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When I Paint My Masterpiece

MAGICO M3 LOUDSPEAKER

The remarkable design innovations of the limited-edition M Project are preserved and improved upon in this superb three-way, five-driver floorstander from Magico—a full-range cone speaker with the disappearing act of a planar. Jonathan Valin has the scoop, plus an interview with Alon Wolf.

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When I Paint My Masterpiece

MAGICO M3 LOUDSPEAKER

Jonathan Valin

I'VE BEEN LIVING with Magico's three-way, five-driver M3 floorstanding loudspeaker for better than a year. In that period other superb dynamic transducers have come and gone. Only the M3 has remained.



THERE IS A REASON FOR THIS: The M3 is the most lifelike (and least “cones-in-a-box-like”) cone speaker I’ve had in my home, and while I recently heard a Magico that betters it (and every other dynamic speaker I’ve come across)—the brand-new M6—that paragon costs a hundred thousand dollars more than the M3, is much larger and heavier than the M3 (making it potentially less of the near-perfect match that the smaller, more compact Magico is for my medium-sized room), and doesn’t better the M3 in all (or even most) ways. Indeed, these two M Series speakers are sonically so much alike that I’m going to begin this review (as I began my recent online blog about the M6) by repeating some of what I wrote about their forebear—Magico’s limited-edition, tenth-anniversary M Project loudspeaker—as neither the M3 nor the M6 would exist without it. After this, I will talk about how the M3 differs from its predecessor and how those differences affect its sonic presentation.

THE M PROJECT

So...let’s talk a little Magico history.

As you probably know, I’ve been following the progress of this skyrocket of a company from the moment I first heard the original Mini in 2006. Since then, Magico has gone from titanium-sandwich drivers, ring-radiator tweeters, and stacked-birch enclosures to nanotech carbon-fiber drivers, beryllium dome tweeters, and massive aluminum enclosures to what has become the current M Series platform of graphene carbon drivers, diamond-coated beryllium dome tweeters, and carbon-fiber-and-aluminum enclosures. What has stayed the same, however, is Wolf and Co.’s ongoing pursuit of perfection.

Of course, the first of many thorny issues with such a quest—which is certainly what Magico is on—is what is meant by “perfection.” For Magico the answer to this question is, and has always been, the lowering of distortions of every measurable kind. Every advance that the company has made has been accompanied by an audible reduction in noise (from drivers, crossovers, and cabinets) and a concomitant increase in resolution and transparency. For Magico, the perfect speaker would be no speaker (or no sense of one)—a pure, uncolored conduit from source to listening room.

This said, not everyone has loved Magico’s ultra-transparent, ultra-

neutral, ultra-low-distortion sound (or has bought into its pursuit of measurements-based perfection). Let’s face it: One man’s neutral, low in distortion, and transparent is another’s cool, lean, and analytical. And cool, lean, and analytical is precisely the way some listeners have heard Magico Qs.

To be fair to their critics, Magicos in general are not warm, cuddly, forgiving speakers, like some Raidhos or Wilsons. They appeal to listeners who value transparency to sources—or what others call “accuracy”—above all else. If a source is well recorded, Magico Q Series loudspeakers come as close to the real thing as any speakers on the market, now or in the past. If it is not, well, they tell you so—not in an overly insistent way, but nonetheless in a straightforward one.

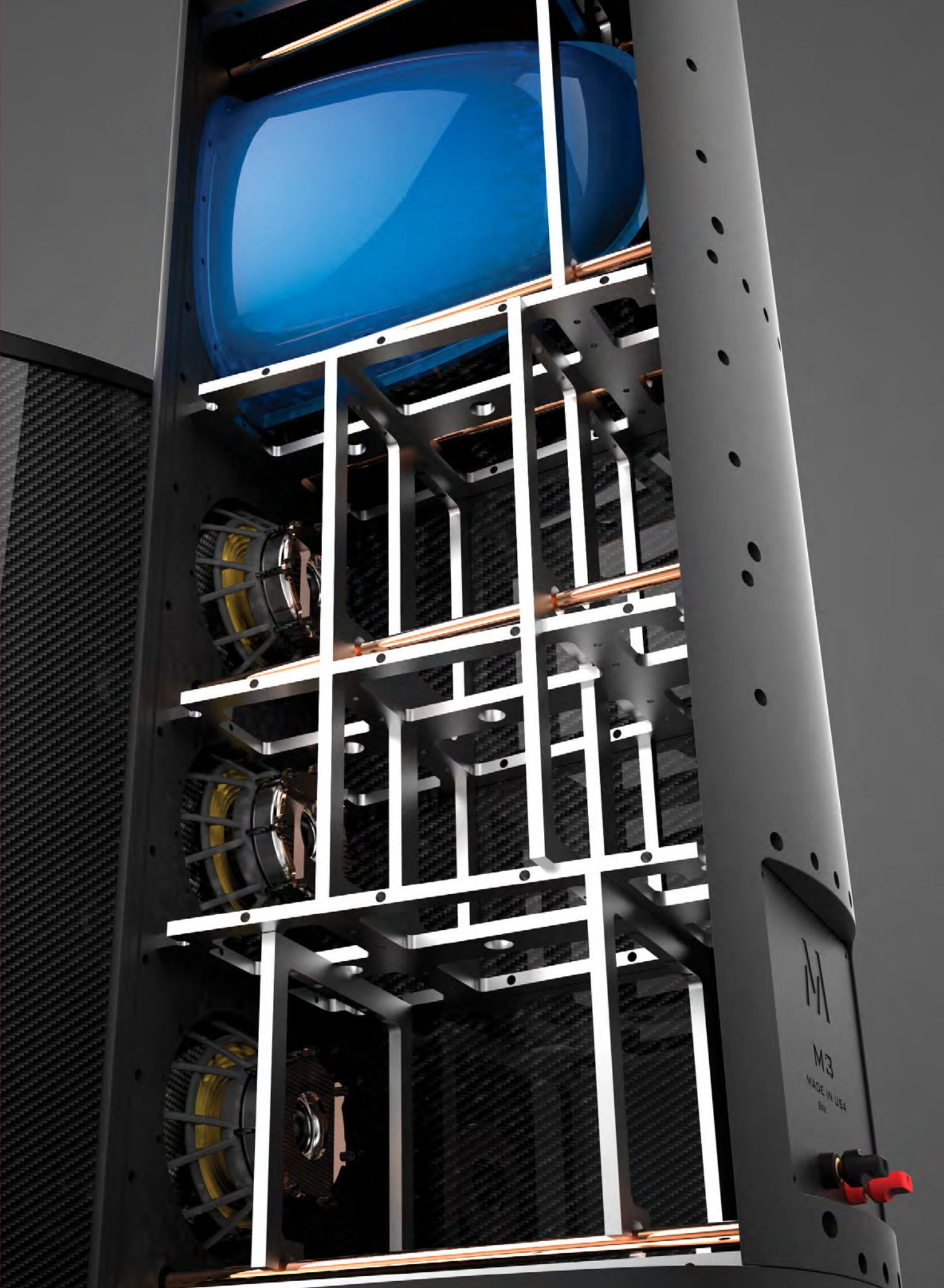
I happen to like this kind of “just the facts, ma’am” honesty, but I’m in the minority. Most listeners, I think, prefer drama to documentary. They want a transducer that thrills them the way music—live or canned—thrills them, and could care less about how much coloration it takes to consistently deliver those goosebumps or how close the result comes to the sound of acoustic

instruments in a real space. I call this (majority) group “as you like it” listeners, but it’s just as fair, and less faintly pejorative, to call them “musicality-first” ones.

In between the accuracy and musicality listeners is “the absolute sound” contingent, whose search for those recordings and components that best preserve the sound of acoustic instruments in a real space was the ideal upon which TAS was founded. To an extent, both of the other streams feed into this central pool, albeit on a kind of a contingency basis. Accuracy-first listeners are searching for the recordings and equipment that deliver the most convincing semblance of the real thing, too, provided that they don’t also turn sow’s ears into silk purses by grossly coloring the sound. Though they may not have an overriding interest in acoustic instruments played in real venues (i.e., in classical or acoustic pop and jazz), musicality-first listeners are also delighted when something sounds “real,” because when something sounds “real” (while at the same time sounding beautiful and exciting) it just adds to the thrill quotient.

It has been my contention that no listener is purely one of these three

MOST LISTENERS, I THINK, PREFER DRAMA TO DOCUMENTARY.



M

M3

MADE IN USA
SVC

MAGICO M3 LOUDSPEAKER

types: that a delight in accuracy, musicality, and realism are common to all listeners, although one of these three “biases” tends to predominate (or at least it does most of the time). The trouble is that it is next to impossible to find a single transducer that will please all three palates in equal measure. So where does a lover of Béla Bartók, Ray Brown, and The Beatles go to get the essential piece/performance/venue/recording detail, the lifelike tone color, weight, and transient response, the thrilling dynamic range, particularly in the bass, and the sheer SPLs that each of these composers and musicians requires in significantly different proportions?

Until Magico’s introduction of its five-driver, three-way M Project loudspeaker in 2014, I didn’t think there was a single-transducer answer to that question. But the M Pro came close to being The One—or at least closer than the other dynamic loudspeakers I was then familiar with. Though Magico claimed that the M Project didn’t measure substantially differently than its other speakers—and on a global level this was clearly true—on a local level the differences between it and other Magicos were plain to hear.

Once mounted on its MPod feet (a must, BTW), the M Pro simply didn’t sound like its Q or S brethren—or at least it didn’t sound like them when it came to tonality. Oh, the M Pro had the same standard-setting (for dynamic drivers) low-level resolution of timbres and textures and the same lightning reflexes with transients as the Q Series speakers—and even lower distortion—but overall it was substantially fuller, richer, darker, and more powerful than the Qs, making for a presentation that was far more likely to appeal to musicality-first listeners, without entailing sacrifices that would limit its appeal to Magico’s traditional audience—the transparency-to-source and absolute sound crowds. Indeed, the M-Pro’s appeal to both of the latter was only increased, thanks to its denser and more lifelike tone color.

What had changed? In two words, “the box.” The M Project was the first statement Magico (since the M5) that did not use an all-aluminum enclosure. It was also the first statement Magico with an aerodynamic shape.

How this was accomplished without sacrificing the resonance-canceling blend of mass, stiffness,

and damping of all-aluminum boxes involved a neat (and costly) bit of engineering. The M Project enclosure had a newly designed curved shape that tapered gradually from front to back, eliminating the parallel walls and sharp, potentially diffractive edges of Magico’s traditionally “squared-off” aluminum enclosures. Instead of employing thick aluminum plates for sidewalls, the M Project used sidepieces of carbon fiber (one of the stiffest, strongest materials around). According to Magico, these curved carbon-fiber sidewalls minimized internal resonances and greatly reduced the amount of internal damping required.

In addition to its curved side plates, the massive aluminum front and rear baffles were milled into curves, while the equally massive (two-inch-thick) aluminum top and bottom plates were also CNC-machined to have edgeless contours. In other words, the M Project enclosure was designed to have the lowest number of potentially diffractive surfaces of any statement Magico since the Mini and Mini II.

Judging from the sound, top to bottom, it was obvious that Magico M Pro’s new enclosure was a better idea. The phenomenal clarity in the bass and power range and the remarkable resolution in the midband and the treble owed more

than a little to this cabinet, which was simply allowing the drivers to sound more “freestanding” and less like drivers in a box.

THE M3

Like the M Project, the new M3 is a five-driver, three-way floorstanding loudspeaker with a sculpted carbon-fiber-and-aluminum box. While the driver complement is similar to that of the M Pro (one 28mm diamond-coated beryllium tweeter, one 6" graphene-Nano-Tec carbon midrange, and three 7" graphene Nano-Tec carbon woofers), the drivers themselves have been improved (for which, see below). More importantly, the enclosure has been considerably improved, making for what Magico claims is its quietest cabinet ever. Derived from the Pro (with an added fillip taken from the S Series and a new innovation in driver coupling), the M3’s box uses Magico’s traditional, massive, damped aluminum front, rear, and bottom panels and its elaborate, bolted-together, aluminum lattice-work/substructure inside the cabinet, but adds curved carbon-fiber side panels à la the M Pro and a brand-new aluminum top cap that has a machined-in curve to it (not found in the M Pro). The physical result is the most aerodynamic, diffraction-free enclosure Magico has come up with, and the sonic result is a disappearing act that really has to be heard to be believed.

IT WAS OBVIOUS THAT THE M PRO’S NEW ENCLOSURE WAS A BETTER IDEA.

MAGICO M3 LOUDSPEAKER

The M3s (and the M6s) come closer to the boxless openness of a great planar loudspeaker (such as the TAS 2018 Product of the Year award-winning Maggie 30.7s) than any cone speaker I've auditioned. Indeed, we're so used to hearing the boxes in boxed speakers adding their own generally darker, often veiled and aggressive signature to the sound of the drivers, and to diffraction compounding this signature, that it comes as a shock *not* to hear these things—to hear the drivers only (or primarily), rather than the drivers interpreted by the box. On a truly neutral, full-range recording, like the fine Pentatone SACD of Stravinsky's *L'Histoire du Soldat* with Paavo Järvi conducting the Deutsche Kammerphilharmonie Bremen played back through the superb MSB Select DAC tricked out with a Femto 33 clock and other power-conditioning goodies (yes, Mr. Valin is now also listening to digital), it is as if someone has sucked all the darkness (a box/driver coloration that I've always felt has been falsely associated with "ambience retrieval") out of the soundfield, leaving the deep quiet and colorless air of the venue in its place, while also preserving (indeed, clarifying) the bloom of instruments into that space and the reverberant pattern of the hall. You simply have to hear this neutralizing and clarifying effect to appreciate how close the M3 comes to the sound of a boxless planar—while still retaining the virtues of the highest-linearity, lowest-distortion cones. It's like having the best of both transducer worlds.

There is an additional benefit to Magico's best-ever, lowest-diffraction enclosure that can be heard in the seamless blend between the M3's tweeter and midrange and the natural warmth of timbres (orchestral strings, such as those on the great RCA recording *Rhapsodies* with Stokowski and the RCA Symphony of the Air, are breathtakingly gorgeous), though this may also be due to refinements in the driver complement. Indeed, while similar to the M Pro, the M3 uses somewhat more sophisticated drivers than the Pro—its three 7" woofers, have later-gen graphene diaphragms (said to be 20% lighter and 300% stiffer than the nanotube-carbon cone material used in the Pro)—and a new and improved driver mounting system that employs a solid copper gasket to maximize coupling to the chassis and minimize the transference of resonances. Though the other drivers in the M3 are the same as those in the Pro—the larger (28mm) diamond-coated beryllium tweeter (also used in Q7 Mk II) and the 6" graphene-diaphragm midrange, Magico



THE M3 COMES CLOSER TO THE BOXLESS OPENNESS OF A PLANAR THAN ANY CONE SPEAKER I'VE HEARD.

has incorporated a polymer sub-enclosure, derived from the S Series, for the midrange unit, which is said to enhance control and articulation (not that Magicos ever wanted for such things).

The fact that the M3 uses three 7-inch woofers, rather than the three 10-inchers found in the M Pro and the M6, makes for a reduction in power-range fullness and low-bass extension vis-à-vis the Pro or the 6, though the difference can be mitigated by adding a pair of QSub 15s to the package, crossed over around 45–60Hz. (For all sorts of reasons, I'm all in favor of using really good subwoofers, like the Magico Qs or the JL Audio Gotham IIs, with

full-range loudspeakers.) With the QSubs in and the Soudation 711 or the Constellation Hercules II driving the entire shebang, I would be hard pressed to say that I

hear a substantial difference in the low end between the M3s and the M Pros (also coupled with subs) on a powerful, deep-reaching pop cut like "I'm the Man to Be" from EL VY's *Return to the Moon* or Dire Straits' "So Far Away" from *Brothers in Arms*. No, you won't get all the midbass slam from *any* Magico that you may be used to from ported loudspeakers, but you will still get goosebump-raising power, below-20Hz extension, lifelike tone color unobscured by port resonance, and the peerless transparency and resolution of a standard-settingly-neutral sealed box.

In my blog about the M3's big brother, the M6, I called that speaker the least present (in the sense of box or driver colorations), the most transparent, the most delicately detailed and simultaneously powerful and realistic Magico yet. The truth is I could say the *exact* same thing about the M3—the only differences between the two being that image height is slightly truncated and, as noted, midbass slam and low-bass extension are reduced in the smaller speaker (at least they are when it is used without subs). Nonetheless, as was the case with the M6, to hear a great LP of a vocalist, like Dean Martin on the exceptional



MAGICO M3 LOUDSPEAKER

Analogue Productions reissue of *Dream with Dean*, through the M3 is not just to hear a wonderful singer singing wonderful songs in wonderful sound. It is to hear Dean Martin, gone now almost 23 years, live again—there in front of you, standing in the studio he was recorded in, with that U47 hanging a few inches above his face. It is to bring back the past wholly intact. (To be fair to my new digital setup, I get the same “back-from-the-past” goosebumps listening to Harry Connick Jr.’s voice, Branford Marsalis’ tenor sax, and the truly magical harmonizing of the two towards the end of “A Nightingale Sang in Berkeley Square” from the 1990 Sony CD *We Are in Love*.)

The M Project was, IMO, the first Magico to add fully lifelike power-range beauty and muscle to Magico’s transparent and neutral palette, which made it the first Magico with equal appeal on every kind of music from rock to Rachmaninoff. The M3 and M6 take this all-genre sonic appeal several steps closer to perfection. The M3 is not merely gorgeous and thrilling sounding, though it is both of these things; it and its big brother are also getting the harmonic/dynamic envelope more right than other Magicos I’ve heard. I assume this is because their “invisible” boxes are letting their improved drivers do their work more accurately. As a result, attacks, sustains, and decays are extremely naturally reproduced, with neither starting transient nor steady-state tone nor stopping transient being overemphasized by resonances added by the enclosure (or by the drivers themselves). This makes for an astonishingly neutral, liquid, open, bloomy, and “organic” presentation, closer to the way instruments sound in life.

Take, for instance, the M3’s reproduction of the bass drum in “Marche du soldat” from the aforementioned Pentatone recording of Stravinsky’s *L’Histoire*. Used as it is in this movement, as martial punctuation, it should have a sharp attack when it is struck hard (as it is here), develop clean low-frequency presence (kind of like a sonic “rebound” effect in which you hear the flex of the batter head followed by the barrel-like tone of the sound box), with all tone dying off as soon as the drum is damped by hand or knee or both. The M3 captures this harmonic/dynamic sequence with uncanny realism, without losing grip and definition, “darkening” timbre, or prolonging

ALON WOLF AND YAIR TAMMAM HAVE PAINTED THEIR MASTERPIECE WITH THE M3.

decay. It gives percussion the crisp, clear, powerful, unsmear sound it has in a concert hall. And it does the same trick with the attack, tone, and decay of every one of the other instruments in the Stravinsky suite—from violin to clarinet to cornet to bassoon to trombone to contrabass.

Although the M Project was (and is) no slouch at staging and imaging, the M3 and M6 also represent a significant advance in both areas—once again, I assume, because of their improved boxes and drivers. Neither has the lifelike image size of something like the Magnepan 30.7 on big instruments such as pianos. But both have better focus and dimensionality, more stage depth and width (not height), and more visceral slam than the Maggies. But then both are a good deal more expensive than the 30.7s (and, let’s be honest, a good deal easier to house and live with in a normal-sized listening room than those giant planars).

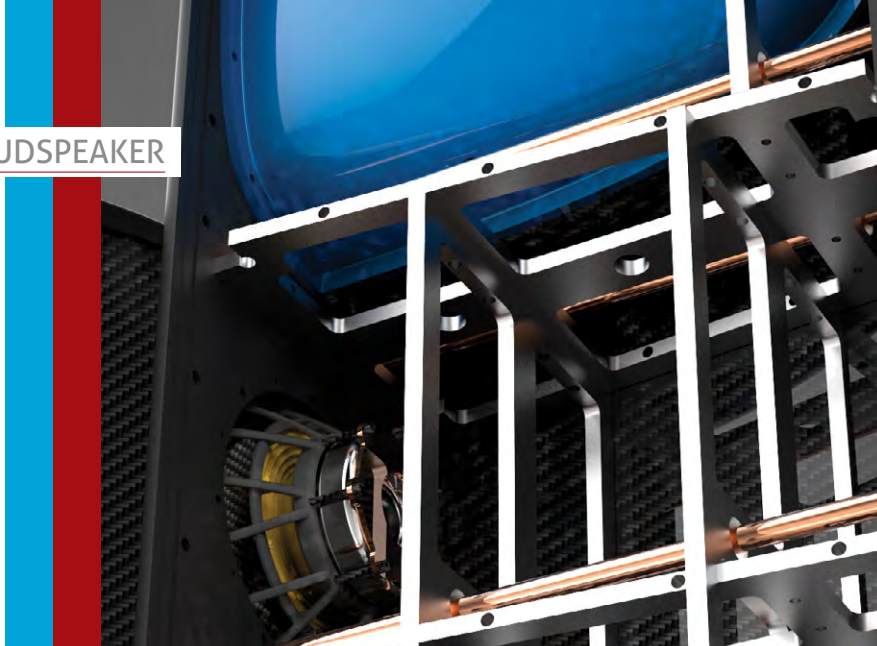
The M3 is also “Maggie-like” (or electrostat-like) in other ways: It is a monster when it comes to transient speed and the retrieval of low-level detail—even better than previous Magicos and, as most of you know, Magicos have never wanted for resolution. Once again, I assume this turbo-boost in detail retrieval is owed to the quieter box (and improved drivers). You’re certainly not

going to miss anything with these babies. Harry Connick’s very soft finger snaps towards the close of “Berkeley Square,” the rush of breath through the mouthpiece as Branford Marsalis holds onto that last note on the same song... you name it, and it’s unmistakably there. But, thanks to the M Series’ fuller power range and better-blended tweeter, it’s there without the sulfur of the analytical—with the fuller, more natural color and dimensionality of the real thing.

CONCLUSION

The bottom line here is simple. Had I not heard the M6, I would’ve said that Magico’s Alon Wolf and Yair Tammam had painted their masterpiece with the M3. Truth is I still think they have. (The M6 is virtually the same picture, only on a larger canvas with slightly denser brushstrokes and a slightly richer palette.)

If your stereo lives in a smallish to medium-sized room (as mine does), and you have a *piñata* full of *dineros*, and you hanker for the best (the most accurate, the most lifelike, the most enjoyable) sound money can buy, the Magico M3 would be at the top of my very short list of contenders. It would be the dynamic speaker I would purchase had I the dough, blending, as it does so well, the boxless openness, speed, resolution, transparency, and seamlessness of the best planars



MAGICO M3 LOUDSPEAKER

with the color, power, and dimensionality of cones. If you have a larger room and unlimited funds...well, then the \$172k M6 is every bit as much of a must-listen as the M3. (I do not know how the M6 fares in small-to-medium-sized rooms, though I may find out later in the year.)

Obviously the M3 gets my highest recommendation. It is as good a dynamic loudspeaker as you can buy. Do remember, though, that to elicit the very best from one of the most accurate and realistic transducers on the market you'll need electronics that are just as high in resolution and as low in distortion/coloration as the M3s. In my experience that means something solid-state from the



Swiss contingent (i.e., Soudation or CH Precision) or from the best American marques (Constellation, D'Agostino, etc.). I haven't tried the M3s with tubes, but Magicos typically don't fare as well with glass bottles as they do with silicon semiconductors (Convergent Audio Technology being the exception). All of this means that M3s aren't just a loudspeaker purchase; they are a *system* purchase (including cabling, BTW). In other words, they are for the wealthy.

The rest of us will just have to "make do" with our Maggie 30.7s or Vandersteen Quatro Wood CTs or MartinLogan CLXes or (judging from what I heard at CES) KLH Model Nines. It's not such a terrible fate, you know.

Specs & Pricing

Driver complement: One 1" (28mm) diamond-coated beryllium dome tweeter; one 6" graphene Nano-Tec midrange; three 7" graphene Nano-Tec woofers

Sensitivity: 91dB

Impedance: 4 ohms

Frequency response: 24Hz–50kHz

Recommended power: 20–500 watts

Dimensions: 13" x 48" x 19"

Weight: 320 lbs. each

Price: \$75,000 per pair (optional MPod 3-point stand, \$9600)

MAGICO, LLC

3170 Corporate Place

Hayward, CA 94545

(510) 649-9700

magico.net

JV's Reference System

Loudspeakers: Magico M Project, Magico M3, Raidho D-1, Zellaton Reference Mk II, Avantgarde Zero 1, MartinLogan CLX, Magnepan .7, Magnepan 1.7, Magnepan 30.7

Subwoofers: JL Audio Gotham (pair), Magico QSub 15 (pair)

Linestage preamps: Soudation 725, Constellation Altair II, Siltech SAGA System C1, Air Tight ATE-2001 Reference

Phonostage preamps: Soudation 755, Constellation Perseus, Audio Consulting Silver Rock Toroidal, Innovative Cohesion Engineering Raptor

Power amplifiers: Soudation 711, Constellation Hercules II Stereo, Air Tight 3211, Air Tight ATM-2001, Zanden Audio Systems Model 9600, Siltech SAGA System V1/P1, Odyssey Audio Stratos

Analog sources: Acoustic Signature Invictus/T-9000, Walker Audio Proscenium Black Diamond Mk V, TW Acoustic Black Knight/TW Raven 10.5, Continuum Audio Labs Obsidian with Viper tonearm, AMG Viella 12

Tape deck: United Home Audio Ultimate 1 OPS

Phono cartridges: Clearaudio Goldfinger Statement, Air Tight Opus 1, Ortofon MC Anna, Ortofon MC A90

Digital sources: Berkeley Alpha DAC 2, MSB The Reference DAC

Cables and interconnects: Crystal Cable Absolute Dream, Synergistic Research Galileo UEF, Ansuz Acoustics Diamond

Power cords: Crystal Cable Absolute Dream, Synergistic Research Galileo UEF, Ansuz Acoustics Diamond

Power conditioner: Synergistic Research Galileo LE, Technical Brain

Support systems: Critical Mass Systems MAXXUM and QXK equipment racks and amp stands

Room treatments: Stein Music H2 Harmonizer system, Synergistic Research UEF Acoustic Panels/Atmosphere XL4/UEF Acoustic Dot system, Synergistic Research ART system, Shakti Hallographs (6), Zanden Acoustic panels, A/V Room Services Metu acoustic panels and traps, ASC Tube Traps

Accessories: Symposium Isis and Ultra equipment platforms, Symposium Rollerblocks and Fat Padz, Walker Prologue Reference equipment and amp stands, Walker Valid Points and Resonance Control discs, Clearaudio Double Matrix Professional Sonic record cleaner, Synergistic Research RED Quantum fuses, HiFi-Tuning silver/gold fuses

SETTING UP THE M3s

MAGICO M3 LOUDSPEAKER

THOUGH THEY ARE relatively compact as Magico statement-level speakers go (a mere four feet high, about a foot wide, and a foot-and-a-half deep), don't even dream of setting these things up without help. The M3s weigh 320 pounds apiece! While they come, as all Magicos do, with rubber wheels attached to their bottoms, making it a snap to roll them out of their crates and experiment with locating them in your room, the M3s need to come off those wheels eventually and (if you have the money) to be seated on their base or on their optional stands and MPod feet. And attaching the stands or the feet or preferably both takes at least two strong backs (and weak minds).

The improvement to be had from attaching the MPod feet is substantial. These heavy, half-round, constrained-layer-damped objects—made of machined aircraft-aluminum and tungsten-steel parts—feature a solid pure-copper center section sandwiched between a top and bottom layer of Isodamp (“a thermoplastic material that, when compressed against the copper substrate, facilitates the constrained-layer-damping function and dissipates unwanted energy virtually immediately”). When screwed into the M3 stand (or into the bottom panel), the MPods transform the sound of the speakers, making them markedly richer and fuller in tone color top to bottom, better blended in the treble, better focused in the midrange, wider and deeper in soundstaging, and harder-hitting in the bass. IMO, they are must-haves, but then I don't have to shell out that extra \$9600 to buy 'em. It's not like you're gonna kick the M3s out of bed if you don't use the MPod 3-point stand—these are *great* loudspeakers, period. But if you save your

pennies (or, would that be, Franklins?), I'd definitely opt for them down the line.

As for the QSub 15s...well, now we're talking serious money. These \$22k apiece numbers with two fifteen-inch woofers at either end of their massive (350-pound) rectangular aluminum enclosures are built like all Magicos—to kill resonance, lower distortion, and raise resolution. As a result they are clean, clean, clean and powerful, powerful, powerful and extended, extended, extended (down to 15Hz, at least). Setting them up is a challenge—they have no controls on their boxes. All adjustments to their built-in, high-pass, active crossovers are made via professional-grade DSP software on a laptop computer. (Each sub has a built-in 2000W amplifier, so powering them isn't an issue.) Happily, Magico (or your Magico dealer) will provide step-by-step assistance in dialing the QSubs in to your room and system.

Are the QSub 15s worth the substantial outlay of dough? Well, how badly do you want to hear those goosebump-raising bottom octaves reproduced with lifelike power, clarity, and extension? If you're in it for the thrills on any kind of power music from classical to pop, I'd have to say, yeah, they're worth it. At the same time, you don't necessarily need two of them, and you won't be unhappy with the M3s *solus* if (for space or monetary reasons) you decide that, by God, enough is enough.

Overachiever

The new VTL TP-2.5i Phono stage

A True Performance Phono stage

“BOS-quality sound from the VTL room ... with VTL's terrific sounding new TP-2.5i phonostage”

— Robert Harley, *The Absolute Sound*, CES 2018 Show report



- Low-noise tube-hybrid circuit founded on the standard-setting TP-6.5 Signature Phono stage
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- Zero global feedback for true musical liquidity and sonic purity
- Precision shunt-regulated power supply and Passive RIAA equalization for dynamic harmonic precision

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FIVE QUESTIONS FOR ALON WOLF

BUILDING THE LOWEST-noise enclosures has always been a prime Magico goal. You started with flat-topped, boat-tail-curved birch ply and aluminum boxes with the Minis, migrated to more traditionally squared-off damped aluminum enclosures with the Qs, re-introduced curved side panels in the two-piece S's, and starting with the M Project have now turned to gently arched carbon-fiber side panels with (in the M3 and M6) edgelessly rounded aluminum faceplates, top plates, bottom plates, and spines. This progression in materials and geometry raises several questions.

First, although damped aluminum has been a constant for front and back panels, you have played with other materials for the side panels. What led you to settle on carbon fiber? What advantages does it have that aluminum (presumably) doesn't? Does mating disparate materials create acoustical issues, in the way of different material colorations (and if so, how are those dealt with)? Do you use the same elaborately bolted together "skeleton" found in the Q Series for internally bracing your new box?

Second, the M3 and the M6 are almost elliptical in shape—your most aerodynamic efforts (and your handsomest designs, IMO) yet. Since smooth edges and curved surfaces (sides, tops, bottoms, and backs) obviously reduce diffraction (and with it the sense of hearing a speaker in a box), why did it take you so long to implement this geometry in your top-line enclosures? In addition to considerably lowering diffraction, what else have you gained? And does your new box measure any differently than your previous efforts?

It has always been my goal to build a diffractionless enclosure. I actually built my first, organically shaped, edgeless loudspeaker over 25 years ago. The problem, however, always lies in the materials used to build such a box. In order to achieve these kinds of shapes, you can resort to either molding, which is typically done with materials that are simply not stiff or rigid enough to be properly used as a loudspeaker enclosure (although metal can be used as well, but at immense cost, poor finish, and unreconciled damping challenges), or machined, or extruded (so that the aluminum parts can be more easily dampened). We have done the latter, to various degrees, in both the Q (a rounded front baffle), and S (sides and tops) Series. In the new M3 and M6, through the latest advance in composites, we finally found the perfect solution

**ONLY IF BOTH CONDITIONS ARE MET, IS
TIME/PHASE COHERENCY EVEN PROBABLE.**



to this tremendous challenge. A skin that is both extremely stiff and well damped, moldable to any shape we design. The only "weak" spot for such a structure is bolt coupling. You really don't want to bolt directly, or through inserts, anything that requires high-torque fastening. For that, as in the past, we use our unique aluminum clamping apparatus, where the drivers are bolted directly to the aluminum plates encapsulating the carbon skin. The aluminum then, by means of our unique rods contraption, sandwiches the carbon without the need of direct bolting. With the M3 and M6 we came as close as possible to building an "invisible box," which is the ideal loudspeaker enclosure.

Much is made of time and phase alignment in loudspeakers. We see everything from DSP'd drivers to fixed staggered arrays to articulating boxes capable of minute adjustments. How does Magico handle the issue of time and phase alignment?

The notion of time/phase alignment coherence, at least as it is advanced in today's high-end loudspeaker marketing schemes, is extremely misleading (I will address the shortcomings of the concept in a passive design first).

Trying to keep things simple, let me just highlight the two *must* conditions where such concepts are even probable: 1) first-order acoustical crossover, i.e. a perfect 6dB-per-octave acoustical slope from the designated bandpass; and 2) a physical alignment of the drivers' acoustical centers, which, unless a concentric driver is used, is only possible for one point in space at a time. Only if both conditions are met, is time/phase coherency even probable. Just moving drivers around will not suffice to achieve time coherency. In fact, such designs will ensure a "non-optimal condition" at any point due to the fact that, if a first-order crossover is not used, any driver movement will require crossover realignment to keep the proper phase relations among drivers at the crossover points.

There have been honest attempts at such designs, including some that do meet the basic conditions; however, even if these criteria are met, the compromises needed to be taken to achieve these conditions are detrimental to overall sound quality.

Staggering drivers, in order to align them, in a stepped baffle creates tremendous amounts of diffraction. Unlike time/phase coherency, which has never been proven to be a factor in perceived sound quality, diffraction has indeed been proven to be a big detraction.

A 6dB-per-octave acoustical slope requires a very complex XO, with many parts, which also cause degradation in sound quality and introduce time delays (that is why the actual notion of a truly time-coherent passive loudspeaker is questionable). A simpler XO is possible using non-piston drivers, at the cost of losing low-level information and increasing distortion due to non-piston cone movement. Moreover, with 6dB-per-octave slopes in a typical

three-way design, the bass drivers will be only ~18dB down at 2kHz, playing right into tweeter territory. Not to mention the tweeter playing into the bass region.

The unavoidable inherent trade-offs of such [time-and-phase-aligned] design are significant:

1) Big increases in IMD (intermodulation distortion), which clearly affects sound quality.

2) Increased 2nd and 3rd harmonic distortion due to shallow crossover slopes.

3) Drivers firing at the listening position asymmetrically—i.e., off-axis (the need to “tilt” drivers to aim at the listening position).

4) Limited vertical dispersion.

5) Reduced power handling.

So, weighing all these trade-offs against the fact that it has never been proven that time alignment is essential to sound quality, time/phase alignment as a goal in loudspeaker design is easy to pass.

When it comes to DSP, see below...

DSP'd and/or powered loudspeakers are a small but growing sector in the market. Do you see advantages to either or both that cannot be gained by conventional means? And do you see Magico eventually proceeding in either or both of these directions?

We use DSP in our subs in order to have better room integration than what is possible in a passive system. However, we have yet to hear any form of DSP that can preserve the basic qualities and transparency of a truly well-designed high-end system. Rest assured that we will continue to look.

The M3 and M6 are your finest efforts yet—and the best dynamic loudspeakers I've heard. How are you going to top them?

I have no idea. **tas**

Manufacturer Comments

Monitor Audio Silver 300

Many thanks to Robert and *The Absolute Sound* for producing such a glowing review of the Silver 300. Robert focused on the Silver 300's ability to do everything really well, which we are really proud to have achieved through in-depth research and optimization as well as the many hours of voicing and tweaking. The Silver Series sits in the sweet spot for so many kinds of customers. It must be articulate and detailed for the enthusiast whilst blending into modern living arrangements. Being able to return good resolution even at very low levels is a key requirement for most people. We also paid close attention to the directivity pattern to de-focus the sweet spot, whilst ensuring the image was precise. This was quite a challenge, as we know room dimensions, reflections, and absorbency play a big part in the overall results. Bass drivers and system design were intended to deliver an extended low frequency, whilst returning better damping. This can often be misconstrued as less bass output, but the fact that it's not exciting the room modes ensures better definition.

Robert highlighted and summarized the Silver 300's key strengths in a wonderful review, capturing our intentions and design goals perfectly.

Dean S. Hartley
Technical Director, Monitor Audio

JWM Acoustics Alyson AML II

Words cannot express my gratitude for *The Absolute Sound* and this stellar review by Andrew Quint. Also, thank you for the attention to my method of creating a soundstage utilizing wave guides and tuning. Whether the speakers are placed in the studio or at home, I believe this aspect of the design is just as important to the overall accuracy of tone—a point also mentioned in the review.

The review's focus on our ways of creating handmade products produced with sustainable methods means a lot to us. We have enough disposable electronics in the world. Dedicated audiophiles, musicians, and recording engineers save their pennies

for many moons to obtain instruments such as the Alyson AML II. I want to give these owners something truly of heirloom quality—an instrument that can be passed down in the family, much the same way as a fine piano or violin.

As engineers of fine sound-reproduction equipment, we have an obligation to the artist and engineer to give *exactly* what each envisions in the studio or concert hall. We have the same obligation to the owner of our products for a clear window into that vision. This is why we created Alyson.

Joshua W. Miles
Founder, JWM Acoustics

Totem Acoustic Signature One

I wish to thank Neil Gader for the very positive review of the Totem Signature One. We designed the Signature One to be very adept with fairly uncomplicated and lower-cost electronics such as were shown at the 2018 CES. It shined and received great commentary from everyone. Neil had fabulous things to say about the Signature One in his smaller room, but maybe because of his locale, no mention was really made of image height and width. With its total disappearing act, the Signature One has an uncanny ability to portray height as realistically, and with great scale, as our highest echelon product.

Additionally, when driving the Signature One with first-class electronics, and with the speakers positioned correctly, the Signature One will be accurate in bass extension down to the lower 30s with good pitch and information below that. These comments are just a fill in on his fine points.

Vince Bruzzese
Founder, Totem Acoustic