BRYSTON

Celebrating 50

‘CLASS D’ AMPLIFIERS

BD-225/BD-325

2.0

2026

CLASS D

WHAT IS ‘CLASS D’ ?

DEFINITION OF A CLASS D AMPLIFIER

A Class D amplifier is an audio power amplifier that increases signal amplitude through high-frequency switching operation. Commonly referred to as a switching amplifier, it modulates the input signal into rapid on-off states rather than using the continuous linear voltage amplification employed by conventional analog amplifier designs.

CLASS D AMPLIFIER OPERATION

Class D amplifiers use pulse-width modulation (PWM) to represent the audio signal as a high-frequency pulse train. A MOSFET switching stage rapidly toggles between on and off states to amplify these pulses, with pulse width corresponding to the instantaneous amplitude of the audio signal.

The input audio signal is converted into a digital representation by an analog-to-digital converter (ADC). A digital signal processor (DSP) then produces the PWM waveform, which drives the switching transistor. After amplification, a low-pass filter reconstructs the analog audio output.

HIGH EFFICENCY

A key advantage of Class D amplifiers is their high efficiency. Unlike traditional linear amplifiers, which lose substantial power as heat, Class D amplifiers use switching technology to reduce energy loss.

Using pulse width modulation (PWM), Class D amplifiers switch their output transistors on and off rapidly, producing pulses that represent the audio signal. This approach delivers power to the load with minimal loss, improving overall efficiency.

Class D amplifiers can achieve efficiencies above 90%, far exceeding Class A, Class B, and Class AB designs. Because less power is wasted as heat, they use less energy and offer a more environmentally friendly option.

SILVER CONSUMER
WITH HANDLES
CLASS D

SWITCHING SUPPLIES

Another advantage of Class D amplifiers is their use of switching power supplies. This efficient switching operation allows smaller, lighter components, reducing the amplifier's overall size and weight. Unlike traditional Class A and AB amplifiers, which require large heatsinks and bulky power transformers to manage heat and power demands, Class D amplifiers produce less heat and often need smaller heatsinks —or none at all. Their compact design makes them well suited to space-limited applications, such as portable devices and car audio systems.

However, switching power supplies do have dynamic limitations.

BLACK CONSUMER
NO HANDLES

TWO, FOUR, EIGHT Ω

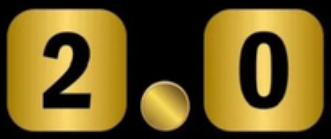
REDUCED HEAT DISSIPATION

Class D amplifiers generate far less heat than many other amplifier types. Their switching operation reduces power loss, which in turn limits heat production. In most cases, this lower heat output removes the need for active cooling systems such as fans, resulting in quieter operation.

IMPROVED POWER HANDLING

Class D-2.0 amplifiers provide strong power-handling performance, making them well suited to applications that require high output. Their efficient switching design allows them to deliver substantial power without sacrificing audio quality. They also work with a wide range of speaker impedance loads, helping maintain reliable performance across different audio setups.

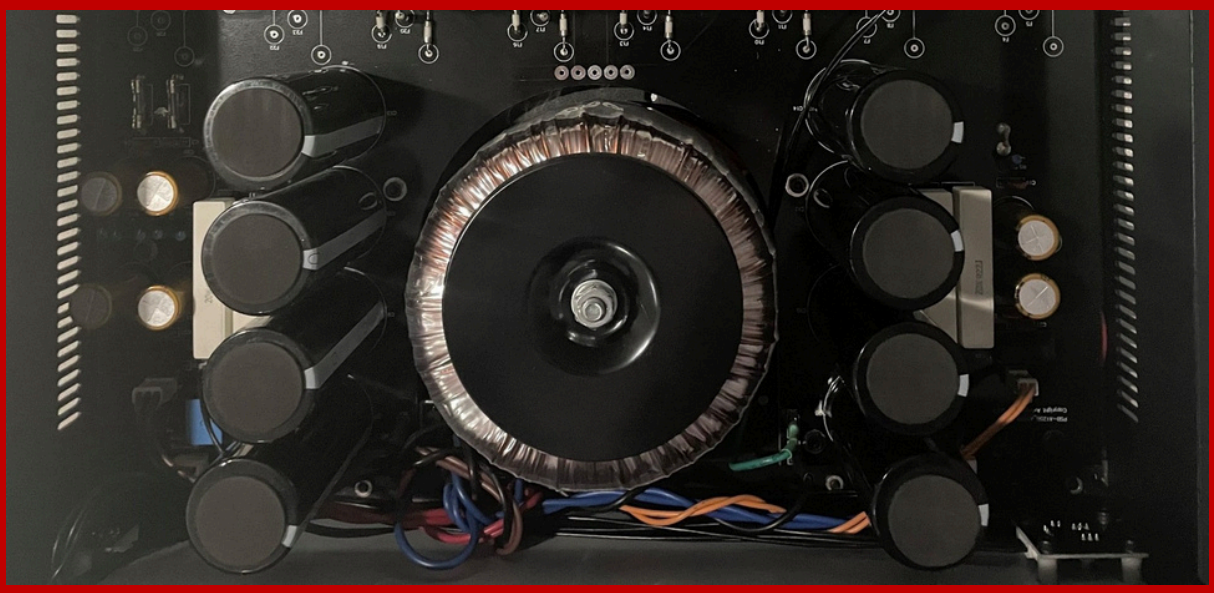
In summary, Class D amplifiers offer several advantages over other amplifier classes. Their high efficiency, compact size, lower heat output, and strong power handling make them a practical choice for audio systems and home theater setups.



DYNAMIC HEADROOM

A common concern with Class D designs is that the power supply section often uses a switching supply. When a system runs out of dynamic headroom, it can clip, adding distortion and reducing the music's transient energy.

Bryston Class D amplifiers pair substantial linear power supplies with proprietary Class D amplifier modules to eliminate dynamic compression. Power is not simply about volume; it also depends on clean, distortion-free dynamics that create a sense of depth and energy while responding instantly to the source signal. By combining our Class D amplifier module with a large toroidal transformer and generous storage capacitance, these amplifiers deliver high-quality power wherever it is needed.



HUGE LINEAR TRANSFORMER

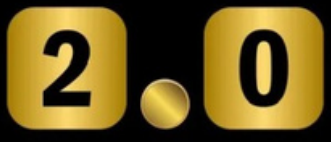
AMPLIFIER POWER

UNDERSTANDING AMPLIFIER POWER

Amplifier power can be confusing because several specifications must be considered together to understand how much usable power is available for music and movie playback.

Amplifier power is typically measured using a continuous 1 kHz tone into a 2-ohm, 4-ohm, or 8-ohm resistor, up to a maximum distortion level of 1%. Ratings are often based on one channel driven—especially in receivers—and do not account for dynamic headroom. As a result, a seven-channel amplifier rated at 120 watts per channel may deliver only about 17 watts per channel when all channels are driven.

While this measurement method helps standardize comparisons, it does not show how much power is available for the dynamic demands of music and movies. Unfortunately, it can also encourage manufacturers to pursue the highest possible wattage rating under these test conditions, rather than focusing on the more meaningful measure of clean dynamic headroom, which accounts for both time and distortion.

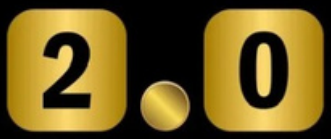


DYNAMIC POWER

Because music and movie soundtracks do not play as constant tones at a fixed power level, the key question is how an amplifier handles repeated loud dynamic peaks that last only fractions of a second. Power is logarithmic: an amplifier must double its wattage for every 3 dB increase in output. Using 15 dB as a generally accepted headroom target for music and movie playback, the amplifier must provide substantial short-term power to avoid clipping or shutdown.

The following example shows the short-term dynamic power required from an amplifier rated at 100 watts per channel.

Continuous Average Output:	100 watts
3 dB of Dynamic Headroom:	200 watts
6 dB of Dynamic Headroom:	400 watts
9 dB of Dynamic Headroom:	800 watts
12 dB of Dynamic Headroom:	1600 watts
15 dB of Dynamic Headroom:	3200 watts



LINEAR POWER

If an amplifier uses a switching power supply whose maximum rated power matches the amplifier's continuous rating with only one channel driven, and it has little or no capacitance storage, its real-world output across all channels will be severely limited.

This makes it important to understand how the amplifier responds when briefly asked to exceed its continuous power rating. If it cannot deliver short bursts above that rating, the same equation can be viewed in reverse.

For example, consider a Class D amplifier rated at 400 watts continuously, with no additional headroom—a common limitation in designs that use switching power supplies.

15 dB peak:	400 watts
12 dB peak:	200 watts
9 dB peak:	100 watts
6 dB peak:	50 watts
3 dB peak:	25 watts
Continuous Average Output	12.5 watts

LINEAR TOROIDAL TRANSFORMER

All Bryston Class D 2.0 power amplifiers use a linear toroidal power supply with multiple capacitors, providing the instant transient power needed for highly dynamic content.

Together, the toroidal transformer and substantial storage capacitance provide usable power well beyond the continuous rating, enabling dynamic, distortion-free listening.

2.0

VERSATILITY

FLEXIBLE CONFIGURATION

Bryston Class D amplifiers use a common chassis that can accommodate one to six independent Class D modules. This modular design offers strong flexibility for multichannel active or passive audio systems, as well as custom-installed zone applications.

QUIET PASSIVE COOLING

The Bryston Class D 2.0 uses compact aluminum heat sinks instead of fans, providing silent, effective cooling for long-term reliability.

CONNECTIVITY AND FLEXIBILITY

Bryston Class D 2.0 amplifiers work with any preamplifier, offering selectable single-ended RCA and balanced XLR inputs. Speakers connect through gold-plated binding posts that accept bare wire, spades, or banana plugs.

SILVER CONSUMER
NO HANDLES
'CLASS D'

FACEPLATE OPTIONS

The Bryston Class D 2.0 amplifier faceplate is designed for easy field customization, allowing users to swap the current faceplate for a different size, colour, or style.

Consumer faceplate without handles
Consumer faceplate with handles
PRO faceplate with rackmount holes and handles
PRO faceplate with rackmount holes, no handles

CHAMPAYNE

WHITE

GUN METAL

BLACK

SILVER

LEGENDARY QUALITY

MANUFACTURING EXCELLENCE

Bryston products are made at the company's advanced facility in Dwight, Ontario, Canada, using locally sourced components whenever possible. On-site machinery reduces reliance on overseas suppliers, while experienced staff ensure quality through rigorous bench testing and thermal cycling of every amplifier.

RELIABILITY & CUSTOMER ASSURANCE

BBryston owners often experience decades of reliable performance from their equipment. Each unit must pass a 100-hour functional stress test and meet strict performance standards. Every Class D-2.0 Series product also includes a detailed performance certificate, reflecting Bryston's commitment to quality.

COMPREHENSIVE WARRANTY

The Bryston Class D-2.0 amplifiers include a fully transferable 10-year warranty, reflecting the company's commitment to quality and customer satisfaction.

Amplifier Models

CONSUMER
BD-225 ‘CLASS D-2.0’

2.0

Amplifier Models

CONSUMER

BD-325 ‘CLASS D-2.0’

2.0

Amplifier Models

PRO RACKMOUNT
BD-325 ‘CLASS D-2.0’

2.0

SPECIFICATIONS

BRYSTON BD-225

Frequency Response (6 ohms-3dB) 1Hz - 45kHz
AC Input Voltage 115 or 230
RCA Input (Single Ended) Yes
Sensitivity 1.5 volts
Signal to Noise Ratio 103dB (at full power)
12 Volt Trigger Yes
Voltage Gain 29dB
XLR Input (Balanced) Yes
Capacitance 108,000uf

Continuous RMS Wattage per channel into 8 ohms 225 watts
Continuous RMS Wattage per channel into 4 ohms 450 watts
Continuous RMS Wattage available to all channels 1250 watts
Dynamic Wattage (100ms) available to all channels 3750 watts

Weight (lbs) each 53, Weight (kg) each 24
Dimensions H W D (inches) 5.25" x 17" x 16.75"
Dimensions H W D (mm) 133 x 450 x 425

BLACK CONSUMER
NO HANDLES

SPECIFICATIONS

BRYSTON BD-325

Frequency Response (6 ohms-3dB) 1Hz - 50kHz
AC Input Voltage 115 or 230
RCA Input (Single Ended) Yes
Sensitivity 2 volts
Signal to Noise Ratio 105dB (at full power)
12 Volt Trigger Yes
Voltage Gain 29dB
XLR Input (Balanced) Yes
Capacitance 144,000uf

Continuous RMS Wattage per channel into 8 ohms 325 watts
Continuous RMS Wattage per channel into 4 ohms 650 watts
Continuous RMS Wattage available to all channels 1500 watts
Dynamic Wattage (100ms) available to all channels 4500 watts

Weight (lbs) each 58, Weight (kg) each 26
Dimensions H W D (inches) 5.25" x 17" x 16.75"
Dimensions H W D (mm) 133 x 450 x 425

CONSUMER
WITH HANDLES

50 Years Strong

Whether you're listening to music, watching films, or producing professional recordings, Bryston delivers:

- Exceptional clarity and detail
- Dynamic, accurate reproduction
- True-to-source performance
- Experience sound exactly as it was meant to be heard.

LOOKING AHEAD

While we celebrate 50 years of achievement, our focus remains firmly on the future. Bryston continues to push boundaries, combining cutting-edge technology with decades of expertise.

CELEBRATING

Join us in celebrating 50 years of innovation and discover the new face of Bryston.

Engineered for the Music - Designed for the Future.

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