



Tentlabs CD player

Out of the Blue...

An odd fish this is, a CD player that you have to put together yourself. It's not the first thing that springs to mind when looking to buy a CD player. Fortunately, as we'll see, things work out quite well in practice. Tentlabs supplies fully assembled modules that easily fit together to make a complete player.

"Nice job" best describes my first impression when Guido Tent carried the player into my listening room, the brains behind the company. I seized the first opportunity to ask the big question: why would a talented and well-respected engineer, working with one of the biggest electronics manufacturers in the world, give up a solid job to start his own company? In one word: *passion*. To indicate what kind of business is Tentlabs and what capabilities are in house, here's a short overview of Guido's CV. Guido graduated at Eindhoven University with a thesis on linearity of directly heated triodes. This study was done at de Jong Systems.

He then took up a post at Philips, first working for 5 years at the semiconductor division and the next 5 years developing recordable DVD players and drives. His last contribution there was to the first generation of Blu-Ray recorders. But then, Guido could no longer escape the desire for his very own company: Tentlabs was born.

Tentlabs

Tentlabs' main focus is the design, manufacturing and sales of modules for retrofitting existing products. Think low jitter clock circuits and discrete voltage regulators. Besides that, the lab in Eindhoven is the place to be to have your

For the near future yet more modules are planned such as grid bias circuits and high voltage regulators for tube amplifiers. The product we're looking at today however is a *CD player*, actually consisting of a well-planned range of modules. Its instant appeal for me is the tube based output stage, complete with tube rectifier. Looking at such a work of art makes me drop every prejudice and assures me that this man knows what he's doing.

The player

As it was carried into my room on the second floor this product just begged to be connected to my main setup right away, such was the perfection it radiated. Let's take a quick tour around the acrylic base plate. Firstly there's the Philips CDpro drive, always an excellent performer by my book. Ease of reproduction and staging is coupled to a natural presentation. Especially the latter sets this drive apart.

The drive is housed in metal, assuring reliable data transfer. Separate voltage regulators power the CDpro's logic and servo. The common thread throughout the whole design is absolute prevention of jitter-related artifacts. Next come a pair of Burr-Brown PCM1704K DAC chips. An important design choice has been to operate the DACs without oversampling. The 16 bit data from the disc is not oversampled to higher rates but is left unmodified. I don't necessarily see oversampling as a bad thing but I have experienced that non-oversampled DACs can sound very good; a fine example is the 47 labs and a recently tested player. Time smear is a typical character of higher order oversampled systems so sticking to non-oversampled should at least have a theoretical leg-up. Tentlabs takes this to yet another level. Because of the lower conversion rate the DAC chips have less to do which turns out in lower distortions. The next step is the in-house-designed low jitter clock circuit that you'll also find used in players priced up to 25.000 euros (Tentlabs also offers consultancy to manufacturers).

An important part is the development of the clock used to drive the DACs. Both PCM1704's run in mono mode, which means one DAC chip does not see the other channel's data. This further reduces on-chip activity, and lends a tremendous amount of tranquility to the sound. Prior to entering the DAC, CDpro's I2S data is relocked, again using the on-board master clock. The SPDIF digital output is also relocked and output through a precision buffer circuit with a precise 75 ohm impedance, making the player equally suitable as a transport for use with an outboard DAC. The DAC board is also available separately for those customers who already have a transport. Likewise, the clock boards can be used on their own. This modular architecture allows a mix- and match approach when building your CD player. The design is positioned between DIY and High End Hi-Fi, a definition that well describes the very high quality level of all components. Did I mention Audio Note copper foil capacitors and the 6X4 rectifier? The latter has its' reputation....

There is an intensive collaboration between Guido and Peter van Willenswaard through the Grimm Audio company.

Listening

Next on is a listening test, where expectations were high. In the ring we find last months' CD player, the E-sound, a Chinese box that had previously made a joke of all players expensive and famous. Also present my last 7 months' reference 47 labs, also non-oversampled. At any rate, the Tentlabs player should at least be able to compete with the E-sound. The former is modestly priced, considering that the buyer has to invest some elbow grease as well, which is about all where it differs from commercially available players. On the other hand, the components used should do their job properly. The player was supplied pre-assembled, all modules sitting on a very nice acrylic base. This base was placed on Feet of Silence like all equipment on test here.





The Tentlabs player has a fixed mains lead, the E-sound uses a Crystal Cable, that most likely sounds a tad better – something to keep in mind when comparing the units. My first impression was nevertheless very promising. Partnering equipment are NAT triode amplifiers and Wilson Watt puppies, a combination with gobs of resolution. First of all, the Tentlabs player was fed a Tom Waits album, a tough diet of raw and somber ballads, but always a reference in terms of realism and timbre. Waits roars and growls, but he's also got his subtle side – all very well resolved by this pile of modules. A quality aspect that was becoming more and more apparent was the low frequency playback, full of color and power and micro level detail. Staging was phenomenal, width and depth where very realistic. This player sits in the top league with the best.

Still curious for the low frequencies, I took an old reference "late September dogs" by Melissa Etheridge. This immediately made my skin crawl, full of colors, power and a very realistic soundstage, all to a very high standard. Then back to an old favorite, track 8 of a Mobile fidelity recording of Patricia Barber. The one with the fingers and the bass. Once again, spectacular imaging, and the finger snapping brought true realism. After taking in the first impressions, I let in the competition. First the E-sound player. Unfortunately what I had was an upgraded unit that had come freshly out of the box and that did not compare with the unit tested earlier. It came across as an unpolished diamond. So I switched over to the 47 labs, nearly twice as expensive as the Tentlabs machine. Now things got really interesting. The Tentlabs qualified itself by color, power and stage, qualities the 47 labs has as well, but not this much. It was a tad more fluent in voice playback though. The 47 labs had an expensive mains cord, and that might clarify the difference.

The Dutch contender put on a stellar performance by all means. The 47 labs had been selected to put up a great defense but in spite of its twice as high price tag it doesn't stand up to the Tentlabs on all counts.

Conclusion

This wasn't a boring test, on the contrary. Out of the blue an odd product appears and proves itself to be a megastar, despite its modest price tag. I've heard countless top-notch CD players these past months, all more expensive than this Dutch product, but the Tentlabs did all the stuff they do. It has the excellent resolution, coupled to authority and relaxed presentation. Low frequency rendition is phenomenal and the staging is unmatched. In addition, this is a Dutch product so upgrading seems to be very accessible.

Highly recommended!!

Expected Prices	
Set of all modules	1900
Acrylic	600

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