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JAZZ  
DIVA

SAMARA JOY  
THE STEREOPHILE  
INTERVIEW

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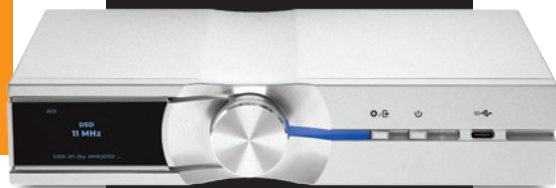
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MICHAEL TREI

# SME Model 60

## RECORD PLAYER

Creating a new flagship model is never an easy task for an audio company. A good designer will have already incorporated all his or her best ideas into the prior flagship. For a follow-up, you typically get a scaled-up version of what came before, incorporating the kind of improvements a bigger budget will allow.

SME's history is well-documented. The company started out, in 1946, as an engineering company for hire. In 1959, after a few years supplying parts for the scale modeling and various other high-tech industries, company founder Alastair Robertson-Aikman wanted a better tonearm for his personal use. He leveraged the capabilities of his small engineering company to create what eventually became the legendary 3009 and 3012 tonearms. The reputation of the new arms spread quickly, and from the mid-1960s through the 1970s, SME dominated the high-end tonearm market. SME's corporate slogan was The Best Pick-Up Arm in the World, and few people at the time would have challenged that claim.

Sadly, AR-A died in 2006. The company was handed down to AR-A's son, Cameron, who steered the ship until 2016 then sold the family business to Cadence Audio. (I knew Cameron Robertson-Aikman when we were kids in the 1970s, in the same year at school, so my tenuous connection to SME goes back a long way!)

Two types of companies make turntables, I've found: the type that assembles them from outsourced parts and the kind that *manufactures* them. Most high-end turntable companies fall into the first group: They use subcontractors to make most if not all of the 'table's component parts, to the turntable company's specific design and specifications. Turntable manufacturers, on the other hand, build the individual parts themselves—most of the parts anyway, including the key parts—then assemble them to create a finished product. Usually only bigger companies with deep pockets can



manage this; larger production numbers justify the investment in costly machine tools. SME, on the other hand, has survived as one of a handful of small, specialist turntable and tonearm manufacturers that build the mechanical parts for themselves, in part by continuing to take on subcontracting jobs, much as the company did when it was founded more than 75 years ago.

When you make everything yourself, you have much more control over the process, and you can introduce small changes quickly with relative ease. Prototyping is much faster, making it easier to try out different solutions to a problem without having to wait for a subcontractor to make the required parts.

When you walk into the SME factory in Steyning England, you see rooms crammed with state-of-the-art manufacturing—giant CNC milling machines and lathes—whirring away making turn-

### SPECIFICATIONS

**Description** Suspended, mass-loaded, belt-driven turntable with two-phase AC synchronous motor. Speeds: 33 1/3, 45rpm. Platter: 13" (330mm) diameter, 16.6lb (7.5kg). Wow & flutter: not specified. Tonearm: Series VA, gimbal-bearing polymer resin. Effective length: 233.15mm; pivot-to-spindle distance: 215.35mm; overhang: 17.8mm; offset angle: 23.635°;

effective mass: 10–11gm. Signal output: chassis-mounted RCA sockets; balanced XLR outputs optional.

**Dimensions** 21.93" (557mm) × 16.42" (417mm) × 8.35" (212mm). Weight: Turntable 105.8lb (48kg); speed control unit 4.4lb (2kg); power supply 9.2lb (4.3kg).

**Finish** Brushed black anodized (standard); brushed silver an-

odized, honeycomb-machined in anodized black, silver, or blue, diamond-machined in anodized polished aluminum available.

**Serial number of unit reviewed** 013. Manufactured in the United Kingdom.

**Price** \$71,900. With honeycomb finish: \$78,900. With diamond-polished finish: \$85,900. Approximate number

of US dealers: 25. Warranty: 2 years.

**Manufacturer** SME Limited, Mill Rd., Steyning, West Sussex BN44 3GY, England.

Web: [sme.co.uk](http://sme.co.uk).

US distributor: Bluebird Music Ltd., 1100 Military Rd., Kenmore, NY 14217.

Tel: (416) 638-8207.

Web: [bluebirdmusic.com](http://bluebirdmusic.com).

table and tonearm parts. Almost every mechanical part they use, down to the tiniest screws and washers, is made in their factory to the same exacting standards as more substantial parts like bearings and platters.

For more than 30 years, SME's audio business was strictly all about tonearms, but in 1990, they took the next logical step by producing their first turntable, the aptly named Model 30. The Model 30 was an all-out effort to deliver state-of-the-art performance. It raised the performance bar in many ways, but the timing wasn't so great. In 1990, vinyl records were fading into oblivion as CDs came to dominate the prerecorded music market; launching the costly Model 30 made about as much sense then as introducing a state-of-the-art fax machine would today. But the company survived and versions of the Model 30 are still in production. Thirty-plus years have passed, and vinyl has come roaring back.

So, recently, SME decided to rethink the challenge of building the best turntable possible when cost is not a concern.

The Model 60 shares much of its mechanical design with the Model 30, but with everything maxed out and fully optimized. One key difference from the 30 is the switch to an AC synchronous motor, replacing the DC motors used in all their prior turntables. Generally, AC motors are considered to offer a tighter grip on a turntable's platter speed, but unless it's handled carefully, an AC motor can be a little noisier and not quite as smooth as a DC motor. SME went to great lengths to minimize noise, providing the Model 60's motor with an extremely pure AC waveform, provided by a power supply split into two chassis to isolate the motor from

potential noise sources. Apparently, SME was impressed enough with the new AC motor drive system developed for the Model 60 that they have now incorporated AC motors into almost every SME turntable, creating new MK2 versions.

Another component that has seen extensive reworking for the Model 60 is the Series V tonearm, now designated Series VA; the A stands for "Advanced." In my brain, I still tend to think of the Series V arm as a relatively recent model, but it was launched way back in 1986. It has remained in production, with just a few minor changes, for more than 35 years. The Series VA doesn't replace the Series V; the older version remains in production for use with the Model 30, 20, 15, and 12 turntables. The Series V's cast-magnesium-alloy armtube is one of the few mechanical parts brought in from an outside supplier, but for the VA arm, an entirely new type of armtube is machined in-house from a solid block of polymer resin. This new design has a trilobular cross section, which SME says increases stiffness. The advanced polymer resin is said to be far more self-damping than the old magnesium casting.

A minor cosmetic issue plagued the old Series V arm. Over time and repeated use, the plastic arm rest clip would polish the satin paint finish on the armtube. After a few years of use, you would begin to see a narrow shiny band in the paint across the top of the tube. This problem has been solved on the VA by replacing the clip with a U-shaped cup, which the arm simply rests in when not in use. This is an example of the kinds of simple optimizations SME has performed for the Model 60.

Over the years, SME has used several suppliers for their

## MEASUREMENTS

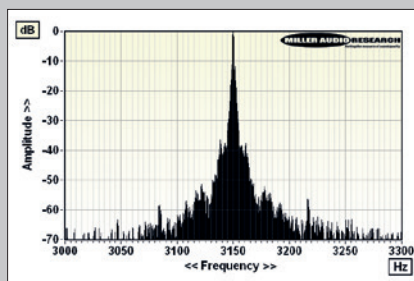
Speed stability has been a given with previous SME turntables, but the switch from DC to AC motor drive has taken its Model 60 to another level. Its  $\sim 0.005\%$  absolute speed accuracy and mere  $0.01\%$  peak-weighted wow (fig.1) are comparable with the best of today's direct-drive offerings, including Technics's fabulous Grand Class SL-1200GAE. Few other belt-drive decks get this close. Minor flutter modes at  $\pm 12\text{Hz}$ ,  $\pm 33\text{Hz}$ , and  $\pm 65\text{Hz}$  (also visible on the unweighted rumble spectra, fig.2) amount to no more than a peak-weighted  $0.02\%$ . Furthermore, the sintered bronze bearing, with its oil-damped ball, is so precisely machined and polished that both through-groove and through-bearing

rumble are truly state of the art, at  $-75.5\text{dB}$  and  $-76.5\text{dB}$  (DIN-B-weighted, ref.  $5\text{cm/s}$ ), respectively. The impact of the screw-down record weight/clamp is limited to a mere  $\pm 0.1\text{dB}$  variance on the through-groove measurement; replay from less flat vinyl discs may benefit more meaningfully.

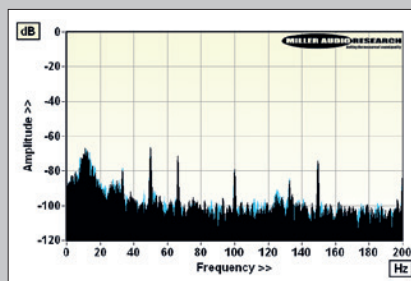
The Series VA tonearm's spring-loaded downforce dial is calibrated to within  $\sim 2\%$  over a  $0\text{--}3\text{gm}$  range ( $1\text{gm} = 1.02\text{gm}$ ;  $2\text{gm} = 2.05\text{gm}$  of actual downforce). Although the Series VA tonearm's design is based on the Series V, the new polymer armtube brings the effective mass down closer to  $10\text{gm}$ . While this might render the Series VA slightly less compatible with heavier, low-compliance MCs, the current trend for slightly more relaxed MC suspensions—in

pursuit of improved tracking—actually makes the VA *more* relevant. The side-mounted oil bath is retained in case additional damping of especially excitable pickups is required.

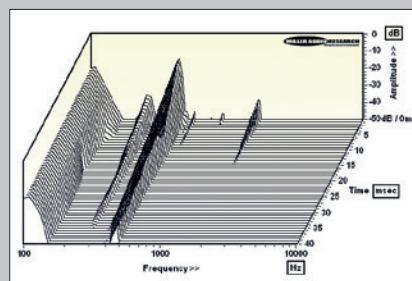
As with the Series V, the VA's bearings are free of any perceptible play and for our purposes are essentially frictionless ( $<5\text{mg}$  in both planes). Resonances within the arm itself are resolved into just two components: a bending mode at  $105\text{Hz}$  with a harmonic at  $270\text{Hz}$  (structural harmonics are not necessarily integer multiples) and another, higher-Q, resonance at  $450\text{Hz}$ . The freedom from more complex resonances, and general clutter, is quite remarkable (CSD waterfall, fig.3).—Paul Miller



**Fig.1** Wow and flutter re.  $3150\text{Hz}$  tone at  $5\text{cm/s}$  (plotted  $\pm 150\text{Hz}$ ,  $5\text{Hz}$  per minor division).



**Fig.2** Unweighted rumble from DC- $200\text{Hz}$  (with clamp, blue; without clamp, black), all ref.  $1\text{kHz}$  at  $5\text{cm/s}$ .



**Fig.3** Cumulative spectral decay spectrum illustrating the tonearm's various bearing, pillar, and "tube" vibration modes  $100\text{Hz--}10\text{kHz}$  over  $40\text{ms}$ .

tonearms' internal wiring. Now that SME is part of Cadence Audio, it makes sense that the arms now use wiring from another Cadence company, Crystal Cable. The connections between the various power supply boxes also got attention, and these interconnections are made by cables supplied by another Cadence company, Crystal's sister company, Siltech.

Despite its shelf-bending 105lb weight and its utter solidity, the Model 60 is compact compared to many other mega turntables. At around 22" by 16 1/2" deep, it's only about 4" wider and 3" deeper than the already surprisingly compact Model 30, while the weight is up by about 15%. The word that comes to mind when you handle the Model 60 is *dense*, and while it may not overwhelm anyone visually due to its massive size, most people will revise that opinion the first time they attempt to lift or move it.

Perhaps the most visually distinctive feature of the older Model 30 is its four suspension towers, each of which holds up one corner of the rectangular upper plinth using 12 rubber suspension bands. The Model 60 uses a similar damped rubber band system to isolate and suspend the upper plinth, but with additional horizontal bands to control its lateral movement as well. Also in the Model 60, the rubber suspension bands are all hidden away inside the four corner towers, making the turntable look sleeker and less fussy.

### Unpacking and setup

The Model 60 arrived beautifully packed and immaculately presented, as SME products tend to do. Everything comes in a single large wooden crate, which has an additional internal wooden divider for added strength. The parts are nestled in a series of layered high-density foam trays, which provide excellent protection and cushioning.

The first piece to come out of the crate, conveniently, is the main chassis. As it weighs nearly 90lb, SME sensibly says this needs to be a two-person lift, with one person at each end. SME's importer, Bluebird Music, generously offered to send someone to assist with the lifting and to help with the setup, but I decided instead to get a workout and do it myself. My chiropractor says thank you.

That very first lift is the only physically challenging part of the setup; once you have the plinth positioned, the rest of the work is straightforward. SME has always provided excellent tools with their products—most of the tools are also made in-house—and the Model 60 comes complete with every tool required to complete an accurate and comprehensive setup. Those of us who work with a lot of turntables tend to have our own preferred gadgets for performing various setup tasks, and the SME way of doing things doesn't always make it easy to use alternate tools and approaches with their products. More about that later.

The rest of the Model 60 setup will be familiar to anyone who has worked with a Model 30 or 20; with all three 'tables, you follow the same basic steps. Once the main unit is on your stand, you level it by rotating the corner feet. Next, the motor's transit screw is removed, and the motor is leveled using the thin end of the supplied feeler gauge and the motor housing's three adjustable spikes. Next, top up the main bearing oil, which comes mostly filled, then back out the subplatter's transit screws. At this point,



the subplatter can spin freely, so install the belt and place the main platter on the inner platter.

The Model 60's platter and bearing are identical to those used on the Model 30, although on the 60, the bottom part of the bearing housing sits in a bath of silicone damping fluid to further suppress vibrations. SME felt that these components had already reached a level of performance that would be tough to improve on, so no further changes were made. The top surface of the platter has a built-in record mat made from a material called Isodamp,

which is permanently bonded to the platter. To ensure perfect mat centering, the raw, unfinished Isodamp sheet is bonded to the platter, then the platter/mat sandwich is returned to the lathe, and the mat is trimmed and a scroll pattern engraved into its surface. The resulting textured surface provides an ideal interface for a record, especially when the SME's excellent clamp and center-lift washer are used.

The last setup step with the main chassis is to adjust the height of the suspended chassis at each corner, raising then lowering the suspension until the thick end of the feeler gauge fits perfectly into a gap between the plinth and the suspension tower.

Finally, I connected the power supply using the provided Siltech power cables to go from the transformer box to the main power supply box then on to the turntable itself. Separating these parts allows the power supply to be positioned where it falls easily to hand; the potentially noisy transformer can be kept a good distance away. The power supply lets you turn the motor on and select between 33 1/3 and 45rpm speeds. An adjustment mode lets you fine-tune each speed using the included strobe disc.

A 78rpm speed option is not included, despite being a feature on almost all previous SME turntables. To be fair, I doubt many people have used their SME turntables to play 78s, as SME 'tables do not allow for the fitment of a second tonearm, which can be supplied with a 78-friendly cartridge, although I did once work on a Model 15 where the owner used an external arm pod and arm for playing his collection of early blues 78s.

To further simplify the setup, the new Series VA tonearm comes preinstalled on the Model 60. A few years ago, SME stopped selling most of their tonearms as separate items, choosing instead to supply them only in SME turntable-tonearm packages. The Series VA arm is currently only available when purchased with a Model 60 turntable. Want to remove the arm and use it on something else? This is made more complicated by how the arm's output wiring is handled. Instead of a swiveling DIN socket attached to the base of the arm itself, the VA's wiring is hard-wired to a separate output box mounted on the Model 60's lower plinth. There, you can connect an RCA-to-RCA cable for the phono signal, with balanced XLR connectors available as an option.

Since the beginning, every SME tonearm has used its own unique cartridge alignment system. The usual elongated slots in the headshell, which allow you to position the cartridge to achieve the required overhang, are missing. Instead, the cartridge is fixed in the headshell using its simple round holes, and overhang is effectively altered by sliding the whole arm along a track at the base of the arm. This system is quite elegant when you use the

alignment tools that come with the arm, but it is tricky, though not impossible, to use alternate alignments and tools.

This system also leaves very little scope for tweaking the zenith and no way of altering azimuth should your cartridge have less-than-perfect internal alignment. Aftermarket solutions are available to help deal with these issues, but I was hoping that with a complete redesign, SME would have produced an arm where zenith and azimuth could be adjusted. Thirty-five years ago, alignment factors such as azimuth were harder to measure and so harder to optimize, so I understand why they weren't included on an arm designed in 1986. Today we know better.

Those caveats aside, the Series VA arm is a joy to work with and displays a level of fit and finish that most arms can only wish for. Basic things like the tracking-force adjustment and the cueing mechanism work consistently and smoothly, and the arm's freedom of movement is cleverly limited to minimize the chances of a handling accident.

### Listening

Using my Model 30/2 turntable and Series V tonearm as a benchmark, I was able to directly compare the Model 60 with the Series VA arm with my Model 30/2 with the Series V arm. SME's fixed headshell-mounting holes made it possible to align my test cartridges identically in both arms then move the cartridges back and forth between them easily without having to go through a complete realignment each time. I did this with both my Dynavector DRT XV-1s and my Lyra Atlas cartridges, allowing easy and meaningful comparisons.

You'd be forgiven if, after looking at the Model 60's brutal stance, you thought it was likely to sound like the musical equivalent of a Vin Diesel acting performance: big on drama and action, but with some of the subtlety lost along the way. Nothing could be further from reality. This brute can dance on its tiptoes, with finesse and fine gradations of tonal color that go beyond even the formidable 30/2 Series V combination.

Take *The Buena Vista Social Club*, for example (Nonesuch WQJP-2010-11). On the Cuban danzón song "Pablo Nuevo," everything is thrown into stark relief, providing a vivid sonic picture of the room it was recorded in, its dimensions, and the way the musicians are interacting. Listen to the explosive dynamic attack of the piano; that isn't about subtlety, but it is a place where the 60/VA combination has a clear edge over the 30/V pairing.

Low noise is usually the key to turntable transparency, and the Model 60 is exceptionally quiet. How much of that is due to the VA arm and how much to the new motor drive and the more massive chassis isn't entirely clear, but the 60/VA manages to stay out of the way of the music more emphatically than the 30/2 Series V combination.

Switching gears, I played the Classic Records reissue of Ella Fitzgerald's classic 1961 album *Clap Hands, Here Comes Charlie!* (Classic Records V6-4053), specifically "Cry Me a River." The crystalline quality of Ella's voice was so famous that a Memorex tape ad from 40 years ago claimed that her voice could break a wine glass. I didn't have to deal with any breaking glass, but the clarity of Ella's voice on that record, heard through the Model 60/VA, was remarkable. I'm convinced that the nonresonant material used to make the VA arm has a lot to do with this, but it's impossible to be sure without a way to audition the VA arm independent of the Model 60. Perhaps at some point I'll get a chance to check out the Model 30 MK2 with its new AC motor drive; that should help give me a handle on how much of a role that part of the system plays in the improved performance I observed.

Intense dynamics and tight, powerful bass extension have long been hallmarks of SME turntables, and the Model 60 pushes that

## ASSOCIATED EQUIPMENT

**Analog sources** SME Model 30/2A, Roksan TMS, Brinkmann La Grange, Garrard 301, Thorens TD 124, Linn Sondek LP12, and Technics SL-1000 Mk2A turntables. Graham Model 2.2; SME Series V, IV, VI, 309, 3009; Brinkmann 12.1; Breuer Dynamic Type 8; Technics EPA-100; Linn Ittok LVII; Fidelity Research FR-64S; Eminent Technology ET2 tonearms. Dynavector DRT XV-1s, Grado Legacy Epoch, Ortofon Cadenza Blue, Koetsu Urushi and Rosewood, Linn Troika, Luxman LMC-5, Kiseki Purple Heart, Red Rose Petal 2, Denon DL-103, Audio Note IQ3 phono cartridges. Technics RS-1520 reel to reel, Nakamichi Dragon cassette deck.

**Preamplification** PrimaLuna DiaLogue Premium, Croft Vitale line preamplifiers; CH Precision P1, Parasound JC 3 Jr., Fosgate Signature, Vendetta Research SCP-2B, Sutherland Little Loco phono preamplifiers.

**Power amplifiers** Audio Note P2 SE Signature, Belles 150A, Conrad-Johnson Classic Sixty.

**Integrated amplifier** Pass Labs INT-150.

**Loudspeakers** Quad ESL-57 electrostatics with Gradient SW-57 woofers; PSB Synchrony One; HSU Research TN1220 (2) and SVS SB-2000 Pro subwoofers.

**Cables** Cardas Neutral Reference and Golden Reference interconnects; Hovland tonearm; Cardas Neutral Reference speaker.

**Accessories** Shunyata Denali 6000/S and Shunyata Hydra V-Ray power conditioners; ASC Tube Traps and Room Tune room treatments; Zoethecus Z4 rack; Sicomin platform, Target TT5T stands, and Goldmund cones.—Michael Trei

reputation even further. The low pipe-organ notes on Widor's famous *Toccata* from his 5th Organ Symphony on *Encores à La Française* (Telarc DG-10069) demonstrated just how powerful and extended bass on an LP can be. But it wasn't just the low end that impressed. The Model 60 also offers a sense of ease and effortlessness; the Model 30 sounds like it's having to work a little bit harder to bring you the power and the majesty of the Boston Symphony Hall pipe organ. The reverb tails as the sound slowly died away at the end of each piece had greater clarity on the Model 60, resulting in better insight into the dimensions and sheer volume of air inside Boston Symphony Hall.

### Conclusion

With the Model 60, SME has managed to raise the bar on what can be achieved with their design philosophy. SME's "just the facts" approach won't make nasty-sounding records suddenly sound pretty, but its stunning ability to resolve information will make your records sound more real and ultimately more satisfying. This turntable is capable of extracting an astonishing amount of music from the record groove. It should be considered the new real-world reference against which other turntables can be judged. By "real world" I mean that, while it may cost as much as a nice car, it doesn't cost as much as a nice house, like some of its competitors do.

The Model 60 is also about as easy to use and unintimidating as a top-of-the-line turntable gets. On the downside, for certain tweaky users, the lack of swappable arms, of multiple arm capability, and of a 78rpm speed may rule the Model 60 out. Clearly, SME isn't trying to cater to the tweaky audiophile crowd. If anything, the Model 60 should be considered an heirloom turntable, as its build quality should allow it to continue making music for several generations. I'm not so lucky: My own time with the Model 60 was all too brief, and it was a sad day when two burly couriers arrived to carry the 200lb crate away. ■