

# 音响技术

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TRINITY  
Electronic Design GmbH

An Extraordinary Experience in LP playback

# Trinity



As the development of digital file sources is overwhelming, the sales of CDs keep declining, while that of SACDs seem to have an upturn; with hi res music files unfolding, the technics of music streaming getting mature, the LP, launched 66 years ago (mono 12" LPs in 1948, and stereo LPs 10 years later), went into hibernation since the fast development of CDs in the 1990's. The hibernation did not take long. It is somewhat ironic that since 2008, the annual global sales of LPs grew substantially. Only in the US, the LP sales was less than 1 million in 2007, it increased to 1.88 million in 2008, 2.5 million in 2009, 4.6 million in 2012 and a surprising 6 million in 2013! And the growth has no sign of slowing down. It is comforting for those who never give up with LPs. Although the sales of LPs is still insignificant compared with CDs, yet LPs are rapidly rising while CDs are declining, the prospect of LPs is encouraging to both vinyl fans and relative people in the industry.

# Phono Stage



Now that the sales of LPs are on the rise, the demands of turntables, tonearms and cartridges also rise accordingly. With the progress in technology and metalwork to a most precise and accurate state, not only low to mid end products are popular in the market, even extremely expensive state-of-the-art turntables and tonearms have their supporters. Yet, besides turntables, tonearms and cartridges, there is still something that is indispensable when playing LPs — the phono stage.

## Hot Gossips

6 months ago, Chris from Audio Exotics, whom I called the poison-spreading guy, challenged me to listen to a new product — the German-made Trinity DAC. It turned out that this ordinary looking, very expensive and with very impressive performance DAC not only won the heart of our contributors, it also found a place in my humble home! (I was trapped again! For details, please read our 2013 Dec issue.)

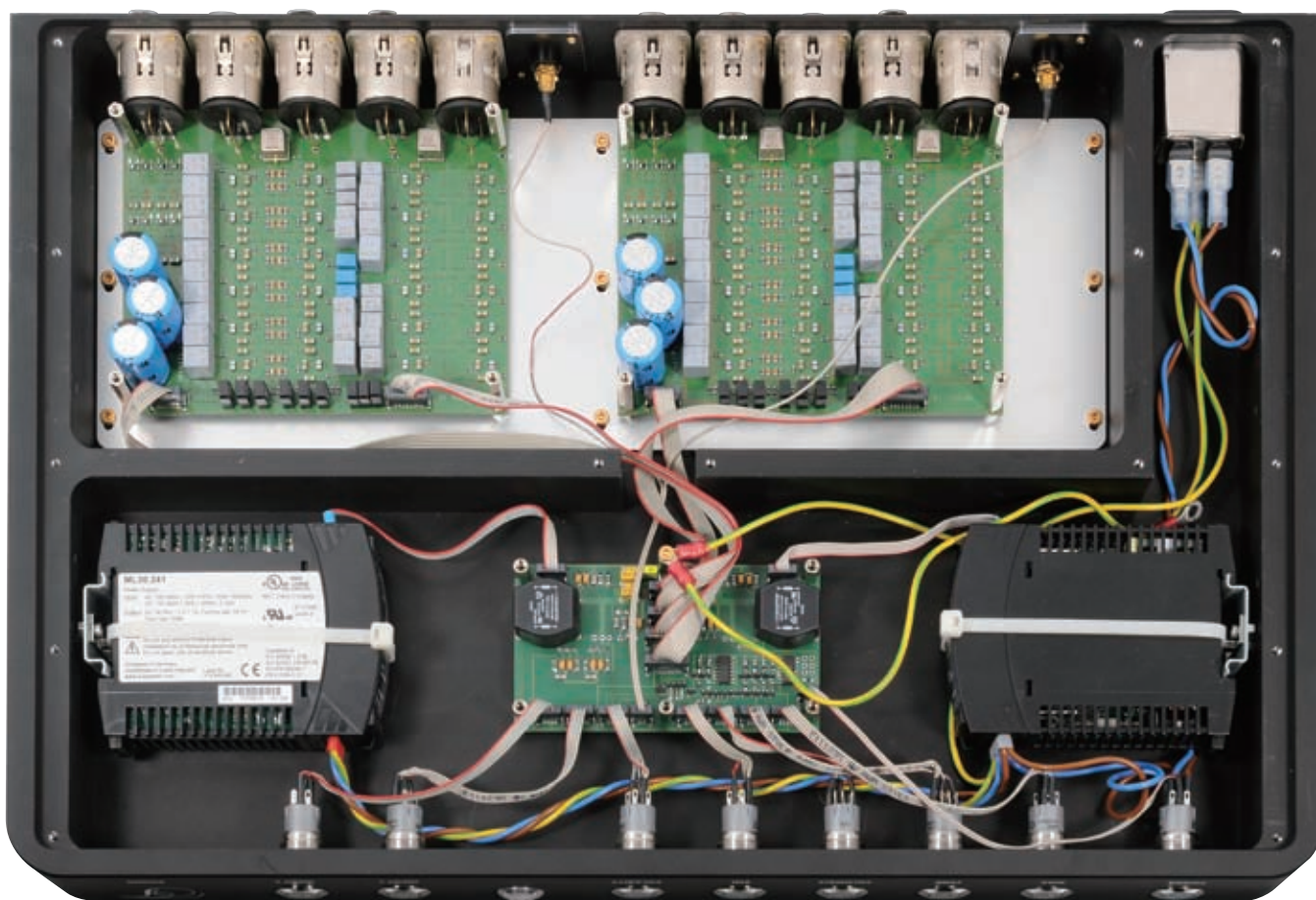
When auditioning the DAC, I learnt that it was not the first product of Trinity; the first was the

Trinity Phono. In CES this year, in the show room of Audio Arts, dealer of Trinity in the US, I listened to two of Trinity's analogue magical gears, the Preamp and the Phono. Although Trinity was totally unknown to US audiophiles and the industry, after the two-day exhibition, in the aisle outside the exhibition hall, one of the hottest gossips was, "Have you been to the Trinity showroom? The Preamp and Phono from Germany were exceptionally good, very attractive!"

Gears pairing with the Trinity included Sperling L-1 turntable, Durand Talea tonearm, Jan Allaerts MC2 cartridge, CH Precision M1 monoblocks and Zellaton Reference Speakers. The performance of this room was highly praised by many audio media, The Absolute Sound claimed it was "Best Sound (cost no object)" and "the setup in the Audioarts room was the best analog room of CES".

I stayed for quite a long while in this room because the sound was really clear and detailed, musical, fluid, and ever so engaging. To reproduce such captivating sound, every





single unit in a setup must be of the first rate; any one of them not up to the standard would affect the overall performance. From that you knew how great the Trinity Preamp and Phono were.

### Simple and Perfect

After Trinity made its name unknown in the CES, Chris continued to spread his poisons. He sent the first product of Dietmar Bräuer — Trinity Phono to our audition room, to test my ears and also to challenge my self-control. Since I had already experienced the power of the Phono in CES, and had the happy encounter with the Trinity DAC, I was happy to take the challenge.

In my review of the DAC, I explained that the chassis of all three Trinity products — Phono, Preamp and DAC, were made from a single aerospace grade aluminium block of

50mm thick. It was machined with CNC lathe and then anodized black. The craftsmanship maintained the traditional high standard of German metalwork. It measured 440 by 300 by 50 (WxDxH,mm), weighing 8kg. It stood on 3 stainless steel feet, each with a ball of different materials and measured 32mm in diameter and 15mm high. The Phono was packed in an Italy-made flight box.

There were 8 back-lighted push buttons in the front plate. The functions were respectively: power, 4 equalization choices (RIAA, FFRR(for Decca/London), Columbia(for CBS) and EMI),



△ MC Load Connector。

polarity, input 1, and input 2. The LED between polarity and input 1 has not any function at all. It was equally simple at the back. Left and Right channels were separated to both ends, all terminals were XLR, 2 MC inputs with their 'load' terminals, 1 input and 1 ground terminal (banana socket).

The impedance selection is a special design made with an XLR plug attached to a metal box on which there is a white turning knob with 10 markings: 5Ω, 10Ω, 25Ω, 50Ω, 75Ω, 100Ω, 200Ω, 250Ω, 300Ω and 500Ω. Leaving the 'load' terminal blank would make the impedance 2kΩ. Customers can also order other impedance settings.

Like the DAC, all components and circuit boards were facing down and firmly fixed. Near the face plate were two big switching power supply modules and part of the control circuit. On the rear were the left and right channel circuits filled with SMD components. Dietmar said all components were extremely expensive and were of the highest standard. They had been carefully selected and paired to ensure high stability, durability and low noise characteristics.

### Unique amplification design

Trinity Phono employed a true balanced design throughout. Each channel had two amplification circuits, and each circuit was composed of 24 (12 + 12) low noise gain stages. Between the amplification circuits was the RIAA, FFRR, Columbia and EMI equalizing circuit board. Each amplification module had a fixed gain

of 46dB, and a total of 92dB. After equalizing the gain became 72 to 78dB. Even for an MC cartridge with an output as low as 0.12mV, there was enough gain without the need of an output transformer. Besides, each amplification circuit had its own DC servo circuit, so it won't affect the accuracy of the equalization (the accuracy of RIAA was +/- 0.025dB!) and the biggest tolerance between the two channels was as low as 0.05dB.

### As quiet as the deep blue sea

As I mentioned above, Trinity Phono was made for MC cartridges only and it was totally balanced; and so the tonearm cable plugs had to be XLR. I first intended to audition the Phono in my place because my Thales Simplicity tonearm's original cable was a pair of very thin twisted copper wires with XLR plugs. But when I connected it with the Trinity, the noise was unexpectedly big! I tried to adjust the position of the cable, the noise was lowered a bit, but was still there. Obviously this was due to the unshielded tonearm cable picking up the surrounding electro-magnetic waves and the FM noise. But it worked perfectly with my Boulder 2008 Phono stage, and was as quiet as the deep blue sea, without any noise. I called Dietmar for help. His answer was, the frequency range of the Trinity was from 1Hz to 700kHz, and the gain was high; it would amplify all small signals and noises besides the signals from the record grooves. So this Phono stage needed a pair of completely shielded and all balanced tonearm cables in order to have the absolutely





quiet transmission. Finally I had to bring the Trinity Phono to our office audition room and Dietmar also sent a pair of cables from Germany for the testing.

Our reference LP system included Dr. Feickert Firebird turntable, SME V-12 tonearm, Kondo 10-M MC cartridge, connected to the Trinity Phono with the Trinity balanced tonearm cables. Rest of the system were: Dan D'Agostino Momentum Preamplifier and Audia Flight Strumento No.8 Mono Amplifiers driving the MBL 101E which was under our very satisfactory audition. The first job which I still worried was noise. Fortunately, even when I turned the volume of the Momentum very high to 2 O'clock position, it was dead silent. When I switched the sources of the preamplifier between CD and Phono, I couldn't hear any difference in the background. I boldly turned the volume to 4 O'clock! Still, there was not any trace of noise! Undoubtedly, Trinity Phono had the lowest floor noise level among all the phono stages I had listened before. Changing to the right tonearm cables could give such entirely different result was totally unexpected to me!

## A Higher Level

After intensive running-in for half a month, I and my fellow contributors sat in the best seat in turn to enjoy the vinyl charm brought out from the Trinity Phono. Although the output of the Kondo 10-M was very low, only 0.12mV with an impedance of 1Ω, the gain of the Trinity was high enough to drive to the preamplifier to output a normal level (comparable to CD), with the load impedance set to 50Ω.

First, I played some vocals. I picked "Some Feelings" and "How can I not miss you" from the "Snow Wolf Lake" LP set. As long as the audio equipment was up to standard and properly set, LPs were always more detailed and musical than CDs, this was not surprising. But the sound from Trinity was so much more enchanting! When the piano introduction came in, the sonorous sound of the steel strings and the echoes from the body of the instrument was so eye catching! Then it was joined by the violins and Jacky Cheung's singing, "How can your eyes write such sentimental sentences..." Jacky's voice was so sincere and expressive, the beautiful melody accompanied by such





△ I change the feet of Trinity Phono to Cerabase Slimline from Finite Element, the improvement of the sound is quite impressive °

like-real instruments, made this familiar tune even more touching!

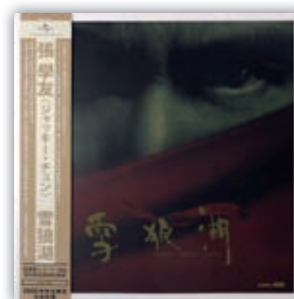
When jumped to "How can I not miss you", So Tak-wah's guitar solo started the music. So's skillful playing and his sense in music was clearly shown through the plucking of the six strings; Jacky's singing and interpretation was impeccable, expressing the artistic conception of the lyrics by Poon Yuen-leung. Trinity Phono had raised the charm of the LP to a much higher level!

### Everlasting Charm

It was always a bit sad for a talent die young when playing the Double LP set "The Best of Eva Cassidy". Sung through Trinity Phono, in the new edition of "You Take my Breath Away" with piano and strings accompaniment, Eva's clear, strong and melancholy voice was especially emotional. Her articulation and breath, opening and closing of lips and teeth, vibrations of the vocal cords, all these were so detailed and clear, it made the singing extra

life-like. The remixing of piano and strings was very effective, creating a more involving atmosphere. Once you started listening with the Trinity, you won't like to be interfered; and I couldn't stop with the LP set until I finished listening all 4 sides, 20 songs.

Again, I listened to the Esoteric LP which was speculated to an incredible high price. It was Dvorak's symphony #9, "From the New World" played by the Vienna Philharmonic Orchestra conducted by Istvan Kertesz. Here, the very high analytical power, great dynamics, high gain and very wide frequency range of the Trinity Phono were especially obvious. The bright and sumptuous VPO strings were poignant and appealing; the sonorous brasses were shiny and brilliant. The position of very part was so solid you could actually see them. Even in the loudest passages, everything was in good order without any confusion. All these plus the spatial fullness and the abundant reverberation of the hall, impelled me to finish all 4 movements at a time, very satisfied.



### Postscript

Listening to Trinity Phono was an unforgettable happy experience. It brought many good LPs which I thought I knew them in details to a new high level. My fellow reviewer Patrick Lee said, "There is no best... but always better". Trinity was a good example. It looked Chris, the poison-spreading guy got his way again, and I had to find a place to settle this Phono which I adored so much on my first listening.



Patrick Lee  
(Lee388)



Recently, a new member had been added to the equipment list in our audition room. It was the Kondo 10-M cartridge. The sound of this silver wire wound cartridge was very captivating, meticulous and lush, and was able to bring out all the charms from the LPs, very toxic sound; but the output of this cartridge was only 0.12mV. To unleash the ideal performance, it needed a step-up transformer plus an MM phono stage. Yet, the phono stage I was going to test needed no transformer; it could amplify the signals directly from the 10-M because its gain was as high as 78dB, which was a lot higher than most MC phono's 60dB. That was the reason why it could amplify the 0.12mV cartridge output and send it to the preamplifier directly.

The Trinity phono stage was simply named "Phono". It had a simple and flat chassis which looked the same as the DAC and Preamp from the same company. It didn't look big, but was quite heavy. As I had mentioned, the gain of the Phono was 78dB, experienced LP audiophiles might query if that would lead to noise problems. In our audition room, when the Phono was connected to the Dan D'Agostino Momentum preamp, with the volume turned to 12 O'clock position and no signal input, I couldn't hear anything from my where I sat. Even when I put my ear close to the tweeter, still, nothing could be heard. I started to doubt if the Phono was connected. It was, of course; when I turned down the volume and put on an LP, it sounded normally.

I picked up an old record, "Tea for Two Cha Chas". This was made when stereo sound LPs first launched. To demonstrate what is stereo, some sound effects moved from one side to the other, very interesting. The sound field and 3D of this record was, however, very good. When replayed through Phono, due to its extremely low noise, it revealed many details which I was not aware of

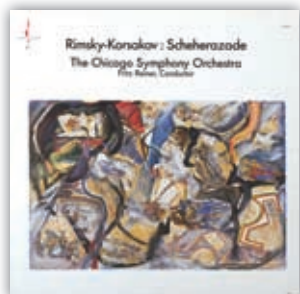
before. Such an early stereo record could have so many details was totally beyond my imagination.

After listening to several different LPs, I came to the "Forever Young" by Chie Ayado. If somebody would ask me the sound character of the Phono, I couldn't tell him in details, maybe I would say, "No character is its character."

Don't make me wrong, I didn't have any negative comment on the Phono. What I meant was Phono had no strong sound character, or not any colouration. It was like directly in and directly out, the music was replayed as it was. With Chie Ayado's unique tone, when replayed through the Phono, you knew it was her without having to look at the record sleeve. That is why I said "No character is its character".

Then, I listened to another LP which I recommended lately, Joe Weed's "Vultures". The 2nd track of Side A had very outstanding sound effect. The instruments were 'flying' all around and if analytical power is high enough, they even 'flew' beyond the two sides of the speakers. For Trinity Phono, this was easy job. Furthermore, it made you swing with the beat, and feel the joyous atmosphere of the performance.

Finally, I played one from my private collection — Chesky's remaster of Reiner conducting the Chicago Symphony Orchestra, "Scheherazade" by Rimsky-Korsakov. I chose the Shipwreck scene. The small size Phono was not to be underestimated. When replaying this aggressive passage, there was not any sign of disorder. Everything was under good control, with fast response, big dynamics, extensions on both ends, excellent transparency, abundant micro-dynamics and a great sound stage. At the same time the Kondo 10-M also showed its capability in reproducing such aggressive music, and I believed this had close relation with the extra high gain of the Trinity Phono.





# Trinity Phono

One of the best Phono Stages money could buy

封面專題  
COVER FEATURE

Stephen



The first time I came across the newly emerged German brand “Trinity Electronic Design” was when we auditioned its DAC couple of months ago. Its performance was comparable to the best analogue system, and I believed that would take all experienced and picky audiophiles by surprise. I still remembered when the Trinity DAC was first brought to our audition room. After a few days’ running-in, it was replaying “I’ll wait for you until the day” from Chai Chin’s “Old Songs” when I enter the room. The wide and deep sound field was quite extraordinary; Chai Chin’s voice was mellow as always, with a transparent tone and very high density, releasing such power that was hard to describe, in coherence with the vocal and the instruments. It was a most satisfying effect I ever heard on this record.

The flat, wide, precise and rigidly constructed casing of the Trinity Phono had a complicated content. Each channel was composed of 48 paired, very low noise integrated-circuit chips. And that was rare! We had tried to turn the volume to the 2 O’clock position, the noise was still negligibly low. This was unbelievable to experienced LP lovers. Trinity Phono was equipped with, besides RIAA, three more equalization circuits: FFRR (for Decca/London), EMI and Columbia (or CBS). These equalization standards were set before the RIAA in the Mono years for individual vinyl brands, the effects were obvious.

One afternoon, I finally had the chance to listen to a few of my favourite and good sound LPs for a deep analysis.

First came the 1960 Reiner/ Chicago Symphony Orchestra/Scheherazade. In the introduction of the 4th movement, a deep, high and wide sound field appeared. The sound of bows on the strings and the sonority of the brasses were interweaving

a captivating sound picture. The moment the bass drum was hit, the bass went deep and powerful, the image of the drum stayed firm and solid. You couldn’t imagine how real it was unless you heard it yourself. In the most powerful passage, all instrument images were rock steady, and sounds from different positions were very distinctive. The original recording was made through vacuum tube equipment, but when it was played through Trinity and a tube-less compo, I could hear pure tube tone. It was just unbelievable.

In “Private Investigations” from the Dire Straits classic “Love Over Gold”, there were many small details in this relatively quiet piece. In many compos, I had to turn the volume down in order to lower the noise from the phono stage, and I couldn’t get the best from the song. That’s why I’d rather listen to CD instead. But with the ultra-low noise Trinity Phono, I could turn the volume as high as I’d like (almost to 2 O’clock position)! Mark Knopfler’s unique guitar playing in high volume was really intriguing! Light drumming had an unusual concealed power. It was hard to describe how good it was, I wish everybody had the chance to experience it.

Having a state-of-the-art phono stage, it was only right to match it with a state-of-the-art LP. The British ERC LP, remastered in an analogue method with all tube equipment, Beethoven’s Violin Concerto play by Leonid Kogan, made everybody breathless. Right from the beginning, the orchestral entrance not only had the most lifelike sound effect, but also with a touch of golden aura, very unique. Kogan’s violin tone was fresh, true to life and organic. There was a most vivid sense of presence.

All in all, Trinity Phono was one of the best phono stages money could buy. 音

