

image hifi

Solution 710 und 720



Soulution 720 und 710

Prices: 16 500 und 19 500 Euros

By Dirk Sommer, photographs: Rolf Winter

The spacious yet elegant cabinets without visible screws or heat sinks, the live weight of almost 80 kg for a power amp rated at 120 watts at eight ohms and the large displays make it clear right from the start: Soulution is treading new paths of their own.

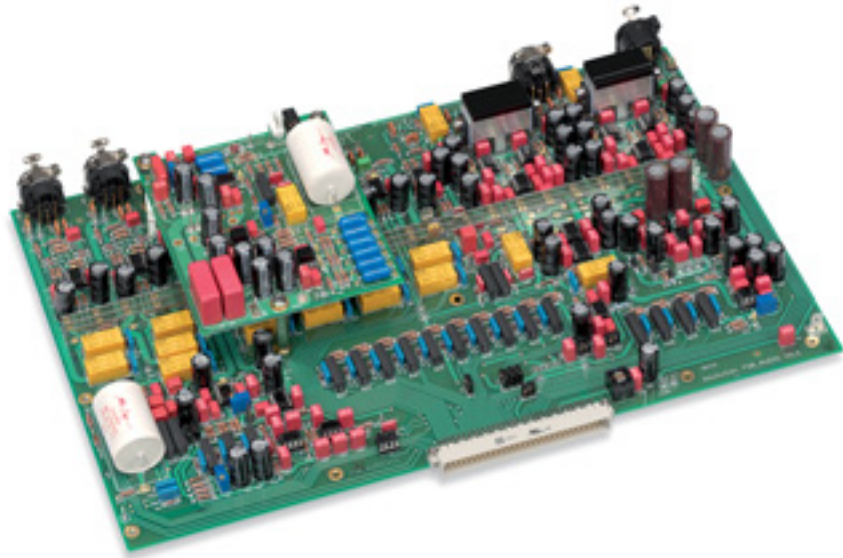
I need to admit that when we visited the company in February (see image hifi 69), the Soulution team and above all designer Christoph Schürmann were able to raise considerable interest in their products: so I could hardly await an intense rendezvous with the amplifiers since many of the approaches presented are indeed very unusual and sometimes differ pretty much from what is currently en vogue. But my expectations were not downright positive. For Christoph Schürmann had announced – not without a hint of pride in his voice – that the stereo power amplifier used no less than 3,000 components. And you don't even need to be influenced ideologically by the frequent contact with my colleague Roland Kraft and his preference for purist tube designs to win a lot from the concept of the ideal amp which should be a piece of amplifying wire. However, this approach is diametrically opposed to the design concept of the Soulution amps. But Roland Manz and Cyrill Hammer who initiated the hifi activities under the roof of the successful Spezial-Motoren-Fabrik Spemot AG, substantiated Christoph Schürmann's appointment as their technical designer mainly by the fact that he was a lateral thinker and a man of no taboos.

Let's begin with the preamp, the latest result of this lateral method of thinking, which actually would have been due for market launch already months ago, but was finished only shortly before the High End trade fair, because the delivery of the Vishay resistors for the volume control had been delayed further and further. One can imagine how difficult the Swiss must have found the decision to postpone the debut of their preamp several times as it would have been desirable for marketing reasons alone to complement the power amp (which had left a very good impression in the scene) with a suitable playing partner as soon as possible and thus consolidate the young brand's reputation. Sticking to their own high ambitions must therefore be appreciated all the more. Here it becomes obvious that the unrestricted commitment to immaculate quality and technical innovation during our company visit must by no means be dismissed as 'business talk'; it rather seems to be a passion of all people involved.

Now let's get back to the precision resistors again. Teamed with the corresponding reed relays, one can use them to build a resistor network for a volume control that is beyond any doubt, as was already demonstrated

Test system components

| | |
|----------------|--|
| Turntable: | Brinkmann LaGrange w. tube power supply |
| Tonearm: | Brinkmann 12.1, Triplanar 8 |
| Cartridge: | EMT JSD 5 and 6, Air Tight PC-1 |
| Phono EQ: | Einstein The Turntable's Choice, balanced & unbalanced type |
| Tape recorder: | Studer A80 |
| Preamp: | Brinkmann Marconi |
| Power amp: | Brinkmann Monos |
| Loudspeakers: | LumenWhite Diamond Light Monitors |
| Cables: | Ortofon TSW 5000 Silber, Precision Interface Technology, Nordost Valhalla, HMS Gran Finale Jubilee, Audioplan Powercord S |
| Accessories: | Clearaudio Matrix, Sun Leiste, Audioplan Powerstar, HMS wall outlets, Acapella bases, Acoustic System feet and resonators, Finite Elemente Pagode, Master Reference Heavy Duty and Cerabase, Harmonix Real Focus, Nordost Pulsar, Points |



The discrete level control takes up a large part of each of the preamp's two signal pc boards. The optional phono stage resides on the second floor

by other noble manufacturers. In the 720 the level can be set in 80 steps of 1dB each. But there is more: as soon as you touch the amp's volume knob, the resistor network will inaudibly switch to a so-called 'Programmable Gain Amplifier', a network contained in one chip, where electronic switches take over the relay functions. This PGA allows a close-to-realtime control of the selected volume level. Once the desired value has been found and the amp's knob released, the control logic will duplicate the corresponding level

in the discrete resistor network and switch it into the signal path instead of the PGA within three seconds. As Soultion claims, this dual level control has several benefits: first, the PGA reacts much more directly than its electro-mechanical sibling. Second, the life of the relay contacts is prolonged, since they need to switch only once from the initial value to the desired new setting, thereby ignoring all intermediate values. Finally, thanks to the twin solution, there are no click noises audible during the control process that would have to be suppressed thoroughly because of the circuit's wide bandwidth, if the switching relays were in the signal path.

Before the extremely lavish level control a gain control stage allows to program individual basic gain settings for all six inputs in 3-dB-steps between zero and nine decibels to compensate to a certain extent for level differences between the input sources. At this point one can also switch in a bandwidth limiter for every input, thereby reducing the regular 1 mega-

hertz to 200 or 20 kilohertz to cut out unwanted HF interfering signals from digital sources that would otherwise leave their traces in the audible range, too. Of course, an activated filter will be shown on the display that is well readable also from greater distances. Before the gain stage lies the relay-based input selector which, of course, does not only switch the signals, but also the ground connections. But since in the opinion of the Soultion designers a split ground connection won't create optimum conditions for the output stages of some source devices, they have equipped every input with a separate buffer that was placed between the input sockets and the source selecting relay.

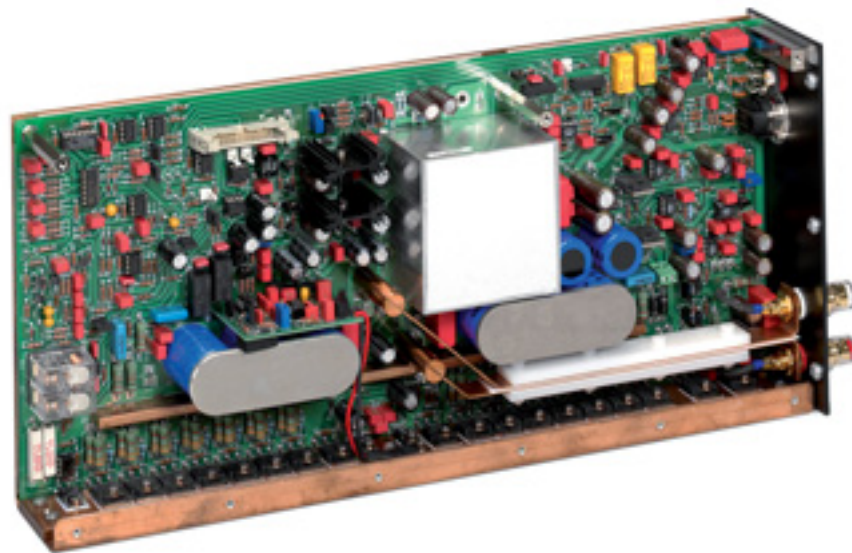
For this reason every additional input on the 720 produces additional costs which exceed by far the price for just another relay plus a pair of sockets. The standard version without phono option for 3,000 Euro less must therefore not only do without the turntable input but also offers only one instead of the two XLR inputs on



The input impedance of the phono stage is determined by solid multi-pin resistor plugs

Test Pre-/Power Amplifier

One channel of the power amp: the power transistors are mounted on a copper busbar and the voltage amplification stage has been sealed for thermal reasons



our test unit. Touching the input selector will cause the control logic to put a capacitor in the signal path preventively so that the preamp and all subsequent devices are protected from possible DC components. Only after the signal's DC proportion has remained below five millivolts for 15 seconds, the clever control will bypass the capacitor again. During operation, the protective system will likewise take care that the mentioned value is not exceeded and, if necessary, switch in the cap again; this is announced by a corresponding switching symbol on the display.

The output stage is the actual specialty of the preamp. Christoph Schürmann has designed it analogously to the voltage amplification, the innovative heart of the power amp. Normally a gain stage is supposed to provide both the voltage amplification and the feedback. But there is simply no operational amplifier that would be fast and precise enough for this task and at the same time could deliver the required voltage swing. And just for this reason

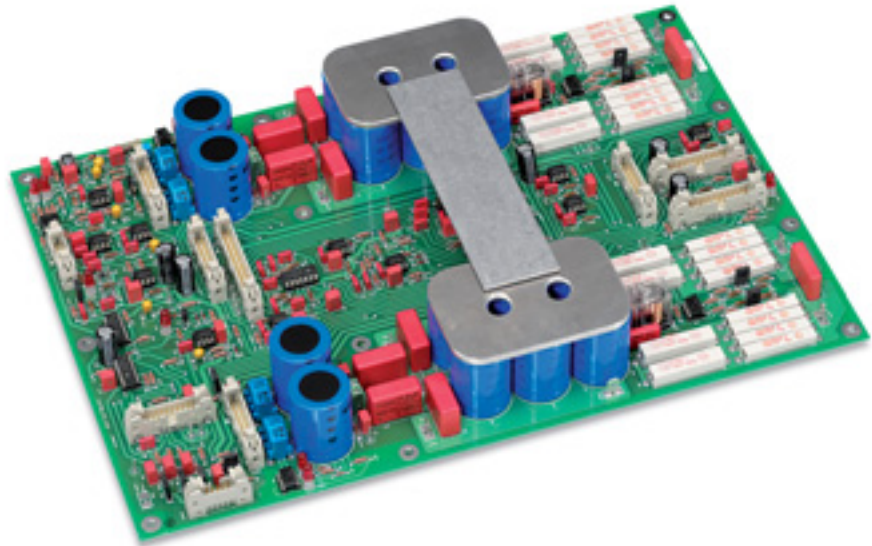
a high feedback ratio is hardly beneficial to the sound in traditional circuit designs. On the contrary, Soulution uses a first uni-gain stage which can provide a sufficiently fast error correction without sonic drawbacks. This is followed by a 'Supertransistor' as the company describes their combination of a genuine transistor (which provides the required voltage) and a preceding op amp (which is to linearize the characteristic curve of the subsequent transistor).

So now we have got to those two theories by Christoph Schürmann that are determining for the Soulution amplifiers: Even a higher feedback ratio is not detrimental to the sound quality in general if it's only made fast enough. Furthermore the signal path may well be a little longer, provided that one makes no mistakes here. By the way: the output stage of the 720, which operates with an internal bandwidth of 40 megahertz, could easily supply three amperes of current and thus drive loudspeakers, although the current delivery is limited to one am-

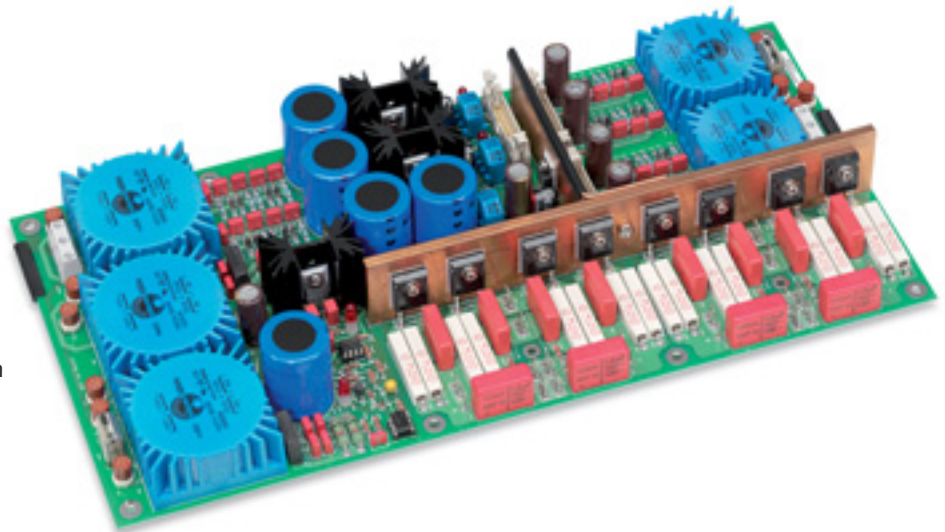
pere for safety reasons. The output impedance is merely two ohms so that even extremely long connecting cables between pre and power amp should produce no negative effects. Balanced signals at the XLR inputs will be unbalanced right after the preamp inputs, since the 720 is internally unbalanced (except for the output stage which generates a balanced signal). According to its designer, this is certainly no disadvantage as long as the grounding scheme is planned with adequate diligence.

Of course, the preamp has strictly separate power supplies for the digital control logic and the audio section, the latter being fed by a toroidal transformer with multi-stage regulation. Soulution describes the circuit as "a power amplifier that works on one capacitor", confirming it to keep the voltage of ± 10 volts constant to the fourth decimal place, no matter if the subsequent componentry draws no current at all or a hefty three amperes. Among other things, the described efforts manifest themselves in a sensa-

Aluminium plates quieten the electrolytic filtering caps mechanically



Single diodes provide the rectification in the power amp



tional S/N ratio of 150 decibels as Cyrill Hammer states.

The phono stage still achieves 100 decibels – and this despite a gain of 54 or 60 decibels respectively. The desired value is selected in the setup menu of the 720, just like the above-mentioned bandwidth limiter and the specific

gain settings for each input. The impedance of the phono input is determined by two resistor plugs right next to the input jacks. Given the attention Soudal even pays to seemingly unimportant details, it doesn't take me wonder that these are no ordinary RCA or XLR plugs: for reasons of firm

contacts, the Swiss have opted for miniature casings with 24 gold-plated pins and a glued-on profile that provides a better grip. The setup menu of the 720 still offers a whole assortment of comfort functions, but this shall only be mentioned briefly as the description of the preamp's distinctive

technical features has already occupied so much space.

On the power amp, Soullution fitted the RCA and XLR inputs with their own buffers, too. Switching operations will only take place after these. Thus it is possible to use a 710 in two different setup configurations – e.g. for hifi and surround. From the input selector we get to the voltage amplifier which has a cut-off frequency of 80 megahertz and is again subdivided into two functional groups: the so-called ‘error amp’ that receives the feedback signal, but will not contribute to the amplification, and the actual zero-feedback 20-fold voltage amplification. The circuits which share the same enclosure were sealed to make life hard for potential imitators and to provide a thermal coupling for all components. Current amplification is provided by 14 bipolar transistors per channel selected for their characteristic curves which have a temperature-constant quiescent current regulation and deliver their power into a current busbar. For heat dissipation the power transistors are mounted on a 6 mm copper rail which is connected to the cabinet of 10 mm aluminium plates. Finally a very low-noise temperature-controlled fan ensures absolute operational reliability.

The power amp’s enormous weight is largely due to the pair of magnetically shielded and sealed 1 kW toroidal transformers with their chokes located within. These are mounted on a subchassis which is connected to the rest of the cabinet only by means of damper elements. For the discrete rectifiers Soullution uses power diodes. Aluminium plates of substantial thickness quieten mechanically the large electrolytic filtering caps as well as the smaller ones on the signal pc boards. The voltages for all stages – ex-

cept for the power transistors – can rely on a multiple regulation. No less than ten power supplies, which are all decoupled mechanically from the cabinet as well, feed the control logic and the various protective circuits. I cannot remember having ever seen a power amp before with an output power of 240 watts at four ohms that would have revealed such a tremendous battle of material.

According to Roland Manz, thanks to the diligent circuit design and the meticulously selected components the 710 is perfectly stable and reliable already without an overall feedback and also shows respectable measuring results. Therefore the idea of making the feedback switchable had been pursued for some time. Then one could have chosen at will between a ‘tube sound with a slightly softer bass and less brilliance’, as Spemot’s managing director describes the zero-feedback sound not without a hint of polemic, and a very tight low range with very transparent highs. But in the end they had wanted to show their colours in terms of sound as well and therefore decided to go for the more truthful variant without any soft-focus effect. After all, Soullution stands by the term High Fidelity in its true sense of word. And personally, he could not get much from the sound of glass tube amps anyway.

Integrating the series 7 from Switzerland into my listening room was dead easy, because Mr. Hammer and Mr. Manz had travelled here to listen for themselves how well their creations would get along with the big Lumen-White speakers. Since they had taken over the distribution of the HMS cables in the cantons a long time before developing their own electronics, the topical signal cabling of my chain with the HMS Gran Finale Jubilee met their

full approval. Only the mains cables supplied with their amps – less advanced models from the HMS range – were replaced by Jubilee versions. Already the first record, where Einstein’s The Turntable’s Choice still provided the equalization, made it clear that speaker and amp go together well, although – or possibly: because – they tend to head for the same direction: neither of them will ever be suspected of euphony, round off the shortest transient or withhold one single detail. Nor will they leave their mark on the music rather than reproduce without a recognizable characteristic sound what they are offered by the turntable and records.

Placing the 720 was also quite easy, at least for one half of the Soullution team: Roland Manz has got his own preamp reside on a Pagode rack, too, though placed directly on a shelf. After some quick experiments it emerged that the sound gets even a little better with three Pulsar Points by Nordost under the massive preamp: the titanium feet elicit an even finer resolution from it and a rhythmical accentuation that is tadbit more intense. Again, Finite Elements Cerabase between floor and power amp produce similar improvements as was to be expected. Already some hours later the Soullutions are demonstrating their exceptional status not only in technical, but also in acoustic terms: they respond at least as fast as Spectrals, unleash almost explosive dynamics just like that and do not reveal the slightest timing weakness either. When it comes to tone colours, they behave like a newly calibrated monitor: neither do they embellish nor withhold anything. The next few weeks will show if this sober and all-revealing approach can also fascinate over a longer period of time.

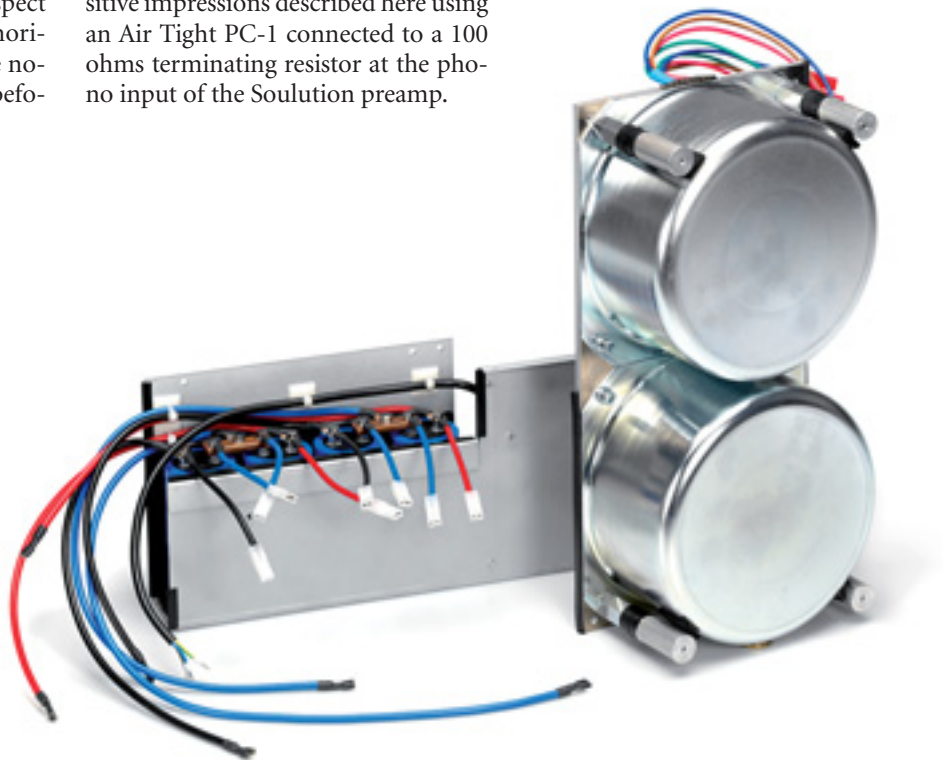
To my surprise the Soulutions do not only thrill with large orchestral works where their superb transparency bring order and clarity into the widely spreading acoustic image. Once again I have taken some ECM solo and duo recordings from the shelf and listened to them with pleasure, e.g. Dino Saluzzi's masterpiece Kultrum (ECM 1251), on which the bandoneon virtuoso does not only sing, but also plays a variety of percussion instruments and flute. The record – and of course the Soulutions – conveys the illusion as if you were sitting not far from the musician in a large, open studio where the low drums have enough room to unfold their mighty sound. The bandoneon seems so palpable, you could lay your hands around it: however, the movements of the bellows and the clicking of the knob keys to the right and left distract by no means from the melody. But the new aspect to discover is with how much authority the instrument can push single notes into the room. Anyway, never before

re have I heard this record so intensely like with the 710 and 720.

Yet no matter if we are talking about vinyl treasures that had fallen into oblivion and were rediscovered by pure chance, copies of exquisite master tapes or reasonably good private recordings – despite their breathtaking precision and even with longer listening sessions, the Soulutions will not tire out your ears; rather they surprise time and again with their speed and their wealth of information. By the way, during the past few weeks I gave the Einstein equalizer a little rest – first because I wanted to experience the 720 as an entity, and second because almost on the same day like the Soulutions, the long-awaited Triplanar tonearm arrived, whose cables are terminated with RCA plugs and hence cannot be connected to the balanced The Turntable's Choice. So I got these entirely positive impressions described here using an Air Tight PC-1 connected to a 100 ohms terminating resistor at the phono input of the Soulution preamp.

Meanwhile an unbalanced version of the Einstein has arrived which now allows a better evaluation of the talents of Soulution's phono section. As expected, the phono pc boards can master the enormous dynamic contrasts in the second movement of Albeniz' Suite Española (a reissue of Decca SXL 6355) easily and present an extremely detailed resolution, especially of the highs. At the same time, they place the listener somewhat closer to the musical event than the Einstein, thereby creating as a whole the impression of a slightly deeper stage. The tonal character of both equalizer versions also differs slightly: thus the Soulution's pc boards present a minimally brighter, more finely resolved upper harmonic range, whereas the Einstein lays a somewhat

The two shielded 1 kW transformers are mounted on a decoupled subchassis. The electrolytic filtering caps neither lead a mechanical life of their own



stronger foundation. But in the end it's not about quality issues here any more rather than matters of taste. The phono sections fit perfectly into the Souldution's overall concept where there is no room for euphony.

With Keith Jarrett's interpretation of the Billie Holiday classic 'God Bless the Child' on Standards, Volume I (ECM 1255) the Souldutions shall demonstrate their abilities in terms of groove, something they accomplish quite easily. With this song that I know perfectly well I find much more impressive how many details – the snaring of a bass string here, noises from the grand piano's damper mechanics there – were not really withheld by the amplifiers used so far, but simply not raised above the threshold of conscience. The cymbals of Jack DeJohnette's drumkit sound wonderfully sculptured and yet they are bursting with energy. And in spite of all its drive, Gary Peacock's doublebass playing now appears incredibly nuanced in its dynamics. As long as these additional information will not inhi-

bit the rhythmical flow – something they don't do in the least -, they must be clearly judged as a gain.

When the Brinkmann Monos take over the duty of power amplification, while the 720 still takes care of preamplifying and processing the phono signals, the Lumens caress the listener with a slightly more voluminous upper bass which, however, masks some delicate information and lowers the perceived tempo by some beats per minute. The hitting of the cymbals, followed by the swelling and fading of their tone, is now traced a bit more coarsely. Here I dearly miss the finesse of the 710, whereas I don't necessarily feel like complaining about the mightier, yet minimally less precise bass of the Monos.

To find out which of the Souldution components is primarily responsible for the exceptionally transparent sound, I connect the Brinkmann Marconi once again to the 710 in conclusion. With the Stereo Laboratory reissue of Holst's Planets it fails to communicate as much drama as the 720: true, the Marconi does evoke the illusion of an imaginary stage of at least the same dimensions, but plays a little bit more reserved in the bass and treble range. That way, it attains an almost equally high transparency like the Souldution, yet does not perform quite as compellingly. What belongs together, should therefore stay together: Marconi and the Monos, 710 and 720.

Souldution's incredibly lavish amplifiers are certainly not everybody's darling: for this they are simply much too honest. But it is just this relentless honesty – besides their exceptional rapidity and phantastic transparency -, which makes the 710 and the 720 with its outstanding phono section something very special. ●

image x-trakt

What we like:

The innovative circuit design and the clear statement on high fidelity.

What we miss:

A remote control with the haptic quality of the safe-like cabinets.

What is surprising:

The fact that a power amp with 3000 components can sound so fast and transparent

What to do:

Use synergy effects and leave all applications to the Souldutions.

image infos



Preamplifier Souldution 720

| | |
|---------------------|--|
| Inputs: | 1 x phono (RCA) 5 x line in (2 x XLR, 3 x RCA) |
| Outputs: | 1 x main out (XLR) 1 x main out (RCA) 1 x record out (RCA) 1 x link (12V) |
| Special feature: | switchable input bandwidth limiter |
| Dimensions (W/H/D): | 48/17/47 cm |
| Weight: | 30 kg |
| Price: | 16,500 Euro (without phono 13,500 Euro) |

Power amplifier Souldution 710

| | |
|------------------------|------------------------------------|
| Inputs: | 1 x XLR, 1 x RCA, 1 x link |
| Outputs: | 1 x speaker terminals, 1 x link |
| Output power (8 ohms): | 2 x 120 watts |
| Dimensions (W/H/D): | 48/28/54 cm |
| Weight: | 80 kg |
| Price: | 19,500 Euro |
| Guarantee period: | 60 months |

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