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Bryston A Series Loudspeakers

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Bryston A Series Loudspeakers

A2 Tower, AC-1 Mini Center, Mini A Bookshelf, Model A Subwoofer

Doug Blackburn

Bryston, in business for more than 40 years now, is a well-respected Canadian manufacturer best known for their analog electronic components that have been offered with an unprecedented 20-year warranty. Because of dealer, distributor, and customer demand, Bryston has added loudspeakers to their product line and, amazingly, has kept the 20-year warranty their customers have come to expect. The 20-year warranty is only available to the original owner and is not transferrable, but it's still impressive. Bryston's digital components have a still-generous 5-year warranty, and a few components with motor-driven features (not including volume controls) carry 3-year warranties. You have to believe that a manufacturer offering a 20-year warranty doesn't want to see many components returned for repairs. That means they have to spend more time designing in reliability than competitors with more typical 1-to-3-year warranties. It also means you are unlikely to purchase bleeding-edge products with questionable durability from Bryston. I was quite surprised that Bryston offered the 20-year warranty on loudspeakers, simply because of the adhesives, crossover capacitors, plastic parts, rubber (or other flexible materials) parts in drivers, and the constant vibration (while in use, of course) those parts experience. The drivers used by Bryston are custom manufactured for their loudspeakers without the use of off-the-shelf parts, so there's perhaps more attention paid to long-term reliability to support the 20-year warranty. You have to believe Bryston only picked materials that could survive for 20 years of use—something they are likely getting very good at after decades of offering this sort of warranty coverage on many electronic components.

Bryston used Axiom, a well-established and highly regarded Canadian loudspeaker manufacturer, for their expert assistance with the design of their first loudspeaker, the state-of-the-art Model P (aka T Active) that was designed specifically for use by Vice President James Tanner as Bryston's factory reference, never intended to become a product for sale to the public. That went so well, Bryston collaborated with Axiom again for the passive T Series that were offered for sale as Bryston's first line of loudspeakers. The passive A Series loudspeakers followed the T Series at lower price points. One of the reasons James Tanner selected Axiom for the loudspeaker projects was because Axiom has their own world-class anechoic chamber similar in size to the one found at Canada's NRC research facility in Ottawa.

Most, perhaps all, Canadian loudspeaker manufacturers use or have used Canada's NRC (National Research Council) audio measurement and research facility for testing of loudspeaker designs and technology. The NRC promotes and supports the loudspeaker design parameters developed by the nearly legendary Floyd Toole. There is a lot of work done to insure wide dispersion, up to 75 degrees off axis and linear off-axis dispersion. It's not that Toole found that wide and uniform dispersion was the only important design parameter, but he certainly found it to be an extremely important design parameter when designing loudspeakers that sound "right" to a wide range of listeners. In blind tests, listeners had a very distinct preference for loudspeakers with very wide and very uniform dispersion. The NRC facility is well equipped to measure the polar response (all around the loudspeaker) using one of the best anechoic chambers in the world. It seems like every Canadian loudspeaker manufacturer touts wide and linear off-axis radiation pattern as a primary design goal. I'm sure it's not completely ignored by other loudspeaker manufacturers, but it certainly doesn't get the focused attention that Bryston, Axiom, and other Canadian manufacturers put on this performance parameter.

Trying to keep the explanation of "wide dispersion" basic, when you listen to loudspeakers in your room, you hear two kinds of sound—sound radiated directly from the loudspeaker to your ears and sound

reflected off of any surface in your room... walls, ceiling, floor, other loudspeakers, the projection screen, equipment racks, storage shelves, you name it and it reflects sound. The reflections may get to your ears after one reflection from some surface, but more likely, you hear reflected sound after two or maybe even 20 reflections. And the more reflections, the longer the path to your ear and the more that sound is delayed compared to the original sound from the loudspeaker. This may seem like a bad thing, but our ear-brain mechanism uses this delayed sound to judge the size and general shape of the room, subconsciously. Changing the reflective characteristics of a room drastically tends to produce a disorienting listening experience that may make it difficult to relax and enjoy the music or movie. For the protection of your own pocket-book, anybody designing a home theatre for you with what looks like an awful lot of attention placed on sound absorption does not know what they are doing. Acoustically dead rooms (from too many sound-absorbing surfaces) are just as bad, in completely different ways, as rooms full of hard surfaces (stone, tile, glass, etc.). Your ear-brain adaptation to hearing room reflections is the main reason if you enter an anechoic chamber where there is total silence (or very close to it) and no reflected sound from any surface, you may find the experience to be extremely disconcerting or even panic inducing. Many people get very disoriented and uncomfortable in quiet anechoic chambers. Some people can only take being in an anechoic chamber for a short period before the sound of their breathing, heartbeat, blood flowing, and food and waste moving through their bodies becomes almost maddening. Loudspeakers and room-correction software or excessive room treatments that limit reflected sound too much produce an unnatural listening experience. The wide and uniform dispersion Bryston strives to deliver with their loudspeakers attempts to hit the sweet spot where the amount of reflected sound energy getting to your ears is in proper proportion to the energy of the directly radiated sound from the loudspeakers.

The A Series are Bryston's second range of loudspeakers, priced considerably lower than the T Series loudspeakers. The A Series models have 3/4-inch dense fiberboard construction. Most everyone calls this product MDF, which means medium-density fiberboard. But the actual product used has a pretty high density of wood fibers and resins/glue that give it low-resonance properties well suited for loudspeaker enclosures. The three standard finishes (natural cherry, Boston cherry, and black ash) are vinyl, but wood veneer is available at extra cost. I found the vinyl natural cherry and light-tones Boston cherry impossible to identify as vinyl. The finish is neither flat nor glossy, but somewhere in between. Nobody who sees the A Series loudspeakers is likely to notice that the finish isn't real wood. After performing extensive resonance analysis on the enclosure, Bryston learned where to place the internal bracing asymmetrically to insure there are no large-enclosure resonances that you can get if the internal bracing has uniform spacing.

A2 Floor-Standing Model

The nearly 40-inch-tall A2 loudspeakers were provided for use in the front left and right positions. This loudspeaker uses the same drivers used in the center channel and bookshelf model, so the tonal match is really close between all seven channels. The A2 has two tweeters, two midrange drivers, and two woofers. Bryston's low-frequency spec of 31 Hz at -3 dB is close to what I got in my room. I measured 31.5 Hz at -4 dB, a fairly close match. I was surprised that a slender design like this could produce bass that low, but it was obvious from straight-through processing without the subwoofer that the A2s were doing a really great job with bass well below 40 Hz. The three ports, pairs of carefully matched drivers, and design of the 6.5-inch woofers combine to provide a satisfying level of deep bass extension. This isn't revolutionary or groundbreaking deep bass extension, but you can easily find loudspeakers at similar prices that stop doing much bass below 40 Hz.

SPECIFICATIONS



Common Features

- 1-inch titanium dome tweeter(s)
- 5.25-inch aluminum cone midrange driver(s)
- 6.5-inch aluminum cone woofer(s)
- 0.75-inch dense MDF construction with asymmetrical bracing to avoid multiple resonances at the same frequency
- Custom drivers designed specifically for these loudspeakers
- Die-cast aluminum baskets and custom motor systems (voice coil, spider, magnet structure, etc.)
- Wide and uniform dispersion up to 75 degrees off axis (up to 150 degrees of uniform dispersion)
- Largest sides are non-parallel to reduce resonances
- Black fabric grille covers, magnetically held to the speakers for easy removal
- Vinyl wood-grain-look cabinet finishes, wood veneer at extra cost
- Bi-wire loudspeaker cable connections with removable jumpers to allow single-wire operation
- Custom designed 3-way crossovers
- Add 50% to prices for high-gloss white or high-gloss black finish

Features—A2 Tower

- 2 tweeters, 2 midrange drivers, 2 woofers
- 2 rear-firing ports, 1 front firing port

Features—AC-1 Mini Center Channel

- 1 tweeter, 1 midrange, 2 woofers
- 2 front-firing ports
- Larger than many center channel loudspeakers for better bass response

Features—Mini A Bookshelf

- 1 tweeter, 1 midrange, 1 woofer
- 1 rear firing port

Features—Model A Subwoofer

- Dual 10-inch drivers fire from left and right sides
- Precision driver matching
- Removable circular fabric grille covers
- Asymmetrical internal bracing to avoid resonance peaks
- Die cast aluminum baskets
- Vibration/resonance cancelling opposing drivers
- 400 watt built-in amplifier
- Speaker level connections
- LFE input and pass through output for connection of second subwoofer (RCA jacks)
- Controls for: Volume; Phase (0 or 180); Crossover (80 or 150/no crossover)

Manufactured In Canada By:

Bryston Limited
677 Neal Drive
Peterborough, Ontario
Canada
K9J 6X7
Toll Free: 800 632 8217
Phone Direct: 705 742 5325
Web site: www.bryston.com

The tweeters are sealed units, a common design feature that keeps the tweeters from being exposed to pressure waves inside the loudspeaker enclosure. The midrange drivers are acoustically isolated from the other drivers, so the midrange cones don't react to back-wave sound energy inside the loudspeaker. Remember that loudspeakers playing 90 dB at your listening seat are probably producing 95 dB or more SPL inside the loudspeaker enclosure, and you have to control and eliminate as much of that sound energy as you can so it doesn't radiate back into the room via cabinet resonances or by impinging on the cones of various drivers, causing them to produce uncorrelated noises. The acoustic isolation of the midrange drivers is a common design feature in loudspeakers, but it is achieved in a variety of interesting ways in different loudspeaker models. The acoustic isolation includes two functions. First is stopping sound energy from the woofers getting onto the midrange cones and causing them to re-radiate that delayed and decorrelated sound back into the room. Next is damping the sound produced at the back surface of the midrange drivers themselves because you don't want that sound bouncing around and hitting the back surface of the woofer cone and radiating back into the room either. Achieving these goals is one of the primary jobs of loudspeaker

designers. Every designer has their own ideas about how to do it the best possible way or in some budget-constrained way that provides the best possible control of back-wave energy for whatever is in the budget for the design and build of any given loudspeaker model.

The wide dispersion of the A2s was responsible (I think) for my problem with having a stereo music phantom center image that was much more variable between various music recordings than I'm used to experiencing with other loudspeakers. It wasn't until I moved the A2s three more inches forward and the projection screen three more inches back that the stereo center phantom image became as stable and predictable from recording to recording as I've been used to with other loudspeakers. That put the back of the A2s fairly even with the projection screen. I need to have the loudspeakers fairly close to the sides of the projection screen to avoid having the loudspeakers too close to the side walls.

The A2s, like the Mini A and AC-1 Mini center channel, have four binding posts for connecting cables. The A2s come with jumpers installed between the lower and upper binding posts for those who don't want to deal with bi-wire loudspeaker cables. I didn't spend a lot of time checking sound quality with single-wire cables and factory jumpers versus no jumpers and bi-wire loudspeaker cables, but I did do some comparisons during one enjoyable afternoon. My conclusion is that for home theatre, there's not enough gained by using bi-wire loudspeaker cables to justify the higher cost, often double the cost of single loudspeaker cables. For listening to stereo music, especially to stereo music I've heard many times over, I believe if I was using these loudspeakers, I'd want to use bi-wire loudspeaker cables. The extra bit of nuance, control, and detail I got from bi-wire versus single wire loudspeaker cables was enough to justify spending some money on bi-wire cables. But you may not listen the way I listen and you might find that bi-wire cables don't offer you enough of a performance bump to justify the cost. My music listening is mostly with the lights off, totally focused on the music, listening to tiny details in the music, like the sound of the bow on strings, the sound coming from the body of the instrument, the fingers on the strings or keys, and the strings or keys themselves as individual sounds that meld into the sound of the instrument. I listen to where instruments are located in space and how multiple instruments playing together produce unique combinations of dimensional sound. I've heard subway trains go by under the building during recording sessions in some recording venues in New York City. I've heard musicians in orchestras turning the pages of their scores. If you never listen "deep" into recordings like that, you're not likely to have much of a reaction to single wire versus bi-wire loudspeaker cables.

The A2s produce a steadfastly neutral sound. It seems that loudspeaker manufacturers are compelled to make their highest-priced models do things differently so they stand out. When the lower-cost loudspeakers are steadfastly neutral and accurate, the expensive loudspeakers in their lines have to be less neutral and accurate to sound different/special. No tricks here, the A2s don't editorialize the sound in any way I can identify. They don't sound fast/slow or bright/dark or etched/rounded. They just sound normal/natural and un-gimmicked. When used with the A Series center and bookshelf loudspeakers (and presumably the A Series on-wall and in-wall models as well), the tonal match really is good. Other than differences in bass extension, it was essentially impossible to hear tonal differences between the different models. The A2s can throw a really large and convincing sonic environment all by themselves. I hear all the differences in depth and width and sense of the size and shape of the recording venue when it is captured in location recordings, rather than in studio recordings, where everybody performs at different times in their own little isolated and damped space. Even recordings with a convincing sense of space added during mixing and editing can sound big and spacious if the trickery was done well, as it is on an interesting recording made by Frank Harris in his Oakland, California studio called *Daboa... From the Gekko* on Triple Earth Records.

SPECIFICATIONS



Specifications—A2 Tower

Dimensions (WHD In Inches): 9.25 x 39.5 x 17
 Weight (In Pounds): 62
 Frequency Response: 31 Hz – 20,000 Hz +/- 3 (dB)
 Impedance: 4 Ohms nominal
 Sensitivity: 87 dB (2.38V, 1m, anechoic)
 Recommended Amplifier Power: 10 watts to 400 watts RMS
 Max SPL @ 1 meter: 114 (dB)
 MSRP: \$2,940 per pair, add \$441 for wood veneers, add \$1,060 for rosewood veneer

Specifications—AC-1 Mini Center Channel

Dimensions (WHD In Inches): 30 x 11.5 x 13.9
 Weight (In Pounds): 48
 Frequency Response: 45 Hz – 20,000 Hz +/- 3 (dB)
 Impedance: 6 Ohms nominal
 Sensitivity: 86 dB (2.38V, 1m, anechoic)
 Recommended Amplifier Power: 10 watts to 250 watts RMS
 Maximum SPL @ 1 meter: 111 (dB)
 MSRP: \$1,325 each, add \$198.75 for wood veneers, add \$550 for rosewood veneer

Specifications—Mini A Bookshelf

Dimensions (WHD In Inches): 8.9 x 15.5 x 8.25
 Weight (In Pounds): 11
 Frequency Response: 60 Hz – 20,000 Hz +/- 3 (dB)
 Impedance: 8 Ohms nominal
 Sensitivity: 87 dB (2.38V, 1m, anechoic)
 Recommended Amplifier Power: 10 watts to 175 watts RMS
 Maximum SPL @ 1 meter: 111 (dB)
 MSRP: \$1,280 per pair, add \$192 for wood veneer, add \$475 for rosewood veneer, \$130 for wall-mount brackets

Specifications—Model A Subwoofer

Woofers: Dual side-firing 10-inch
 Dimensions (WHD In Inches): 17 x 17.75 x 15.25
 Weight (In Pounds): 48
 Frequency Response: 28Hz - 150Hz +/- 3 (dB)
 Amplifier Power: 400 RMS (watts)
 Maximum SPL @ 1 meter: 110 (dB)
 MSRP: \$1,995 each, add \$299.25 for wood veneer, add \$700 for rosewood veneer

I could easily live with the A2 as the front left and right anchors in a 5.1 or 7.1 system. This is the kind of sound few people dream of, but most people should want the natural sound of loudspeakers like the A2s. Too many prospective buyers are wowed by loudspeakers that go zing or woowoo or zowie. What people should really be looking for are loudspeakers that do not go zing, woowoo, or zowie. All of the A Series loudspeakers are in that natural category, without the zing-woowoo-zowie sound that's just plain bad over the long haul. You'll know you picked the wrong loudspeakers if you run into a wall of buyer's remorse two or three weeks after you purchased the loudspeakers when you realize that the ZWZ effect that caused you to buy the loudspeakers in the first place is really wrong and is now annoying the heck out of you. It's much easier to make the right decision the first time.

AC-1 Mini Center Channel

At 30 inches wide and 11.5 inches high, this is one of the largest center-channel loudspeakers I've used so far. That it has "Mini" in its name is one of those inscrutable (to me) marketing decisions. Bryston has three A Series center-channel models: the AC-1 Center is even larger than the Mini; the AC-1 Mini is middle-sized but still very big by center channel standards; and the AC-1 Micro that's much bigger than anything I'd name "Micro." But the name of the loudspeaker is fairly inconsequential in the big scheme of things. The AC-1 Mini uses the same drivers as the A2 tower, but there's one titanium tweeter and one aluminum cone midrange that's placed directly below the tweeter to defeat horizontal combing (uneven frequency response) as you move left to right, which happens when a single tweeter is placed between two woofers. Two of the same 6.5-inch woofers complete the driver complement. There is a forward firing port on each end, close to the outside edges of the loudspeaker cabinet.

The AC-1 Mini sounds exactly like an A2 tower loudspeaker, without quite as much deep bass capability. By the specs, the center channel gets down to -3 dB at 45 Hz, agreeing exactly with what I measured. I find center-channel loudspeakers that can't get below 60 Hz or so can sound a bit thin for male voices, even with a higher-than-80-Hz crossover setup in the surround processor or AVR. A lot more goes on in the center channel than simply dialogue, so having decent bass extension really helps the center channel integrate with the other loudspeakers and subwoofer. You may think, "What does it matter if the loudspeaker has bass response down to 45 Hz, if I'm going to set the crossover in the AVR or surround processor to 80 Hz?" It matters because where you set the crossover does not indicate where a loudspeaker stops making sound, and the subwoofer takes over. The loudspeakers and subwoofer overlap each other at 80 Hz. At 40 Hz (one octave below 80 Hz) the loudspeaker will likely be 12 dB lower in level than the subwoofer, but it's still going to be making sound. So you don't want that bass to be missing from the center-channel loudspeaker. I think Bryston did exactly the right thing with the design of the AC-1 Mini. It's the sort of center channel I would consider owning if my setup allowed for the fairly large size of the AC-1 Mini.

Mini A

These bookshelf loudspeakers aren't what I'd call Mini either. While these are the smallest model in the A Series, they are noticeably taller than most of the nearly universal two-way bookshelf models you are probably used to seeing. This height accommodates the three vertically aligned drivers, one each of the same tweeter, midrange, and woofer used in the other A Series loudspeakers. I began my critical listening with the Mini As in a 5.1 configuration with Target stands provided by Bryston for the review. The AC-1 Mini center channel was replaced with a Mini A bookshelf, so all five loudspeakers were identical. This produced a highly coherent soundfield that made 5.1 listening quite enjoyable. If my room was perhaps 18 feet deep instead of 28 feet deep, with an 8-foot ceiling, I think the Mini As would have been a better match. In spite of the large-ish room, they were still impressive for three-way bookshelf loudspeakers. I quickly appreciated their bass performance after comparisons with bookshelf loudspeakers I have here with 5-, 6-, and 8-inch woofers. The bass extension of the 8-inch woofer models was similar, but those are physically larger loudspeakers that need larger stands. So the Mini A's acquitted themselves well when compared to other stand-mounted loudspeakers I have here.

Music listening on the Mini A was surprisingly satisfying. I easily got drawn in during several listening sessions that were supposed to be brief examinations. Each session turned into a few hours of listening to both new and old favorite tracks. I was satisfied with the bass that was present, something I can't say for many two-way bookshelf loudspeakers. I'm not saying it was everything I'd ever want for bass, but it was surprisingly satisfying considering the size and cost of the Mini As. Bryston says the -3 dB point is at 60 Hz. In my room, I measured 63 Hz at the same level as 80 to 160 Hz, and 50 Hz measured -10 dB. That means the Mini A at least met, or perhaps improved on Bryston's spec by 1 or 2 Hz of bass extension.

The Mini A music-listening experience produced the same tonality as the big A2s, but the A2s have an ease and sense of size (larger spaces) that the Mini A can't equal in my room. When used in the surround positions, it's an excellent match and does everything I would ever expect a surround loudspeaker to do. Because of the wide dispersion pattern, I got a better "fill" in the second row of seats than I get with loudspeakers that don't place the same emphasis on wide and uniform dispersion as the Bryston loudspeakers do. The other thing I noticed was there seemed to be more differentiation in localized/directional sounds versus ambient sounds compared to more typical surround designs—meaning when a sound to the side

or back of the room came from a specific location, the Mini As localized that sound very well. When ambient sounds were present, the Mini As did an excellent disappearing act, producing a uniform ambience over a wider-than-expected area, depending on how many channels were producing the ambient sound.

Model A Sub

The Model A Sub presents a "blank" front face with no features, save a modest Bryston logo. The left and right sides contain 10-inch woofers connected with the same polarity. When the right cone moves outward, the left cone moves outward. The cones also move inward together. That provides near-perfect cancellation of vibrations. You still need a stiff cabinet and good ports, of course. Two convoluted ports (as are all the ports in the other A Series models) on the back side of the Model A Sub provide enough capacity for the subwoofer to "breathe" when the two drivers make large outward and inward excursions. The left and right top corners of the enclosure are beveled, reflecting the design of the other A Series models that have a bevel on the two front vertical corners. Circular, magnetically attached grilles cover the left and right drivers. The enclosure is roughly 17 inches square and 15 inches deep. Compact sub woofers with 10-inch drivers can be less than 12 inches on each side. So the Model A Sub is best described as being on the compact side of mid-size subwoofers. The two 10-inch drivers in the Model A Sub have about the same radiating surface as a single 14.2-inch driver. The Model A Sub comes with both rubber-tipped feet and spikes, so it will work well on hard floors or carpet.

The Model A Sub has fairly basic controls; volume, phase (0 or 180), crossover (80 or 150), volume, and 12-volt trigger in and out. Connections include an LFE input and an LFE output that can be used if the AVR or surround processor doesn't have a second subwoofer output. There are also loudspeaker level connections for a stereo pair of loudspeakers, should you wish to use that sort of connection. There's no auto calibration or room correction included.

The Model A Sub (-3 dB at 28 Hz) isn't intended to be an all-out assault on the deepest bass performance possible. Its real mission is as an LFE subwoofer and/or as a bass extender for use with Bryston's smaller A3 floor-standing models and the Mini A bookshelf. Bryston says that owners of the A1 and A2 floor standers would probably be happier with the Model T subwoofer (-3 dB at 18 Hz with three 8-inch drivers, nearly 39 inches tall) or the Mini T (-3 dB at 25 Hz with two 8-inch drivers in a shorter enclosure). I can say that the Model A Sub was quite impressive in the 5.1 system, with five Mini A bookshelf loudspeakers. The match was excellent, and with the Model A Sub near the center of the room and the crossover set to 80 Hz, there was no issue with the sub "pulling" phantom images from their intended locations created by the five Mini A loudspeakers. If smaller loudspeakers were used and a higher crossover point was necessary, the location of the Mini A Sub would be more obvious and it might upset localization of sounds in the 100 Hz range. But the Mini A bookshelf models go deep enough that you don't have to worry about that problem being an issue.

My now-standard *Edge Of Tomorrow* (the Tom Cruise/Emily Blunt science-fiction thriller) bass torture test went about as I would expect from Bryston's published -3 dB point. The deep bass effect begins as the Village Roadshow production company logo at the beginning of the movie is starting to go away. It was measured by a subwoofer manufacturer as a high-level descending bass signal that stops at 10 Hz. The Model A Sub reproduces the beginning of that effect but quickly fades out. Some people may well appreciate that the subwoofer doesn't produce house- or apartment-shaking bass during effects like these. The missing remainder of the bass effect doesn't really affect your enjoyment of the movie, and if you never heard how much bass is missing, there's nothing untoward going on. No chuffing ports, no startling sounds of driver voice coils bottoming out...

nothing at all to alert you to the fact that there is some bass that's not being reproduced. This is exactly the sort of performance you want when you reach the low-frequency limit of any subwoofer. Sure, there are less-expensive subwoofers that will reproduce bass down to 10 Hz, or maybe even lower, and do so at remarkably loud SPLs, but those subs are physically much larger, don't match the A Series models appearance-wise, and you may not be able to find them to audition at local audio dealers.

The quality of the Model A Sub's bass is excellent overall. It's as good as any subwoofer I've heard down to its limit. There's a clean, low-distortion character to the bass that makes it a great match for the other A Series loudspeakers. Pitch definition with music is great, revealing textures and detail within the bass sound that you don't get from every subwoofer. If you only use a subwoofer for movies, you may not even notice if a subwoofer is glossing over bass detail because movie bass is so predominantly from crashes, explosions, collisions, large weapons, large vehicles' operating noise, and other such bombast (which most of us love, admit it). But music makes bass quality much more evident, much more quickly, especially if you have a selection of tracks you know well that have well-recorded bass below 40 Hz. Even though the left and right A2 floor-standers go down to 31 Hz pretty strongly, having the Model A Sub in the system provided an extra bit of texture and openness to bass events that was interesting. With the 5.1 system using Mini A bookshelf models for the 5 channels, the Model A Sub was invaluable at providing the bass foundation that made those smaller loudspeakers really come into their own with nearly full-range sound from a relatively modestly sized system. The Model A Sub isn't the bass beast you may be looking for, but it certainly fills the role Bryston envisioned for it.

When I measured the Model A Sub's low-frequency limit, I didn't quite get to Bryston's spec, reaching -4 dB at 31.5 Hz (versus -3 dB at 28 Hz per Bryston's spec). I am going to blame that shortfall on my room probably being a bit larger than the typical space the Model A Sub was expected to be used in—and because it was nowhere near a side or back wall that would produce a beneficial boost at the lowest frequencies due to boundary reinforcement. It won't shake your nerves and rattle your brain, but the Model A Sub definitely fulfills Bryston's goal for it to support their loudspeaker models with less deep-bass extension.

7.1 System Sound

With the 7.1 system consisting of a pair of A2 floor-standers, the AC-1 Mini center channel, two Mini As on stands in the side surround location, and two Mini As in the back of the room as rear surrounds, a very convincing and enveloping soundfield filled the room nicely. Phantom images between pairs of loudspeakers (or even between three or more loudspeakers) were rock solid and very convincing. More than once I thought sounds from a movie soundtrack were coming from elsewhere in the house or on the back patio. Ambient sound was also very convincingly rendered. There were times when ambient sound coming from all seven channels was so convincing, I found myself fascinated by the effect so much it distracted me from the movie. *Mad Max: Fury Road* is a heck of a workout for any surround system. It has probably every combination of sound conceived for 7.1 home systems: phantom images; localized/directional sounds; ambient sounds; loud dynamic events mixed with more subtle details; crazy dynamics; fly-overs/fly-unders; voices cutting through the mayhem of chases and battle; and rare moments of relative calm, followed by all hell breaking loose. I never wished for bigger or more expensive loudspeakers because I never felt like I was missing anything. This system delivered serious listening satisfaction. I had avoided watching any of the *Star Wars* movies released on Blu-ray so far because I'd read several years ago that each movie was going to be "restored and improved" (better effects inserted) and rendered into 3D, one movie per year. So I was planning to wait for that to happen before

digging into those old favorites again. But the updating and 3D conversions appear to have fizzled out after *Episode I*. The release of *The Force Awakens* prodded me into getting the two three-movie Blu-ray sets to re-watch all the movies before going to the local IMAX theatre to see *The Force Awakens*. The 7.1 system was in use while viewing all six movies, and it revealed just how much Lucasfilm's sonic capabilities evolved as the success of previous movies and the technology improvements allowed them to produce more and more exciting soundtracks. The A Series 7.1 system easily revealed the sometimes sketchy sound in the modest-budget *Episode IV*, the leap forward of *Episode V*, and the sophistication of technique and fine tuning in *Episode VI*. And while *Episode I* seems to be on everybody's worst-of-the-bunch list, sound-wise it was awesome compared to the previous three movies, and the 7.1 system was right there showing me exactly why. The pod race segment was just sheer pleasure for the ears through the A Series system. *Episode II* and *III* built on the new level of performance allowed by newer movie sound options, and undoubtedly by newer and more sophisticated sound design, gear, and downright creative use of all the new tools. It was a pleasure to make that journey again with the Bryston 7.1 system.

5.1 System Sound

I'll be brief here because I discussed some of the surround sound experiences with the five Mini A loudspeakers and the Model A Sub earlier. But I should mention that I listened to the 5.1 system both before the 7.1 system and after using the 7.1 system for quite a while. I was not disappointed by the 5.1 system after returning to it after using the 7.1 system. The 5.1 sound wasn't quite a perfect match for the 7.1 system, but it was surprisingly close. If this was a smaller room, I believe the 5.1 system would have been even more impressive. But the size of this room makes it challenging for mid- to small-sized loudspeakers. Nevertheless, the 5.1 system produced sound so familiar, it was easy to tell that the 5.1 and 7.1 systems had a remarkable match in regards to tonality, dynamics, detail, imaging, and pitch definition. The 5.1 system did seem fractionally smaller and more intimate, but that might go away in a physically smaller room than this one. The 5.1 system delivered the same excitement and adrenaline pumping that I got from the "big" 7.1 system, whether re-watching titles enjoyed on the 7.1 system or other movies. Even the sonic wringer of *Edge Of Tomorrow* was a pleasure to hear with the Bryston 5.1 system. Thumbs up for the "little" 5.1 system.

Conclusion

After decades of manufacturing only electronic components, Bryston now finds themselves proprietors of two entire loudspeaker lines encompassing floor-standing models, on-wall models, in-wall models, center-channel models, bookshelf models, subwoofers, and accessories that can be useful in many installations. Prices range from a top-end of \$8,915 per pair for the Model T Signature with out-board crossover module, to a low of \$630 for a pair of CIW (in-ceiling or in-wall) loudspeakers. The A Series loudspeakers are worthy price-performance add-ons to Bryston's higher-end Model T Series loudspeakers. Both follow the wide and uniform (as possible) dispersion model widely adopted and promoted by the Canadian loudspeaker manufacturing community, as well as by loudspeaker manufacturers from other parts of the world. Bryston has delivered the sort of loudspeakers you might expect from a well-respected electronic components manufacturer. Serious performers, no baloney design, no silly/snake-oil explanations about how the loudspeakers work, no outrageous claims. Just solid engineering, purposeful design, engineered for reliability and performance—and don't forget that mind-blowing 20-year warranty. If you're going to get into this for the long haul, Bryston will be there. **WSR**