

DECEMBER 2005

CLEARAUDIO ANALOG SYSTEM



Reviewer: Jules Coleman

Sources: Shindo-Garrard 301/Mersault Arm/Shindo modified Ortofon SPU Classic, Audio Note CD3 (used as transport), Reimyo DAP 777 [in for review]

Preamplifier: Shindo Catherine all tube, full function, dual mono, dual chassis; Shindo Arome step-up transformer for SPU cartridge

Amplifier: Shindo WE300B Ltd mono block

Speakers: DeVore Fidelity Silverback Reference; *Vivaldi Academy* [in for review]; Tannoy 15" Gold in custom cabinet; Tannoy 10" Reds in custom cabinet

Equipment rack: 2 x Harmonic Resolution Systems M1-R

Interconnects: Stealth Indra, Varidig and Harmonix digital interconnects

Speaker cable: Auditorium 23, Stealth Hybrid MLT

Power cord: Stealth Cloud Nine on Audio Note

Power conditioner: Shindo Mr.T

Review component pricing: stand \$7,500; table \$10,000; arm \$7,000; cartridge \$3,000; Outer Limit clamp \$900

Though these may not be the golden years for new analog pressings or LP sales, they may nevertheless be the golden years for analog *playback*. There are more high quality, well-engineered, easy-to-use and good-sounding turntables available today than at any time I can recall. Moreover, the entry cost of analog playback is, at least in relative terms, lower than it has ever been. For anyone who believes that the point of audio playback is to make music (which hopefully is everybody), there is simply no living without a turntable and, given the relatively low cost of entry, no reason to do so.

Nor are the advancements in turntables restricted to the entry or mid-price markets. If anything, what marks this as a golden age of vinyl playback is the extraordinary number of truly high-end tables, arms and cartridges that are self-conscious attacks on the state of the art. Thirty years ago -- well before the advent of the silver disk -- there were a handful of high-end tables: Linn, SME and Thorens (to name a few) were some of the more familiar brands. The cognoscenti especially in Europe and Japan had their hearts set a'pounding by the likes of the EMT 927 and Garrard 301 and 401, though the Garrards did not achieve status as true high-end tables during that period largely because their performance was compromised by inappropriate plinths and console housing; and the EMTs were too large for most home applications.

In contrast, today's high-end turntable landscape is densely populated in no small measure by brands that are anything but household names: Avid, Brinkmann, Continuum, DaVinci, Kuzma, Pluto, Rockport, Verdier, Walker and Yorke among others. Some of the standards remain in play, notably SME, which continues manufacturing a state-of-the-art turntable. The same cannot be said of Thorens, however. And while the Linn Sondek remains a favorite among many audiophiles, most of its improvements have been incremental.

And though it is fashionable (especially on the forums) to downplay the achievements of 'name brands' especially when their offerings are costly, the fact remains that the standard of reliability and excellence in both design and performance continues to be set by the likes of SME and Clearaudio. Given their locations in Britain and Germany, it is not misleading to think of the top-of-the-line SME and Clearaudio as the Bentley and Mercedes of turntables, respectively.

If this is a golden age for vinyl playback, it is as much a result of the quality of tonearms and cartridges currently available as it is a result of the turntables themselves. The likes of Schroeder, Da Vinci, Breur, Tri-planar and Graham grace many a modern high-end table at the same time that Rega, in particular, continues to offer first-rate arms at modest prices. Until recently, SME offered a version of their venerable 3012 and they continue to manufacture a range of highly respected arms. Shindo Laboratory offers the Mersault arm -- a substantial reworking of the legendary Ortofon arm -- while Clearaudio's top of the line TQ1 arm is based on the famous Souther linear-tracking arm.

While several manufacturers from Basis to Rega and from Brinkmann to Walker offer both turntables and arms, fewer manufacturers offer their own cartridges. Some who do clearly outsource cartridge manufacturing to the likes of van den Hul and Benz while others modify -- modestly or substantially -- cartridges produced elsewhere.



Maximum Solution



Master TQ-I



Stradivari



Rega and Clearaudio are among the very few companies that manufacturer their own tables, arms *and* cartridges. And unlike Rega who restricts its offerings from entry level to mid price -- which represents their comparative advantage -- Clearaudio is perhaps unique among manufacturers in offering a full range of turntables. From the entry level X to the world-renowned Master Reference, which has served as the reference vinyl playback machine for Harry Pearson of TAS and Roy Gregory of HiFi+ among other well-known audio reviewers, there's also a full range of arms from the Satisfy to the TQ1 and an even broader range of cartridges, including both moving magnets and moving coils at all manner of price points. Clearaudio has something for everybody interested in vinyl playback. They are also among the most respected, reliable and easy-to-deal-with companies in the business.

With so many tables, arms and cartridges to choose among, the key to excellent vinyl playback is *system* matching. Some arms are known to work synergistically with certain tables while other arms do not fare nearly as well. For most individuals, the cartridge/arm relationship is even more difficult to sort out. Some arms simply cannot accommodate certain cartridges while some who can do not perform well with various cartridges with which they are in principle appropriately matched.

In the course of a conversation, one of the modern gurus of tonearm design allowed that every tonearm would actually have to be

designed slightly differently to optimally accommodate every different cartridge: that at most, a tonearm could be expected to work optimally with a very small number of cartridges only. As a result, before building a tonearm for any of his customers, he asks them which cartridge/cartridges they intend to use with it – and designs accordingly. He also has a list of cartridges that he is especially fond of which form synergistic partnerships with his arms.

Finally, to get optimal playback from vinyl, the table -- whether a suspension design or not -- needs to be properly isolated from vibrations. Vibration and resonance control seem to be the last frontier in audio playback and to my ears, so many systems are let down by too little attention paid to the impact of resonance and vibration on the quality of music reproduction. The same person who spends between 10 and 50K on a system will satisfy himself placing it all on a stand that rings like a bell or another that vibrates like an electric razor. I've been in more than one reviewer's listening room where the equipment is sitting on a suspended wooden floor or a shaky stand.

The choice of platter and plinth/base materials is crucial - as is the isolation platform or stand on which a turntable sits. Clearaudio is fully attentive to these concerns and designs their tables accordingly. They also recommend the use of particular isolation platforms and offer their own turntable stand called the Everest.



With accurate and satisfying vinyl playback dependent on the proper balancing of so many variables, I prefer to review turntables that are sold *as a system*. This was true to some degree of the Well Tempered Reference and the Redpoint Testa Rossa which I've had in house in the past couple of years and is completely true of the Brinkmann Balance and my reference Shindo Laboratory 301. Give me a table/arm/ cartridge combination that the designer believes speaks clearly and consistently with one voice and I have some chance of figuring out what the designer is trying to express; what he takes to be most important in music reproduction; what he is listening to and what he is listening for.

So I was particularly pleased when at CES, Robert Suchy of Clearaudio and Garth Leerer of Musical Surroundings offered me their Maximum Solution table/TQ1 tonearm/Stradivari cartridge and Everest stand for a full analog *system* review. The table wasn't available until late Spring. Mike Callan of Musical Surroundings came to my Connecticut home in mid May to set up the entire works.

We spent an evening dialing in the table/arm/cartridge, sat back

and listened to some music. Mike left and I have been listening to the setup ever since - and enjoying just about every minute of doing so.

The System

The Clearaudio analog front end was connected via a captured phono cable and run directly into the low output moving coil section of the dual-mono Shindo Catherine preamp. The other sources were the Shindo front end and Audio Note transport feeding the new Reimyo DAC through the Harmonix digital interconnect or Stealth's Varidig. Amplification was provided by the Shindo WE 300B Ltd. monoblocks. All components were housed in two HRS MI-R equipment racks, with power conditioning by Shindo's Mr. T. All non-captured interconnects were Stealth Indra, speaker cables the Auditorium 23. I listened to this system through four very different pairs of speakers: my reference DeVore Silverback; a pair of Tannoy 10" reds in a rather undistinguished cabinet with no bracing and little internal absorption material; a pair of Tannoy 15" Golds in a custom quasi-transmission-line/back-loaded horn cabinet designed by Shindo and executed by Anthony Abbate; and a pair of Vivaldi hornspeakers employing two Lowther EX3 drivers housed in a cabinet derived from the original Lowther Academy.

The Technicalia

At the foundation of the Clearaudio analog front end under review is the Everest stand, which weighs in at roughly 200lbs and \$7,500. It is constructed of solid stainless steel pillars and multiple triangular acrylic "3 point stars" with aluminum-magnesium "skins". Built at a factory in Erlangen/Germany out of house, the Everest provides high-mass mechanical grounding to any 3-point-star-design Clearaudio turntable including the Master Reference, Maximum Solution, Anniversary or Master Solution. It cannot be used with other Clearaudio designs or with those from other manufacturers.



The Maximum Solution falls just below the Master Reference in the Clearaudio line-up and while it incorporates many of the features found in the Master Reference, it is designed as an end point within the Solution Series. That is, the Maximum Solution can be built via an upgrade path from the \$2,000 Solution to the \$5,000 Master Solution to the \$10,000 Maximum.

There are several important engineering features the Maximum Solution shares with the flagship Master Reference. One of these is the three point star system on which the plinth sits. This was designed to increase stability and reduce overall stored energy in the plinth. Both tables use a tri-motor belt-drive system. This allows Clearaudio to employ particularly low torque motors. The platter material is high mass and a single low torque motor might have difficulty in getting the platter moving and more importantly, keeping it moving at a constant velocity especially during dynamic musical passages (which require deeper and wider grooves in the vinyl).

An alternative approach is to employ a high torque motor as found for example in the Garrard and EMTs. These approaches can sometimes generate more noise and vibration and so the main challenge with high torque approaches is to house them in an appropriate plinth. Two approaches are common. One is to kill resonances as much as possible by placing the table in an MDF plinth. The other is to design a plinth that resonates sympathetically. These are roughly the same approaches that one finds in alternative speaker cabinet designs. The one thing that makes no sense is to place the platter and motor in a plinth that is likely to transmit (or worse, amplify) the unwanted energy into the arm and cartridge.

Both the Max and the Master come with an Accurate Power Generator (APG) that conditions & regenerates AC plus runs the motors at 120° phase to each other to cancel additive vibrational energy. Both employ an inverted bearing that is graphite-coated stainless steel for lowest friction with ceramic ball bearing. Machining is to very exacting tolerances.

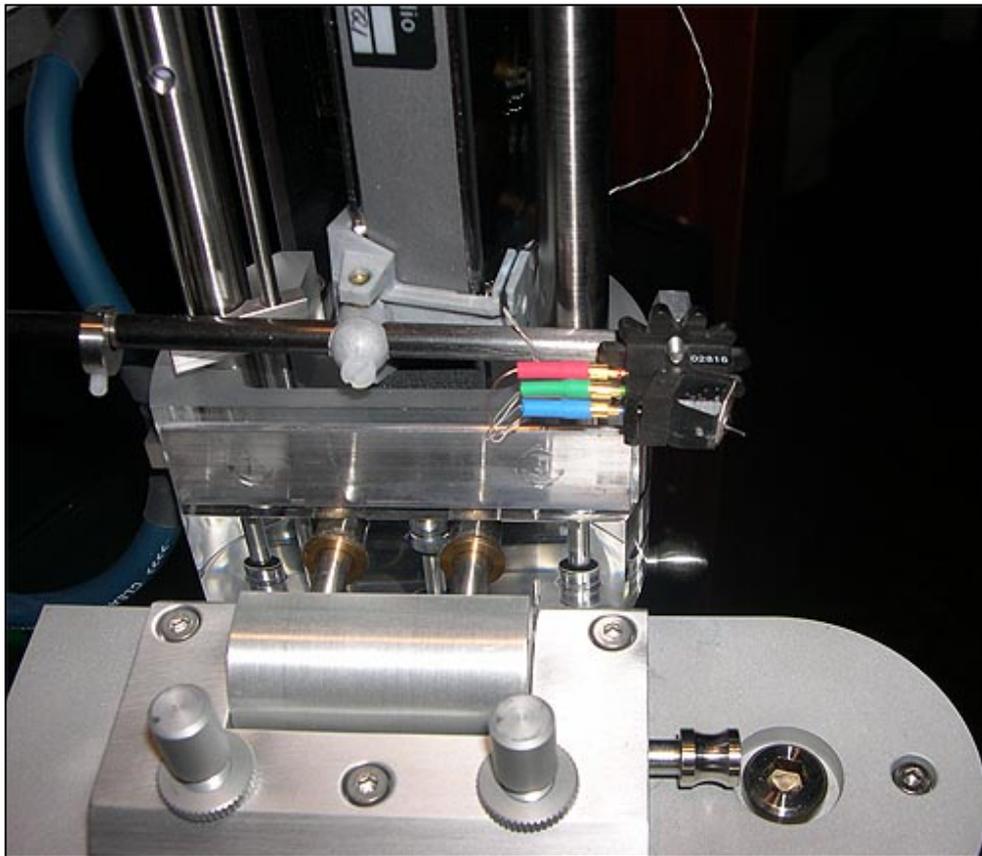
The last important similarity between the Max Solution and the Master Reference is the use of reasonably high-mass acrylic platters. The argument for acrylic (as opposed to metal or wood) is first that it does not ring and second, that acrylic (of the alternative materials available) is most like vinyl itself, thus insuring the best possible coupling between platter and LP. Aluminum/ magnesium skins reinforce and strengthen structure. This is the same idea that is at work in the Everest stand.

The main differences between the Master and the Max are platter thickness (80mm vs. 70mm, respectively) and one less plinth on the Maximum. Garth Leerer of Musical Surroundings -- Clearaudio's US importer and distributor -- claims that when placed on the Everest stand, the Maximum Solution will outperform the Master when the latter is placed on any other stand or base. I was unable to test this claim at home (since, among other things, I had no Master Reference to compare with the Maximum Solution.)

The Master TQ1 is a linear tracking, non air-bearing tonearm derived from the famous Souther TriQuartz. The Souther was notoriously difficult to set up well or reliably. The TQ1 is significantly more rigid and adjustable. There is a conflict of views as to just how easy it is to set up and keep it working properly. During the several months I had the Clearaudio in house, I was forced to make very few adjustments, though original setup was time-consuming and demanding. The Quartz arm wand rides on quartz tracks with tiny wheels via ruby bearings. It is both groove driven and gravity fed. This means that there are no mechanical linkages as in some other linear trackers.

The arm will not work well with low-compliance cartridges. On the other hand the arm, which has been around for a while now, works well with most mid to high compliance cartridges including the usual suspects from Clearaudio, Benz and van denHul.

The table itself can support up to three arms. The review sample was set up with two: the TQ1 and the new Graham Phantom. Soon after initial setup, I realized that the Graham arm was not optimally set up due to not having an arm pod of sufficient height to allow for a full range of VTA adjustments. This is a very common problem of not matching the height of the arm in relationship to the platter and is especially common with plinths designed for the Garrard 301 platter.



In any case, I got in touch with the good folks at Musical Surroundings. They agreed and we jointly decided to review the table with only the TQ1. Too bad, because what I heard initially from the Phantom/Benz LP combination was very promising. There was no chance that I could optimize its performance under the conditions, however. Still, it is plain that the Graham arm (with proper pods) is a potentially desirable mate for the Clearaudio, and Garth indicated that owners have had great success with all manner of arms including SME, Triplanar, Dynavector and Schroeder, among others.

The cartridge on hand was one of Clearaudio's new generation of cartridges - the Stradivari. If the Stradivari is indicative of this new breed of Clearaudio cartridges, then the company

has taken a giant step in the right direction (from my point of view, of course). For earlier Clearaudio cartridges, including the oft-praised Insider, were far too much 'from the bone' for my taste, with far too much emphasis on the leading edge at the expense of the body of the music. The Stradivari to my ears is significantly *meatier* than previous generations of Clearaudio cartridges have been. A much welcomed change.

The Sound of Clearaudio

The sound of the Clearaudio full analog setup is, unsurprisingly and above all else, *clear* - and more. The terms that leap to mind include *quick*, *incisive* and *transparent*. Needless to say, it is hard to determine exactly which of the various components contributed to the overall sound of the Clearaudio front end. Still, some attributions seem well supported by the evidence. Let's begin with the Everest stand. The entire analog setup was seemingly immune to external vibrations. I couldn't get the arm to skip or the table to miss a beat by jumping on the floor adjacent to the stand. The wood floor of my room is suspended and has a bit of bounce in it. But nothing disturbed the tracking. In general, the Clearaudio exhibited the lowest apparent noise floor of any analog system I've had in house.

Mind you, none of this establishes that the Everest stand provides broadband resonance control with respect to all forms of mechanically induced resonance - but it did seem to perform in this regard as well as my reference Harmonic Resolution Systems rack. It should. It costs nearly as much for the Everest stand as it does for the entire HRS rack.

The motor setup of the table itself was dead quiet and worked flawlessly as advertised, which contributed to the overall darkness of the background. The arm tracked without interruption or misstep and was not nearly as difficult for me to keep appropriately set up as I had been led to believe it would be.

The biggest difference between this and other Clearaudio analog front ends that I have heard previously was the cartridge. Though the Stradivari is nowhere near the most expensive cartridge among the new generation of Clearaudio moving coils, it shares a family resemblance to them all and one that sets it far apart from previous generations of Clearaudios. I had spent some time listening to a Clearaudio Insider which was a much praised transducer but it presented music from the inside - much more skeletal than fleshed out. Some refer to this attribute as 'high resolution' but to my mind it is anything but. Instead, the sound was unbalanced with a distinct transient emphasis at the expense of body and harmonics. I wouldn't go so far as to say that the Stradivari will remind one of a Koetsu Rosewood, but it might remind one of the Benz family of cartridges (but for the new LP, which in the short time I listened to it struck me as moving more in the direction of the Lyra Titan - less warmth and color than other Benz cartridges but more articulate).

No matter the speakers, I experienced music played through the full Clearaudio analog front end as decisive, detailed, transparent, agile, open, highly informative, confident, firmly controlled and dynamic. There was no mush, no fat, no soft underbelly to the music, no artificial sweetness or sugar coating on top. Tonally, the sound was very honest if ever so slightly cooler than, say a Well Tempered Reference, Brinkmann or Yorke.



The Clearaudio presented musical details against an eerily black background. This contributed to the table's ability to sort out and locate details with a precision that was unmatched in my experience. This was especially evident in musical passages involving larger groups singing harmonies as in the concluding segments and fade of Paul Simon "Diamonds on the Soles of Her Shoes" from his *Negotiations and Love Songs* collection [Warner Brothers 9257891]. Here the Clearaudio sorted and located the voices better than any table I recall having in house, including my personal reference.

The combination of focused, readily distinguishable details emerging from and located against a dark if somewhat less dense background has led some reviewers to characterize the high-end Clearaudio table sound as somewhat 'digital'. That is something of a cheap shot. The sound is very modern and so too is digital. In both cases, the background is black but apparently unoccupied. The space between instruments and performers is seemingly infinite and empty, which is part of the reason imaging is so pinpoint and focused in space. On the other hand, it is a bit harder to get a sense of depth. As a result, lateral imaging is spectacular but a bit less so front to back.

While informative and detailed, there was no etch or hardness in the upper registers. Massed strings were well rendered but not sweet. Horns had real bite and energy. John Coltrane's saxophone on Johnny Griffin's *A Blowing Session Vol. 2* [Blue Note 1559] came across as fueled by high octane whereas his playing on *John Coltrane* [Prestige 24003], while equally alive, exhibited a bit less body.

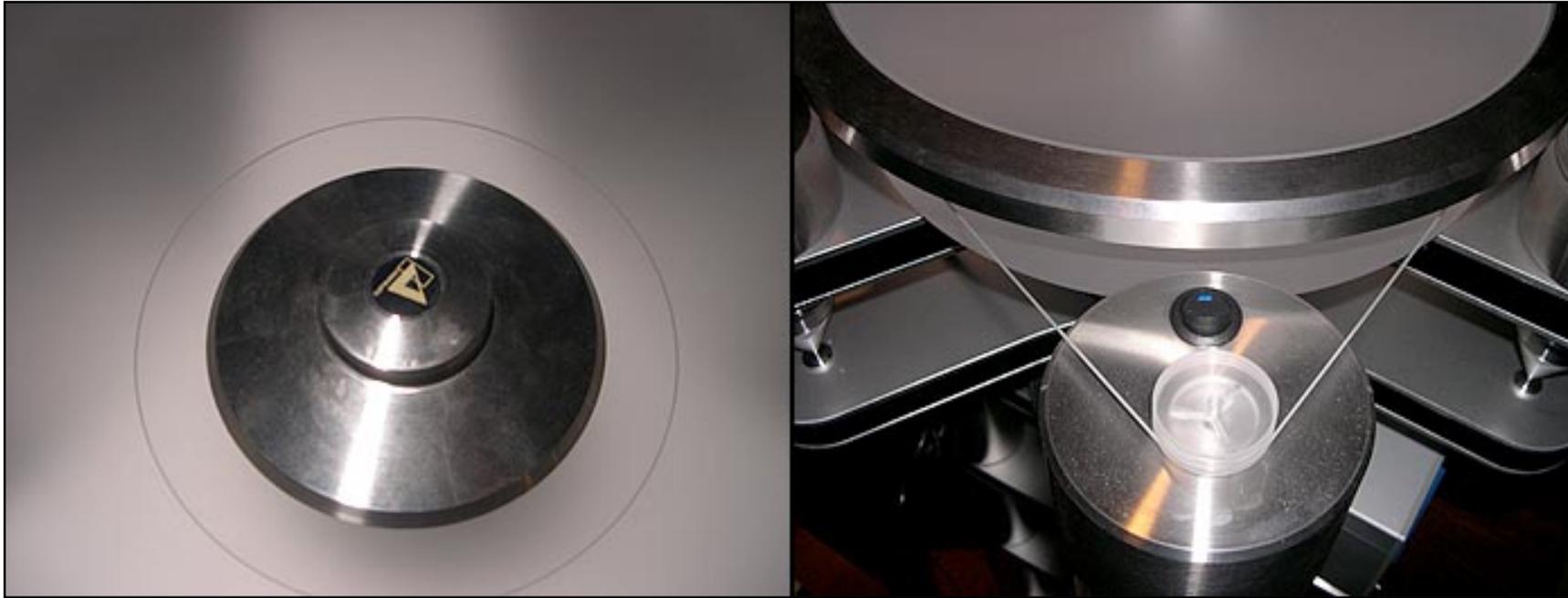
In general, musical information from the highest registers through the presence region were harmonically slightly less well developed than they were on some other tables in the same general price range (for example, the Brinkmann Balance).

The midrange was lovely and the detail and resolution of the table made listening to jazz vocalists such as June Christy's *Something Cool* [Capitol T516] a real treat. Recordings that are a bit too chesty sounding for my tastes -- the Ray Charles and Betty Carter album of the same name [DCC LPZ 22] for example -- came across as cleaner and leaner and hence more enjoyable.

The midbass packed an incredible wallop and the bass will plumb the depths effortlessly. While weighty and more than adequately authoritative, the lowest registers were not quite as resolute as was everything from the midbass on up. I don't know which part of the analog chain to attribute this to and the difference in relative resolution was very small. I had the table in house for quite some time and after a while, I started listening for the purposes of making the most fine-grained distinctions I could in the context of the systems on hand. These are not differences one would notice in anything but the most highly resolving systems - and you have to be listening *for* differences to do so.

As you can tell I was very impressed by the Clearaudio front end. There was much to praise and little to fault. Still, I found myself admiring the table in every respect without falling in love with it. The sound was by no means sterile or cold but it was a bit lacking in soul.

The high-end Clearaudio sound is (to my ears) more precise than flattering. It prefers to be honest to the facts even when you might prefer being lied to or at least mislead. After all, much romance (and almost all sex) depends on sustaining a fantasy that is mostly but not entirely a matter of the facts. The Clearaudio walks a very fine line given its extraordinary capacity to reveal information and to focus the information it reveals.



In my experience, the lower-priced Clearaudio tables are a bit looser in their presentation. They have a somewhat different character and aspiration. If they walk the same line, they are more likely to fall to the side of fun than fact. These tables are a great way for the novice and music lover to find her way into analog. As one scales the price list, the engineering and precision increase and a little of the love is lost. The Maximum solution setup was very much more a reviewer's tool - and a damn good one at that.

A number of my guitarist friends attended the Berklee School of Music in Boston. Those who left invariably did so because they preferred being sloppy every once in a while in order to take a risk or be creative. They didn't want to be measured all the time by whether they had made mistakes. The Clearaudio strives to make no mistakes and largely succeeds in its ambition, but just a bit at the cost of being something I could *love*.

The Clearaudio in context

The four speakers I used were very different from one another and the Clearaudio rig made those differences crystal clear - differences that were smoothed over a bit by my digital front end, which was itself very revealing and resolute. To my mind, digital recordings are sonically more similar than different. Most are processed to the point of bordering on artificial. Too many cross the borderline and cannot be rescued by even the most loving digital front end.

This has not been my experience with LPs which can and do sound very different from one another, all more natural than digital even if some of them sound much worse and are much less enjoyable to listen to. The Clearaudio will not paper over these differences. The Clearaudio delivers the facts, warts and all. The Stradivari cartridge, however, makes hearing the truth a somewhat more comfortable if not necessarily soothing experience than did previous generations of the Clearaudio cartridges.

In many ways, the best combination I had on hand was that of the Clearaudio/Silverback Reference pairing. The speaker extends to 40KHz and is incredibly transparent and open. Properly set up, partnered with equally revealing equipment in a good room, this speaker just disappears. The Clearaudio has similar characteristics but also packs a dynamic wallop in the midbass that compliments the Silverback, which is just a bit reserved in this area. Together, this combination is a reviewer's dream. Nothing will go unnoticed.

The Clearaudio/Vivaldi combination was less successful. The Vivaldi is one of the best and most musical Lowther based speakers I have heard, with other favorites the Hørnings and Beauhorns. Even though the Vivaldi minimizes the dreaded Lowther peak, it does not eliminate it altogether. And even though the Vivaldi has a very punchy bass, it does not plumb the depths the way either the Silverbacks or the Tannoys do. Matched with the Clearaudio front end, the sound was a bit lightweight and tonally tipped up. This was in stark contrast to either of the Clearaudio/Tannoy combinations.

The Tannoy 10" Reds are very articulate and open, a bit more efficient than the 10" Golds and

also slightly more forward in the presence region - not bright, just forward. Like all older model Tannoy drivers (don't ask me why Tannoy doesn't reissue their great concentric drivers of yore), the 10" Reds have excellent drive from the mid bass on up to the lower midrange. They lack extension down low and up above. Mated with the Clearaudio as a source, the sound was incredibly dynamic, fulsome and balanced if a bit forward and incompletely developed in the presence region.

My favorite partnership was between the Clearaudio and the big Tannoy 15" Golds. Tannoy aficionados love the 15s for their weight,



authority and dynamics down low, which usually comes at the expense of the speaker being saddled by a tire around its midsection. Not so the 15s, at least not in this cabinet. While the speaker wasn't fat or ambiguous in the lower mids and upper bass, the overall tonal balance was shifted down a bit. In general, the 15 is a bit less articulate than the 10. With this speaker at the end of the chain and the Clearaudio at its beginning, the sound was terrific. The Clearaudio's incisiveness cut right through the less than fully articulate midbass and lower midrange of the Tannoys.

Think of the Tannoy sound like a big R&B rhythm section of horns, keyboards, bas and drums. If you were the guitarist, you wouldn't be inclined to play a modern Les Paul and you certainly wouldn't play partial chords or fills with the lower strings. You would do what Steve Cropper does. You'd get yourself a Fender Esquire and you'd play partial chords and thirds from off the higher strings. It's what you'd have to do to have your part heard and cut through the full big rhythm section. That's just the way the Clearaudio cuts through the rich, full Tannoy sound.

Again, the Clearaudio's dynamism in conjunction with the Tannoys' similar strengths led to explosive dynamics with what sounded like the right resolution of detail. At the same time, the Clearaudio's informative and detailed nature in the presence region balanced the Tannoy's slight reticence. But the synergy was greater still as the somewhat less than fully developed harmonics of the Clearaudio in this same region and above were aided by the Tannoy's richness. Partnering a fun speaker with a lot of soul and warmth with an incredibly precise and resolute turntable (with the right electronics) is a match that is about as good as one could hope for.

As always, it's about system matching. This truly high-end analog front end represents a distinctive approach. The aim is to eliminate all unwanted vibrations and to then transmit all the information on every LP with a minimum of editorializing and with the precision of a fine Swiss watch. The table succeeds in every way. It is not for everyone. Nothing is. It does nothing to flatter an LP and this may render it too much like a scientific instrument for some. For others, its Archimedean and neutral observer's point of view is just what the doctor ordered.

I would be reluctant to recommend the Clearaudio setup to someone whose system is already a bit on the cool and light side of things. With such a system, many of the Clearaudio's most striking virtues -- its transparency, incisiveness, informativeness and resolution -- may prove to be too much of a good thing. On the other hand, the Clearaudio analog front end is a perfect match for systems that are a bit warm and lush to begin with (think Sonus Faber speakers and Audio Note UK electronics).

The Clearaudio Maximum Solution/TQ1 arm/Stradivari cartridge combination (all nestled comfortably on the extraordinarily effective Everest stand) is a truly outstanding analog source system. It plays music with precision, energy and insight. If your preference in sports cars runs to the likes of older Triumphs, MGs and even Jaquar XKEs, the Clearaudio is unlikely to be your cup of tea. However, if your taste runs to the Audi TT -- nimble, distinctively stylish, altogether modern -- it may be just your ticket. Whether or not the Clearaudio is just what you are looking for, there is not denying that it is a substantial statement product that represents a significant achievement. If its voicing and approach is what you crave -- and it is easy to see why it would -- then you are not likely to find a better analog front end.

Jules Coleman

Garth Leerer responds:

Hi Jules,
Thanks for the nice words and hard work you have put into the Clearaudio setup. This table and stand have been in production since 2002, the arm since the late 1990s. Musical Surroundings has distributed Clearaudio in the US since the summer 2001 and we have ca. 60 US dealers out of which the 10 – 15 top ones typically deal with this top model