

AudioControl Maestro M5 · Psychoacoustics' Role In Home Theatre

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## THE SHAPE OF WATER



# AudioControl Maestro M5

## 7.1.4-Channel Surround Sound Processor

*Doug Blackburn*

AudioControl makes frequent mention of their Pacific Northwest United States rainforest location in the Seattle, Washington area. It gives them a bit of unique character and sets AudioControl aside from the competition. AudioControl continues to offer commercial audio product applications, car audio products, and home theatre audio components. Their home theatre marketing is focused on the integrator/installer channel, with AudioControl this year offering home theatre design as a support option for their installers/integrators. AudioControl's surround sound processor platform has been named Maestro for a while now. I reviewed the Maestro M3 in Issue 149 July/August 2010. The subject of this review is the Maestro M5, AudioControl's new mid-line surround sound processor. For an additional \$3,000, customers can have the M9 processor. The M5 and M9 share architecture, but the M9 is made with numerous upgrades in the analog and digital audio circuits for audiophiles who want the best performance possible regardless of cost. That said, the M5 is no slouch. The analog and digital components may cost less, but they have been selected and assembled carefully to yield a very high performance-to-cost ratio. For a number of years now, AudioControl has used a high-gloss black faceplate with a "window frame" border around the edge. It looked great and set the AudioControl products aside from the competition. The Maestro M5's face panel is more conventional brushed and anodized aluminum with AudioControl calling the color espresso black. **The processors are perfect matches for AudioControl's multi-channel theatre amplifiers and zone amplifiers.**

The menu system retains the look AudioControl has had since I reviewed the Maestro M3 in 2010. Choices change, of course, as new features come and old features no longer needed are removed. The simple front panel gives the M5 a purposeful look without lighting up the room with LEDs and displays like a city skyline at night. The IR remote shipped with the Maestro M5 is compact but flexible enough that if you wanted to use the remote to control an entire system you could. It controls

up to eight components and has built-in tables and can learn commands from other remotes. But with the M5 most likely to be the control device for a custom home theatre, with the use of some sort of control system, likely with a tablet or other hand-held graphic panel, most of the time this remote will live in storage in case it is needed in the future. **Startup is very quick at just three or four seconds.** A lot of video displays are so slow to display images on startup that the M5 won't be a bottleneck to get up and running quickly.

The front panel has a two-line electroluminescent blue display. The front panel LED illuminates red when the M5 is turned off and changes to blue when the M5 is turned on. The LED can be turned off in the menu for those who don't want the light on with a projection system. A row of 11 buttons and a rotary knob provide control of the M5 if the remote isn't handy. The front panel also has a mini-jack for headphones. The rear panel continues AudioControl's tradition of painting the parts of the back panel with input connections white, while the area around output connections is black. Audio outputs are available as 12 XLR connections or as 13 RCA connections. The additional RCA connection is for a second subwoofer. HDMI inputs are all HDMI 2.0a and HDCP 2.2 compatible. There are six analog stereo inputs with RCA jacks. The input labeled "CD" has XLR jacks in addition to the RCA jacks. Zone 2 audio is output via analog stereo or HDMI. There are two "main" HDMI outputs and one Zone 2 HDMI output. Both of the main inputs have ARC (audio return channel). Digital audio inputs are available in four RCA coax connections, two optical digital connections, a USB connection for memory devices and drives (5v, 1A), and an Ethernet connection. The M5 will play a number of different audio formats from the USB and Ethernet connections, including high-res formats, but video is not supported on either interface. Remaining back panel connections include: coax FM antenna, RS-232 control, two 12V Triggers, two wired IR connections, a 115-230 voltage slider to change the input voltage, a 15A IEC power cord socket (not grounded), and a power switch. The Maestro M5 is typical height for a surround sound processor, about seven inches, which translates to four rack units.

The M5 has the usual complement of manual and automatic settings for loudspeakers. You have the option of doing everything manually, or you can use DIRAC Live room calibration to perform an essentially automated installation. Lipsync is adjustable to different values for each input, but there are no negative values for lipsync. That's not usually a problem, but on occasion, I have encountered situations where video needed to be delayed to make the sync work. When there are no negative numbers to move audio "ahead" to match the video, you can end up with sync issues that you can't fix. As I recall, the only times I've needed to use negative lipsync values were with some streaming services, though, it did not seem to happen all the time. I don't see this often enough to consider this a problem (not having negative lipsync values), but it's nice to have if you end up with that sort of problem. I did use streaming services with the M5 fairly extensively and didn't encounter a lipsync issue I couldn't fix. One tip for lipsync issues... if you have a lipsync problem with a source you don't usually have lipsync issues with, pause the source momentarily. When you restart the source, the lipsync issue is usually gone.

The M5 will upconvert 1080p to 2160p, but there are no other video conversions and no legacy video formats. A menu choice allows you to specify whether the M5 should upconvert 1080p to 2160p or not. There is an on-screen display that appears when anything in the source changes... for example when a 5.1 Dolby Digital program is interrupted by a commercial, the commercial may be in Dolby Digital Stereo or PCM Stereo and that will appear on-screen. You see the selected input, the video signal resolution (like 1080i60), and the audio format like 3/2.1 for 5.1.

AudioControl has adopted DIRAC Live for their setup and measurement system. This makes a lot of sense since there are significant overall system performance improvements when proper room design and treatment combine with a well-conceived room-correction product like DIRAC Live. With most installers/integrators incorporating at least some sort of room treatment into new or updated home theatre systems, DIRAC Live allows for removing problems the loudspeakers have with room interactions. Unlike some other room-correction systems, I have never experienced a DIRAC Live calibration in my current room that was anything but an unqualified success in making the overall sound better and allowing for better sound over all the seats in the theatre room. DIRAC Live focuses on phase and impulse response, to the extent that a system with loudspeakers with a variety of phase differences ends up with very good phase performance after processing by DIRAC Live. To use DIRAC Live with the Maestro M5, you first download DIRAC Live from the AudioControl Web site and connect the provided USB measurement microphone to an available USB port on your computer (Mac or Windows), a major convenience compared to running very long microphone cables to the processor or AVR, potentially into a different room or floor. Once started, the software performs a range of measurements, and correction data is generated right in your computer. You then download this correction data to the M5 over your network or by some other mean, and once the M5 restarts with DIRAC Live enabled, you will be applying the corrections to all audio that passes through the M5. You can enable and disable DIRAC Live any time you want to remind yourself of the sound quality without DIRAC Live. Room-correction measurements and corrections can't completely solve physical room issues, though. For example, if your first reflections from the left front loudspeaker are extra strong because of reflections from a hard surface like stone or glass, those sorts of issues are best dealt with by using acoustical room treatments, one of the things installers/integrators tend to do quite well. My experience with DIRAC Live in the M5 produced results just as good as the results I've gotten when using DIRAC Live with other products, including at least one product costing more than three times what the M5 processor costs. Of course, DIRAC Live must exist inside the product in order for room correction

## SPECIFICATIONS



### Features

- 7.1.4 Home Theater 4K Ultra HD supporting HDMI 2.0a and HDCP 2.2
- Supports Dolby Vision™ (firmware version 4.31 and up) and HDR-10
- Supports transmission of High Dynamic Range (HDR) formats, with BT.2020 support
- Supports Dolby Atmos® and DTS:X™
- Dirac Live® Room Correction
- 7 HDMI inputs; 2 HDMI Outputs with ARC; 1 HDMI Zone 2 output
- 4 Coax SPDIF digital audio inputs
- 2 optical digital audio inputs
- 6 Analog Stereo (RCA jacks) inputs
- 12 balanced XLR outputs
- USB Input for connection to iPad®, iPhone®, iPod® and other portable music players and mass storage devices
- Supports digital audio file formats: MP3, WMA, WAV, FLAC, MPEG-4/AAC
- Supports Dolby Atmos, DTS:X, and earlier codecs
- Custom-Install control ready with IP, RS232, 12-volt trigger, and IR control options
- FM and Internet radio
- Programmable multi-device remote control provided
- Headphone output (mini socket)
- Comes with DIRAC Live measurement microphone

### Specifications

- Dimensions: 17 W x 16.5 D x 7 H (inches, 4 Rack Units)
- Weight: 23.9 (pounds)
- Frequency Response: 20-20,000 Hz +/- 0.2 dB
- Total Harmonic Distortion: -100 dB
- Designed In: USA
- Manufactured In: USA
- Warranty: 5 years, parts and labor
- Expected Client Price—\$5,900 (generally quoted as a line item in a custom home theatre project)

### Manufactured In The USA By:

AudioControl  
22410 70th Avenue West  
Mountlake Terrace, Washington 98043  
Phone: 425 775 8461  
Email: Use form on Web site  
Web site: www.audiocontrol.com

based on your measurements to be applied. The M5 applies DIRAC Live to all active channels for all sources, unless you disable DIRAC Live in the menu system. In my room, DIRAC Live improves the clarity of just about everything, and bass response is smoothed out in spite of the fact that I've found really good subwoofer locations in this room that don't have bad issues with cancellations or reinforcements due to room modes.

The Maestro M5 will stream popular digital audio formats from Ethernet or USB devices, but there is no built-in facility to play movies you have ripped to network discs or USB devices. I played a variety of different resolutions, primarily FLAC files, and found this feature performed as well as playing physical discs or using a Mac Mini and battery-operated USB DAC to send fully decoded analog audio to the M5. Internet radio is well supported also, with a large favorites list memory to help you find the channels you are interested in very easily. There is no support for Apps or other add-ons since those are commonly available in disc players or video displays.

AudioControl appears to spend more than the "normal" amount of time designing in long-term reliability. So confident are they that their gear will perform reliably for decades, they cover their equipment with a five-year warranty rather than the one or two years of coverage offered by most competitors. Aside from working well for a decade or more, AudioControl insures that their products are capable of living long, useful lives even when they are left operating 24 hours per day.

I used the M5 with an AudioControl Savoy G3 seven-channel amplifier that is four or five years old now and still providing high-quality sound. Additional amplifiers powered the four height channels used for this review. I also used Audio Excellence amplifiers with the M5. XLR cables connected the M5 to various amplifier channels. Power conditioning made sure the input power was clean.



All the AudioControl components I've reviewed since 2010 share a product family sound that may surprise people in this age when most every AVR and processor sounds at least OK. I haven't noticed this with brands that sell a large number of models priced closely together. **But AudioControl components have a very musical and approachable sound.** Some high-end gear is designed to sound "different" rather than sound "right." A surprising number of manufacturers seem to think that's a good idea. **But AudioControl avoids any tendency to brightness, harshness, or grainy or annoying sound.** **Everything I listened to was approachable and involving immediately. And the sound remained involving and inviting, even during marathon entertainment sessions.** I was always anxious to see something again or something new, and to listen to music for hours at a time. Soundstage size was conveyed well, with good front-back and left-right width and depth cues. Height is a bit more elusive to obtain when there are just two active loudspeakers for stereo music since few recordings capture real height, and few systems can reproduce height without high-mounted loudspeakers added to the system. Stereo mode results in just the two main front loudspeakers and subwoofer being active. This gives you maximum bass extension for stereo music, but selecting Direct mode eliminates all signal processing to give the best possible sound quality, albeit without the subwoofer being active. I don't often hear all that much difference between "normal" stereo mode with the subwoofer and Direct mode without the subwoofer and without any digital signal processing at all. The M5 did make Direct mode sound slightly better if you used sources with little bass. But the missing bass extension and power often erased any sonic benefit gained from using Direct mode. With the M5, I let my mood dictate whether I used Direct mode or not. There are no rules for this, and "non-Direct" mode sounds just fine. For surround sources, you want to keep the subwoofer engaged all the time (assuming you have one), so use the most appropriate mode. If the system has height channels, be sure to use them with music sources. And use DTS Neural:X to upconvert stereo-to-7.1 sources to move ambient sound up into the height channels, making for a much more spacious presentation, or for making stereo or 5.1 sources expand to work with your 7.1 system. Neural:X sounds more engaging and musical while Dolby Surround sucks the life out of music.

**Movie sound is every bit as engaging as music over the M5.** There was a consistently better mid-to-upper bass quality than I get with equipment that's not up to the standards of the M5. No, it's not the best-sounding processor I've ever heard, so there is indeed "room" for the extra \$3,000 cost of the M9 to get you essentially the same product but with sound quality that's a bit better than I've found in the M5's price range. For example, the processors I've used with five-figure price tags all sound incrementally better than the M5, but the cost for "beating" the sound quality of the M5 can be huge, from three to six times the cost of the M5, while the M9 upgrade is not

even half the cost of the M5. I was initially a bit disappointed that this review was of the M5 and not the M9, but I have to say that **the M5 is incredibly easy to live with and provided engaging sound that was never annoying unless the recording itself was annoying.**

The spatial characteristics of the M5 were always on display, so they never went unnoticed. Objects moved through space very convincingly because of the M5/DIRAC Live combo always managing to sidestep room problems to maintain very coherent phantom images between pairs of loudspeakers, even when unusual combinations of loudspeaker locations were being used. Of course, aerial combat is always a good time to experience the most surround sound effects, so scenes like the helicopters attacking Kong in *Kong: Skull Island*, the combat scenes in *The Edge Of Tomorrow*, and scenes involving the Terminator ship scavenging human victims for research in *Terminator Salvation* were all great sources for hearing just how coherently the M5 could move sounds around the room while maintaining believable "image size" and location. **Yes, Asian-brand processors selling for half the cost of the M5 are out there, but none of those so far offer DIRAC Live or a five-year warranty. Nor do those less-expensive Asian processors have that easy draws-you-in sound quality I get with the AudioControl Maestro M5. Casual listeners might never notice the difference, but those who love movies and music and have the interest and ability to hear subtle detail will find the M5 at least twice as engaging as the Asian processors, and much easier to enjoy over a double feature or during serious exploration of your music collection. One of the things that makes the M5 so engaging is that you hear all the detail without having to raise the volume level higher, preventing listening fatigue.** There are limits, of course. I was watching a TV program during this review and found the soundtrack so poorly recorded that dialogue had a muffled character that made it easy to miss a word here and there. It was so bad, I had to turn on closed captioning. Luckily, soundtracks that bad aren't very frequent.

That said, processors with five-figure price tags typically exhibit lower noise floors and a bit more resolution of fine detail. On a 1 to 10 scale, the five-figure processors may get a mark of "10," but the M5 for thousands less would still come in with a rating of 9.6 or 9.7 on this imaginary ultimate-performance rating scale, making those last few tenths of a percent very expensive indeed. There aren't many (any?) non-enthusiasts who would ever notice the difference, so paying more wouldn't be in their interest any more than a \$50,000 projector that didn't look substantially better to them than a \$15,000 projector would be in their interest. The M9 is still there for customers that want that last small increment of sound quality.

As we expect from high-end processors and AVRs these days, the Maestro M5 supports Dolby Atmos and DTS:X Immersive Sound formats. Both Dolby and DTS provide the code manufacturers use for decoding Atmos and DTS:X soundtracks, so all products put the

same sounds in each channel, but the quality of the sound is still under control of the processor or AVR. **In the case of the Maestro M5, the high-end sound quality translates to an immersive experience comparable in placement and the motion of phantom images to what I've experienced with processors having five-figure price tags.** Even if the immersive effect is complex and long lasting, the M5 kept the immersive effect convincing. I did not find anything to like about using Dolby Surround to expand stereo to 7.1 sources, to use all the loudspeakers installed in the system. It remains very dead sounding compared to DTS's similar upconverter, Neural:X. One wonders why Dolby hasn't addressed this after all this time. They clearly missed the boat with Dolby Surround, at least so far. But nobody is forcing anybody to use Dolby Surround. Neural:X does a much better job of expanding stereo, 5.1, 6.1, and 7.1 sources to use all the channels you have installed and active. There are still a lot of dud Atmos and DTS:X soundtracks being released on movies. The M5 revealed these pretenders, including a bunch of big box office blockbuster action movies, to have what sounds like automated Atmos or DTS:X soundtracks. But there are glimmers that some movies are having actual humans create the immersive soundtracks with much better results. So we may eventually get much better immersive soundtracks on discs (or in downloads) if the studios spend a little money to properly master movies on disc to get the best sound possible. In the meantime, Editor Gary's 4K UHD disc reviews will provide reliable info on the quality (or lack of) of the Immersive Sound soundtrack. One of the failings of most immersive soundtracks is that there is little or no ambient sound in the height channels. The M5 revealed all those discs ruthlessly, as it should. **But when you play a disc with a good, human-created, immersive soundtrack, you really hear what the M5 is capable of producing in your room.**

In addition to Immersive Sound, the Maestro M5 supports Dolby Vision, an alternative to HDR10 high-dynamic range (HDR). Dolby Vision requires 10 bits per color or more, while HDR10 still allows 8 bits per color if the provider cares to use it. So far, I have only seen 8-bit HDR come from streaming services trying to save bandwidth, but it looks pretty awful, having the worst contouring/banding in images than anything ever seen in digital video to date. Dolby Vision, even when used by streaming services, must have at least 10 bits per color, and that stops contouring/banding unless there is a mastering problem. To support Dolby Vision, the Maestro M5 passes Dolby Vision signals to the video display. There is no processing of Dolby Vision signals inside the M5 processor, other than for adding on-screen displays for volume and video/audio format changes. A lot of Amazon's original programming is being produced in Dolby Vision, and if you begin streaming a program that is available in Dolby Vision, but the handshake info from your system indicates some component in the path (like the surround processor) doesn't support Dolby Vision, Amazon will automatically switch to 8-bit HDR10, giving you the 2160p streaming program you want, but with large amounts of contouring and banding throughout. So far, the services do not seem to be promoting Dolby Vision or HDR10 or Atmos or DTS:X much, if at all. You only see 2160p, HDR10, Dolby Vision, or Atmos/DTS:X sound from Amazon if your system supports it. The device you use to access Amazon Prime Video has to support the advanced features too, including Dolby Vision. **It was 100 percent obvious during the M5 review that I was getting Dolby Vision from Amazon Prime Video whenever the content was available with Dolby Vision.**

Getting to experience some of the newest and best movie soundtracks with the M5 was something I looked forward to throughout the review. *Star Wars: The Last Jedi* was every bit the entertainment experience I was hoping it would be. The music, orchestral and other, in the *Star Wars* movies provides a surprising amount of atmosphere, and **the M5 did a great job of delivering the emotional intent of the music.** Whether it was tension or dread, heroism or victo-

ry, the mood and emotion of the music was always powerful and engaging. Moving sounds or pop-up sounds at different places in the room were well done every time. The thrum, whoosh, and impact of light sabers was palpable, and robotic squeaks, beeps, rattles, and mechanical sounds were perfectly detailed without sounding unnaturally etched or harsh. *Thor: Ragnarok* was equally absorbing and entertaining, with the sound being essential to bring different places and spaces to life. The sound changed in very realistic ways when a scene moved from Asgard's huge throne room to much smaller hallway spaces. Loud sounds like the lightning and thunder Thor summons are revealed to be more complex in texture and detail than I get from inexpensive processors. With so much big action, bass can get tiresome and even annoying if the room response is boomy in any way. Each time some sound activates the subwoofer, you can get some obvious tendency towards "one-note-bass," as lesser processors or AVRs don't deliver the same wide-ranging and uniform response through the bass. DIRAC Live room correction works much better than most other room-correction systems in my California theatre room. **The M5's musicality appears to be a combination of the electronic design plus the DIRAC Live calibration.** My room is treated with acoustic tuning devices that eliminate echo (as heard following hand claps in this room) and keep sound radiated directly from the loudspeakers slightly louder than the reflected sound. But without DIRAC Live calibration, there is definitely a loss of bass-pitch definition and bass definitely moves several steps towards the dreaded one-note-bass we've all heard and hated at one time or another.

**Music through the M5 is significantly more engaging than I'm used to hearing from less-expensive retail/consumer brand AVRs or processors. In some circles, this trait is referred to as musicality. When you put on some music, it's immediately attractive, making you take notice of just how pleasant the music sounds. I believe there are at least two elements to musicality.** One element is the sheer beauty of tone, while the other is more difficult to describe. Call it artistic authenticity. When your component or system has musicality, you have something special—something that music lovers who aren't audiophiles may not understand, but they will definitely experience. I found myself regularly seeking out interesting music while the M5 was in the system, and once I started listening to music, it was difficult to stop. The new remastering of *Sgt. Pepper's Lonely Hearts Club Band* sounds different and familiar at the same time. **The M5 delivers all the small detail changes in the remaster while making the performances sound more compelling than ever.** Female vocals never got into the annoyance zone caused by some components emphasizing the sibilants and shrillness in the original recording. Instead, the M5 doesn't mask any defect, but it doesn't exaggerate them and throw them in your face either. So you can hear problems in recordings, but they aren't made worse. **The best performances and recordings are elevated to levels you just don't get with less-expensive processors.** Friends conversing at a party may not notice the lovely sound, but sit down, turn off the lights, and put on some great music, and you'll get an incredibly stress-relieving entertainment experience you'll want to repeat frequently.

## Conclusion

**AudioControl's Maestro M5 processor is an ideal solution for a variety of high-performance home theatre systems. Priced well below the "five-figure" processors, yet possessing nearly the same sound quality, the M5 offers excellent performance and features versus cost. The Maestro M5 isn't an all-out assault on surround sound processor performance, but it is a perfect balance of performance, reliability, features, and reasonable cost.** The M5 continues AudioControl's consistently excellent "house sound" that makes movie and music sound seductive and transcendent right from the first moment you begin listening. **Highly recommended. WSR**