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SME's Model 10

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# SME 10 turntable

**SME 10 turntable:** Belt-driven turntable with polymer-insert suspension. Speeds: 33 $\frac{1}{3}$ rpm, 45rpm. Wow and flutter: not specified. Rumble: not specified.

**Dimensions:** 14 $\frac{5}{8}$ " W by 6 $\frac{3}{8}$ " H (clamp fitted) by 13 $\frac{7}{8}$ " D. Weight: 35 lbs.

**Serial number of unit reviewed:** 020.

**Prices:** \$5500 without tonearm, \$5995 with M10 tonearm, \$8250 with IV.Vi tonearm.

**SME M10 tonearm:** Fixed-bearing (Abec 1) tonearm with detachable headshell, adjustable VTA, and tapered, pressure-diecast magnesium armtube. Distance from pivot to stylus: 9.18"; from pivot to turntable center: 8.48". Offset angle: 23.6°. Linear offset: 3.68". Overhang: 0.70". Effective mass: 9.5gm. Vertical tracking force: 0–3gm. Maximum tracking error: 0.12°.

**Price:** Only available with SME 10 turntable.

**SME IV.Vi tonearm:** Fixed-bearing (Abec 7) tonearm with nondetachable headshell, adjustable silicone damping, adjustable VTA, and tapered, pressure-diecast magnesium armtube. Distance from pivot to stylus: 9.18"; from pivot to turntable center: 8.48". Offset angle: 23.6°. Linear offset: 3.68". Overhang: 0.70". Effective mass: 10gm. Vertical tracking force: 0–3gm. Maximum tracking error: 0.12°.

**Price:** \$2750.

**All three:** Approximate number of dealers: 15.

**Manufacturer:** SME Ltd., Steyning, Sussex BN44 3GY, England, UK. Tel: (44) (0)1903-814321. Fax: (44) (0)1903-814269. US distributor: Sumiko, 2431 Fifth Street, Berkeley, CA 94710. Tel: (510) 843-4500. Fax: (510) 843-7120.

**W**hat do you want from a 21st-century record-playing device? I hear you: you want one that's compact, well-made, easy to set up, holds its setup, sounds great, and doesn't cost a lot.

I'll tell you what I *don't* want: some kind of complex contraption. Some of you do. Fine—feel free to tweak and diddle to your heart's content. That's part of the fun of this hobby. For some analog addicts, a turntable that can't be adjusted in a hundred different ways can't possibly sound good. My experience with the SME 10 and a few other 'tables tells me otherwise.

## Looks familiar

When Wilson-Benesch issued its ACT tonearm a few years ago, the tapered armtube reminded many of the classic SME V arm. The new SME 10 turntable, strongly reminiscent of W-B's compact, ingenious Full Circle design (reviewed in November 1998, Vol.21 No.11), reverses the spin. But, as with the two arms, the similarities between these two turntables are only skin deep.

The "budget"-priced Full Circle with MDF base and acrylic platter costs \$1995, including a Rega RB300 arm. While the 10 is SME's least expensive 'table, it costs a rather stiff \$5500 without tonearm, and \$5995 with the M10 arm. For that level of investment, you'd expect—and be entitled to—ultra-high-quality design and execution, as well as Class A sound.

While the sonic performance of SME's tonearms has been the subject of much debate over the past decade or so, there's been no argument about their design integrity and build quality. It would not be hyperbole to say that SME has set the standard against which all other fixed-bearing tonearms are measured.

Anyone familiar with the work of SME's Alastair Robertson-Aikman will tell you that the man and his company seem incapable of producing anything less than extraordinary in terms of machining precision and overall fit'n'finish. Would the Model 10 live up to



my high expectations? As I watched Sumiko's Stirling Trayle unpack the box, I hoped so. (I could have set this baby up in my sleep, but it made him feel better to do so for me, so I let him. I'm a generous, giving kind of guy.)



with SME M10 & IV.Vi tonearms



ERIC BRONSON

**A compact disc player**

Taking up little more shelf space than an LP, the Model 10 turntable is a compact, plinthless, "non-floating" (*ie*, suspensionless) design, yet it weighs in at a hefty 35 lbs—a densely packed product. About a

third of the weight is in the aluminum base, which rests on three precision-threaded, 2"-diameter feet fitted with custom-molded polymer inserts similar to Sorbothane or Navcom, but said to be more "liquid" than either.

A cross-shaped aluminum subchassis weighing more than 5 lbs is suspended from three tall chrome-plated cylinders fitted with the same precision-molded isolating/damping polymer. The subchassis incorporates the arm-mounting

platform and supports the tall bearing assembly, the bottom of which fits through an opening in the center of the subchassis below.

The 9-lb aluminum-alloy platter is “extensionally” damped on both surfaces. In addition, the softer-than-an-LP Isodamp material applied to the record-playing side has been diamond-turned with a fine scroll pattern, which imparts a fiberlike finish said to improve record-to-platter intimacy. The damping compounds used in the 10 are made for SME by EAR, a Chicago-based polymer company that primarily supplies the automotive industry and the military.

The  $\frac{3}{4}$ "-diameter, threaded main spindle is machined from high-chrome tool steel, ground and “superfinished” and supported in a Sno-Cone-like tapered bearing. SME claims this increases longevity and minimizes bearing rock while providing a lower center of gravity for the entire assembly. A spiral channel in the bearing surface lifts oil to the top of the bearing well for effective lubrication. A tooled-steel ball fitted to the bearing bottom sits in a bronze thrust plate. The softer bronze allows effective seating and thus lowers bearing chatter.

Drive is via a relatively thick, stiff, flat rubber belt identical to the one Linn uses. It rides on a crowned aluminum motor pulley and around the perimeter of the 10½" aluminum subplatter. The pulley is fixed to the motor shaft via three equidistant set screws, which help ensure pulley concentricity. (I've seen single-set-screw pulleys on \$10,000+ turntables. There is no excuse for this on such products—especially those that use multiple motors and pulleys.)

The attention to every detail in the design and execution of this turntable is exemplary. For instance, the AC synchronous motor attaches to and is isolated from the base via three long pins, which fit into molded polymer sleeves inserted in holes in the motor housing. The pins are actually angled away from the spindle: when the belt is tensioned on the motor pulley and subplatter, the pins are pulled until they're perpendicular to the base.

The motor is driven by an outboard two-speed controller incorporating an 8-bit microprocessor and torque-maximizing MOSFET bridge circuit. Each speed has an integral, crystal reference that monitors the speed 120 times per revolution. According to the accompanying literature, the PLL (phase-locked loop) speed-control servo “has the effect

of multiplying the rotating platter mass by the loop gain, thereby virtually eliminating dynamic wow caused by groove modulation/stylus drag.” In plain English, this means that a mudslide in the grooves shouldn't slow this baby down.

#### SME M10 tonearm

SME's M10 tonearm is available only with the Model 10 turntable. According to the SME literature, the M10 is a derivative of the 309, itself a lower-cost variant of the original SME V—but according to the importer, Sumiko, it's actually better than the 309. Fabricated from a one-piece, pressure-diecast, tapered magnesium armtube, the M10 uses Abec 1

With its simple, suspensionless construction, you can have this 'table up and running in just a few minutes.



SME Model 10 turntable with M10 tonearm

bearings (as opposed to the higher-quality Abec 7 bearings used in the more expensive IV.Vi), and its detachable magnesium headshell allows for adjustment of azimuth. Cost is kept down by using a mounting plate that's simpler than—and incompatible with—the standard SME mounting template. However, the Model 10 'table does include the standard SME mount, making it compatible with the full line of SME arms as well as those from some other manufacturers.

#### Easy setup

With its simple, suspensionless construction, you can have this 'table up and running in just a few minutes. You remove a

transit screw from underneath, inject some oil (supplied) into the bearing well, place the main platter over the subplatter, plug the power supply's mini-DIN plug into the base, level the 'table via its three threaded feet, attach the simple yet ingenious chromed-loop stylus protector (which effectively prevents you from accidentally banging into the arm as it hangs exposed in mid-air), and you're done.

While most tonearm designs fix the pivot point and move the cartridge to set overhang, SME's system does the opposite: the cartridge's position is fixed in the headshell, while the base slides fore and aft. On more expensive SME arms, the base is fixed via four bolts while a sub-base moves. On the M10, the base itself slides along special slots on the 'table's arm-mounting platform.

All SME arms have internal wiring that terminates in four pins at the end of the armtube, necessitating the use of four tiny headshell leads with clips at both ends. With some cartridges, the two sets of pins and clips end up in such close proximity that the wire forms a tight loop that tries to bend back the clip at the solder point. The force can literally open a clip, seriously reducing its contact area with the pin—critical when you're transferring ultra-low voltages. Or the clip can fall off altogether, which means you have to carefully bend it back to its original, tiny-diameter opening. Too big a diameter and it will fall off again as soon as it's flexed; too small a diameter and you'll never get it back on the clip.

To set stylus overhang, you fit the SME-supplied template over the spindle, lower the stylus into a tiny hole representing the proper overhang, and slide the arm base forward or back until the armtube sits parallel to lines on the template. While it makes cartridge-mounting easier, and despite the high rigidity of the SME connector, a detachable headshell considerably reduces arm rigidity even as the slotless cartridge mount increases rigidity. The headshell also leaves no way to adjust cantilever zenith (the cartridge movement pivoting around the stylus), which adjusts tracking tangency to the grooves. SME assumes that your cartridge has been properly constructed—not an unwarranted assumption in these days of expensive, handmade cartridges. We hope.

Though the M10 arm offers VTA adjustability using a rigid, stable, locking

arm post, other than hash marks on the side of the overhang template (which you can reference to a line silk-screened on the side of the tapered armtube) there is no VTA gauge. Accurate, repeatable settings are difficult to achieve, though if you're meticulous you can get close.

The detachable headshell allows for azimuth adjustability—something the fixed-headshell models don't. SME arms feature a convenient, dialable, damped-spring antiskating system, while VTF is set by the movement of a counterweight along a locking threaded screw. Within its range of adjustability, setup of the M10 is about as simple and foolproof as it gets.

At a price differential of \$495 compared with the armless 'table, the M10 is an exceptional value. In terms of build quality, adjustability, and fit, finish'n'feel, nothing else comes close for the price in my experience. Still, I doubt SME could sell the M10 by itself for \$495. Even if it could, I doubt many end users or manufacturers of other turntables would want to attempt machining the narrow slots in the armboard necessary to make overhang adjustable.

### The touch, the look, the feel

When everything was set up and ready to go, I was confronted by an absolutely magnificent piece of gleaming industrial architecture. While some turntables look like objets d'art, the SME Model 10 looks like a piece of fine precision machinery. There are many larger, immediately more impressive-looking turntables out there, but the longer I looked at the 10, and the longer I had my hands on it, the more I came to admire both the soundness and innate simplicity of its design, and the ultra-high quality of the machining and finishing of its parts. This entire production is up there with Rockport's, and that's saying a great deal.

To flatten the record on the platter, the 10 uses a threaded clamp much like VPI's together with a washer that goes under the center of the LP label. On/Off and speed (33 $\frac{1}{3}$  or 45rpm) are selected via illuminated buttons on the outboard power supply. Once you've hit On, you have to hit Off before changing speeds.

With a record clamped on the platter, you hit On/Off and the 'table is almost instantly up to speed. Press the button again and, just as quickly, the 'table stops—thanks to an electrical braking system built into the drive.

With the 'table sitting on a Zoethecus stand, I listened with a stethoscope. Placed against the base, the 'scope picked up a

slight mechanical hum from the power supply, which sat on rubber feet on the same shelf as the 'table. A few inexpensive Vibrapods (great product) eliminated the hum entirely. (A better solution would probably be to move the power supply.)

Although the motor is mounted on the base, the polymer isolation system works extremely well. Placing the stethoscope on the side of the base directly below the motor revealed only the slightest amount of motor noise. The 'scope on the subchassis picked up an even lower, almost inaudible level of motor noise. More impressive, there was no bearing noise whatsoever. And while the 'scope revealed the motor housing to be noisy—as it is on all motors—the SME's motor ran the smoothest of any I've yet encountered. When I put my hand on it, I couldn't tell if it was spinning.

Speed accuracy was not spot on but was very, very close: one strobe bar per revolution fast, which translates to one extra revolution every nine minutes. In terms of absolute pitch, this is a non-

issue. I played a test LP containing a 440Hz tone (concert A) and, using my guitar tuner, got 441Hz. Was the lathe used to cut the LP running precisely on speed? Who knows?

I had a chance to speak with SME's Alastair Robertson-Aikman about this. He told me that in current production of the Model 10 the speed discrepancy is down to half a bar per revolution, and that, given the 40:1 ratio between pulley and subplatter, a variance in pulley diameter of only a few microns can affect the speed. He also told me that he prefers the tolerance limits to be on the plus side to compensate for stylus drag. SME can provide additional pulleys for owners who wish to edge even closer to perfection.

### Looks small, sounds BIG

My sonic prediction for a plinthless, suspensionless, nonacrylic turntable was that it would sound something like the Simon Yorke Series 7 that I reviewed in June 1998, and in many ways the SME did. These densely packed, suspensionless designs tend to grab me first with their rhythmic confidence; the SME did not disappoint.

I began with the Transfiguration Temper Supreme, about as neutral a cartridge as I know of. While I also ran the Model 10 with the Lyra Parnassus D.C.t, the EMT TU-3 Geyger, and the Lyra Evolve 99, with the Temper Supreme the verdict was in within a few slabs of wax: The dynamic performance the 10 yanked from the Temper Supreme was startlingly better than I was accustomed to.

Rhythmically and dynamically, the Model 10's performance with the M10 arm was dramatic and exciting. That was the first aspect of the system's performance I noticed. The pacing and rhythmic organization of familiar music—the sense that musical events were occurring right on time—created a sensation of emotional trust between me and the 'table.

While some turntables can induce relaxation in the listener because they tend toward the soft, lush, and easy, the 10 relaxed me for the opposite reason: I quickly became confident that the rock-solid SME was going to easily handle the big musical bumps in the road that cause some 'tables to falter.

On the Small Faces' *Oxydens' Nut Gone Flake* there's a really fun track called "Lazy Sunday Afternoon"; it features a sustained, extremely deep electric bass note that only a few 'tables can really hit and hold. The SME is one of them. While my experience with an SME V arm on a SOTA Cosmos many years ago led me to believe that the V has slightly plummy,

### Associated Equipment

**Analog source:** Simon Yorke turntable and tonearm; Graham 2.0, Immedia RPM2 tonearms; EMT TU-3 Geyger, Lyra Parnassus D.C.t, Transfiguration Temper Supreme cartridges; VPI SDS and Walker power supplies (on Yorke 'table).

**Preamplification:** Ayre K-1 remote preamp with built-in phono stage.

**Power amplifiers:** Musical Fidelity Nu-Vista 300, KR Enterprise VT8000 MK.

**Loudspeakers:** Sonus Faber Amati Homage, Infinity Prelude.

**Cables:** Phono: Kimber TAK silver, Silver Audio Silver Breeze, Cardas Neutral Reference DIN/RCA. Interconnects: Yamamura Millennium 6000, Electra Glide, Wireworld Gold Eclipse. Speaker: Yamamura Millennium 6000, QED Silver Spiral. AC: Yamamura Quantum, Electra Glide.

**Accessories:** Sounds of Silence Vibraplane active isolation platform; Finite Elemente Pagode, Zoethecus equipment stands; Symposium Rollerblocks; Vibrapods; A.R.T. Q dampers; D.J. Kasser Black Diamond Racing cones; Walker Valid Points; Harmonix feet; Shakti Stones, On-Lines; ASC Tube Traps; RPG BAD, Abbfusor panels.

—Michael Fremer

exaggerated bass, I didn't find that to be the case with the 10/M10 combo. Bass dynamics, bass clarity, and especially control were outstanding—both on loud explosive notes like those found on the 45rpm edition of Public Image Ltd.'s *Metal Box*, and on more subtle recordings of acoustic bass like Rob Wasserman's *Duets*.

Another area in which the 10 excelled was transient response. Cymbals and sibilants were reproduced with an impressive combination of clarity, speed, and weight. Piano, which contains a wicked combination of percussion (felt hammers on wire strings tensioned on a metal frame), rich harmonic overtones (wooden sounding board), reverberant trails (pedal sustain and room sound), and an unusually wide fundamental bandwidth, was particularly well served by the 10—about as convincingly as I've heard the instrument reproduced by a turntable.

The overall tonal balance of the 10/M10 was slightly dry overall, and a bit lean and less rich in both the midbass and midrange compared to my reference Simon Yorke with its integral arm, or with either the Graham 2.0 or Immedia RPM2 arms. One has to be very careful about ascribing tonal colorations to a turntable, given that it works only in association with a transducer (the cartridge), the second most colored item in the chain—the first being the loudspeaker, which interacts not with a piece of vinyl, but with a room. Talking about turntable colorations is kind of like trying to measure a fart in a hurricane.

What's more, changing the arm cable—from the SME-supplied DIN-to-RCA connector to the Silver Audio, or any of the three variants of Kimber I'm currently auditioning—had a profound effect on the sound. The SME cable tended toward the hard and brittle. The Kimber TAK silver cable revealed greater detail, a far richer midrange, and rounder, more three-dimensional images.

The Model 10's predecessor in my system, the Basis Debut turntable that I reviewed in January, sounds softer, more plush, and somewhat more rich overall, particularly in the midrange—at least with the Graham or Immedia arms. The 10/M10 combo had far superior focus, clarity, and image specificity, though I felt that the M10 arm was not retrieving low-level details from familiar records—much as the Yorke arm hadn't on the Yorke 'table, though tonally that system, too, was a fine, essentially neutral performer.

### Enter the SME IV.Vi tonearm

A few weeks into the review period, Sumiko sent me a tonearm upgrade: the SME IV.Vi, which features a nondetachable headshell, lower-tolerance (higher-quality) Abec 7 bearings, SME's more sophisticated mounting system, internal Magnan Vi wiring, a damping trough, a better finish, and a price of \$2750.

The IV.Vi tonearm raises the Model

**The 10's magnificent build quality, compact design, ease of use, and rock-solid performance should keep most analog lovers happy for many years to come.**

10's price to \$8250, and it raised the level of performance as well. With the IV.Vi on the 'table, there was a noticeable improvement in low-level resolution, retrieval of inner detail, and, not surprisingly, soundstage depth, with back-of-hall events coming into finer focus. The IV.Vi helped create a bigger, more finely focused, somewhat smoother picture that bettered in every way an already impressive performance. It certainly forced me to reassess my opinion of SME arms in general. The bad rap on SME arms is their "plummy, exaggerated bass." I didn't hear it. And believe me—if it had been there, the Infinity Prelude speakers with built-in 850Wpc subwoofers (20–100Hz, ±4dB in my room) would have let me hear it.

Yet without auditioning a known arm on the 10 'table, or the IV.Vi on my reference Yorke, I can't tell you whether or not the performance of the 10/IV.Vi combo was the result of product synergy. Bob Graham, who makes armboards for VPI, Linn, Clearaudio, and SME's 20 and 30 turntables, promised an adapter for the 10. I'll follow up this review with an audition of the 10 with the Graham 2.0 arm.

Switching out the Temper Supreme between the Graham/Yorke and SME 10/IV.Vi combos, I noted a similar rhythmic clarity and low-frequency slam. These unsprung, plinthless, non-acrylic designs share much in common sonically, though the Yorke (on the Vibraplane active isolation platform) was somewhat richer in the midbass and thus slightly more mellow overall. The SME combo was clearly more dynamic, punchy, and present.

### Conclusion

If you value tight focus, slam, bass control and weight, cleanly sharpened "edge," black backgrounds, and relentlessly "right" rhythmic performance, and are willing to give up a bit of the cushy, floaty lushness and richness in the midrange that you get with the Basis Debut and VPI TNT 'tables, as well as the ultimate resolution of low-level inner detail—the sound of the stock SME Model 10 with M10 tonearm could be not only your first turntable of the new millennium, but the last 'table/arm you'll ever buy. The 10/M10 is comfortably up there with the finest-performing 'tables I've ever auditioned—and you can always upgrade the arm, which is almost a freebie anyway. (According to importer Sumiko, the \$5995 combo price is due to rise before the end of the year.)

The 10's magnificent build quality, compact design, ease of use, and rock-solid performance should keep most analog lovers happy for many years to come. Add \$2500, and the SME IV.Vi arm levels the playing field with the Yorke/Graham and Yorke/Immedia combos, though all three systems sound different from one another.

The M10 arm's detachable headshell reduces rigidity but allows azimuth adjustability. The fixed-headshell IV.Vi doesn't allow you to adjust azimuth, but it could be argued that azimuth is a less critical, perhaps even an unnecessary adjustment in a fixed-bearing design, especially given the level of cartridge likely to be used. Even in the fixed-headshell IV.Vi, SME terminates the arm wires in pins, inserting an unnecessary break in the critical low-voltage connection from cartridge to preamp. I wish the connection was direct to the DIN plug. How will the Graham 2.0 fare on the SME 10? Stay tuned.

If this 'table/arm combo has a weakness (I'm grasping here), it's that its focus, clarity, and transient authority come at a small price: a slight hardness and "skeletal" harmonic quality from the midbass to the upper midrange, something your choice of cartridge can probably work around.

If I were to (roughly) compare the SME or Simon Yorke 'tables to the Basis or TNT in terms of cartridge sound, the SME/Yorke would be akin to a Transfiguration Temper Supreme or Parnassus D.C.t, and the Basis/TNT would be closer to a Koetsu or Cardas Heart/Benz Ruby. Lovers of lush sound may not be happy here, but if I were hunting for a new turntable, I'd be on the SME's trail. Can SME's \$22,000 Model 30 really be that much better? 