



Twenty years ago, Italian hi-fi wasn't even on the audio map, but the past decade has seen the likes of Audio Analogue, Graaf, Unison Research and Pathos make real strides into the hi-fi world. North Star is another name that's now trying to put itself on the map, offering what has become the familiar combination (for Italian hi-fi at least) of fine build, innovative aesthetics and sweet sound at a surprisingly low price. In short, the brand promises 'affordable esoterica', but does it deliver?

Well, whatever you think of the swish styling, the most important aspect of the £1,249 Model 192 transport is that it features a proper heavyweight Phillips PRO 2 CD transport (typically only seen in exotically priced, high-end designs, like the £4,195 Chord Electronics BLU transport and the new £8,000 Audio Research CD7 player for instance), complete with compliant suspension in its chassis.

The second interesting specification which differentiates the Model 192 from most CD players/transports - is the option of using a 12S digital output. Denon use a

similar digital signal transfer called DenonLink which allows uninterrupted 24/192 signal transfer from DVD-A for instance, without the need for extra D-A and then A-D conversion. When, in the February 05 issue (p45), I compared the DenonLink connection to the phono analogue output from a Denon 3910 universal player into a Denon AVR3805 AV amplifier I found the DenonLink to be less upfront and ultimately superior, with a subjectively wider dynamic range, lower noise and minimal or no digital glare. Moreover, having now compared the North Star 12S digital output to its phono socket coaxial digital output (into the Extremo DAC), there was a very similar outcome, with the 12S output being subjectively superior to the coaxial one. This then is a worthwhile feature, and not just 'emperor's new clothes' type hype...

Like the Denons previously, the standard (blue) North Star 12S CAT-5 cable is a fairly nondescript affair and nothing like a typical hi-fi interconnect. However, North Star supplied an upgrade £350 12S cable for the review, made exclusively for them by Italian cable company White Gold, and - as we'll see - it easily took the performance of the Model 192 and Extremo DAC (with the standard blue cable) into another league - and thus, in its performance

context with the two components, its (claimed) £350 cost is justified. It is the first, specially designed, hi-fi audio application of this type of cable I have seen, and is a good example of lateral thinking that works.

Finally, for the Model 192 power supply, North Star employs a filter and two toroidal transformers. The filter is said to reduce incoming radio frequency from the mains and one transformer is used for the transport and display while the other is used for digital audio processing. North Star says this arrangement allows the supply of "the right (high) current to the CD-PRO2 mechanism without (the) affect of spurious signals (going into) the power supply dedicated to the digital processing". The two toroidal transformers have a shield between (the) primary and secondary sections. The Model 192 transport features SPDIF phono, AES/EBU balanced XLR and 12S digital output with switchable upsampling at the rear panel. It measures 433x170x75mm and weighs 6.5kg.

Next is the £1,669 Extremo DAC. This is generously equipped, as it can accept five digital inputs which are switchable; two SPDIF coaxials via high-quality WBT Nextgen phonos, optical, balanced XLR AES/EBU and the 12S connection. The Extremo can output its analogue signal through either WBT phono or balanced XLR sockets. Two TEXAS PCM1792 DACs are used inside, for which North Star says "the most

Star Quality

Italian company North Star Design manufactures a stylish transport and DAC combination that uses a specially implemented 24/192 12S cable connection between them. Channa Vithana listens in...

important parameter is the dynamic range, 132dB in mono mode, which allow(s) this DAC to have an extremely high resolution at low level signal value."

The analogue circuit, says North Star, is DC coupled with no capacitors in the signal path, and uses a DC-servo to avoid any DC component

at the output. Surface mounting (SMD) is utilised for the short signal paths and Vishay resistors and Wima film capacitors are also used.

The Extremo upsamples digital signals to 24bit/192kHz before analogue conversion. It uses an Analog Devices AD1896 which North Star claims is "the (best) upsampler in the market with 140dB dynamic range" and that "the upsampling function allow(s) (the translation of) the digital signal frequency from 44.1kHz to 192kHz without any spectral difference; the increased sampling frequency allows (the) design (of) a simplified analogue stage with an higher low-pass filter frequency; (therefore, a) harmonically correct decay is the most important result achievable with the upsampling technique".

The Extremo, like the Model 192 transport, uses two toroidal transformers and a filter for its power supply. Here, one transformer is used for the digital and the other for the analogue section. The digital transformer has three different windings; one each for the digital receiver, digital signal processing and the analogue part of the DAC, which North Star say is for best performance. In total, there are eight, DC regulated, power supplies for the Extremo (three analogue and five digital). The Extremo measures 435x170x65mm and weighs 6.5kg.

Both the Model 192 Transport and Extremo DAC are well-built and well screwed together. The Model 192 Transport is also rather non-resonant in construction,

which should minimise vibrations. It features a thick, damped and chamfered manual lid with attractively deep-machined triangular indents for finger-push operation. Aesthetically, they strike a different chord also, as their slimline 170mm-deep proportions and horizontally machined thick aluminium front plates (reminiscent of the vertical style, utilised by high-end American amplifier manufacturer Jeff Roland) make for an attractive pairing placed side by side.

SOUND QUALITY

Considering this is a totally unknown brand to me, and I suspect to much of the hi-fi world, I have to say how (pleasantly) surprised I was at this transport/DAC combination. The layering of the violins and stringed instruments from 'String Quartet I 'Metamorphoses Nocturnes' by György Ligeti from his 1997 release 'String Quartets And Duets' was most impressive, as the North Stars ably handled the rather demanding and dynamic music with aplomb. Resolution of the stringed instruments was excellent, very similar in quality to the £6,190

"the North Star Design combo majors on subtlety, finesse and texturality, rather than explicit rhythmic ability..."

Chord Electronics BLU/DAC64 transport/DAC I reviewed last year. The timing relationship between the precisely composed dynamic shifts between the vibrant violins during the manic parts of 'Metamorphoses Nocturnes' was superb, engaging me emotionally in the music, while the higher resolution of the North Stars ensured there was no stridency or forwardness either. As the vibrancy of the music very quickly and abruptly changed direction into gentle, delicate melodies and structures, the North Stars did not get flustered, and played everything with real finesse. Additionally, I could easily appreciate the secondary elements

of shifting, whisper-quiet music with equal enjoyment as the dynamic parts before.

The sheer energy and stamina required to power through the tumultuous 'Happiness In Slavery' from 1992 release 'Broken' by the darkly-industrial Nine Inch Nails was not lacking via the North Stars. Here the first set of mechanically sustained screams gave way, like going through a tight narrow tunnel and coming out into a wide expanse, as the instinctively fluid melodies took over and flooded the loudspeakers and out into the listening room. The rhythms were deftly placed while the bass and upper-mid was nicely cohesive with the higher frequencies, to provide a suitably enjoyable low-frequency definition without any dislocation or wallowing lumpiness. The instrumental separation, which is very important in a hectic and busy mix, typical of Nine Inch Nails, was also well established.

The low-frequency extension on 'Erotic City' by Prince from his 1993 compilation 'The Hits/The B-Sides' was agile, enjoyably tuneful and nicely in time with the upper-mid and treble frequencies which enabled an

engaging yet high-resolution musical presentation. The lascivious singing by Prince and sultry female vocal backing delivery were especially good as a combination, as they were interwoven within the music with skill. As a whole, the North Stars ably communicated the groove-led, electro-funk rhythms of 'Erotic City' very well, without any harshness or blandly smooth rolling-off of frequencies.

Comparing my current reference (£1,350) Densen B-400 Plus to the £2,918 North Stars was interesting. The Densen was even better when it came to powerful rhythmic musical presentations. For instance it grabbed

hi-fi



a finer, more tangible agility, while the vocals were better connected to the music. The £1,995 Chord Electronics DAC64 did a very similar thing, however it is more expensive and not as versatile as the Extremo.

As a combination, the Model 192 Transport and Extremo DAC secure a very finely detailed sound quality, full of revealing subtleties, and worked to an excellent standard with the music by Mike Oldfield, Nine Inch Nails and Prince. Where they really excelled however was with the string quartet music by György Ligeti, as they revealed very fine tonal shading and timbre to all of the stringed instruments. The North Stars will provide a fatigue-free music making experience. To my ears, they have almost all the redoubtable ability of the £6,190 Chord Electronics BLU/DAC64 combination but at approximately only half the cost and therefore, in a high-end context, represent superb value.

the musical structure of 'Moonlight Shadow' from Mike Oldfield's 'Crises' by the jugular and was superior with Maggie Reilly's vocals. However, one of the Densen's special talents, where it illuminates music with widescreen spatiality, was slightly, yet discernibly, better through the North Stars on 'Moonlight Shadow'. The North Stars had more finesse with the timbre (if not the attack and execution) of the musical instruments also.

The Densen went even further than the North Stars on 'Happiness In Slavery' by Nine Inch Nails, as it was able to exploit its rhythmical strengths and deceptively astute finessed ability where it unravelled the hectic electro-industrial mix and gripped the frantic beats while opening out spatially wide vistas to the main melody. The Ligeti

String Quartet I 'Metamorphoses Nocturnes', proved most interesting though, as the North Stars were clearly superior here when it came to an authoritative portrayal of the stringed classical instruments. The shimmer and timbre of the violins was first-rate, while the accumulative aspect of all the instruments was handled superbly by the North Stars. The Densen wasn't quite as capable in comparison here, as the violins seemed to be a little upfront, which was rather surprising as the Densen usually excels in cohesion, spatiality and finesse allied with grip and rhythm. The Densen grabs the music by its heart from the inside and beats pulsatingly outwards; the North Stars, on the other hand, caresses and seduces from the outside and then inwards - taking longer to appreciate their strengths.

CONCLUSION

An excellent, world class transport/DAC combination, the North Star Design combo majors on subtlety, finesse and textural, rather than explicit rhythmic ability, although let it be said that it's no slouch in this respect either.

Both transport and DAC are extremely competitive at their respective price points; for example, the £1,699 Extremo DAC makes a brilliant upgrade to a fine mid-price CD player, such as the old (£500) Rega Planet CD player. It upgrades the venerable Rega, an outstanding budget priced player, into superstar high-end status. It was transformed by getting rid of a subjectively wayward, hollow sounding midrange and the music opened out with a superb, free-flowing, high-resolution presentation. Bass was more powerful, and had

VERDICT

Superbly finessed and loquacious sound allied to excellent build and finish make for a brilliant value high end buy.

NORTH STAR MODEL 192 TRANSPORT/ EXTREMO DAC
£2,918

North Star Design
+44 (0)208 8241 9826/
www.audusa.com

- FOR**
- elegant styling, build quality
 - lack of digital glare
 - organic, engaging sound
- AGAINST**
- northing at the price

REFERENCE SYSTEM

- Densen B-400Plus CD player (£1,350)
- Rega Planet 2000 CD player (£500 when new)
- Densen B-250/B-330 amplification (£6,000)
- Bosendorfer VC-2 loudspeakers (£4,750)

MUSIC

- György Ligeti Edition 1 'String Quartets And Duets' (1997)
- Nine Inch Nails 'Broken' (1992)
- Prince 'The Hits/The B-Sides' (1993)
- Mike Oldfield 'Crises' (1983/2000)

MEASURED PERFORMANCE

Frequency response of this player is conventional enough, stretching from 2Hz up to 21.7kHz (-1dB), with just the slightest roll down at high frequencies, registering -0.2dB at 20kHz. This was maintained with standard 44.1 CD or when using 192kHz upsampling.

Distortion patterns were peculiar, second harmonic dominating at higher levels, both at 44.1 and 192 sample rate, giving high-ish figures around 0.014%. At -30dB, a normal music level, figures were good at 0.006% (0.008% at 192). At -60dB and lower levels of distortion were normal enough, at both sample rates.

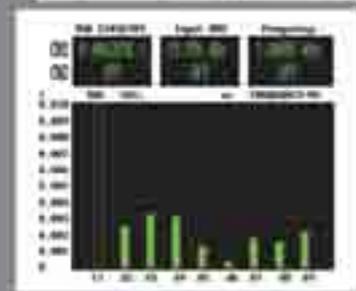
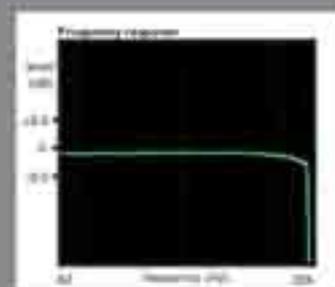
Channel separation was high across the audio band and noise low, although at 192 some downsampled products appeared, worsening the result slightly to -104dB, down from -111dB. Dynamic range was high all the same at 110dB. The players output is, at 1.8V, a little lower than many.

The North Star combo measures well, giving a good set of results. It should sound well balanced and clean. NK

Frequency response (-1dB)
CD2Hz - 20.7kHz

Distortion	
0dB	0.01%
-6dB	0.014%
-60dB	0.22%
-80dB	9%

Separation (1kHz)	112dB
Noise (IEC A)	-111dB
Dynamic range	111dB
Output	1.8V



WHAT IS THE 12S STANDARD?

According to North Star, "the I2S...is a Philips standard used for the connection of digital audio IC inside of a unit. The difference between the standard digital connection (S/PDIF, AES/EBU) and I2S is the different type of signal used to transfer the digital information; serial for S/PDIF and AES/EBU, and parallel for I2S. With the standard (S/PDIF, AES/EBU) connection the master clock and the data are mixed (using only) one signal out coming from a CD-Transport; on the DAC a digital receiver reconstructs the clock and the data from the incoming signal; this reconstruction could be jitter affected. With I2S (the) master clock, serial clock, left/right clock (and) data are on different cables so the DAC doesn't need to reconstruct anything. Note: the native signal (output) from a CD mechanism is in I2S standard; so with I2S transmission we can avoid the double conversion (of) I2S to S/PDIF to I2S (unlike) the standard digital transmission. The main difference between (the) upgrade 12S cable and the (standard blue 12S) is the Litz construction. The Litz construction (uses) a cable of 0.1mm diameter; 3 of those cables are twisted together and insulated with Teflon. Each cable (of 3 conductors) is twisted with two other cables until the (appropriate) diameter (is reached) for the different applications (signal, power, etc.)". You can contact North Star at, www.northstar.it, for more technical information on their I2S data.