

# HIFICRITIC



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# Round Robin: SuperLine

NAIM'S NEW (ISH) SUPERLINE PHONO STAGE HAS BEEN A LONG TIME COMING, SO WE'VE ALSO TAKEN OUR TIME, IN ORDER TO GET FOUR DIFFERENT REVIEWERS TO FILE THEIR REPORTS

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## MARTIN COLLOMS

**N**aim's *SuperLine* sidesteps both moving magnet and high output moving-coils and goes straight for the best source, the low output moving-coil. There are no switches or controls, but various pre-loaded DIN plugs electrically load your cartridge as you wish. Left out it has an internal light load of 10kohm paralleled by 100pF.

In the raw the £1,650 *SuperLine* is inert, unpowered. Several Naim pre-amplifiers can provide power, or two standalone supplies, the £980 *Hi-Cap* and £3,200 *Super-Cap*. The latter supplies seven separate pre-regulated 24V lines via a multi-pole Burndy cable.

A shortage of available review stock was kindly solved by North London dealer Grahams Hi-Fi, which lent a whole stack of well run in dem components. However, I still had to make up a DIN-to-phono lead (using van den Hul D501s cable) to interface with my main system.

First off I simply connected *SuperLine* to Naim's *SUPERNAIT* powerful integrated amplifier. The sound was immediately impressive, and I realised that the *SUPERNAIT* had never sounded better. The sheer quality of the *SuperLine* source was responsible, and I rated the combination at an audiophile 55 marks.

Connected to my main system with the *Hi-Cap* supply, I knew there was something special here from virtually the first note. I was hearing clearer transients, better resolution

of pitch and harmonics, more space, more dynamic range and a more exciting and dynamic sound than with well known references.

The overall effect was highly involving and musical, driving the beat infectiously and joyfully. In absolute terms it was hard to criticise any particular aspect. My *Hi-Cap-SuperLine* sound quality score was 120 marks – state-of-the-art, that is until I got the *Super-Cap* wired up right!

My initial score with the *Super-Cap* power supply was just 110, as it sounded colder, less passionate, rather controlled, a bit 'processed', more like CD. After some head scratching I recalled that my system had been optimised with the pre-amp and power amp on separate mains spurs. Whereas the *Hi-Cap* had not seemed too fussy, when pre-amp, power amp and *Super-Cap/SuperLine* were all on the same spur, the latter sprang into life and sailed away to a new level of LP replay quality, scoring no fewer than 145 marks – the highest score for any source component I have heard so far. And the vibration-controlling *Powerline* mains cable provided some extra icing on the cake.

This *SuperLine/Super-Cap* combo was simply revelatory in purity, drama and information retrieval. I had no idea that my well worn and familiar discs held music of such quality and emotional power. Layer after layer was revealed, yet the whole had a powerful drive

and intensity. The dynamic range was extraordinary, and the feeling that really loud LP replay was a bit 'on the edge' had gone. Every kind of music benefited, and that occasional sense of LP midrange congestion was somehow overcome by raw direct detail. It just made music much easier to listen to, and wholly demanding of the attention.

*SuperLine* sailed through the lab tests with a near perfect performance, and a wide range of low output moving-coil cartridges can be matched and RIAA equalized to perfection. At each price/power supply combination tried the *SuperLine* may highly recommended. It's simply a no brainer for Naim enthusiasts who enjoy LPs, and is also clearly a state-of-the-art phono stage for the wider audiophile community.

## MALCOLM STEWARD

Naim's *SuperLine* has completely laid waste to my music room. What was once approaching order has, since the arrival of that small but heavy black box, descended into chaos, with LPs scattered everywhere. Each album on the shelf now presents a siren-like invitation: "Play me and you'll discover how I really sound!" To say that I'm unable to view my record collection in quite the same way after acquiring a *SuperLine* is not overstating the case.

Many discs appear vastly more dynamic, while some previously thought impressively wide-ranging now seem more restrained (no bad thing in several cases). One of the most immediately noticeable effects, however, is the absence of vinyl noise and of music emerging from the 'inky black pools of silence' that only Compact Disc was supposed to deliver. Even when there is noise on the vinyl, it somehow seems detached and remote from the music. It is almost uncanny hearing the *SuperLine* – or, more correctly, not hearing it – working in league with my already near-silent Funk *Vector LP12*/Naim *Aro*/Lyra turntable through my active *DBLs*.

I set the cartridge loading to match the K-board settings my old *Prefix* used. Some users seem to obsess about this feature, but I cannot summon the necessary enthusiasm to start soldering resistors and capacitors into plugs to make my own special loadings. A few ohms either way are not going to make any life-changing difference as far as I'm concerned.

Powered by the *Hi-Cap* that used to run my *Prefix*, the *SuperLine* seems to offer a wonderful blend of contradictions. It possesses all the expected, no-nonsense Naim attributes: striking pitch coherence, precise timing, rhythmic insistence and a powerful emotional connection with the music. But it also does all the hi-fi stuff: transparency, detail, timbre and suchlike. Combining these

two approaches to vinyl replay delivers a package that is more than agreeably persuasive and, with an appropriate LP, completely entrancing.

This is not only evident on 'good' LPs. For instance, I have never especially enjoyed Neil Young's 1970 album *After the Gold Rush*: musically it is a masterpiece but sonically dire. Now, though, Young no longer sounds like a pre-pubescent clone of Dylan at his wheezy worst. *ATGR* through the *SuperLine*, is on a par with 1989's *Freedom* or 1991's *Weld*. The *SuperLine* has set free all the complex character of the singer's falsetto tenor – without placing undue emphasis upon the annoying nasal elements – along with all the rich substance in the backing instrumentation.

Nonetheless, superior recordings truly blow you away with their realism and dynamism. Albums such as the eponymous *Rockin Jimmy and the Brothers of the Night* disc can startle listeners with the dynamics, speed and low-end power that first class vinyl replay can muster. And the *SuperLine* ably shows the exact depth and wondrous emotional impact of Art Pepper's 1957 album *Meets the Rhythm Section*. What peerless playing! What expression and feel! And what totally lifelike sounds and dynamics!

I thought I'd approached the limit of vinyl's capabilities when I Funk *Vectored* my *LP12*, but now the *SuperLine* has come to town I realise just how far was still left to travel. My current vinyl front end now has to be close to as good as it gets... at least until *Son of SuperLine* arrives!

## JON HONEYBALL

There are many advantages to buying the whole system from one vendor, and the biggest is the safe knowledge that things will plug together and just work. The downside is that if your chosen vendor doesn't do what you want, you are somewhat limited in your choices.

The recent resurgence of vinyl has led to many companies taking another look at their vinyl offerings, to see if there is higher performance that can be obtained. To be honest, I was quite happy with the Naim *Prefix* I had fitted into the base of my *LP12* – it worked well, I liked the idea of a super short phono cable, and it made musical noises. Then came rumours, nearly 18 months ago, of a brand-new high-end design from Naim. I placed my order on the spot, ensuring I got the first customer unit when *SuperLine* production started earlier this year.

I have tried it in various configurations. Starting with the power side, I have tried raw powered feed from my *NAC52* pre-amp. Then I put a *Hi-Cap* in place

*"My current vinyl front end now has to be close to as good as it gets... at least until Son of SuperLine arrives!"*

and fed it into a normal unpowered line input. This was a step up – clearer, cleaner, bigger, more music. Then I tried it with a *Super-Cap* – this was, without doubt, the Daddy. Unfortunately, this price tag for a *SuperLine* with *Super-Cap* is pushing the five grand mark, but when you have a three grand cartridge, the astonishing Dynavector *XVIS* which is costing you a pound per side (if not more), then going for the best supply seems strangely logical.

I won't drag on about the design – others have done so. However, a few features are worth underlining. Firstly, the massive floating brass subchassis, designed to get the inevitable microphony to a minimum despite the onslaught of a nearby *DBL* bass drive unit. Then there's the BNC connectors, which still make phonos seem awkward, unsatisfactory and generally unpleasant despite every tweak and redesign that has been attempted. Finally, there is the arrangement for changing the loading on the cartridge – this is the work of genius. A huge body of opinion, work and trial/error has happened on Naim's own web forum since the release of *SuperLine*, and it is widely agreed that 453ohms resistive is the happiest load for the *XVIS* on an *Aro* arm using BNC connectors – actually the loading initially suggested by Steve Sells, designer of the *SuperLine*.

What does it sound like? "Like Nagra mastertape" is the only phrase that I can use. The noise floor is almost nonexistent. The dynamics are eye-popping. The clarity and tunefulness are of the highest order.

There must be a downside? The hidden shame of which we do not talk? But no. This is a genuinely high-end product which just works without fuss or complication or hassle. It's the moving-coil equivalent of a top-of-the-line Range Rover: go anywhere, play anything, interconnect with anything. Play any style of music. Play wallet-emptying brand new 200g reference pressings. Play a secondhand worn-out wafer-thin 1970s early punk pressing. It's fit and forget.

And the damn thing isn't even that expensive. For sure, using a *Super-Cap* doesn't help the bottom line, but start with a cheap Rega or old Linn, and power the *SuperLine* by a mid-range Naim pre-amp, and then upgrade as and when you can afford to. From that point of view, the *SuperLine* is a lifetime purchase. I don't see myself ever needing to change it, even though cartridges and loading plugs will come and go. Assuming 40 years more listening, it's a pound a week for what might well be Naim's greatest achievement to date, and one of the greatest moving coil preamps of all time. Is that not the very definition of 'bargain'?

## The Design

SUPERLINE ELECTRONICS DESIGNER STEVE SELLS TALKS TO JON HONEYBALL

The brief was easy and that was to make a great phono stage. There were no limitations on size or features, and the budget was OK so long as everything was realistic.

For best performance I took out all unnecessary features, so no MM input, no variable gain, just a pure MC pre-amplifier. I wanted variable loading to get best performance from all cartridges, but switches aren't great at this level of performance, so the external DIN plug loading approach was chosen, giving maximum flexibility.

Gain was boosted compared to our *Stageline*, to take advantage other great low output cartridges around. With microvolt signals noise is a key factor in all aspects of the design, including amplifier circuitry, microphonic and thermal factors, and local power supply regulation.

The *SuperLine* uses two gain stages, a low noise head-amplifier and an equalisation amplifier, coupled together via a 75µS passive EQ stage. The head-amplifier has a flat response, a gain of 36.7dB and is designed for extremely low noise. The input is a cascoded common emitter followed by an inverted cascoded common emitter and buffered using a compound class A emitter follower. The common emitter input comprises four low noise selected NPN transistors in parallel. A selected film input cap lowers microphonic and infrasonic noise and also low frequency thermal noise, while a thermal sensor maintains the bias irrespective of temperature. Gain is set using a selected metal film resistor with a low noise wire-wound resistor, both chosen in the listening room.

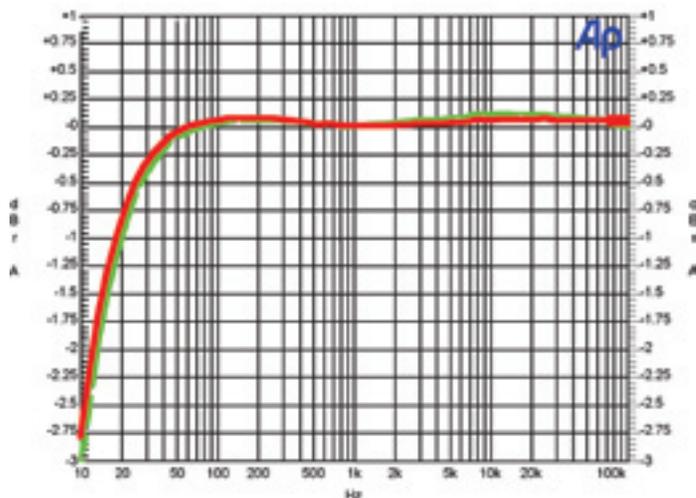
The 75µS passive stage performs the high frequency part of the RIAA EQ using selected metal film resistors and polypropylene capacitors. It theoretically works to an infinite frequency. The second stage is similar to the first stage but biased differently as the signal is now larger. This stage performs the remaining parts of the RIAA EQ, again using selected components and a single-ended class A output.

There are 25 internal zero feedback ultra low noise power supplies. Some are simple emitter followers and some are constant current sources feeding RC networks – this makes a big difference! Both have a very low time constant (which is why it takes two minutes to un-mute when turned on).

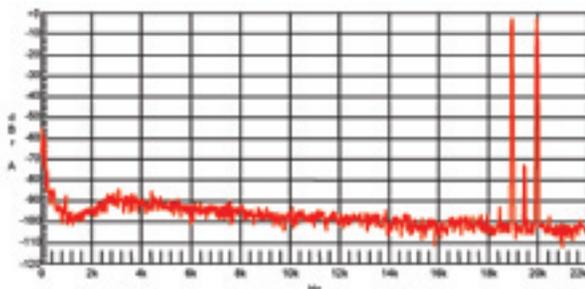
Many components are pre-selected to ensure bias and EQ is spot on and it sails through test. Tantalum caps are measured for leakage too, which significantly helps sound quality, and for the same reason many components are also lifted away from the PCB and hand soldered. The PCB has been very carefully designed to minimise inter-component capacitance and take advantage of star grounding.

The brass weight and six springs form a subsonic suspension system: great for sound; quite expensive, but worth it! *SuperLine* takes three weeks to run in fully, by which time all capacitors have formed and their leakage is low.

Naim Superline RIAA Equalisation Frequency Response



Naim Superline I/M +20mV 19/20kHz



Contact: Naim Audio  
Tel: 01722 426600  
www.naim-audio.com

## Lab Report (Hi-Cap power)

From a 20 ohm source and 500uV input, measured signal-to-noise ratios were excellent: 79dB CCIR (1kHz), 81dBA, and more than 72dB unweighted. These will be even better with typical lower resistance cartridge sources.

For 500uV in you get 780mV out, a gain of 156 or 43.8dB. Maximum output is 5.5V, and a good overload margin of 17dB is available over the whole frequency range for the relatively high 500uV input. Midband channel separation is a fine 83dB average, while THD (inc. noise) is a very good -78dB. The spectrum analyser showed that distortion was very low, better than -90dB, 0.003%, including the high frequency intermodulation test.

A mild, fixed infrasonic filter averages -1dB by 19 Hz and -3dB by 10Hz. The frequency response is then superbly flat (+/- 0.1dB, 50Hz to 200kHz) and extremely well matched (typically within 0.05dB) between channels. There is no intrinsic ultrasonic roll off, rather this may be provided by the capacitive component of the selected input load. A low output impedance of 100ohms will drive any line input and minimise input noise. For a standard 0.5V output the input sensitivity is 320uV, and DC offset is zero.

## PAUL MESSENGER COMMENT

Although a *SuperLine* recently came to stay with me for a couple of months, I had no review commission, so made few experiments or notes, and simply sat back and enjoyed it! However, I've a couple of observations to add.

The *SuperLine* I tried was brand new, and although it sounded good enough from the off, it didn't exactly blow me away. It then slowly but steadily improved through the next few weeks, and as it did so I found myself playing more records, and also becoming more conscious of the negative musical consequences caused by the so called 'advances' in recording technology over the past thirty something years. Clearly the three week 'burn in' mentioned by the designer is close to the mark.

A major surprise concerned the power supplies. One of the main reasons I bought a *NAC552* pre-amp many years ago was because its power supply gave the best vinyl reproduction at the time. Naim persuaded me to send back an old *Hi-Cap* for service, and when it returned I was startled to discover that it made the *Super-Line* sound better than the *552's* supply. And I haven't even tried a *Super-Cap* yet.

Most telling was my reaction after *SuperLine* had been returned to its makers, and I had to revert to the older, cheaper *Stageline*. For a whole week I simply didn't want to play my vinyl, and still sorely miss the *SuperLine* several weeks later.

### PHONO STAGE TEST RESULTS

Make Naim	Date 27/10/08		
Model SuperLine	Ser. No. 258220		
Distortion, THD inc noise	20Hz	1kHz	20kHz
At IHF 2.0V out			
Disc mc	-64 dB	-64 dB	-60 dB
Channel separation			
Disc mc	dB	79/85 dB	dB
Frequency response (ref: RIAA)			
Disc mc	-1.0 dB	0 dB	0.02 dB
Overall disc deviation 30Hz-20kHz	+/- 0.12 dB		
Intermodulation Distortion			
19kHz/20kHz 1:1	2V output	1kHz difference tone	
Disc mc		-91 dB	
Signal to noise ratio			
Disc mc		81 dBA	
Overload margin	16.8 dB	17 dB	17 dB
Max output level (1% clip, 1KHz)			
100k Ohm load			
Output impedance			
SE	100 Ohms		
Input Data	Socket	Sensitivity	Loading
Disc mc (0.5V output)	phono 0.32 mV	10k ohms	1100 pf
DC offset	Left 0 mV	Right 0 mV	
Size W x H x D	206 mm	87 mm	360 mm
Price	£ 1,650 (excluding power supply arrangements)		