the Domatic Bus – power, control, and streaming audio on the same pair
- ✓ Native Domatic Bus interface – no separate Ethernet or audio routing required at the device
- ✓ Discoverability and per-device behavior managed in software via the PowerHub

## Audio Specifications

<b>Configuration</b>	Stereo (left + right)
<b>Output Power</b>	Up to 40 W per channel into 8 $\Omega$ ( $\approx 30$ W per channel at 1% THD+N)
<b>Speaker Impedance</b>	4 – 8 $\Omega$ (4 $\Omega$ minimum)
<b>THD+N</b>	$\leq 0.03\%$ at 1 W, 1 kHz
<b>Signal-to-Noise Ratio</b>	$\geq 110$ dB (A-weighted)
<b>Idle Channel Noise</b>	$\leq 35$ $\mu$ V RMS
<b>Power Efficiency</b>	$> 90\%$ (class-D output stage)
<b>Amplifier Class</b>	Class-D
<b>Amplifier IC</b>	Texas Instruments TAS5825M

**Note** Output power and distortion figures are amplifier IC ratings (TAS5825M datasheet, 8  $\Omega$  load). System-level numbers after the streaming/compression and DSP chain may be slightly tighter.

## Supported Audio Formats

Sample Rates	32, 44.1, 48, 88.2, 96, 192 kHz
Bit Depth	Up to 32-bit
Streaming	Apple AirPlay, Google Chromecast

## Audio Processing (on-chip DSP)

The TAS5825M provides programmable audio DSP that the PowerHub configures per device:

- 2 × 15-band biquad EQ (parametric)
- 3-band dynamic range control (DRC)
- Full-band automatic gain limiter (AGL)
- Smart-amp algorithm with thermal and excursion protection
- Bass enhancement and spatializer
- THD manager and PVDD tracking

## Streaming Protocols

Protocol	Source Devices	Notes
Apple AirPlay	iPhone · iPad · Mac · iTunes	Discoverable as a standard AirPlay target on the building network
Google Chromecast	Android · Chrome · Cast-enabled apps	Discoverable as a standard Cast target on the building network

**Note** Network discoverability and per-device naming, grouping, and access control are managed by the PowerHub.

## PowerHub Integration

Controller	Domatic PowerHub (required)
Discoverability	Advertised on the building network with PowerHub support
Metadata API	Active session metadata available to PowerHub applications – track title, artist, album, artwork, playback position, play/pause state
UI Targets	Wall-mounted touchscreens and other PowerHub-driven control surfaces
Configuration	Device name, room/zone grouping, source permissions – software-configurable via the PowerHub

## Electrical Specifications

### Input – Domatic Bus

Input Voltage	Nominal 48 VDC (Domatic Bus)
Communication	Domatic Bus (IEEE 1901 HD-PLC over the same 2-wire pair as power)
Power Source	Domatic PowerHub output port
Max Input Power	≤ 95 W (at full continuous 2× 40 W output)
Typical Input Power	5 – 15 W (typical music at moderate loudness)
Idle Input Power	< 3 W (no playback, awake on the bus)
Power Classification	Stays within the 100 W NEC Class 2 per-port budget

## Output — Speakers

<b>Channels</b>	2 (left, right)
<b>Output Power</b>	40 W per channel max
<b>Output Connectors</b>	One pin connector per side, each with + and – terminals

## I/O Configuration

I/O	Connector	Description
Domatic Bus Input	Molex Mini-Fit, 2-pin	48 VDC and Domatic Bus protocol on the same pair. Mates with PowerHub output ports.
Left Speaker Output	Pin connector (+ / –)	Drives a single speaker on the left channel.
Right Speaker Output	Pin connector (+ / –)	Drives a single speaker on the right channel.

## Mechanical Specifications

<b>Enclosure</b>	Hammond 1455J1201 — 1455 Series extruded aluminum
<b>Dimensions (L × W × H)</b>	120 × 78 × 27 mm (4.72 × 3.07 × 1.06 in)
<b>Weight</b>	~0.25 kg (0.55 lb)
<b>Body Material</b>	Extruded aluminum
<b>End Panels</b>	Metal
<b>Finish</b>	Clear anodize
<b>IP Rating</b>	IP54
<b>Mounting</b>	Surface (rubber feet) or fastener-mount via end panels
<b>Compliance</b>	REACH, RoHS

## Environmental Specifications

<b>Operating Temperature</b>	0 – 40 °C
<b>Humidity</b>	0 – 90% non-condensing
<b>Installation</b>	Indoor only

## Standards & Compliance

<b>Safety</b>	UL 62368-1 (Pending)
<b>Power Source</b>	NEC Class 2 from the PowerHub output
<b>Streaming</b>	Apple AirPlay, Google Chromecast



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## Ordering Information

<i>Model Number</i>	<i>Description</i>
DOM-D-SP-1	Speaker Amplifier – 2× 40 W, AirPlay + Chromecast, Domatic Bus