SWITCH-MODE SEMI-DIGITAL:
LYNGDORF AUDIO SDAI 1275 £1,095

Formerly TacT, Danish brand Lyngdorf Audio's SDAI 1275 is a fully balanced, remote controlled, switch-mode integrated amplifier which has no relays or fuses in its signal path. It measures 450x381x100.6mm and weighs 15.5kg. SDAI is an abbreviation for Semi Digital Amplifiers (TDA). Lyngdorf say that “the SDAI 2175 is a less complex design (than TDA) which relies on analogue inputs to generate the digital switching at the output. The output stage operates by pulse-width-modulation (PWM) at a very high switching rate and constant voltage. This is similar to the operating principle of the (high-end) TacT Millennium (TDA), but while the Millennium converts the digital information directly from the digital source, the SDAI 2175 utilizes analogue inputs to generate PWM switching at the output”.

Lyngdorf use PWM because they claim that the “SDAI 2175 generates 75% less heat than a Class AB amplifier of similar power. Heat is the greatest contributor to component ageing. Capacitors in particular are prone to heat damage over time”. The quoted specification for the SDAI 1275 is impressive - when compared with those from similarly priced hi-fi integrated amplifiers - with a power output of 220W/8ohms and 375W/4ohms. The company says that the SDAI 1275 uses a digitally controlled analogue attenuator and the volume is controlled with 0.1 dB steps (over a 100dB range). Instrument-grade dual gold relays are used for input switching that Lyngdorf claims are normally only used in expensive measurement equipment “for high linearity and low losses”.

The Lyngdorf can also adjust the attenuation to each input by 6dB to optimize signal to noise ratio. The seven inputs (one is XLR balanced) can be individually adjusted in 0.1 dB steps, while the display is programmable to name the input. The transformer is a 650VA Toroid-Holmgren design for which Lyngdorf state that it “is particularly resistant to mechanical hum”. Internally, it uses capacitors for its power supply, regulation rated at over 40,000 micro-Farads and a separate board for the IEC mains input with mains filtering. Further SDAI 1275 features include, two preamp outputs (one balanced), individual balance adjustment for each input with 0.1 dB steps, channel balance ± 0.05 dB “at any level down to -80 dB”. 3.5mm jack connector trigger output for control over additional SDAI 2175 power amplifiers and RS 232 connections for software modifications. Build quality

SOUND QUALITY

On Ligeti’s ‘Trio For Violin, Horn And Piano’ the Lyngdorf was fascinating, as it was able to illuminate deep into the rather quiet but dynamically superb recorded musical structure with an uncommon ability compared to the other amplifiers on test. The whole of the Ligeti piece was opened out with great insight and with stunning musical clarity.

On ‘Never Going Back Again’ by Fleetwood Mac. The Lyngdorf had a completely neutral presentation in comparison with the other amplifiers on test when listening to ‘Dreams’ by Fleetwood Mac. The musical timing - considering the gelling together of the different vocal and instrumental strands as a cohesive musical structure, to form a well-balanced and more natural pace and tunefulness - was simply first-rate. The Lyngdorf displayed excellent bass dexterity and was very good with the vocals, where there was no sense of discernible strain or high frequency stridency in the female vocals.

On ‘Never Going Back Again’ the Lyngdorf was able to reproduce

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a wonderful vocal from Lindsey Buckingham. There was a really nice delicacy and multi-layered sophistication, and it seemed early in the room.

Guitar timbre and expression, while not as three-dimensional as the Sugden, was still extremely precise in its ability to slice through the air. This reproduction of the guitar and vocals also reinforced the Lyngdorf's excellent musical timing ability as it was inherently cohesive to the songs structure. On 'Don't Stop' the whole musical structure was beautifully revealed and had the Lyngdorf's exacting musical timing intact where every vocal, element, strand and instrumental intonation was superbly executed and free flowing. Individual aspects such as vocals were excellent, while the instrumental timbre had good definition. Bass was dextrous and also well defined while the treble was able to open out the music into a widescreen dimension.

Steve Steven's 'Flamenco A Go Go' was thrilling; all the elements gelled to produce stunning musical timing. Bass was again excellent, which gave a lift to the lower mid while not being unnaturally extended to as to dislocate itself from the rest of the music. This upper bass/low midrange frequency quality helped to provide rhythmic thrust and enjoyment through Steve Steven's rocketship rush of acoustic guitar melodies. On 'Our Man In Istanbul' there was the recurring talent of the Lyngdorf in enabling stunning instrumental and vocal separation. The gorgeously sexy vocal from Azam Ali was especially good with the Lyngdorf's separation ability as there was a sense of openness not available on the other amplifiers, where her voice was deliciously free-flowing and super-clear without a single hint of high-frequency glare or harshness. The Lyngdorf's musical timing abilities also took the complexities of 'Our Man In Istanbul' in its stride – making for a neutral yet thrilling ride.

**CONCLUSION**

Like the Sugden, this is a genuinely unusual and special sounding amplifier although for quite different reasons! It is initially underwhelming but due to its massive power output it was able to provide an excellent grip and drive to the differing demands of all the music used. It has an eerie sense of control and superlative musical timing that never sufficed its tonal resolving ability. So such it was very special with completeness in the most important aspects of the musical structure - such as outstanding instrumental and vocal separation which was surgically unravelled but never clinical. The Lyngdorf is not a sugary sounding device (unlike the Marantz, for example), although it remained resolutely musical in a neutral, unflappable and dynamic manner. Build quality is equally brilliant for the asking price while the visual design is my favourite of the group as it expresses a buttoned-down discretion that can only come from first-class craftsmanship. In some respects, this product sounds like 'superfi'; its refinement, subtlety, unflappability and sheer control are remarkable, and many will instantly

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**GROUP TEST**

**VERDICT**

Remarkably sophisticated and powerful amplifier that's subtle but infectiously musical too.

**LYNGDORF AUDIO**

SDAI 1275 £1,095

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www.lyngdorfaudio.co.uk

**FOR**

- design and build
- neutral yet engaging
- stunning musical timing
- massive power

**AGAINST**

- takes time to appreciate

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**MEASURED PERFORMANCE**

The distortion behaviour of this amp is influenced by its tightly limited bandwidth. Harmonics of higher frequencies are cut, meaning past 4kHz or so distortion starts to go down, not up. At 6kHz, though, where second and third harmonics fall withing the bandwidth of the output filters, distortion at low levels of a few watts measured just 0.003% into 4ohms, rising to 0.007% into 4ohms, third harmonic predominating in bridge conditions, as second cancels. Near full output (30V) the worst case result was 0.02%, second and third harmonic, into 4ohms, a low value. In the midband, distortion levels were much the same, so this amplifier is consistent in its behaviour, which means the distortion spectrum is not constantly changing, always a good sign. The SDAI 2175 interestingly possesses a better distortion performance than conventional amplifiers.

This is a bridge amplifier, like most ‘digital’ switching amps. It has no problem swallowing massive amps. No less than 220W in to 4ohms and 324W into 8ohms, whilst barely getting warm, due to high efficiency. There’s 35V d.c. on both output lines, but protection circuits guard against damage from shorts to ground or any different output offset that would threaten the loudspeaker. It is not d.c. coupled throughout though; tests showed input d.c. did not affect output conditions.

Frequency response of digital amps like this is, in theory, load dependent, because of the output filters. However, the SDAI 2175 varied little between 4ohms and 8ohms, looking flatest on the lower value. The upper -1dB bandwidth limit is 27kHz; the lower limit is 1Hz. Sensitivity is very low at 1V maximum. I don’t understand this, as most sources give 0.5V or thereabouts, so it’s far too low; only CD gives more. External phone stages, tuners and such like must give 1V to match this amp – and few do.

This is a heavily engineered amplifier in all senses, more so than usual. It measures extremely well, except for low sensitivity which will make matching difficult. NK

**Power**

220watts

**CD/tuner/aux**

Frequency response 1Hz - 27kHz

**Separation**

80dB

**Noise (IEC A)**

107dB

**Distortion**

0.003%

**Sensitivity**

1Vdc offset

8/21mV

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Conclusion

These four amplifiers were all different, yet all are very capable performers and as such this should be celebrated. Both the lower powered Sugden and Minimax designs had no trouble driving the ribbon tweetered Aurum Cantus Leisure 3SE speakers to what I consider very loud levels in my 6.5x4.5m listening room. When Noel Keywood measured them he said, “sensitivity was low at 82dB but this wasn’t surprising as the speakers’ impedance is very high, measuring 12ohms overall. It (the Aurum Cantus) is a very light load, even for a valve amp. But does need ‘power’ (volts) to go loud”.

When correctly load matched, the Class A transistor Sugden A21a had useful power and ably gripped the speakers to produce the best instrumental timbre of the whole group. Additionally it had excellent resolution which was interesting, allied to a generally neutral but engaging sound quality that I really enjoyed. The Sugden’s sound quality can be described as very linear, tightly organised yet soulful which makes it a bit of a chimera of an amplifier! It does run hot though, and thus I would treat it as a valve amplifier allowing between thirty to sixty minutes ‘warm up’ before use and then switching off afterwards. The Sugden did not have the best bass extension, but the more complex and important bass dexterity was nicely aligned to the rest of the higher frequencies to produce its linear but tuneful sound. It didn’t always have the best vocal timbre but because it was so well balanced and musically well-timed, in isolation this is not noticeable. The Sugden is especially well-built but not flashy in appearance and though it didn’t have a remote control, this was not an issue for me. I loved it because it’s such a simple, unreconstructed, unalloyed music maker.

The switch-mode Semi Digital Lyngdorf SDA 1275 was also really accomplished, and pure joy to use. It has an unflappably accomplished, unalloyed music maker. The Lyngdorf’s neutrality does not mean it sounds cold, clinical or even grey as some perceptions and realities of digital amplifiers have been in the past – far from it! Additionally the Lyngdorf had a very cohesive sound with superlative musical timing which was a real pleasure to listen to as I could concentrate through particularly dense recordings such as Steve Steven’s ‘Flamenco A Go Go’ where the Lyngdorf had a real flair for both vocal and instrumental separation. It is beautifully constructed in a high-end high-quality manner and visually, for me at least, offered a discrete self-confident visage. This for me is the second star of the group, self-effacingly musical, subtle yet exhaustively thorough in the way it conveys what’s going on in a performance, with an amazing sense of imperturbability.

The Class A valve Minimax M520 excelled in all the vocal timbres experienced through the different recordings used in the test. It has a good ability with instrumental timbre also and I was surprised at its musical timing ability which was rather good. The build quality and design were excellent and commendable for the asking price without even a hint of hair shirt or ‘rugged/agricultural’ construction. The Minimax has a superbly crafted remote and remotely-controlled tonal flexibility with its Pencode or Ultra Linear modes which were very useful – as they were not superfluous gimmicky because of the demands of the different music used necessitated adjustment.

The Marantz was a surprise as a Class AB amplifier; it was the most tonally characterful amplifier in the group! It was intriguing because it has a wonderful full-bodied nature to the recordings used and some very nice vocal timbre was also revealed. “like the difference between the Beatles and Beethoven, that’s what happens when you go from Class A to D…”

It initially sounded more diffuse than the others and a little underwhelming but given some patience the Marantz rewarded the listener with some stunningly powerful dynamic swings that could really grip a crescendo or tempo swing. The Marantz was never flustered though and always remained in control. The Marantz is super-slick in construction with remote control and an excellent lateral-thinking upgrade path using more PM-15S1s (or even a high-end PM11-S1) enabling it to be bi-amped or go into 5.1 multichannel if desired! For these reasons, it’s by far the best all rounder in the group, with a uniformly high standard in every department from phono stage to remote – but it’s less focused on sonics.

Overall then – as you’ve probably surmised – standards were extremely high, but we’d give the gongs to the Sugden and Lyngdorf for being brilliant music makers. The amazing thing is that they sound so different - like the difference between the Beatles and Beethoven. That’s what happens when you go from Class A to D!

REFERENCE SYSTEM:
Onkyo DV-SP1000E Universal Player (£2,800)
Aurum Cantus Leisure 3SE Speakers (£1,250)

MUSIC:
Fleetwood Mac ‘Rumours’ (1977/2001) DVD-Audio
Steve Stevens ‘Flamenco A Go Go’ (2001) DVD-Audio