

AM AUDIO A-300 X EXCELLENCE MONO POWER AMPLIFIER
A FABOLOUS AMPLIFIER!
- 1000W WITH ZERO FEEDBACK!
- PURE CLASS A UP TO 100W
- 136 Kg EACH

TESTED TOGETHER WITH THE EXCELLENCE P-1X AND 6X PRE-AMPLIFIER

AM AUDIO

P-1X, 6X & A-300 XP-1X, 6X & A-300 X

We knew they were “important” products, but the website did not contain any trace of them, and Attilio Conti has kept his new creatures well hidden from us, in order to make the surprise even bigger. Indeed, when they arrived at our editorial office, the scene appeared to be mysterious and slightly unsettling, somehow reminding of those sci-fi movies in which a dinosaur was locked into a container and transferred to another place. And we were moving “only” the pre-amplifier...

The power amplifiers packaging seemed even threatening, arousing doubts about the floor's bearing capacity; the assembly of the whole system required the intervention of almost all the men present in the office. At the fateful moment of the containers opening, we did not expect to see any baby Velociraptors, but our surprise at seeing the devices in the photos was not that far from that. For twenty-two years, AM Audio amplifiers have always featured a sober and recognizable design, though applied to mechanical systems even very different in terms of size. Here, for the first time, we see chrome-plated, unusually thick panels, complex roundings clearly performed by means of high-precision machines, and composite colours instead of the traditional and previously almost omnipresent anodized black. Moreover, the pre-amplifier features an alphanumeric display and a flush rotating knob, making immediately think of a connection to an encoder. An AM Audio pre-amplifier without the volume potentiometer? That is another totally new feature. And again, a pre-amplifier consisting of two almost identical frames which, however, do not separate the controller and the power supply from the amplification circuits, since both feature inputs, outputs and a power-supply socket. Yet, the 6X clearly received the inputs sent by the P1X unit through two multipolar connectors, so what could it be?

Innovative architecture

Obviously, it took little time to solve this “mystery”. The P1X unit is a conventional (or maybe not so conventional) integrated stereo pre-amplifier, i.e. a single-frame device featuring a range of options for the connection to other units (it can supply power to an external phono unit and to modified players, just like some previous pre-amplifiers built by the Manufacturer) and, in particular, to the 6X, that is merely a parallel unit able to deal with six other channels (connected to three different sources). In this way, both the audiophiles “school of thoughts” can be satisfied without wastes and without bypassed sections: those who love stereophony can buy the P1X unit alone, together with a pair of A-300 X (or less powerful models) mono power amplifiers, while those who prefer multi-channel systems will have to add a 6X unit and six other monophonic power amplifiers. Obviously, the only source currently able to supply the maximum configuration is a blue-ray disc player with eight balanced (or unbalanced with RCA/XLR adapters) analogue outputs, since both the DVD-Audio and the SACD players feature a maximum of 6 channels only. Let's do a few sums: the P1X unit costs 28,250 Euros, just like the 6X unit, while a pair of A-300X devices costs 58,500 Euros. For the maximum configuration, the amount reaches up to 289,500 Euros, equalling the cost of a little apartment in Rome or Milan and of a quite large apartment or of a terraced house in the rest of Italy...

Also the “stereo only” setup requires an investment of 86,000 Euros, far too expensive for the so-called “average audiophile”, just like the electrical parameters: the A-300X power amplifier is in pure Class A, it is, until proven otherwise, the most powerful pure Class A amplifier ever manufactured on industrial scale and, as such, it features an absorption equal to twice its nominal power, i.e. it would absorb 600 Watts at rest. In fact, we measured a consumption at rest of nearly 900 Watts which, on the one hand, renders the idea of the “wide” concept of “Class A” they have at AM Audio and, on the other hand, means that the abovementioned “minimum” configuration absorbs not less than two kilowatts, not to mention, of course, the “maximum” one, exceeding seven kilowatts. It goes without saying that the basic 3 kW electricity contract is not enough even for the stereo configuration, also because it is impossible, especially in summer, to do without a good air-conditioning system. Furthermore, it is sufficient to consider that electric stoves, which had been used until the halogen ones replaced them, generated an amount of power equal to that produced by a pair of A-300X units and, when they operate at full capacity (after several dozen seconds), they reach a surface temperature similar to that of a radiator, which maybe does not burn, but is surely unsustainable for more than a few seconds. It is the price a rigorous audiophile has to pay, as he makes a simple as well as inescapable question: why trying to obtain the lowest electrical noise values when then it is necessary to admit the mechanical noise of a fan which, even if extremely low, surpasses it anyway?

The heat-dissipating area is obviously huge, measuring over four square meters. From the design point of view, the A-300X unit represents the most intriguing AM Audio device ever seen until now. The front panel is made of chrome-plated aluminium (only recently it has been possible to chrome aluminium, and only with very complex processes) in two tonalities: the central section is darker, while the edges feature a classic metallic colour; moreover, the panel seems to be unusually thick, reaching five centimetres. In fact, the front panel is five centimetres thick, while its sides are even six centimetres thick, and the dimensions are the same for the front panels of the P1X and 6X units, too. Roundings are performed by milling but, in view of the materials, thicknesses and finishings employed, they are obviously not conventional processes. The description provided by the Manufacturer mentions, indeed, a working cycle of up to 24 hours for the front panel of a P1X unit, six of which required for the rounding of one of the two sides alone, performed by using diamond spherical milling machines and extremely high rotation rates. The frame has to ensure the perfect rigidity and undeformability of its 136 kg overall mass: that is why its dimensions represent another unique feature of this system.

The device features, on its sides, 14 mm thick aluminium profiles, directly supporting the six grey anodized aluminium heat-dissipating blocks, while on the rear side the thickness “drops” down to nine mm; the base is made of 3 mm thick laser-cut steel, reinforced with 12x20 mm aluminium bars. The pre-amplifiers are proportionally even more impressive: apart from the front panel, which is identical to the power amplifier’s one, even if less high, they feature 14 mm thick sides and 9 mm thick rear and backing panels, while the cover, in the thicker part, reaches a thickness of 14 mm.

From a structural point of view, the P1X device is a line pre-amplifier with only balanced inputs and outputs, for a total of six stereo inputs and two pairs of parallel outputs. The 6X unit which, just like the P1X, requires a control device for the input selection and the volume control, features three more six-channels inputs and a single output (six XLR connectors). The A-300X power amplifier has one single balanced input, too, as well as two pairs of proprietary output terminals, already described previously, which are extremely sturdy and reliable. Besides the power switch, the only other control is the modulation depth selector which, like in other AM Audio devices, can be set at 50 or 100%.

Construction

If the external design is impressive, the internal part of these units is certainly going to occupy a privileged place in a hypothetical future Hi-Fi history museum: a place which is deemed to remain empty for a long time, anyway, since it is impossible to judge when they will become obsolete before several decades. It is enough to say that the removal of the cover from the A-300X unit raised the curiosity of the entire NewMediaPro office, including the management and the advertisement department, all gathered in the photo shooting room to observe the uniqueness of this super power amplifier. The first and most attractive element is the toroidal transformer's container, made of 2 mm thick, black chrome-plated, mirror polished steel: beautiful and huge, reminding once again a sci-fi object, like the alien artefact of the movie "Sphere", directed by Barry Levinson.

It is obvious, however, that, besides the form, there is also substance: the unit contains a 3-kW, completely resin-coated transformer which is extremely noiseless during operation, also because it is connected to the frame by means of 12 dampers. The second element to be noticed is represented by the filter capacitors. The ones already seen in the previous top-products manufactured by the Vigevano-based company were excellent, but these ones go beyond: each one of the eight Nippon Chemi-Con electrolytic capacitors installed feature a capacity of 0.33 farads and a maximum voltage of 50 volts. 2.64 farads, 3300 joules of potential storage, and 2330 joules of operating storage (the capacitors are charged with 42 volts) are values never seen before, exceeding even the VTL Siegfried unit, which yet was a valve system, as well as, even if only slightly, its "little brother" B-1000R, that we tested last year. In this kind of comparison, it is necessary to consider that the energy density stored into the capacitors generally tends to grow when they reach their maximum operating voltage and, therefore, it becomes easier to achieve high energy levels in the most powerful amplifiers and, especially, in the valve power amplifiers.

Since we have mentioned the B-1000R device, we would like to point out that the same B-250R/B-1000R duality observed in the past (the first one less powerful but completely in class A, the second one extremely powerful but with only the first 70 watts in class A) is present in this case, too: also the A-300X has a brother, the A-1000X model, which obviously delivers a rated power of 1000 watts and is biased in class A up to 100 watts. All this pointing out the "brute force" of these units may irritate those non-technical audiophiles who, instinctively, are more easily attracted by concepts such as "sophistication" and "elegance". The only option, in this case, is trying to explain to them that, from a rational point of view, one or more farads of levelling in a power amplifier featuring, for example, an 80 dB feedback and a quiescent current of 50 milliamperes, represent a virtually useless luxury. However, if the feedback is absent, the power supply has to be perfectly levelled even in case of high power absorption, or the ripple will be inexorably transferred to the loudspeakers. Furthermore, if it operates in class A, the absorption is equal to the maximum power absorption also with no signal: in that case, the ripple would even translate into a hum.

The third element to be noticed is the endless series of power MOSFETs: 20 pairs of Hitachi K1058/ J162 for each bank (just like the B-250 unit, also the A-300X model is a balanced power amplifier), for a total of 80 MOSFETs, featuring a theoretical dissipation of eight kilowatts and ± 140 continuous amperes. In fact, however, it is the system as a whole which represents a sort of hymn to both the electrical and mechanical construction quality. The pre-amplifiers seem even less terrestrial. Once again, when we open them, the highest admiration is excited by the size of the power supply units which, in each one of them, include up to four 100 watts toroidal transformers, resin-coated in pairs inside two chrome-plated aluminium containers. In the P1X, the related highest capacity secondary circuits convey the power to eight electrolytic capacitors (these, too, manufactured by

Nippon Chemi-Con) reaching 56000 $\mu\text{F}/63$ volts (theoretically equal to 890 joules, i.e. four or five times the average value of a good power amplifier...), while in the 6X unit, the triplication of the amplification electronics lead to a reduction of the volume available for the power supply.

We are talking about two 120 watts toroidal transformers and a total levelling of about 300,000 microfarads. Once again, someone could object that such a huge power supply unit in a pre-amplifier represents a nonsense, but also in this case a rational analysis cannot leave the circuitation aside. First of all, all the stages operate not only in class A (all the pre-amplifiers have always been in class A), but with high biasing currents and considerable dissipation values.

Furthermore, the AM Audio circuitation strategy as regards pre-amplifiers includes several dissipating stages connected in cascade to the power supply unit, thus enabling the gradual reduction, through passive filtration, of each spurious signal existing in the main filter cells. This way of operating ensures an extremely pure power supply, but dissipates a high power.

However, regardless of any logical evaluation, it is in fact the system as a whole which intrigues the observer, thanks to the perfect layout order, the absence of visible wires as well as to the discretisation and low tolerances of all the components. The volume section, featuring a high resolution and dynamism (a 0.2 dB pitch for a total of 100 dB), is positioned on the bottom side and consists of a network on R-2R scale switched by low noise and high reliability relays, enabling the manufacturer to declare a minimum number of sustainable switchings equal to 50,000,000 (fifty millions!). Each channel, being balanced, requires two symmetrical sections, and the number of relays involved becomes well audible (but NOT from the loudspeakers) every time the volume knob is rotated, even if slightly. The knob is not connected, as in other cases, to an optical encoder, but to a double motor-driven potentiometer, similar to those usually employed by AM Audio; its input, however, is not connected to the audio signal, but to a reference 5 volt voltage.

The potentiometer output is then obviously connected to a DAC and to the related decoder, which appropriately controls the relays battery. The advantages of this way of operating, besides the abovementioned performances, include a manoeuvrability absolutely identical to that of a rotating potentiometer (the 100 dB are all covered by the 270 degrees available rotation) and the possibility of easily changing the firmware in order to obtain different progressions.

Conclusions

It is the most extreme amplification system ever designed by a well-established Italian manufacturer, and even at an international level it becomes difficult to find terms of comparison when we consider features such as the class A modulation depth and the zero feedback, as well as the linear design, the structural plainness of the circuit and of the transferring function obtained, the ease of use, the top quality level of the pre-amplifier volume section, the abyssal channel spacing, and the mighty and attractive electromechanical structure. A few years ago, when we tested the class A 250 watts monophonic power amplifier, we imagined that the following evolution path would have possibly included a pair of power amplifiers like this, but honestly we did not expected that it would have really been manufactured. We should have expected that, though, because that is how Attilio Conti and his company are: they never speed up things, they never bite off more than they can chew, but when they are ready in technical and organizational terms, and obviously when there is the market potential (especially abroad, in this case), than the "supreme" component can be conceived and produced, without any kind of reverential awe for going against the absolute world leaders élite. P1X and A-300X,

together with the 6X unit, are already, for those who love multi-channel music, among the prides of the Italian industrial production.

Fabrizio Montanucci

Manufacturer and distributor in Italy: A.M. AUDIO, C.so Milano 102, 27029 Vigevano (PV), Italy. Tel. +39 0381 347161 - Fax +39 0381 348753

Prices: P-1X: 28,250.00 Euros; 6X: 28,250.00 Euros; A-300 X: 58,500.00 Euros per couple.

(warranty 10 years)

FEATURES DECLARED BY THE MANUFACTURER

P-1X EXCELLENCE STEREO PRE-AMPLIFIER

Sensitivity: 205 mV per 1 V out. **Maximum output voltage:** 48 V. **Input impedance:** 22 kohm. **Output impedance:** 56 ohm. **Feedback:** absent. **THD:** <0.003% (1 V). **A-weighted S/N ratio:** 106 dB. **Frequency response:** 3 Hz-1.2 MHz. **Channel spacing:** 110 dB (20 kHz). **Power consumption:** 45 W. **Size (LxHxP):** 440x220x435 mm. **Net weight:** 45 kg

6X EXCELLENCE 6 CHANNELS PRE-AMPLIFIER

Sensitivity: 205 mV per 1 V out. **Maximum output voltage:** 30 V. **Input impedance:** 22 kohm. **Output impedance:** 56 ohm. **Feedback:** absent. **THD:** <0.0035% (1 V). **A-weighted S/N ratio:** 104 dB. **Frequency response:** 3 Hz-1.2 MHz. **Channel spacing:** 110 dB (20 kHz). **Power consumption:** 45 W. **Size (LxHxP):** 440x220x435 mm. **Net weight:** 45 kg

A-300 X MONOPHONIC POWER AMPLIFIER

Undistorted output power: 300 W on 8 ohms (class A), 600 W on 4 ohms, 1000 W on 2 ohms. **Total harmonic distortion:** <0.65% (1 kHz/300 W). **Total feedback factor:** absent. **Frequency response:** 2 Hz-180 kHz. **A-weighted S/N ratio:** 119 dB. **Slew rate:** 90 V/ μ s. **Sensitivity:** 2.75 V. **Input impedance:** 208 kohm. **Size (LxHxP):** 500x330x740 mm. **Net weight:** 136 kg. **Weight with packaging:** 168 kg

Also the power amplifier is equipped with the balanced input only. Like in all the AM Audio products, there are no auxiliary remote switching controls, interconnections between components, etc. The only additional control, just like in all the other power amplifiers offered by the Manufacturer, is the bias depth switch (50 or 100%).

If it were not for the obvious safety reasons, we would begin to wonder, seeing such a top-level electrical and mechanical construction, why we would have to reposition the cover on the device.

A-300X power amplifier, frequency/distortion development with a load of 8 ohms and test powers of 1, 10, 100 and 300 watts. The power amplifier residual tends to grow slightly over 2 kHz, as it virtually always happens in presence of MOSFETs. The maximum value is reached at 20 kHz, corresponding approximately to 1.5% at 300 watts (a threshold which obviously will never be achieved during the reproduction of music), while at the normal listening levels the average value amounts to about 0.01%.

A-300X power amplifier, frequency/distortion development with a load of 8 ohms, 0 dB equal to 300 watts on 8 ohms. The power amplifier's THD increases monotonically, as it is reasonable to expect from a circuit without reaction, and at the rated power it corresponds to nearly 0.5%. The saturation process begins at about 1 dB over this threshold, but it is very mild and it does not drastically affect the slope. The "scratching" sound heard in the conventional power amplifiers already shortly over the clipping can be heard, in this case, only when a high saturation level is achieved.

A-300X power amplifier, output signal spectrum, frequency 1 kHz, power 100 watts on 8 ohms. We are remembering by heart, but we think we have never seen a power spectrum more linear than this one: almost all the residual consists of the third harmonic, with the second harmonic 30 dB under that. A spectrum like this could never be found in a hypothetical manual since, even if it's true that really symmetrical power amplifiers should produce a distortion only in presence of odd orders, when this happens there are always signifying amounts of high-order (fifth, seventh and often even higher) harmonics.

P1X pre-amplifier, frequency/distortion development with a load of 100 kohms, 0 dB equal to 2 volts RMS, asymmetrical input driver. Also the P1X distortion increases monotonically, starting from -15 dB with the "zero" point at 2 Vrms (i.e., if we consider the sensitivity of the power amplifier, starting from slightly over 5 watts on 8 ohms). The maximum output voltage is the one typical of a valve system.

P1X pre-amplifier, frequency/distortion development with a load of 100 kohms and output voltages of 0.2, 2 and 10 volts RMS. The P1X frequency/distortion curves appear to be a bit unusual, since the residual drops by 6 dB per octave under one kHz. When the A-300X unit achieves the static saturation voltage, the 0.07% is reached.

Figure 1 - Drawing of the A-300X power amplifier input section. A FET differential stage with two parallel FETs on each side for reducing the noise and increasing the linear current swing: nothing else, and above all no connections with the output on the right side, meaning zero feedback. Moreover, since there is no feedback and, as a result, the offset does not depend on the corrections made by the input adder, it is possible to perform an AC coupling towards the following stage, as it normally happens with tube circuits. Each one of the two symmetrical outputs feed the two opposing output banks.

Figure 2 - Drawing of one of the two opposing intermediate amplification sections of the power amplifier. The first N-type FET (K214) still amplifies at high voltage, while the second one, of the P-type (J77), operates from the buffer towards the GVA output stages, after having performed another AC decoupling. It is possible to observe also the bias stages, with the corresponding switch for selecting between 50 and 100% of the rated class A value, as well as the offset adjusting switch, which is extremely simple but clearly highly stable, ideally in contrast with the complex feedback systems observed in several circuit implementations.

Figure 3 - Drawing of one of the two A-300X opposing output banks, i.e., the well-known GVA output configuration traditionally implemented by AM Audio, with both voltage and current gain. The P1 trimmer for symmetry enhancement is also well visible. As in the previous top-of-the-range products, there is no local degeneration in these power amplifiers (meaning that, even if it is necessary to select them, it is possible to lower their output impedance and increase their efficiency), nor clipping circuits, unless you want to

consider as such the Zener diodes protecting them against a possible gates overdriving (in practical terms, they would only intervene in case of output solid short-circuit).

Figure 4 - Drawing of a half side of the amplification circuit implemented in the P1X and 6X pre-amplifiers, being very similar to the power amplifier intermediate stage, also because the FETs are the same. Here again, there is an AC coupling both at the input and at the output. We do not report here, for reasons of space, the drawings of the stabilised power supply sections of all the three components, based on the extremely high parallelization of "braked" (i.e. highly filtered by interposing a number of resistors) BD137/138 bipolar transistors.

The transformers implemented in the P1X pre-amplifier could easily serve a stereo power amplifier featuring 100 watts per channel, but the capacitors could not do this because, also among the most powerful amplifiers, very few of them are able to store up to over 800 joules. For the other technical features, you can read the article above: the only thing we can say, here, is that, at these levels, it is possible to start talking about Electronic Engineering Art.

Six inputs for the stereophonic unit and three inputs for the multi-channel one, available in the balanced configuration only. The quality without compromise does not allow the current to flow in the ground loop.

The 6X unit imitates the P1X structure, as far as the triplication of the signal management electronics makes it possible. As in the stereophonic unit, the relay-based R-2R volume control is placed in the bottom part, and therefore perfectly hidden.

AM AUDIO A-300X power amplifier. Serial number: absent

REGISTERED FEATURES

Measurements with biasing at "100%"

INPUT

Impedance: 9 kohm

Sensitivity: 2.7 V (ref. 300 watts on 8 ohms)

A-weighted noise voltage recorded at the input: 3.5 μ V (output terminated on 600 ohms)

A-weighted signal/noise ratio: 117.8 dB (output terminated on 600 ohms, ref. rated output)

POWER OUTPUT

Load limit

Damping factor on 8 ohms: 24.2 at 100 Hz; 24.2 at 1 kHz; 23.7 at 10 kHz

Slew rate on 8 ohms: increase 60 V/ μ s, decrease 60 V/ μ s

Continuous Tritim test:

Resistive load 4 Ω

Inductive load 8 Ω /+60°

Capacitive load 8 Ω /-60°

Pulsed Tritim test:

Resistive load 4 Ω

Inductive load $8 \Omega/+60^\circ$
Capacitive load $8 \Omega/-60^\circ$

AM AUDIO P1X pre-amplifier. Serial number: absent

REGISTERED FEATURES

OUTPUT X1

Impedance: 9 kohms. **Sensitivity:** 406 mV per 2 V out. **A-weighted noise voltage recorded at the input:** terminated on 600 ohms, 1 μ V. **A-weighted signal/noise ratio:** terminated on 600 ohms, 107.4 dB **Output impedance:** 54 ohms

Frequency response (output voltage: 2 volts)

Channel unbalance (depending on volume attenuation, from 0 to -80 dB)

The most ambitious AM Audio project offers outstanding performances, but did anyone expect something else?

Even the most inattentive reader knows well what this Lombardy-based manufacturer has managed to create at prices which are certainly very high, but also represent only a small part of the amount of money needed to buy a P1X unit and a pair of A-300X systems: we could not expect nothing else than a further and important standards increase. For once, we do not start from the power amplifier, but from the pre-amplifier, i.e. from the P1X unit: we are going to report only its features, since all the comparisons performed between this system and its "triple" twin 6X led to substantially identical results, unless we consider a "difference" the fact that the 6X response at 200 kHz turned out to be lower by slightly less than 0.05 dB, besides a S/N ratio lower by less than 1 dB. At the maximum volume, the PX1 features a flat response up to 200 kHz and a 1 dB attenuation at 140 kHz with attenuations over 6 dB. We can reasonably be sure that the tone balance will never depend on the listening level... As regards the balance outright, i.e. the channel balance, while performing the test we have been surprised by the perfectly flat movement of the instrument's pointer up to -60 dB; after this threshold, we have recorded deviations not exceeding 0.2/0.3 dB. In these case, we know well that it is necessary to leave the automatic procedure for a direct manual verification, to be carried out by using the selective mode, i.e. by isolating the test frequency, in order that results may not be affected by the residual noise. At this point, our surprise became astonishment, because the maximum unbalance corresponds to 0.04 dB at a 99 dB attenuation (!). In other words, when the signal is attenuated by 100,000 times, the difference between the two channels levels is lower than 0.5%. We have seen many hi-end pre-amplifier, in our laboratory, but no one of them featured a better volume section than this one in terms of spectral coherence, precision and operating resolution. "Provoked" by what the Manufacturer had said regarding the crosstalk, we measured that too, and we found another striking value: 111.2 dB at 20 kHz (as well as over 124 dB at frequencies lower than 1 kHz). In pragmatic terms, since the weighted signal/noise ratio corresponds to 107 dB (another excellent value), there is no possibility that the interference between the channels can generate a sound which can be heard above the noise floor, not even in the most extreme conditions. The interfacing parameters have been completely corrected, too: the gain can now bring the power amplifier to the saturation level with little less than 550 millivolts on the input. Since the 0 dB of the balanced sources typically corresponds to 4 volts, the volume attenuation value, usually protecting the system against peaks saturation, is equal to 17 dB.

The A-300X power amplifier achieves an outstanding limit load, being so sharp and featuring curves so close to each other that it is impossible to distinguish the switch from the class A to the class A/B operation. The “real” sharpness is, in fact, even slightly (virtually imperceptibly) higher because, being it a zero feedback power amplifier, we established an acceptance threshold of 1%; otherwise, at the lowest loads, the measuring would have ended before reaching the proper saturation level. On the other hand, that is the same reason why, on the highest modules, we measure a slightly over-saturated value. Absolute power is very high and (as always, in the AM Audio systems), largely over the rated value, reaching a continuous level of 1,150 watts on 2 ohms. The Tritim tests revealed an average extension in the “red” area (covering the power values exceeding the rated datum) greater than the one in the “black” area (ranging from half of the rated power to the rated value), and this characteristic alone reveals both the convenient uniqueness of the component and the complete indifference to the nature of the impedance to be managed: resistance or reactance, from dozens of ohms to one single ohm, for the A-300X system they are all conditions of equal and insignificant difficulty. The output impedance is comparatively high (0.33 ohms), as it was expected from the zero feedback, but not so high to cause audible response distortions, even with loads featuring an extremely variable module; on the other hand, it is almost perfectly resistive, as it already was in the other AM Audio units tested in the past. The noise is very low, in absolute and, in particular, in comparative terms, if we consider that we are talking about a (huge) class A system with zero feedback. The class A means very high charge peaks for the capacitors, i.e. a magnetic peak (partially conveyed to the power supply) easily detectable in any circuit area.

The feedback in itself represents a simple and cost-efficient way to minimize this problem, too, but here it is absent. The noise reduction, as a result, has to come from the intrinsic insensitivity of the circuit, from the high quality of the layout and from the size of the filtering system. If we observe the A-300X noise residual, it is possible to clearly recognise the peaks at the charge frequency, and yet the linear noise voltage corresponds to only 174 microvolts, dropping down to 63 with weighted measurements. It is also important to notice that the introduction of even low inductances on the electrolytic capacitors charge path (as Onkyo made, for example, starting from the Grand Integra power amplifiers some decades ago) would have completely removed this signal, too, but the designers at AM Audio, clearly, see in this “shortcut” a source of problems affecting other areas, since it would increase anyway the power supply unit’s internal impedance.

F. Montanucci

THE LISTENING by Marco Cicogna

What better way to describe the huge AM Audio monophonic power amplifiers than comparing them with one of the most extraordinary nature wonders?

Someone is content with seeing the glory of the Grand Canyon during a hurried and yet enchanting one-day journey from Las Vegas. Some other is ready to spend weeks exploring it in all its areas, with exhausting trekking courses or breath-taking days on a boat, among treacherous rapids and authentic Shangri-La-like oases. Both of them will anyway enjoy the view of one of the greatest landscapes a man can see, an ever-changing painting which, from the dawn to the sunset, varies before the observer.

It is a scene which is going to change forever your points of reference as regards landscapes, when you will realize that the horizon corresponds with the curve of the earth, giving you a sense of space which takes your breath away.

In the same way (maybe we are exaggerating, but not that much), the new Attilio Conti’s creatures strikes the observer, since the very first second, with its natural greatness of a

complete and satisfying sound message, characterized by that perfection and introspection which only the real High-End products can provide. Once the first, intense pleasure is gone, they turn out to be convincing also when you listen to them for long periods, while hours pass by with that graceful musicality which, sometimes, was associated exclusively (wrongly, according to me) to the tube systems. Looking at a couple of electronic devices almost reaching a quarter of tonne, one may legitimately expect a muscular behaviour, an inexhaustible reserve of energy, able to control and tame the most complex loudspeaker systems. Surely it is so: the measurements carried out by our Montanucci clearly reveal performances reaching the limits of our measuring schemes. However, the essence of sound lies even more in the capacity of analysing and deeply introspecting, i.e. in the natural attitude to convey each musical nuance in a complete and reliable way. In the end, anyway, these sensations, too, derive from objective and measurable performances. The two worlds, the one of technical analysis and the one of listening, meet each other with full and mutual satisfaction.

In terms of aesthetics, these A-300X units set a new elegance record for the Manufacturer. What in the past was simply sturdy and smartly functional now becomes, with the A300 units, luxurious, a livery originating from the solidity of a crushproof and yet precious frame. The massive structure features a refined design, an original style turning into a work of art in the field of high-precision mechanics, requiring the use of “white gloves” (supplied with the devices) in order not to leave fingerprints.

Personally, I have no hesitation in admitting that I would be glad to leave (my) fingerprints on these power amplifiers, which unfortunately cannot be transported into my music room, well knowing that, once in there, it would be difficult, for me, to find the (interior) strength to leave them being brought out. For logistic reasons, the listening tests were performed at the AM Audio site, in Vigevano, where a room is set up which is able to “support” huge systems.

We already described it the last winter, when it was used to test the Supreme devices with subwoofer units in a multi-amplification system. As regards loudspeakers, we choose the new Rossini units, belonging to the AM Audio “middle” range, a two-way floor system featuring the usual no-compromise components. I would never imagined that, at this price, they could offer such a high sound quantity. A new chapter dedicated to the Rossini loudspeakers will have to be opened, and I’m sure we will soon have the space needed to tell you about this system and its test. Stay tuned on this loudspeaker, because there will be many things to say. The other, electronic partner is the beautiful pre-amplifier, belonging to the same range.

Designed, there is no point denying it, for an international market, the A-300X units could become even for specific Italian audiophiles an absolute benchmark, whatever their music tastes and the other devices integrated in the plant may be. As usual, in terms of versatility, AM Audio has no limits.

This time, we do not simply have to provide some listening advices but, which is much more difficult, we have to report the sound behaviour of a music machine which, with its disarming spontaneity and versatility, seems to want to surprise you. I put so many important recordings in my bag, but I realized, then, that it would have been sufficient to take my CD with tracks containing the most diverse instrumental combinations to say almost everything about the sound behaviour of these electronic systems.

The first sensation is the sense of palpable presence offered by each one of the several instrumental sources. By listening to the whole harmonic envelope, it is possible to get the essence of the full-bodied fundamental tone, able to reliably materialize the performer in the middle of the scene. The small instrumental groups become, using less than a tenth of the rated power (or probably even less), three-dimensional, making it possible to dramatically appreciate the differences, in terms of sound footprint, between the several

recordings. In this case, we could mention the listening to Händel's "Music on the Water", an extremely enjoyable piece thanks to its themes and instrumental variety. The SACD by Aliavox (Savall) delivers the precious tones of ancient instruments. The focus, here, is on the elegance in conveying the phrasing, the attention to details and the dynamic spirit of a fresh and brilliant performance.

Violins are well defined in the high frequencies, but feature a graceful and natural consistency in the middle and middle-low range, with a sound level adequate to the musical genre. Also at a moderate volume, the image concreteness is natural and immediate, revealing how a good (or rather huge, in this case) current reserve can be appreciated in any circumstances. Winds emerge with round precision in the middle of the sound scene, contributing to it with much more than a simple tone introduced into an homogeneous painting with wide contours, extended into the three dimensions of space.

If we listen once again to the voice of Patrizia Laquidara (musics by Caetano Veloso) recorded by Velut Luna, it is possible to fully get the sense of a recording which appears to be particularly neat in terms of acoustic performance. The equilibrium and the perspective between voice and instruments enhances the impression of being at a live music event.

With more complex musical pieces, the AM Audio devices performance adapt itself to the repertoire with extreme flexibility. It is sufficient to play a good CD (Pogorelich, DG) to transfer a concert piano into the listening room. The acoustic equilibrium is absolute, making it possible to get an extremely quick response to transient signals. The middle-low range does not show any "swellings" nor gumminess, nasality or sense of constraint. The mighty octaves in the low ranges of the "Pictures" fill the sound space with perfectly controlled cannonballs and powerful sonorities strictly bridled by the AM Audio units. Dynamics and absence of distortions provide for realistic perceptions also while listening to the end of "The Rite of Spring" (Telarc I, Decca, Telarc II, Deutsche Grammophon, I tried almost all the versions), getting a sense of absolute introspection from one of the most complex scores of the 20th century.

Thanks to the solidity of the room, I could listen the lowest register, down to the first octave, of the great St. John the Divine's organ (Telarc), or the Tonhalle's one in Zurich (Dorian), a sound carpet taking on a material consistency. It is worth underlining the light transparency of the central register, the precise scheme through which the detail is identified even in the most complex organ chords.

I am aware I have gone beyond the space provided for the listening considerations, but we could write another half of a magazine without exhausting the issue. I hand it over to you, warmly recommending a listening experience which has the same musical value of a great live symphonic performance.