



# BRYSTON

**A C V =**  
LOUDSPEAKER : SYSTEM



**B**ryston challenges you to rethink your notion of active loudspeakers. To most, the phrase means a small desktop loudspeaker with a weak amplifier built in. Or, more generously, it could mean a studio monitor with an amp built into the enclosure.

When we thought of the notion of an active loudspeaker, we sought to preserve the integrity of the loudspeaker drives and enclosure and the legendary performance of our amplifiers but activate the crossover beyond circuits responsible only for dividing the audio spectrum among a set of drivers.

The loudspeaker crossover presents an ideal opportunity to neutralize both the on-axis and off-axis response of the system. Engineers are inherently limited to how many corrections they can make by building passive crossovers with large components. By moving the crossover out of the speaker and in front of the amplifier and also into the digital

domain, we gain virtually unlimited ability to linearize system performance.

Traditional crossovers are also lossy. No matter how well designed, they absorb and reflect energy meant for the drivers. An active loudspeaker is placed before the amplifiers, so the amps are directly coupled to the drivers for best performance.

Instead of compromising performance by building amplifiers into the speakers, Bryston has preserved the ability to choose your own high quality outboard amplifiers for each of three driver sections per speaker.

For listeners, this means a Bryston Active Loudspeaker System is the clearest window into your music collection yet. Instruments and voices hang in space. Singers appear right before you. You are transported to the symphony or immersed in the crowd at a rock concert.





## Compared to our passive loudspeakers

Bryston's Active Loudspeakers come even closer to the ideal power response without sacrifices to on-axis response. Power response is the weighted measure of a loudspeaker's total energy. It is not sufficient to simply design for flat on-axis response. By ensuring that power response tracks the more narrowly defined listening window closely, we can ensure that the room's contribution to the final sound is beneficial, not destructive.

### Frequency Response or Sound Power

Bryston evaluates response based on two measurements which are much more indicative of real performance compared to basic on-axis tests. Our listening window response measurement includes an on-axis frequency response plot but also a series of measurements taken from a +/- 15 degree window in front of the loudspeaker. This gives you a true indication of how the loudspeaker sounds when you're seated at many realistic positions in front of it.

We also measure sound power which is a weighted average

of three hundred measurements taken from points on the sphere surrounding the speaker. Sound power tells us about the total energy dispersion of the entire loudspeaker system. This is information is key in predicting how the reflected sound will behave once it is placed in a real room. Point source loudspeakers should feature a gradual downward tapered shape.

Instead of only trying to obtain flat response, we study the relationship between listening window and sound power to ensure that the sound power doesn't have any significant deviations that would indicate unrealistic reflected sound.

### The Active Advantage

Bryston's Active Loudspeakers leverage the incredible power of our DSP engine to enable our engineers to optimize both listening window and sound power at once. These are often competing ideals. Now listeners can have truly neutral in-room response across the whole spectrum.

**How then do we explain the gap between measured performance and sound quality?**

### BAX-1 Active DSP Crossover





BRISTON  
BAX-1 ACTIVE DSP CROSSOVER

LEFT POWER RIGHT

BRISTON  
BAX-1



BRISTON  
BAX-1



# Power Up

Since Bryston Active Loudspeakers have no internal passive crossover components, each driver is directly coupled to an amplifier channel so the amplifiers can exert remarkable control over even the smallest movements of the loudspeaker elements.

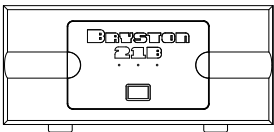
Each Bryston Active Loudspeaker is a three-way model, so a total of 6 amplifier channels are required. We have developed two amplifier models with channels cleverly arranged to support the dynamic range requirements between low, midrange and high frequency drivers.

The 24B Cubed is a 6 channel unit featuring two 300 watt channels for the bass sections and four 75 watt channels for midrange and high frequencies. Such a model is ideal for

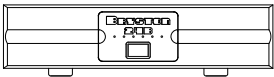
those who wish to retain the compact nature of a single-box amp solution similar to a traditional stereo setup.

Choose a pair of 21B Cubed amplifiers for more ambitious playback volume and/or larger rooms. Each of the 'three channel monoblocks' includes a single 600 watt channel for the bass section plus two 300 watt channels for the midrange and high frequency drivers.

Naturally, the loudspeakers may also be powered by arranging your own selection of mono, two channel and multi-channel Bryston amplifiers. Choose any six channels from our broad range of models and enjoy tremendous flexibility as further upgrades are desired.



<b>21B<sup>3</sup></b>		Weight (lb   kg):	91   42	Low Freq. Ch. (Watts)	1x 600
Channels:	3	THD+N (full bandwidth):	≤0.005%	Midrange Ch. (Watts)	1x 300
Height x Depth (in.):	8.1 x 18.4	Noise (full bandwidth):	≤-119 dB	High Freq. Ch. (Watts)	1x 300
(cm.):	20.6 x 47				



<b>24B<sup>3</sup></b>		Weight (lb   kg):	55   25	Low Freq. Ch. (Watts)	2x 300
Channels:	6	THD+N (full bandwidth):	≤0.005%	Midrange Ch. (Watts)	2x 75
Height x Depth (in.):	4.5 x 19	Noise (full bandwidth):	≤-115 dB	High Freq. Ch. (Watts)	2x 75
(cm.):	11.5 x 48				





# Choose your Speakers

With three models to choose from, you are certain to find a Bryston Active Loudspeaker model that satisfies not only your quest for the best possible sound, but also a perfect size for your room.

The flagship Model T Active is a full range reference grade loudspeaker that can reproduce the full dynamic envelope of a symphony orchestra while never losing its keen sense of nuance and detail.

The Middle T features all the spectacular realism of the larger Model T yet in a more compact floorstanding profile.

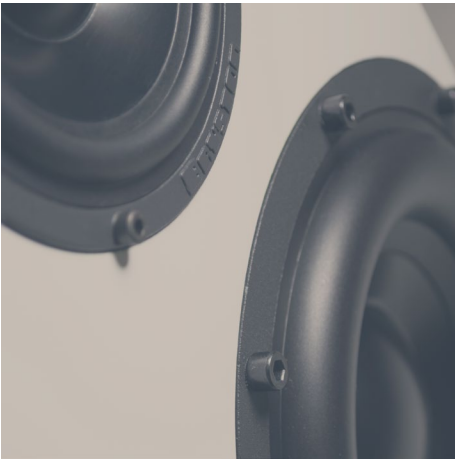
The Mini T changes everything you know about a

bookshelf or stand-mounted monitor. Our smallest Active Loudspeaker boasts incredible bandwidth and dynamic range yet occupies a fraction of the visual space required by the floorstanding models. Like the amplifiers, each is guaranteed for 20 years, so you can be confident in your purchase.

Any of these three models can also be purchased as a passive model (therefore including an internal crossover and only requiring a traditional 2 channel amplifier) and can be upgraded in the future to a full Active system for simply the cost of the BAX-1 crossover plus the extra amplifier channels.\*

\* True of loudspeakers produced in 2018 or beyond

	Model T Active	Middle T Active	Mini T Active
Frequency Response (± 3dB)	25Hz - 20kHz	33Hz - 22kHz	33Hz - 20kHz
Sensitivity (2.83V, 1m, anechoic)	89dB	88dB	86dB
Nominal Impedance	4 Ohms	4 Ohms	4 Ohms
Crossover	3-Way	3-Way	3-Way
No. Drivers	3-Bass, 2-Midrange, 2-Tweeter	2-Bass, 1-Midrange, 1-Tweeter	1-Bass, 1-Midrange, 1-Tweeter
Size (H x W x D)	52.5 x 10.5 x 16.5 in. 133.4 x 26.7 x 41.9 cm.	39.5 x 10.5 x 16.5 in. 100 x 26.7 x 41.9 cm.	22.5 x 10.5 x 10 in. 57.1 x 26.7 x 25 cm.
Weight (unpacked)	107 lbs. 48.5 kgs.	81 lbs. 37 kgs.	42 lbs. 19 kgs.
Min/Max Rec. Power	10 - 500 Watts RMS	10 - 250 Watts RMS	10 - 250 Watts RMS
Max SPL @ 1m	118dB	112dB	112dB

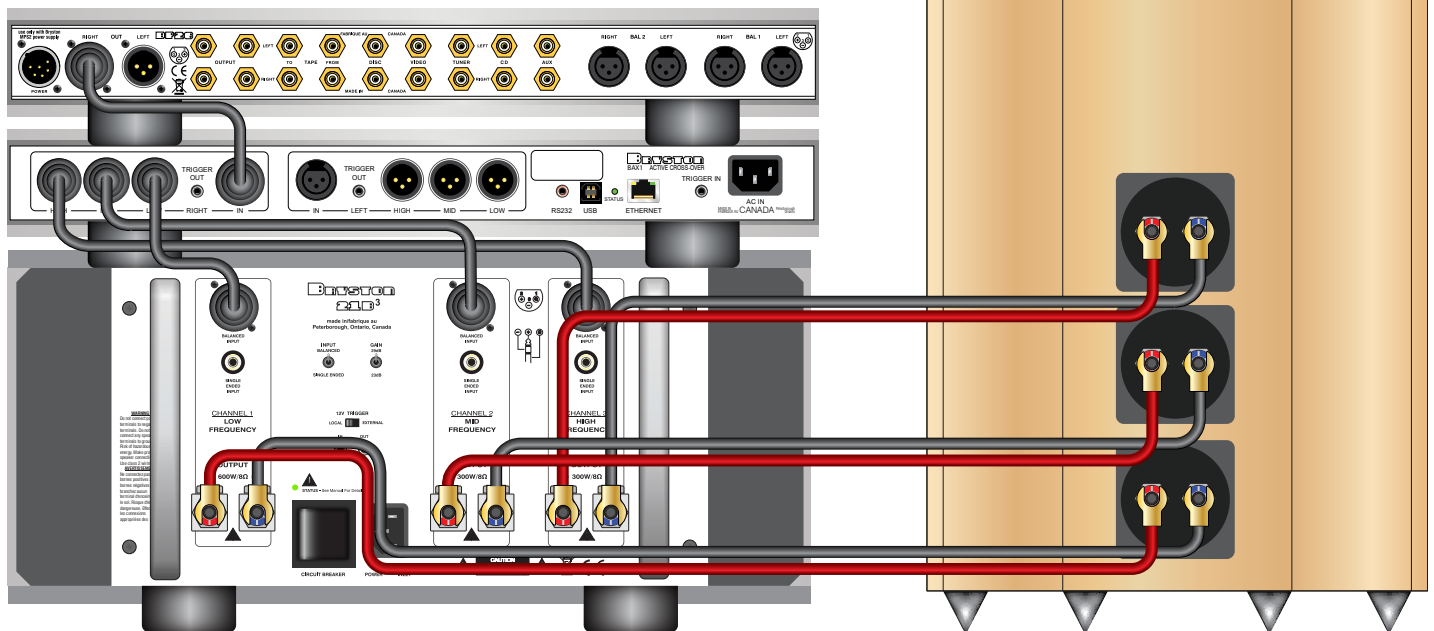
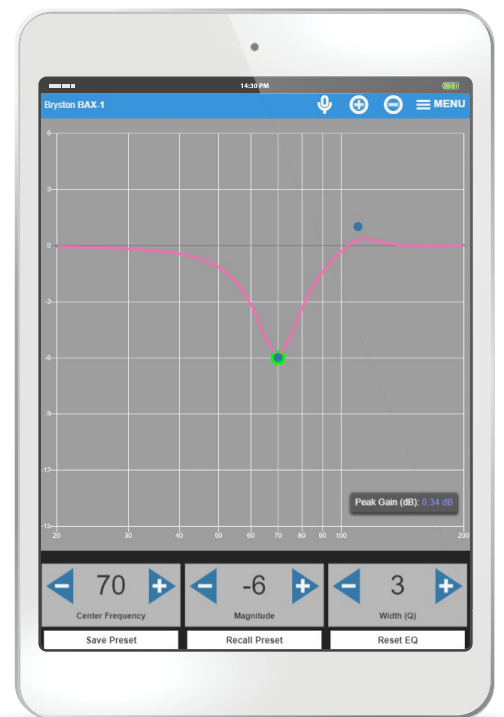


# Get Connected

Upgrading to a Bryston Active system is easier than you might expect. Our system allows you to use whichever preamplifier and source components you desire. Simply connect your preamp's outputs to the inputs of the BAX-1 crossover. For each of the left and right speakers, the BAX-1 creates three signals—Low, Mid, and High. These signals are then passed on to the appropriate amplifier channels.

The BAX-1 permanently operates at 96kHz / 24 bit resolution maximizing the transparency of the expertly engineered converters. Even analog source components are rendered with startling realism and naturalness.

Once you have carefully placed the loudspeakers at their optimum positions in the room, through acoustic measurement or by ear, you may elect to equalize the bass response to overcome tonal response irregularities due to the room. From the sweet spot, use a tablet, mobile phone or laptop to adjust the bass response with our web-based user interface.



677 Neal Drive | Peterborough, Ontario K9J 7Y4 | Canada  
ph. 1-705-742-5325 | fx. 1-705-742-0882 | [contact@bryston.com](mailto:contact@bryston.com)  
[www.bryston.com](http://www.bryston.com)

