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»With their Grandioso drive/converter ensemble and the G-01 Rubidium Clock Esoteric sets a splendid acoustical highlight.«



Exclusive review:

Teac/Esoteric Grandioso



PIONEER

When in January the PR for the Esoteric Grandioso quartet landed on my desk,

I was impressed – about the obvious diversity of opinions in the high-end audio market with regard to physical sound carriers. While Linn took their leave from the CD player production in November 2009 with a great ballyhoo, which is still beyond my grasp, a good four years later Teac Esoteric is presenting the most sophisticated player I've ever seen. Who, for all the world, is responsible for such a project? A Japanese music machine bearing an Italian name? The risk of being declared totally nuts even by audiophiles is high. Not to mention the huge costs which not only the development, but also the production will undoubtedly swallow up. Of course, an encouraging point for the designers might be that they know about the sonic merits of their ensemble and hence can face Europe's first review in hifi & records calmly.

But before the first tones can float through the listening room, it takes a lot more preparation than with ordinary one-piece players. To begin with, five bulky cardboard boxes of around 25 kilograms (55 lbs.) each want to get unpacked. The next hurdle concerns the wiring, for the Grandiosos offer plenty of options here. For instance, the signal from the Grandioso Pi drive is transferred to the two DI mono D/A converters via the included HDMI cables made by van den Hul. The transmission of the SCK (serial clock) signal requires me to install cables with BNC connectors, too. As you can see, the Esoterics are by no means plug & play components; this time the user manual is compulsory reading.

While setting up the Grandiosos, their base construction strikes my eye. It consists of a mainstay with a flexible cushion supposed to minimise the transmission of structure-borne noise (for delicate surfaces little felt platelets are enclosed). The outsourced power supply for the drive is a traditional Esoteric feature. It houses four toroidal transformers dedi-

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Grandioso

DIGITAL

The VRDS pickup unit of the Grandioso is beyond compare (right), the gigantic power supply (below) is there to feed only the P1 drive. Each D1 contains eight AKM dual-channel converter modules (top right). Bottom right: the G-01 Rubidium Masterclock.

cated to functional groups like clock control, drive electronics and drive motor as well as the digital section. Two hose-like massive DC lines lead us on to the actual drive unit of the P1.

Its heart is the VRDS-Neo »VMK-3.5-20S« drive weighing in at a stately 5.2 kilograms (11.4 lbs.). The VRDS logo-gram stands for »Vibration-free, Rigid, Disc-Clamping System«. The high rotating velocities of the CD cause horizontal flutter movements that virtually all laser pickups can compensate, but which may still produce reading errors and therefore increased jitter and a more audible noise floor. In the P1 drive we find a massive disc plate which is suspended on a steel joist of nearly one inch thickness and horizontally fixes the CD after an incredibly smooth tray ride into the housing interi-

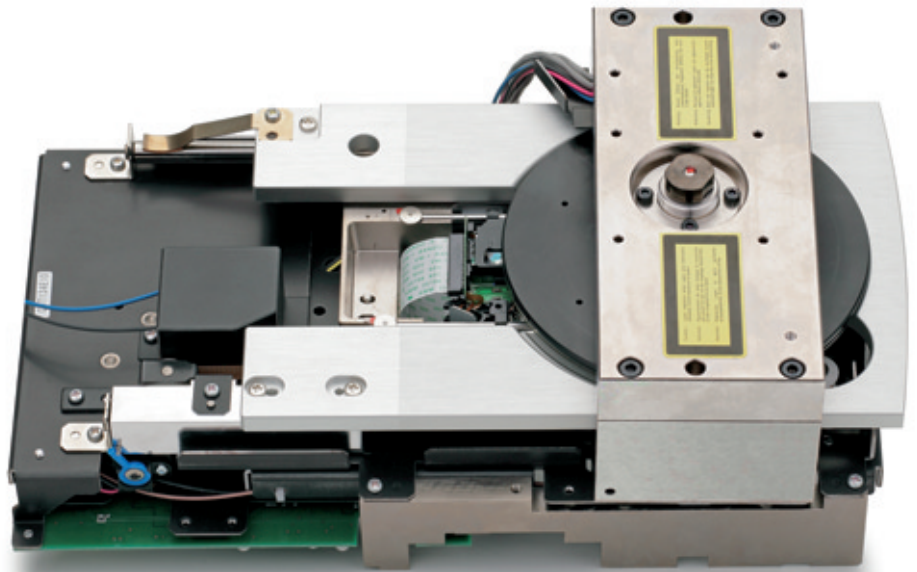
or – definitely zero chance for flutter. Owing to a smart design trick the laser scan unit of the drive is always positioned vertically under the CD, which also results in greater precision.

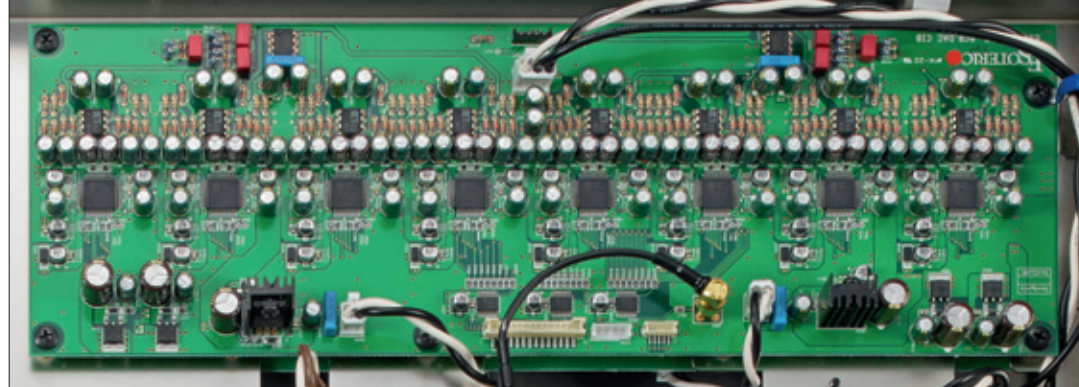
In the actual drive Esoteric has also realised a maximum of vibration damping. For instance, we find a discrete system of three current amplifiers working in parallel to optimise the waveform of

the supplied energy. With the result that the spindle rotates with less vibrations, the motor noise becomes quieter and the data readout »more exact«. This drive variant called VS-DD is another example of the epic efforts that were taken to tickle out of the CD the very last bit of sound.

The P1 »strongroom« drive unit offers no less than seven digital signal output interfaces, of which AES/EBU, coaxial and optical are commonly known. An exciting feature is the Esoteric-exclusive ES-Link4 output which transfers data via HDMI line and whose upper transport limit is 48 bit / 352.8 kilohertz. That way even DSD can be handled in a native, i.e. technically unaltered manner. Of course, I selected this transmission mode for feeding the two D1 mono D/A converters, for the realisation of which a design-related effort beyond imagination was once again taken.

Each converter has an upper and a lower storey. On top we see two toroidal transformers, one for the digital and one for the analogue section. Below there are sixteen 32-bit D/A converters to provide the basis for the 36-bit D/A conversion process algorithm which will also upscale a 16-bit data stream appropriately. According to Esoteric, the converter accuracy is 4,096 times higher than, compared to a conventional 24-bit system. The core of this new »state-of-the-art« con-





had also lost some of its precise contouring, and the sound of Silje Nergaard's wonderful voice was downright lacking the torso. Just a quick

reminder: we're talking about the Grandioso quartet which was undoubtedly playing far above my Marantz SA-K1 Pearl, but the magic rendition with the rubidium clock had disappeared.

Now I let the Marantz take the helmet. It presented a punchy, deep bass which revealed a slightly bloated tendency. Guitar strings were treated responsibly, the instrument was clearly outlined. Nergaard's voice was standing firmly in the centre and sounded as if the Norwegian singer had been wrapped up in some cotton wool and then enveloped in cellophane. With the live CD »Minimum-Maximum« by legendary krautrock band Kraftwerk from Düsseldorf I considered myself to be in a hall together with maybe a hundred spectators, and when »The Model« started to play, the voice was rather too loud or else the music and the audience were too soft. With the representation of Sibelius' Karelia Suite the Marantz justified its place in the chain, al-

verter is the AK4495S chipset from Asahi Kasei Electronics that was developed in co-operation with Esoteric. The output stage of the D/A sits on a proprietary pc board. »High Current Line Driver« (HCLD) stands for the extremely fast and constant current capability of the converter with an alleged slew rate of 2,000 volts/microsecond. With the upward conversion a DSD data stream can be generated from PCM signals with optionally either double, four- or eightfold oversampling. The signals read from SACD are processed natively.

Despite the numerous connecting and operating options the menu of the D/A converters is laid out clearly. For example, the application of the G-01 Clock is easily selected, just like changing the BNC cables for transmission which is done in a breath. Anyway, in real life all commands should probably be given via the massive remote control with its leather-covered bottomside.

When casting a glance at the four – also aesthetically – consummate members of the Grandioso ensemble and visualising their substantial list of features and components, it's hard to believe that the use of an external clock shall have an impact on the sound. »Remove transport locks« – say what? This exists solely in turntables or CD players. Yet indeed, the American-made rubidium module in the Esoteric G-01 Master Clock is secured by three screws for transportation. Only upon their removal the module will be decoupled from the actual chassis. Owing to their superb precision rubidium oscillators are also found in GPS satellites. They run stably for years and don't need to be recalibrated, which is why Esoteric uses this technology for generating the perfect clock

signal. Hence the G-01 also boasts all required qualifications for an ultimate quality of reproduction. It has a solid housing, the power supply is regulated a number of times so that neither fluctuations nor interferences can harm the quality – pure madness! In order to delegate the clock command to the G-01, three BNC lines must be laid: two to the converters, and one to the drive.

Despite all those technical finesses I had no idea of what would lie ahead of me in the listening room. For the sound comparison I switched back and forth several times between Grandioso with and without clock and my Marantz player as well – and hit more than one surprise in doing so. To begin with, I felt totally unable to ever break away from Grandioso plus external clocking by the G-01. The reproduction of the full musical aspects was absolutely clear, transparent and three-dimensional. I could discern fine dynamic shades, a dry low and low-mid range, crowned by proverbially velvety-soft highs. Moreover, the degree of meticulous definition was almost incomprehensible. Although I was reluctant to believe that the digital audio technology I had been using by now would be so far away from the acoustic masterclass performance by the Esoterics, it was precisely this impression which survived for the entire listening session.

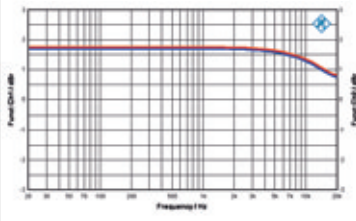
After removing the G-01 Clock I was once again amazed, because the difference in sound was far more obvious than I had expected: especially the highs now revealed a certain nervousness, the bass



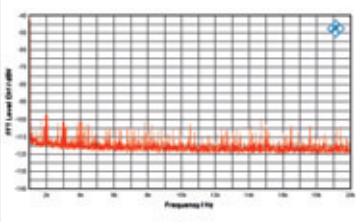
though switching back to the Grandiosos made it very clear that this was nowhere near enough. For the Esoterics performed much more focusedly, presenting a much higher degree of nuances. They also succeeded in handling the spatial distribution of the orchestra in a more credible way. This was definitely more music, now with 2,000 visitors at the Kraftwerk concert and an atmospheric density which comes very close to the live

Lab Report

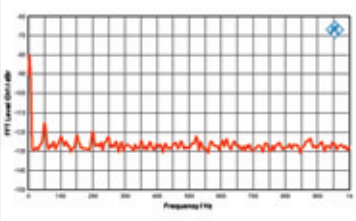
Frequency response: Esoteric Grandioso



Distortion spectrum: Esoteric Grandioso



Noise spectrum: Esoteric Grandioso P1/D1



Esoteric Grandioso P1/D1 (CD bal.)

Distortion factor (THD+N)	0,0017 %
IM distortions (SMPTE)	0,0012 %
IM distortions (CCIF)	0,068 %
Unweighted noise voltage (20kHz filter)	-90,7 dB
Weighted noise voltage (A-weighted)	-94,5 dB
Converter linearity:	
-50/-60/-70 dB	0,011/0,011/0,011 dB
-80/-90 dB	0,023 / 0,027
Channel deviation	0,046 dB
Output voltage (unbalanced)	4,9V
Output impedance (1kHz)	105Ω
Power consumption (idle state)	47W

Tracking down the sonic effects of a VRDS drive or the Rubidium Clock by metrological means is a tricky, if not even impossible endeavour. With the conventional (16-bit) measuring routine the Grandioso ensemble doesn't set new benchmarks; most noticeable is the high-frequency roll-off typical of the Japanese in the frequency response. Interference and distortion spectra are without flaw, the converter linearity is beyond any doubt. The balanced output delivers 4.9 volts. ■

experience. Fascinating: the wealth of information that is stored on the CDs and which so far hadn't reached my ears. And Silje Nergaard's voice didn't suffer any more from masking effects – it was pure enjoyment.

But the ultimate climax came along with the combination of Grandioso plus G-01 Rubidium Clock – this was quite a different world of sound and music with a marked gain in informative content. Kraftwerk were now playing in front of 4,000 listeners, and my perfectly familiar KEF Reference 205/2 let loose tones



With the ultra precise Rubidium clock generator (above) even the Grandioso set can soar to a considerably enhanced performance.

never heard before. A musical authority was developing which I hadn't deemed possible at all in my system. In the Karelia Suite the strings sounded finer and smoother, the wind instruments were shining majestically, and in spite of all the physical pressure the order of the music's internal structure remained unaffected – you can't possibly get any more closer to the original, of that I'm sure.

This quintet is a milestone of digital music reproduction and I can only express my hope that this awesome sound quality will be transferable, at least to some extent, into more worldly price categories.



Teac/Esoteric Grandioso P1/D1

WxHxD	44,5 x 16/13 x 45 cm
Warranty	2 years
Price*	40.000 / 20.000 Euros
Distribution	Onkyo Europe Liegnitzerstraße 6 82194 Gröbenzell
Phone	081 42 - 42 08 10

* Esoteric Clock G-01: 25.000 Euros
D1 price per unit

Result

The Grandioso ensemble sounds heavenly good.

But only the clock takeover by the G-01 »Master Clock Generator« makes it by far the best digital player quintet I've ever heard. I plainly admit that my imagination as to the sound quality of a digital source was not enough to describe what I was hearing, experiencing and feeling. Those were magic moments in the listening room. ■

Olaf Sturm ■