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## **Accuphase Super Audio CD Player DP-700**

by Heinz Gelking

**The CD tray of the Accuphase DP-700 is gliding out with distinctive noiselessness and politely asking you for music - no one does behave better!**

Hats off to this classy entry of the Accuphase DP-700, but then let's first have a look at the spot where this luxury player could be vulnerable: in the year 2008, could anyone still be interested in disk players with a four- to five-digit price tag in view of the fact that CD and SACD are gradually vanishing in the haze? After vinyl has been replaced by polycarbonate, most of us are currently encountering the second big revolution in our hi-fi life: traditional sound carriers are about to leave the stage and make room for data packets.

If SACD had been widely accepted instead of becoming merely a medium for the connoisseur, we would not have to worry about it any further. Although the music industry missed a big chance we are not yet facing a standstill or decline of top-quality digital music reproduction. There is still more than just MP3. In these days we can download music data with a resolution up to 24 bit/192 kHz, of course not for free and not at every corner. Moreover, anyone interested in a premium digital appliance like the Accuphase DP-700 can acquire it in good faith that the production of CD and SACD will not be ceased overnight, and that the second-hand market will likewise be inexhaustible as was the case with analogue records in the past twenty or so years.

Therefore, in my point of view, SACD players are as up-to-date as ever, provided they feature digital inputs in addition to their integrated CD transport. It's because you could then also use the high-quality D/A converter for processing digital music data from a hard-disk, a flash memory or from wherever you like. Even a device Roland Kraft tested for our last issue, namely the music server Sooloos, could be employed as data source. Enough admiring the stars: the Accuphase DP-700 features three different digital inputs (HS-Link, co-axial and optical) and can process music data with sampling frequencies of 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz (16 to 24 bit, 2-channel PCM) as well as 176.4 kHz, 192 kHz (24 bit, 2-channel PCM) and 2.8224 MHz (1 bit, 2-channel DSD). Altogether five pages of the owner's manual are dealing with the connection of external devices as data suppliers for the DAC section of the DP-700. As far as I'm concerned this alone would be sufficiently future-proof for me, although I'm regrettably not in the position to ever reflect about the acquisition of a player in this price range.

Before Accuphase started developing the DP-700, there was actually no real need for having an additional integrated SACD player in the portfolio. Because with the DP-78 there is already an excellent player on the market which I had the pleasure to audition for *image hifi* 3/2006. And I liked it very much indeed, whereupon I wrote: "From the three best digital sources I've ever heard this is the least expensive one". Now, after having once again examined some of the photos used for my article two years ago, I was even more wondering that the DP-78 was apparently not the foundation on which the DP-700 was to be developed. Sure, there seem to be some similarities between the two SACD players, yet such an impression is always

received after having opened any Accuphase device, whereupon one is to encounter the same elaborate array of components and high-quality design. Between DP-78 and DP-700 there are indeed big differences in the details, because the DP-700 is evidently a direct descendent from the currently most sophisticated and costly digital source in the Accuphase programme, namely the combination of transport DP-800 and D/A converter DC-801. I was browsing the internet and found some photos showing the construction of both DP-800 and DC-801, whereupon I could compare the interiors with those of the DP-78. Well, parentage is recognised right at the first sight but there are of course some differences visible still. The DP-700 is essentially a merging of DP-800 and DC-801 into one single device, which among other things was made possible by a more compact construction. For instance, in the DP-700 the converter boards are mounted above each other instead of side by side.

It took Accuphase about three years to develop a proprietary CD/SACD transport for the DP-800 in order to substitute the hitherto used CD drives from Sony. This transport is now also employed in the DP-700. The investments as to development efforts and manufacturing capacity are said to have paid off in the meantime, at least under the audiophile point of view. Product Manager Winfried Andres of P.I.A., the Accuphase distributor in Germany, told me on the phone that many listening tests disclosed - more than one would have expected - the in-house transport to be distinctly superior to the drives from Sony used to this date, which also applies to the DP-78. And he added that from now on Accuphase - especially for its top-of-the-line models - would never have to resort to those CD drives originally made for computers and car radios, which in these days can nevertheless be spotted in CD players from the competition and - even worse - heard, owing to the occasional running noise.

The new transport mechanism features a heavy chassis with low centre of gravity, resting on 4 viscous dampers. Its traverse mechanism is a "floating" design whereby a massive aluminium alloy bridge is to stabilise and reinforce the entire assembly. On the one hand, the transport itself is requested to work without any vibrations, while on the other hand, it should be relatively immune against any interferences from outside. Perhaps my simple reference to a particular weight should give you an idea as to how much efforts the engineers at Accuphase have put into making this transport assembly: it alone has a weight of 8.2 kg. Mind you, just the CD drive, not the entire device!

It cannot be missed that the DP-700's converter section, too, derives from the big combination. Like in the DC-801 the signal processing from digital to analogue is done by means of eight Delta-Sigma-converters per channel (in the DP-78 only six converters per channel are doing this job). While we are at it, DSD signals are first going through an upsampling procedure from 2.8224 MHz/1 bit to 5.6448 MHz/1 bit whereas PCM signals are directly sent to the converter chips. Now, the eight converters per channel are not processing the signals simultaneously, but with an ingenious trick which is to delay them by one clock cycle. In this way, eight analogue signals are created from one digital signal, which are combined with each other so that possible converter errors are eventually cancelled and thus obtaining an unusually clean analogue signal available at the output. At the same time this circuitry is serving as a low-cut filter for the suppression of high-frequency noise. Additional filtering takes place in the balanced and unbalanced signal paths directly before the respective output jacks. By the way, the converter boards are made from Teflon which Accuphase engineers favour above the widespread FR4 material.

So many details, albeit quite a few features, which can always be taken for granted when talking about Accuphase, I haven't even touched yet, e. g. the rigid housing or the elaborate power supply. What's all this in aid of? Well, three objectives can be recognised behind the technology of the DP-700: the least distorted data reading in the transport, the best possible signal processing in the D/A converter and last but not least, an all-embracing protection for the data signal with respect to interferences from inside and outside.

The product information of Accuphase displays large diagrams on signal processing as well as photos showing the "inner life" of the DP-700. This suits a manufacturer very well in particular if this manufacturer has got the word "Laboratory" in the company's full name. Accuphase is pretty much the opposite of what in our scene is proverbially known as "garage tinker", i.e. a permanently stoned, yet incredibly talented high-end guru.

Immense knowledge, long-termed experience and continuous research may perhaps not be considered "sexy", yet in the case of Accuphase these terms are nevertheless reflecting that in the past 20 years each drive/converter combination as well as some integrated players have been among the world leaders.

In the meantime the DP-700 with its almost 30 kg rests on its four insulation feet - made from cast iron with a high content of carbon - in my Solid-Tech rack. I'm right away getting familiar with it - Accuphase is Accuphase: the champagne-coloured front panel, the tinted glass display with well readable information in mild colours, the logically arranged operational elements. How nice that up to this date no one in this traditional Japanese enterprise had the idea to plot a design revolution! Well, as to whether the outer case - made from polished precious wood - is a bit over the top, is actually a matter of taste which should be decided individually. After all, the showy wooden dress of the DP-700 is a perfect match to the one the C-2810 preamplifier has got, and we can well assume that both will be standing next to each other in some domestic audio chains.

In such elitist surrounding however the remote control unit might appear to be a bit on the ordinary side. As usual, I'd rather go for the fine buttons at the front panel and have the CD tray gliding out. This happens very smoothly, with absolutely no rattle and oh so silently - in fact another clue as to what measure of perfection has been achieved in developing and manufacturing the new SACD transport.

Why do I just now recall a photo which years ago has been published in a newspaper: His Royal Highness Prince Charles is inspecting a new BMW 750 and a man is demonstrating him the excellence of the new 12-cylinder engine by putting the edge of a 5-DM coin onto the cylinder block. The coin didn't move a bit and was such giving evidence of the engine's silent running. Maybe my thoughts were originating from this: just like with this 12-cylinder engine, the tray and transport mechanism in the DP-700 might give you an idea that style and luxury of technical products are going to draw your attention rather by the discretion in which things are going on. There is nothing that clatters or annoys you otherwise. Quite unlike the "electronic device circus" which in the meantime is surrounding us in our everyday life with flickering lights and beeping alerts, whereby I personally consider mobile phones, computers and motorcar electronics being the major source of nuisance.

The DP-700 on the other hand behaves as convenient as a fine turntable, to which one looks forward to have it auditioned in the evenings. Speaking of turntables,

at home there is a quite simple indication as to how much I like a digital device that was given to me for review: if I'm all round happy with the sound then my Transrotor is usually taking a rest. Well, in case of the DP-700 I could have mothballed the Transrotor for a couple of weeks more! The reason why my last "classix" column [in *image hifi*] did not feature vinyl, but the portrait of a sound-crazy SACD-label, had of course also to do with the DP-700. Well, if such a dream machine happens to be at your disposal....? And just for the matter of clarification: it's certainly not my intention to resume the superfluous discussion "Analogue vs. Digital". My turntable, too, will come back into favour - the latest when the DP-700 is to be on the road again for some photo-shooting in Gröbenzell.

From now on I'm talking only about the sound. Most of today's high-grade digital players have achieved an unusually high level of resolution as one can hear details which ten years ago none of us would have anticipated they existed on CD at all, even on those we knew inside out. Perhaps we can compare this obsession for details with the current "pixel hype" in digital photography. Mind you, this is not meant disparaging because I also consider "resolving capacity" to be the most important criteria for the evaluation of hi-fi components. However I'm afraid to say that some devices do stop there midway because their sound is retaining a certain technical flavour which they can't get rid of. At the same time music is rendered quasi "over-focused", just to stay in the picture of digital imaging. To wit: piano keystrokes sound tremendously explosive and orchestral instruments are separated from each other by sharp contrasts in sound colours. The sonic picture is virtually more brilliant and richer in contrast than in reality. It seems like music being subject to studio illumination, i.e. overly pronounced by artificial spotlights.

This said, I think I can now write about the particular smoothness of the DP-700 without the danger of being misunderstood. This smoothness has nothing to do with mushiness, inaccuracy or softness, because in my impression it is based on the absence of sharp edges, hardness, irritations and artefacts. My impression is furthermore based on audibly more gentle, delicate transitions and an even higher pureness of the signal. To put it in a nutshell: the Accuphase DP-700 is simply closer to music, microphones and master tapes. It's resolution or, better still, resolving capacity is - incidentally not only with SACD, but also with CD - superior to any ordinary rendition through digital media, in a way that the sonic picture is not assembled by single details, like in a puzzle, but appears as a completely intact, integral whole.

A quite simple example may perhaps further illustrate what I mean: Smetana's symphonic composition *Vyöehrad* is preluded with a harp. I hear a 1968 recording of the Leipzig Gewandhaus Orchestra conducted by Václav Neumann - nothing really audiophile but an inexpensive CD from the Berlin Classics label. Nearly every high-quality CD player is rendering the harp with fine oscillations of the strings, of which the sound, including some side noise, is nicely developing after they were plucked. All this makes clear that a human being rather than a machine is playing this harp, with the richness in sound which, for instance, is to distinguish it from the guitar.

When I listened to this CD through the DP-700, something was different though: the unfolding sound of the plucked stings was still explosive, but now I could distinguish more clearly that - of course - fingertips were plucking them! It was like if someone had inserted some additional "reading points" between the strings at rest

and the moment they are plucked. In a way that the steps between resting and oscillating string are, more noticeable than before, filled with intermediate information - the very "fingertips".

And there was other information that came to light on this occasion: this harp has got a wooden resonance box, the recording venue was furnished with a wooden floor and there was one auxiliary microphone employed apart from the main mics. Also, in this recording the harp is sonically occupying a larger space than would be the case in reality. The DP-700 could show me all this but at the same time was able to fully integrate even the recording flaws in a way that my attention was not distracted from the music. Then, a bit later, the entire orchestra came in with full power and gleaming sound colours: what an SACD player!!

For the price of the DP-700 one can presumably acquire a five year old Bavarian 12-cylinder luxury car with a mileage of 93,225. Or a brand-new Japanese SACD player with eight converter chips per channel. By all means, the DP-700 will take you much faster to every concert hall on this globe. It would just need this very moment after the CD tray has closed and the music begins.