AudioControl Avalon G4 Product Review

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AudioControl Avalon G4
Configurable Four-Channel Amplifier

Doug Blackburn

By now, regular *Widescreen Review & Custom Home Theatre Design* readers should be fairly familiar with AudioControl products. This "best-kept secret in audio" makes their high-performance audio products just north of Seattle, Washington. They are celebrating their 40th anniversary this year. The company maintains a corporate sense of humor and prides itself in plain-talk and no baloney. Well, to be honest, there is *some* baloney. The longest-running tag line for the company is "made in the northwest rainforests" or some variation of that. In the past, *Widescreen Review* has reviewed amplifiers, processors, and AVRs made by AudioControl. Their Savoy G3 seven-channel amplifier has been a reference amplifier in my system for almost 10 years. The Savoy G3 shares class H operation with the Avalon G4. The Avalon G4 is the third amplifier in AudioControl's home theatre amplifier product series. The Savoy G3 remains in the product line, and there is also a five-channel amplifier, the Pantages G3. AudioControl also makes Rialto-series amplifiers suitable for other zones, desktops, or anywhere a compact stereo or multi-channel amplifier is needed. And they make multi-zone amplifiers and network amplifiers. AudioControl also has products for car audio and pro audio as well as a small number of audio-video accessories.

In designing the Avalon G4 amplifier, AudioControl could have put four amplifier channels in a chassis and called the product done. But AudioControl has had some experience with putting extra features into amplifiers, like the three Rialto amplifiers that have built-in digital audio inputs, a DAC, and line-level volume control. For the Avalon G4, AudioControl more or less put two stereo amplifiers in one chassis. And they made pairs of amplifier channels bridgeable. That means you can have this amplifier output four channels, three channels or two channels. The four-channel option is obvious. The three-channel option is achieved by bridging one pair of amplifier channels, more than doubling the available power. And two-channel operation is achieved by bridging both stereo amplifiers. Why four channels? If you already have a Savoy G3 amplifier, many Immersive Sound processors will support, wait for it, *four* channels. Savoy + Avalon = 11 channels. If you have a processor with Auro-3D and AuroMatic, you may want 12 channels with five height channels. Savoy + Pantages = 12 channels.

When you bridge an amplifier, you send all of the audio signal from 0 volts and higher to one amplifier channel, and you send all parts of the audio signal from 0 volts and lower to the other amplifier channel. The amplified output combines the positive and negative portions of the signal into a complete audio signal again. There is an extra benefit to doing this: you just created a balanced audio circuit by bridging the amplifier. The biggest benefit of a fully balanced circuit from input to output is that when you combine the positive half of the amplified signal with the negative half of the amplified signal, you cancel out noise present in both halves of the audio circuit. This is common-mode noise rejection. You won't even know the noise was there until you bridge, then listen to the same content again. Another benefit of bridging amplifier channels is that you double the voltage slew (or swing) rate. Let's say your stereo amplifier can swing 40 volts per microsecond. When you bridge, you get 40 volts per microsecond from 0 to

maximum voltage *and* 40 volts per microsecond from 0 volts to minimum (negative number) voltage. The total for bridged mode is 80 volts per microsecond. Pure objectivists will say this is inconsequential because we never hear above 20,000 Hz (and most of us are 16,000 Hz or lower, if we are adults with normal hearing). And you can reproduce 20,000 Hz with less than 40 volts per microsecond slew rate anyway, so doubling the slew rate won't change what you hear. Every time I've used a bridged amplifier over the years, I've come away thinking that all amplifiers should be made that way. Something comes along with the bridging and doubled voltage slew rate that just doesn't seem to get delivered by conventional amplifiers with single circuits for the entire audio signal. If you pin me down, the best way I can describe this is that the high slew-rate amplifiers sound natural, weightless/massless, and incredibly nimble, while conventional amplifiers with the same circuits seem like they are in the slow lane when you do direct comparisons. We shall see if that holds up for the Avalon G4. There are amplifiers manufactured that are fully balanced from input to output, but they are typically the top-of-the-line products and are very expensive. After all, you have to use twice as many components for each amplifier channel to do an "always bridged" or "fully balanced" circuit. Bridging pops up from time to time in a wide range of products. Some AVRs have even offered bridging in an attempt to get more power available for the front left and right loudspeakers with the idea that these would be the largest and most power-hungry loudspeakers in the system.

Appearance-wise, the Avalon G4 looks too small to have four amplifier channels with this much power. The packaging is impressive to get everything inside the compact, but not impossibly small chassis. The finish is black satin. The faceplate has AudioControl and the model name silkscreened in white with a thin blue light bar (bright, dim, or off options) across the faceplate. The rear panel has unbalanced and balanced inputs for four channels. There is also an unbalanced line level output from each channel that can be routed to the input of a different amplifier channel in the same chassis or different chassis. Each channel has a pair of metal multi-way binding posts insulated with clear plastic. There is a screwdriver-adjustable level control for each channel. And there is one set of crossover controls for each pair of amplifier channels. The nominal crossover frequency (if this feature is used) is set with another screwdriver adjustment so it can't be changed by accident. Slide switches control whether the crossover is to be high-pass or low-pass or not used (off). An interesting three-position slide switch lets you change how the Avalon G4 uses electrical ground in the amplifier circuits. That can be useful if a hum problem develops. The chassis of the amplifier is always grounded for safety. The switch only controls the use of ground in the amplifier's circuits. There is one input and one output for 12 VDC triggers. AC power features on the back panel include a master power switch, a fuse holder, and a 15-amp power cord IEC socket. While the amplifier generally doesn't get very warm, when pushed hard, it can produce some heat, so good ventilation will be needed. While there are no external heat sinks, there are vents on the bottom, top and sides.

As I am writing this review, AudioControl is in the process of re-evaluating the selling price of the Avalon G4. I don't yet know what the final pricing will be, so I will use circa-$2,000 in the review, and the final decided price will appear in the Specifications section. Note that since AudioControl products are most often sold by installers/integrators, they can charge whatever they like for components that go into a home theatre system, so the quoted price in a system could be higher or lower than AudioControl's average cost. The price AudioControl provides for our reviews is their estimate of the average cost a customer might pay for the Avalon G4

Features

Four Channels 230/8 or 300/4 (Watts/loudspeaker impedance)
Avalon G4 is configurable as four, three, or two channels
Combining two channels into a single output channel doubles voltage slew rate
A bridged channel will output 600/8 (Watts/loudspeaker impedance)
Stable into low loudspeaker impedances
Highly energy efficiency with very little heat produced
Class H operation (variable power supply rail voltage)
Employs BiMOS output devices said to have the best audio characteristics of bipolar and MOSFET transistors
LightDrive anti-clipping/distortion technology protects loudspeakers from being sent a clipped audio signal
5-way insulated binding posts for loudspeaker cables
Unbalanced input and output (RCAs) for each channel
XLR inputs for each channel
Engineered for long life and high reliability
12 VDC trigger
Back panel switch selects three different grounding options that could help eliminate hum in some installations
Internal 24 dB/octave Linkwitz-Riley high-pass and low-pass crossover circuits for unamplified subwoofers (range of crossover frequency setting 30-300 Hz)
Front panel light bar with brightness setting (bright, dim, off)
Rear panel master power switch
IEC 15-amp power cord socket
Manual level adjust for each channel (tool required to change)
Internal protection circuits for: clipping; over-temperature; short circuit; DC offset

Specifications

Dimensions: 17 W x 3.5 H x 16.5 D (inches)
Weight: 38 (pounds)
Power requirement: not specified but nominally 115-240 VAC 50/60 Hz
Power consumption: Standby—less than 2; Idle—38; loud listening level—400; Maximum—1200 (Watts)
Frequency response: +/- 1 dB from 10 to 20,000 Hz
Total Harmonic Distortion: 0.04% for 20 Hz to 20,000 Hz at 230 Watts into 8 Ohms
DC Offset: less than 5 (millivolts)
Crosstalk: greater than 80 dB at 1,000 Hz
Signal to Noise: 102 dB A-weighted referenced to full output
Output power: 230 per channel at 8 Ohms; 600 per channel at 4 Ohms (Watts)
Loudspeaker impedance recommendation: 4 to 8 Ohms
Damping factor: greater than 450
Designed in: United States
Manufactured in: United States
Warranty: 5 years when registered within 15 days
Expected Customer Price: $2,200

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amplifier from an installer/integrator. Pricing in this market is a bit more varied than the MSRP world of consumer audio.

The factory configuration is as a four-channel amplifier. It is quite easy to use this amplifier as a four-channel amplifier without using any of the other features. But if you need or want some of the features AudioControl has brought to the amplifier, you may not find all of these features in any other amplifier at any price. The next configuration option is using the amplifier as 2.1 channels with two channels of 230 Watts each for loudspeakers, and a bridged channel producing 600 Watts for a single loudspeaker, like a subwoofer or other large loudspeaker. The third configuration is to bridge both pairs of amplifier channels, resulting in two channels of amplification rated at 600 Watts each into 8 Ohms. Changing two channels to a single bridged channel is very simple. First, you push the stereo/mono button to the mono position to bridge the two amplifier channels into a single channel, then you connect the red loudspeaker lead to the left channel + (red) terminal and you connect the black loudspeaker lead to the right channel – (black) terminal. Your inputs go to channel one and channel three after bridging with nothing connected to the inputs for channels two and four. This takes less than 30 seconds to do.

I haven't written much about "break-in," as it pertains to new electronic components. This is something audiophiles have debated at least back into the 1970s. The Avalon G4 gave me a big dose of "I need burn-in to sound great." Components arrive here for review in all states of use. I've had prototypes (not for formal review, but for technology demonstration), brand-new factory-sealed components, and components that have been covered with old shipping labels and massively beaten-up outer boxes because it had many stops before arriving here. The Avalon G4 was one of those brand-new-in-the-box amplifiers. I heartily encourage running this amplifier, and most others for that matter, for 24 hours before making any sonic evaluations, especially if you are working on EQ or room correction and making adjustments based on what you are hearing. Interestingly, I don't experience burn-in effects with digital signal processing devices like disc players and processors. But break-in/burn-in is definitely a thing for amplifiers and loudspeakers.

What happened after 24 hours of burn-in? Oh, boy, it was *nice*. This is the AudioControl sound I'm used to hearing. Big soundstage, pretty-sounding female vocals, tight and well-controlled bass with great power when needed, tasty high frequencies, and an open, clarity to the sound that floats things nicely in space. The clarinet that opens Gershwin's masterpiece, "An American In Paris" (Jeff Tyzik & Rochester Philharmonic) floats front and center like the sun rising over the Champs-Élyseés Avenue in Paris. The Avalon G4 lets you hear all the instrumental detail, even the breath moving through the instrument. The reed sound is there, the body sound and clicking valves are there, and the pure sound from the bell of the instrument all blend into that unique clarinet sound. But none of those sounds are artificially enhanced. Just like real life, you have to focus closely on the sound and listen for the reed, listen for the air moving in the instrument, and listen for valves to open and close as fingers move up and down the body without dropping the instrument. When the orchestra joins the clarinet, the complexity is nicely rendered by the Avalon G4, producing a colorful performance that sounded as though everything was in the room with me. The amplifier (and loudspeakers, to be fair) appropriately revealed that the performance/recording space was much larger than my room by making the walls disappear. Having experienced quite a few performances in the Eastman Theatre, the recorded sound took me right back into that space, a very wide space that is not as deep as some symphony halls.

A claustrophobic crawl through too-small tunnels in Egypt was almost all I could take, and I'm not particularly claustrophobic. Those tunnels were so tight they could only be used lying on your belly and crawling. When they entered the small tunnel from a large, hand-dug underground room, the sound just collapsed into that tiny tunnel space, making the whole thing on a big screen seem almost terrifying.

The sound of well-recorded harp, and I do mean harp and not harmonica, is something I like. But if it is old school music; classical or from the Marx Brothers era, I get bored easily. When I find a recording of modern music where a harp plays a prominent role, it's a pretty special thing. This has made a track on an obscure album one of my all-time favorite music tracks and a near-constant reference for any sonic evaluations. The song is "Angel" written by Jimi Hendrix. But there's not a guitar to be heard on this track. Instead, the recording artist, thirty-something Dee Carstensen (album title *Regarding The Soul*), plays the harp and sings beautifully. The album was recorded in New York City, and the studio clearly knew what they were doing, because the sound, especially the harp, vocals, and A capella chorus were very well recorded. The Avalon G4 makes this track sound fabulous—lots of resonances, harmonics and lovely round tones. Plucks of the strings test the amplifier's ability to clearly differentiate soft plucks, using the sides of a finger from knuckle plucks, fingertip plucks, and fingernail plucks. The way the sounds from plucked strings seem to work with each other to create different sounds and textures during the decays are an obstacle course for amplifiers. But it all

"What happened after 24 hours of burn-in? Oh, boy, it was nice."

came through quite well when using the Avalon G4. The big swirls of sound that seem to come off of a harp playing something like "Angel" is an interesting new listening experience. There sure aren't many harp players in popular music… our loss. Is Amy Farrah Fowler in the house?

Movie sound was nicely done as well. Soundtrack music was great and the dynamic capabilities make this amplifier great at keeping ambient sounds, and more important, louder and dynamic sounds in proper perspective. Ambience never overwhelms whispering, and whispering remains intelligible at any normal listening level. *Bumblebee* was a great torture test for picking up subtle sounds during more intense action sequences. The Avalon G4 kept up nicely. The clickty-clack bang whirr buzz clang sounds when a transformer changes modes was nicely rendered with a you-are-there quality. The energy in chase and fight scenes was heart pumping. The amount of detail and ability to create realistically sized spaces was unexpected for a circa $2,000 amplifier with four channels. That's just $500 a channel. It's great fun when you've seen a movie several times, like *Bumblebee*, and you can begin listening for things you haven't heard before. I picked up some pings and ricochet sounds during fights, presumably from things being kicked up… rocks, or a bicycle, or anything else laying around or between combatants. The Avalon G4 didn't miss anything.

For movies, the Avalon G4 essentially disappeared. It didn't add or subtract and kept dialogue clear and focused. Even when used full-range, without a powered subwoofer in the system, and all four channels set to large in the processor, the Avalon G4 wasn't pushed beyond its power capabilities with all channels in action during dynamic and complex scenes. I couldn't detect any sort of character in the sound of the Avalon G4. It was resolutely neutral sounding; one of my favorite amplifier characteristics. There should be a better word for neutrality, it is such an uninspiring word. But neutrality is one of the keys to listening satisfaction in a home theatre setting. If your first reaction to hearing a new amplifier is, "WOW! Listen to those highs, astounding!" you could be in for a heap of woe, unless your previous amplifier was way down in level in the high frequencies. If your loudspeakers are a comfortable load for the Avalon G4, you will hear some really great sound from this amplifier. Fortunately, hard-to-drive home theatre loudspeakers are increasingly on the endangered species list. Technology is helping to design loudspeakers that are less electronically challenging so we can get more amplifier channels into our theatres without having to have a super-amplifier for every channel. The Avalon G4 is a perfect entry to this new world of "we don't need amplifiers that weigh 80 pounds per channel anymore."

Have you noticed that I haven't said anything at all about the sound of this amplifier when you bridge channels? How does the amplifier do when bridged into a stereo amplifier with 600 Watts per channel? How much did the last stereo amplifier you saw with 600 Watts per channel sell for? I've seen that sort of power rating go for $6,500 to over $20,000 for just two channels. This amplifier is in the $2,000 price range! $1,000-ish per 600-Watt channel. While 4- to 8-Ohm loudspeakers are recommended, the Avalon G4 can be a real power house in a small chassis. AudioControl says their installers/integrators are finding the Avalon G4 works very well with everything they try it with.

My sister-in-law asked to see *The Fifth Element* since she hadn't seen it since it came out on DVD. We watched the new 4K Ultra HD Blu-ray version. It was an interesting experience to see the whole movie in one sitting again. I haven't done that in ages. I was struck by the clarity and detail in the remixed soundtrack compared to earlier releases. This was all easily revealed by the Avalon G4 in the system. I just wish AudioControl had sent five more of them so I could run all 12 channels with bridged G4s. That would be something to hear. Why? Because bridging G4 channels is awesome sounding, even at moderate playback levels like 80 dB average. I did not bridge the Avalon G4 until well into the review. What a mistake that was. Just imagine a long string of expletives of your choice here. What are the kids saying these days when they like something? I know it's not "the bomb digitty" because a 12-year-old girl rolled her eyes at me the other day. This amplifier is just silly stupid awesomeness in a circa $2,000 box of electronics.

Conclusion

It is easy to get excited about a high-performance product that isn't priced beyond the means of most people. I was expecting the Avalon G4 amplifier to sound good after my experience over so many years with AudioControl's Savoy G3 seven-channel amplifier (no bridging feature, unfortunately). I was not disappointed. After 24 hours of playing moderately loud music, the Avalon G4 blossomed into one of those components that grabs you in a meaningful way. The Avalon G4 is the best sounding circa $2,000 multichannel amplifier I've heard. In bridged mode with two channels producing 600 Watts into 8-Ohm loudspeakers, the Avalon G4's sound quality takes another big step forward. The sound quality of bridged pairs of channels moves the amplifier's sound quality into the next performance plateau it shares with other good amplifiers in the $5,500 and up price range. And that's not reviewer hyperbole. You can't forget the surprising extra features you just don't find on other amplifiers—the internal subwoofer crossovers, unbalanced, balanced, and passthrough connections and individual sound level adjustments for each channel. It's a kickass four-channel home theatre amplifier. It's a problem-solver stereo amplifier and a 600-Watt mono amplifier in one chassis. Or it's an amazing-sounding stereo amplifier with 600 Watts per channel. A new standard for what's possible circa $2,000 has been set. Great amplifier, great price, great recommendation. **WSR**