MODEL A SERIES

INTRODUCTION

Given the huge success of the Bryston Model T Series loudspeakers, we are pleased to announce the introduction of the Bryston **Model A series** loudspeakers.

Model A series loudspeakers have the same DNA as the Model **T** series but with 6.5" woofers instead of 8".

Model A series loudspeakers will begin with a 'Tower Series' incorporating the following three floor standing towers:

Model A1
Model A2
Model A3

Additional models will include a mini-monitor, subwoofer, and on-wall loudspeakers.

Since Bryston was founded over five decades ago, our electronics have been mated with many reference quality loudspeakers from around the world. Our ongoing challenge has always been to find a loudspeaker that has both accurate reproduction and the ability to play the dynamics our amplifiers are capable of reproducing without distortion or compression.

While developing great electronics during this time, we've experienced what great audio sounds like with many of these reference quality loudspeakers. Essentially, we learned a thing or two about loudspeaker excellence. Consequently, we felt the time had come to put our experience together with **Axiom Audio** to design an affordable reference quality loudspeaker made in North America.

Considerable effort was devoted to new driver design, enclosure vibration analysis, crossover refinement, anechoic chamber testing, and countless hours of blind listening tests.

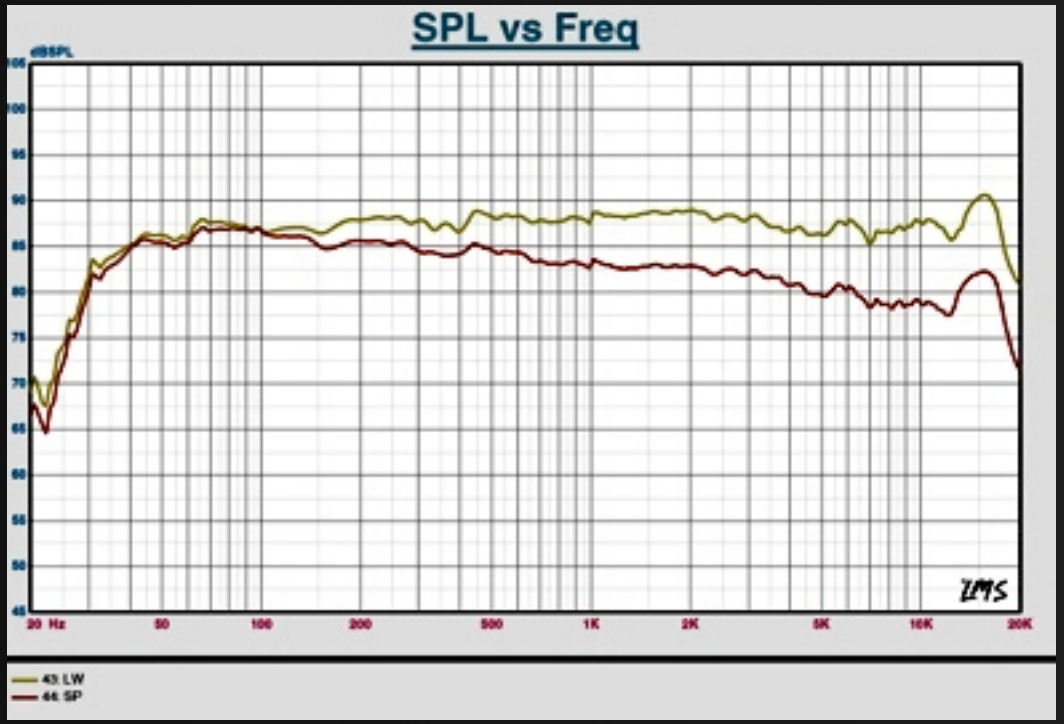
We invite you to bring your favorite music to a nearby Bryston dealer and give Model A series loudspeakers an audition.

THE DESIGN

As with the Model T speakers, the Model A series loudspeakers were subjected to over 200 separate anechoic measurements during the design phase to ensure the highest level of reproduction accuracy. This is necessary to get the precise balance required between the direct and reflected energy in your room.

All models are a very wide dispersion design. Both the on-axis and off-axis are very linear in their own right. This ensures a very wide and balanced soundstage. The 'listening window' is an average of a front set of curves whereas the 'sound power response' is an average of all the curves right around the whole loudspeaker. What we actually hear is heavily weighted to be a balance between these two conditions. The listening windows frequency response should be very linear (i.e. flat) across the entire audio band.

Additionally, the sound power should fall off by 8–10dB by the time it gets to 10kHz (see below graph for model A1) while still remaining linear in its march down from the bass frequencies.



THE DRIVERS

Coupled with our design goal of the highest level of accuracy is also the ability for our loudspeakers to play high SPLs without distortion or compression. By using multiple drivers and working with Axiom to custom design each one, we were able to accomplish this goal. All the drivers are custom made by Axiom.

The advantage of custom made drivers, crossovers, and cabinets is the total control we have over the system design. Using off-the-shelf drivers severely restricts design options because it creates the need for compromises to be made to work with the pre-established driver characteristics. Our drivers use die-cast aluminum baskets, substantial magnet assemblies, and custom motor systems. Also, Finite Element Analysis (FEA) design software was used to optimize the design of the drivers.

Unit To Unit Matching

One of the critical requirements for creating a quality three dimensional image in your room is that each loudspeaker must be matched as closely as possible in all aspects of their performance. Unit to unit variances in performance can inhibit the sound.

For example, the ability to place instruments in the proper location and create a believable soundstage where the speakers disappear and the performance fills the room with a convincing performance. We take great care in making sure this continuity is maintained for each and every loudspeaker we manufacture.

Dynamic Compression

One of the major issues with many speakers is dynamic compression. If you hear a very loud sound such as the 1812 Overture cannon shots, there is a huge dynamic range associated with the sound. Small 2-way and 3-way loudspeakers fall short trying to recreate the huge dynamic range necessary to produce realistic sound pressure levels. One of the foremost priorities was to create speakers that could truly reproduce these real world dynamics without compression.

The Drivers

Tweeters

After evaluating several tweeter technologies including domes, horns, magnetic planars, ribbons, and ring radiators, we ultimately preferred properly executed titanium dome tweeters. The titanium dome tweeters provides the most natural sound, superb measurements, and high power handling.

Midrange Drivers

Extensive tests were performed on highly respected midrange drivers in other very expensive reference level speakers. We were able to get the most natural sounding midrange drivers using a combination of ceramic coated aluminum/magnesium cone material with robust cast aluminum speaker baskets.

The Drivers

Woofers

The woofers are also constructed with custom ceramic coated aluminum/ magnesium cone material, extremely robust cast aluminum speaker basket, and oversized motor assembly.

Crossovers

The crossovers are specifically designed as an integral part of the overall system, controlling not just the dividing of the frequencies between the drivers but also tailoring the overall amplitude response.

Bryston crossovers are also designed to have high power-handling to integrate perfectly with Bryston amplifiers; capable of delivering real world dynamics.

The Cabinets

The cabinets are designed to reproduce extremely high SPL without introducing any cabinet resonances.

Bracing in the correct areas is critical and, contrary to popular belief, it is not a simple “more is better”. All models have a complex internal cross bracing system that eliminates cascading resonances.

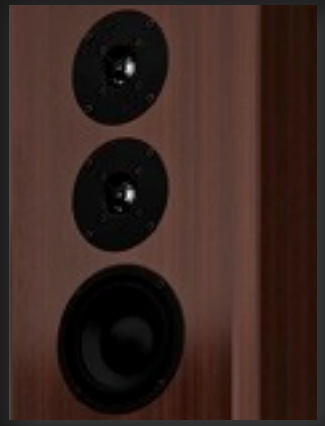
In addition to the complex brace design, the unique non-parallel cabinet shape also aids in eliminating resonances and internal standing waves.

The front baffle is a laminated 1.5 inch thick material to provide for ridged mounting of the multiple high powered drivers. The drivers should move, not the front baffle.

The standard vinyl wrapped finishes are black ash, natural cherry, and Boston cherry. Hardwood veneer finishes are also available at additional cost.

Black Ash

Natural Cherry



Boston Cherry

Anechoic Chamber

Our Canadian speaker design and manufacturing facility has a very unique advantage... an on-site anechoic chamber!

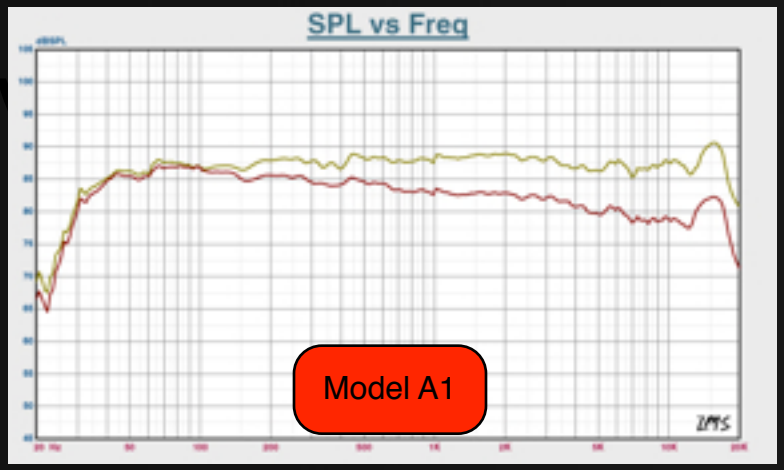
Anechoic chambers are reflection-free rooms that are used by the superior speaker manufacturers to do all the loudspeaker testing in an environment where early reflections and outside noise issues are eliminated from the measurements.

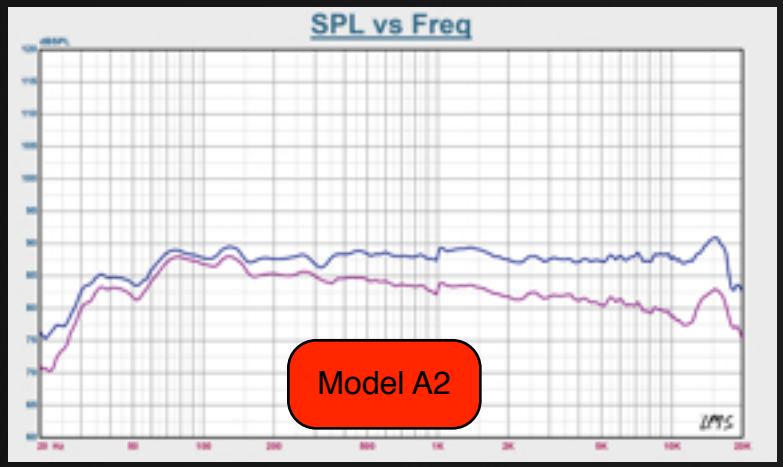
Anechoic chambers are extremely expensive to build. However, they are invaluable when designing a quality loudspeaker. Measurements can be made showing exactly how the on and off axis responses of the loudspeaker are performing.

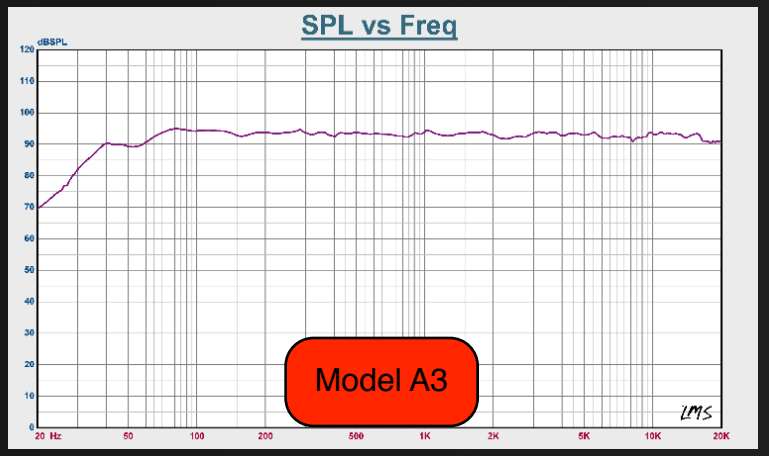
The Anechoic Chamber can also be utilized for more accurate distortion detection. Using state of the art B&K accelerometers and measurement microphones, minute levels of distortion do not go undetected.

All of our loudspeakers are meticulously designed utilizing a combination of the measurements taken in the anechoic chamber combined with results from double blind listening tests to provide our customers with as accurate a loudspeaker as is currently obtainable.

MEASUREMENTS







MODEL A1

Frequency Response	31Hz to 20kHz (+/-3dB)
Impedance	4 Ohms (nominal)
Sensitivity	88dB SPL @ 1 meter with 1 watt (anechoic)
Recommended Power	10 watts to 400 watts RMS
Tweeter	1.00” (dual)
Midrange	5.25” (dual)
Woofer	6.50” (triple)
Crossover	160Hz & 2.3kHz
Dimensions	47.5” H x 9.25” W x 17” D 1207mm H x 235mm W x 432mm D
Weight	70 lbs. (each) 32 kgs. (each)
Finish	Black Ash (Vinyl) Optional wood veneers & high gloss painted finishes available

MODEL A2

Frequency Response	31Hz to 20kHz (+/-3dB)
Impedance	4 Ohms (nominal)
Sensitivity	88dB SPL @ 1 meter with 1 watt (anechoic)
Recommended Power	10 watts to 400 watts RMS
Tweeter	1.00” (dual)
Midrange	5.25” (dual)
Woofer	6.50” (dual)
Crossover	160Hz & 2.3kHz
Dimensions	39.5” H x 9.25” W x 17” D 1003mm H x 235mm W x 432mm D
Weight	56.8 lbs. (each) 25.8 kgs. (each)
Finish	Black Ash (Vinyl) Optional wood veneers & high gloss painted finishes available

MODEL A3

Frequency Response	40Hz to 20kHz (+/-3dB)
Impedance	8 Ohms (nominal)
Sensitivity	93dB SPL @ 1 meter with 1 watt (anechoic)
Recommended Power	10 watts to 250 watts RMS
Tweeter	1.00” (single)
Midrange	5.25” (single)
Woofer	6.50” (dual)
Crossover	200Hz & 2kHz
Dimensions	37.5” H x 9.25” W x 15” D 953mm x 235mm x 381mm
Weight	47.6 lbs. (each) 21.6 kgs. (each)
Finish	Black Ash (Vinyl) Optional wood veneers & high gloss painted finishes available

MODEL MINI

Frequency Response	? Hz to 20kHz (+/-3dB)
Impedance	8 Ohms (nominal)
Sensitivity	? dB SPL @ 1 meter with 1 watt (anechoic)
Recommended Power	? watts to ? watts RMS
Tweeter	1.00” (single)
Midrange	5.25” (single)
Woofer	6.50” (single)
Crossover	? Hz & ? kHz
Dimensions	?” H x ?” W x ?” D ?mm H x ?mm W x ?mm D
Weight	? lbs. (each) ? kgs. (each)
Finish	Black Ash (Vinyl) Optional wood veneers & high gloss painted finishes available

MODEL SUB

Frequency Response	25Hz to 150Hz (+/-3dB)
Impedance	? Ohms (nominal)
Sensitivity	? dB SPL @ 1 meter with 1 watt (anechoic)
Recommended Power	? watts to ? watts RMS
Woofer	8” (Dual)
Crossover	? Hz
Dimensions	?” H x ?” W x ?” D ? mm H x ? mm W x ? mm D
Weight	? lbs. (each) ? kgs. (each)
Finish	Black Ash (Vinyl) Optional wood veneers & high gloss painted finishes available

Model Center

Frequency Response	?Hz to 22kHz (+/-3dB)
Impedance	4 Ohms (nominal)
Sensitivity	?dB SPL @ 1 meter with 1 watt (anechoic)
Recommended Power	? watts to ? watts RMS
Tweeter	1.00” (dual)
Midrange	5.25” (single)
Woofer	6.50” (dual)
Crossover	160Hz & 2.3kHz
Dimensions	52.5” H x 10.5” W x 16.5” D 1334mm H x 267mm W x 419mm D
Weight	? lbs. (each) ? kgs. (each)
Finish	Black Ash (Vinyl) - Optional wood veneers & high gloss painted finishes available

MODEL TOW

Frequency Response	? Hz to 22kHz (+/-3dB)
Impedance	4 Ohms (nominal)
Sensitivity	? dB SPL @ 1 meter with 1 watt (anechoic)
Recommended Power	10 watts to 500 watts RMS
Tweeter	1.00” (single)
Midrange	5.25” (single)
Woofer	6.50” (single)
Crossover	? Hz & ? kHz
Dimensions	?” H x ?” W x ?” D ? mm H x ? mm W x ? mm D
Weight	? lbs. (each) ? kgs. (each)
Finish	Black Ash (Vinyl) Optional wood veneers & high gloss painted finishes available

SUMMARY

A “state of the art” audio system involves what some refer to as a “suspension of disbelief”. These means the playback system transcends the recorded medium and transports you to a live venue. You forget it’s a recording and believe you are there at the live performance.

Our goal with all Bryston loudspeakers is to provide our customers with a superior level of “disbelief”.

Again, we invite you to bring your favorite music to a nearby Bryston dealer and give Model A an audition.

Our sincere thanks to AXIOM Audio for their indispensable assistance, without which this project would not have been possible.

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