



NAGRA MSA

AT A TIME WHEN AMPLIFIERS ARE MORE AND MORE IMPOSING, THE MSA TAKES THE OPPOSITE DIRECTION TO THE GENERAL TREND. IT IS AS COMPACT AS THE REST OF ITS FAMILY, YET HAS ALREADY CREATED QUITE A STIR. A NEW NAGRA IS ALWAYS AN IMPORTANT EVENT, ESPECIALLY WHEN IT IS SO LONG AWAITED.....

The MSA amplifier answers a double development challenge: to be integrated into a chassis matching the Nagra aesthetics, electronics able to drive most speakers available on the market, including those reputed to be somewhat difficult.

SWISS CRAFTSMANSHIP

Entirely built in anodized aluminium, the case of the MSA has the same dimensions as the other links in the NAGRA chain, such as the pre-amplifiers as well as the CD players. Both the width and depth are identical. It is

also possible to stack two or three elements thanks to the conical spikes and VFS plates. The MSA must be in the uppermost position. Its heat-sink is elegant but can't, logically, have anything on top of it. This element, machined from a solid 10kg aluminium block, still weighs 3 kg once finished. The radiator plays an important role, not only in cooling, but also in the stability of the amplification stages. It serves as energy reservoir thanks to its high storage inertia and thus offers great stability to the electronics: The transistors attached to it can output their peak power without any worry of a sudden rise in temperature. One finds the emblematic Nagra controls, notably a large rotary selector which serves to turn the unit on and off,

THE EXPERTS

TECHNICAL POINTS

Switzerland

Price : 8 900 euros

Dimensions :

27 x 11 x 23 cm

Weight : 10 kg

Power :

2 x 60 watts RMS

1 x 120 watts RMS bridge

Frequency response:

10 Hz à 75 kHz, +0/-3 dB

Channel separation :

> 85 dB

SNR: 109 dB

Impedance : > 100 kOhms

manual or automatic selection and muting of the outputs. The MSA is of course, equipped with a traditional needle driven modulometer that shows the power supplied to the output of the amplifier. The illumination of the meter is adjustable through a small switch located beside it. Despite its limited space, the rear face is full. It groups the mains power input block, with fuse holder, IEC connector and anti-parasitic RF filter. Connection are made through two sym-

metrical input connectors on Neutrik XLR connectors, two pairs of WBT speaker posts, two banana sockets designed to receive a jumper to bridge the power stages and a gold plated earthing point. Finally two switches allow a choice of input sensitivity and operating mode (stereo, bridged in parallel or bi-amplification).

60 WATTS OF REAL POWER!

The MSA develops 60Watts per channel on an 8Ω load. This figure is judged to be ample to drive the majority of loudspeakers by the Nagra engineers. By privileging a rational approach to power, it has avoided all superfluous over-complexity of the amplification circuit designs, a desirable asset when total audio transparency is the goal. According to them, increasing the power cannot be done without concessions, more particularly in the output stages, which would need the blocks of transistors multiplied, with the inevitable problems of matching, stability, energy requirements, heat dissipation and physical space which all add up to accelerated ageing of the equipment. Any greedy user can still bridge the two channels, to

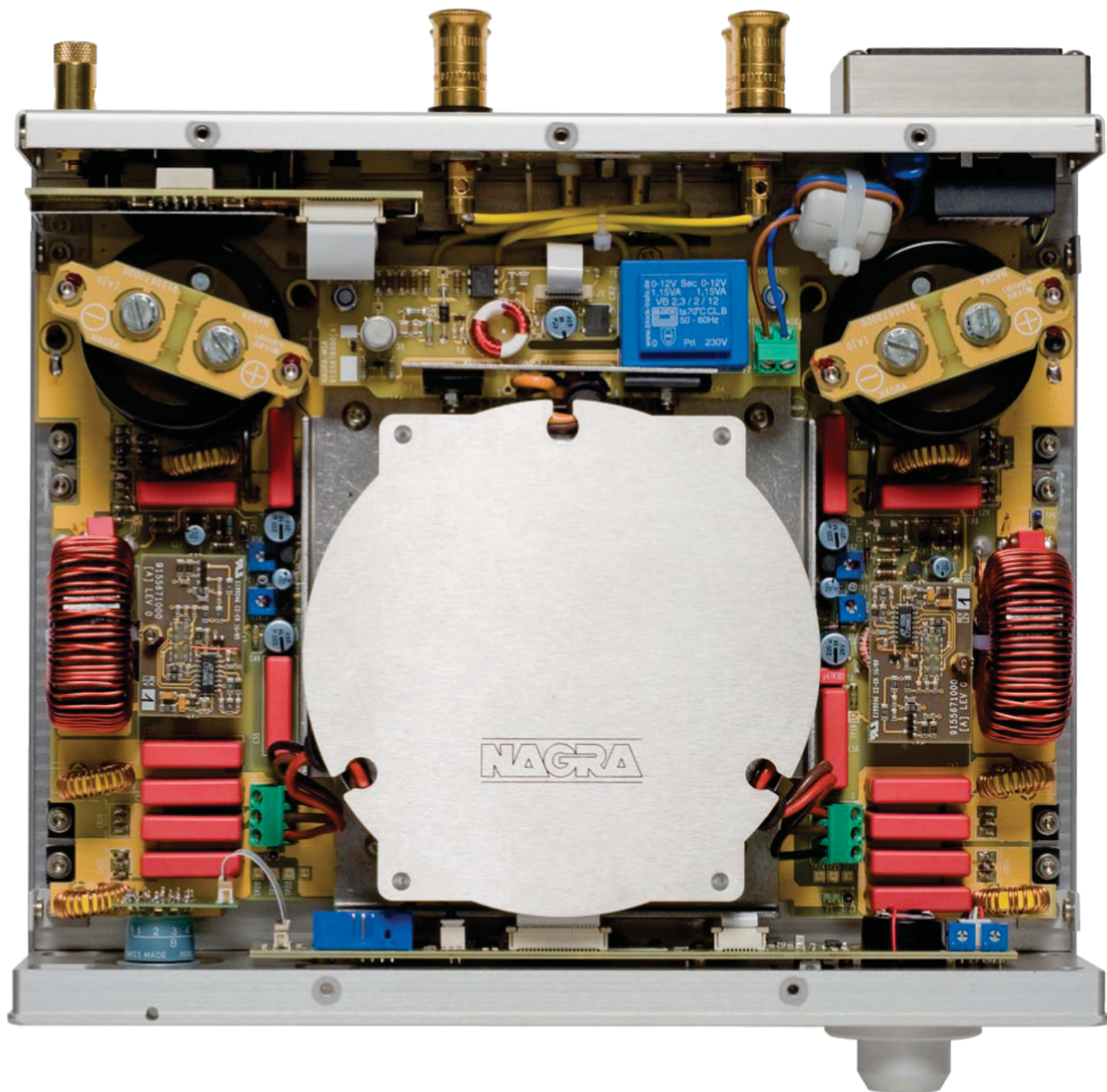
achieve an output power of 120Watts in mono. It goes without saying that in this configuration the current drawn is doubled. Acquiring a second MSA is thus needed to end up with a pair of mono-blocks! An incontestable argument of evolution....This being said, we were able to compare the MSA with another Swiss stereo block, our FM acoustics F-30B. This offers 150Watts per channel into an 8Ω load, almost triple that of the MSA. However, when listening, the Nagra seems subjectively as powerful as the FM Acoustics. This is a proof that its circuit is of a particularly good design, and allows a remarkable use of the energy.

INTELLIGENT POWERING

Even though they have better efficiency, loudspeakers remain difficult loads to drive, often with sharply varying impedance curves. They oblige amplifiers to confront sudden and rapid changes in impedance, which is a hard task for most circuits. To ensure an undisturbed signal management the reactions of the power supply and its ability to react instantaneously to sudden current demands is a fundamental requirement. With this goal, the Nagra engineers have developed a very advanced solution, based on a



IN LAUSANNE



Power Factor Correction circuit. Seen from the mains, such a supply presents itself as a pure resistance: It behaves, in a way, as though there were a de-coupling between the supply and the unit. By perfectly superimposing the current and voltage with strict precision the PFC supply suffers very little loss. It assures an efficient energy transfer and will not “fall over” when the loading increases: it is able to respond extremely quickly to increased power demands from the power output stages. The PFC supply in the Nagra MSA has a very special structure, having a fundamental difference to those using tradi-

tional decoupling. It behaves neither like a “flyback” transformer nor a “snubber” circuit, which have the inconvenience of creating hot-points on the printed circuit boards. In place of the traditional transformer is a 200VA toroidal transformer which lowers the voltage to $\pm 35V$ required by the output stages from which all other necessary voltages are derived. This transformer operates at the mains frequency and thus avoids generating residual HF noise. The power supply filter section, which takes up a good deal of the main circuit, was also the subject of yet further precision development. The

calculations, component choice, and even their ratings play a pivotal role in the final overall quality. One notes the use of multiple polypropylene capacitors, generously wound coils and robust 84'000 μF electrolytic capacitors on the output.

TWO MAKE A PAIR

In order to test the new Nagra amplifier the distributor lent us a CDC (Already tested in “Haute Fidelite” N° 124). This CD player, being equipped with an internal pre-amplification stage is transformed into an independent source. Linked to the MSA, under which it can



slide thanks to the decoupling cones, they make a coherent and...very desirable package, even to the most blasé audiophiles. Like all Nagra's, the CDC was the object of profound development by the Swiss engineers. It is a refined product that sounds eminently musical.

LISTENING

Tone colour : The new Nagra is a "degustation" of an infinite variety of sound. Rarely has the audio restitution of an amplifier been so subtle, and so separated from the electronics. If the realism of this unit is so easily managed, it is primarily because the MSA has such an exceptional harmonic wealth. The frequency response is defined with a superior spectral equilibrium. Not a single sound component is out of place. The bass is deep, well structured and exempt of weight. It rolls without being constrained. The mid-range is remarkably natural. Nothing is added, yet presents an unquestionable presence. It achieves the combination of the virtues of purity and density perfectly. It wants to get to the point while incorporating highest possible audible detail. The treble is fresh with astonishing sobriety. Then, disk after disk, you realise that everything is perfectly in place, and if it is so discreet it is because it goes infinitely high and is

totally void of any inkling of error in this area. All the registers combine with a disconcerting elegance. The great paradox, and the largest virtue of the MSA, is to be able to offer such simplicity while delivering such a pertinent and rich modulation.

Dynamic Range : So that things are perfectly clear, the MSA is everything apart from an unbridled amplifier, seductive, truer than nature, in a word, eye-catching. On the other hand it shows a pleasing tonicity for all sounds, from a simple jazz trio or a complex symphony. What is surprising is that the MSA does all this without the slightest indication of stress and unmatched restitution of every melody. It does not portray crushing blows, but gives a particularly lucid and precise vision to each orchestral section, and every bar. It is rapid with no confusion. Even at high volume, there is no compression to the dynamic range, not the slightest aggressive deviation. Generally, it is a serenely composed amplifier that gives no hint of restriction.

Sonic scene : One immediately enjoys the large sonic field that the MSA produces. The sound field is deep, yet well structured. The listener benefits from a perfect three-dimensional restitution. On this point, the MSA manages to show qualities more often associated with vacuum tubes. This translates to a

LISTENING SYSTEM

player :

Nagra CDC

loudspeakers :

Egglesonworks Dianne
et MBL 121

cables :

Hi-Fi Câbles & cie Maat
(interconnect)
Super Maxitans (HP)

well aired holographic universe.

There is an ample panorama, and excellent breathing space. The sonic plains follow each other coherently with no notable implausibility in their construction. On the last opus of the E.S.T. Trio, not only one hears a separation between the three musicians, but also their special location can be precisely placed, and one feels the "colour" of the studio and one appreciates the reverb, the ambience.

Transparency : The MSA offers a highly refined listening. It concentrates on the smallest details with extreme clairvoyance. One notes that the brass section sounds bright, and excellent definition on the cymbals. In brief, all the little things that lift the level of realism up a notch.

VERDICT

A new Nagra is not a regular event. It is the fruit of great reflexion, the result of hard work, precision tests, as the Swiss firm pushes product design to the limits. Thus the arrival of the MSA must be respected as it deserves. To fit so much electronics into such a compact chassis while guaranteeing perfect operational reliability, even in extreme situations is a challenge that Nagra embraces. The MSA is part of their timeless creations that we call classics. It reaches this class while still in infancy. We salute its profoundly elegant and homogeneous musicality, its remarkable compactness, and its polyvalence that will appeal as much to audiophiles as to professionals.

Laurent Thorin

FABRICATION	■	■	■	■	■
TONAL COLOUR	■	■	■	■	■
DYNAMICS	■	■	■	■	■
SONIC SCENE	■	■	■	■	■
TRANSPARENCY	■	■	■	■	■
RATIO	■	■	■	■	■

