The SME Model 30 Turntable

FROM HELL'S HEART I STAB AT THEE

The $15,000 SME Model 30 turntable is everything we have ever demanded of a turntable. In this, the twilight of the vinyl gods, it is the best choice for a "last turntable"-the table to walk with into the good dark night. It is also the most difficult product to review that I have ever tested. Not because it is hard to use or unreliable; it is neither. It is difficult to review because it is difficult to hear.

Everyone knows what a turntable does, but what are its sonic objectives? There are only two of significance - silence and stability. A turntable should perform its duties in absolute silence, injecting no noise and removing completely the vibrations created by the stylus. It needs to perform this task while providing a perfectly stable platform, isolating the stylus and groove from external resonances, and rotating the record at a perfectly stable speed.

I believe that no other turntable - ever - has performed these functions as successfully as the SME Model 30. I cannot prove this because I cannot compare the Model 30 to the Goldmund Reference or the Rockport Sirius 11. Neither can anyone else. The Goldmund and Rockport use dedicated arms. The Model 30 will only accommodate pivoted arms that use the SME mounting template.Thus, you can only use an SME or Graham 1.5T arm. Listen up - pickup arms are much more colored than these turntables. Unless you use the same arm and cartridge on the competing tables, you can't know for sure.

Designing for Stability and Silence

The SME's design starts with the premise that the chassis' low frequency resonances (flexing) must be minimized. The Model 30 weighs almost 115 pounds (most of it in the subchassis and platter) and is extremely compact. Designer Alistair Robertson-Aikman realized that to reduce flexing, you need high-density mass. The same amount of mass spread over enough space is aluminum foil. The inch-thick aluminum subchassis is also braced with a hefty bar of aluminum to prevent torsional flexing. The base plate, subchassis, and platter are all bonded to damping material to reduce the duration of higher frequency vibrations.

Rather than using springs which add resonances, the Model 30's hanging suspension uses 12 moulded 0-rings (rubber bands) and a fluid damper in each of four suspension towers. The rubber bands support and decouple the subchassis at a very low frequency (roughly three Hz). Typically, this creates a high Q that amplifies low frequency vibrations at the decoupling frequency. The fluid dampers reduce the suspension Q, minimizing the amplification of vibrations at the decoupling frequency. Thus, the SME provides a high degree of attenuation of external vibrations starting at a low frequency. Yet, the system is virtually immune to low-frequency displacement, providing a more stable platform for the arm and cartridge.

The fluid dampers also contribute to the Model 30's exceptional speed stability. The belt-driven SME uses a huge brushless, three-phase FG servo motor of special design that is said to reduce cumulative cogging effects. The motor is mounted on the table's base plate, while the platter is mounted on the subchassis. Typically, this configuration is a recipe for speed instability. With a high mass subchassis and a high Q hanging suspension, it is easy to deflect the subchassis horizontally (e.g., the pre Cosmos Sota designs). This creates oscillations in the belt as the subchassis moves relative to the motor. (Viola!) You have speed instability. The SME's fluid dampers prevent this situation. While they permit vertical movement, there is little horizontal tolerance within the dampers. Thus, each paddle in a fluid damper is tightly surrounded by thick fluid. Much more energy is needed to deflect the subchassis horizontally, so the Model 30 resembles a fixed subchassis system more than a suspended one in this regard. The result: Speed stability is greatly enhanced while the benefits of a suspended subchassis are retained.

Another element of the Model 30's speed stability is its superb main bearing. SME, as a company, is big into the British aerospace industry, and they bring the high precision demands of that industry to the execution of their turntable design. The bearing, as with everything else on this table, is machined by SME to exceptional tolerances. Combine close tolerances with a smooth bearing surface and the bearing noise inherent in contact bearings is dramatically reduced. This is important. The Forsell and Rockport tables use air bearings for their platters which, when properly executed, effectively eliminate bearing noise. The air bearing is not, however, without compromise. The lack of contact deprives the drive system of any resistance (friction) to work against, necessitating the use of flywheels to improve speed stability. Air bearings also do not provide a mechanical route to evacuate vibrations created by the stylus in the groove. These are advantages of the contact bearing type that the SME retains while minimizing the noise caused by a contact bearing.

The final beauty of this beast is that the table sets up in about 10 minutes out of the box (make that crate). Sure, the arm and cartridge setup takes longer, but the table is stable in 10-flat. It even has a precision bubble level built into the base plate.

The Sound of Stability

How does it sound? Damned if I know, I've only used it for a year. But, I can tell you what it does to improve the sound of your record playback, because those differences are manifest and legion.

Silence first. The Model 30's most immediate effect is a dramatic reduction in the noise floor. It reduces the intrusive sound of groove noise. Better yet, that ever-present sonic sensation that something is going around ...vanishes. Usually, that sound immediately distinguishes a record from a CD, but not with the SME.

Out of this silent background, a wealth of new information arises. The distinctive timbres of each instrument are brought into sharper focus, as are the images. Each instrument is well defined, existing dimensionally within its own space, surrounded by an audible environment. More than any other table I have used, the Model 30 captures the instruments in the most complex arrangements and successfully re-creates them, both individually and as an ensemble.

The Model 30 successfully unravels the most rhythmically complex music, especially when paired with the Graham arm, with nary a misstep. "The Obvious Child" from Paul Simon's Rhythm of the Saints [Warner Bros. 0 26098-1] is a true tongue twister for playback systems, especially the opening measures of percussion. For the SME? Simple Simon.

Out of its silent background, the SME re-creates startling dynamic swings. The music can literally explode from dead silence in an instantaneous yet progressive way that denotes the live thing. Here, the Model 30 lets the Transfiguration AF-1 cartridge shine, both on macro and microdynamics. The SME provides a platform to recover the subtle shadings that create intensity in the music.

What about stability? While stability is evident in the SME's rock-solid pitch and timbre definition, it is best measured in the bottom three octaves. Below 160 Hz, the Model 30 has amazing control and definition. Nor does the bass separate itself from the rest of the frequencies; it integrates seamlessly. I have heard nothing else like it. Not even the best digital can match the purity of the Model 30's palette of bass colours. It is thunderous, colourful, and airy, all at the same time. Only live music is better.

The limiting factor in this region is going to be your arm and cartridge. For instance, the SME IV.Vi with the Transfiguration AF1 cartridge has excellent control under stress. The bass drum and timpani in the opening measures of Athena's re-issue of Rachmaninoff's Symphonic Dances [Athena ALSW-1 0001] illustrate the point. The SME/SME/ Tranfiguration combination does not blur or modulate under the stress of this big bass onslaught, although the IV.Vi darkens and thickens the timbres in the upper bass, slightly clouding the presentation. Substituting the Graham arm sacrifices a little control when the percussionist bangs on the bass drum, but pays dividends by cleaning up the upper bass and better defining timbres.

The point? The Model 30 is a blank canvas against which you can immediately assess the distortions of arms and cartridges. Moving to the Cardas Heart brought about a substantial loss of bass definition relative to the Transfiguration (which is surely state-of-the-art in this region). At the same time, the cartridges' differences in the treble were starkly revealed (slight advantage, Heart). The Model 30/Graham 1.5T/Transfiguration combination is, the finest record player I have ever heard, although the more euphonic Cardas tugs at me, insistently.

The increased information retrieved from your records can cause problems for some systems. I noted (with bemusement) that several British reviewers accused the Model 30 of having trouble playing the tune. I suspect that their systems were not capable of handling the increased information recovered by the SME. Bass information, for example, makes serious demands upon the power supplies in amplifiers. When the power supply is under stress from large current demands, the rest of the music is going to suffer unless the amplifier has a great power supply. The Model 30 will put your amplifier to the test, no question. Similarly, the rest of your equipment best be basically neutral if you are to fully appreciate the Model 30's virtues.

After all this, though, the SME's most remarkable virtue is the linearity of its performance. After hundreds of hours of records, different arms, and different cartridges, I could not perceive any character attributable to the SME. From the caverns of its bass to the aerie of its treble, its performance was consistent. The dynamics were consistent, the absence of colouration was consistent, and soundstaging properties were consistent.

I worked on this review for a year because I wasn't going to give up until I uncovered the Model 30's character. I'm sure it's there, it has to be. I just can't find it. So,

I say "Uncle.")(-TOM