The Vario's Vincent & Lola MRT

THE VARIO 'S VINCENT & LOLA MRT
Loudspeaker System

Manufacturer and Distributor for Italy:
ROMA SRL, Via Roma, Forlì del Sannio (IS)
www.thevarios.com

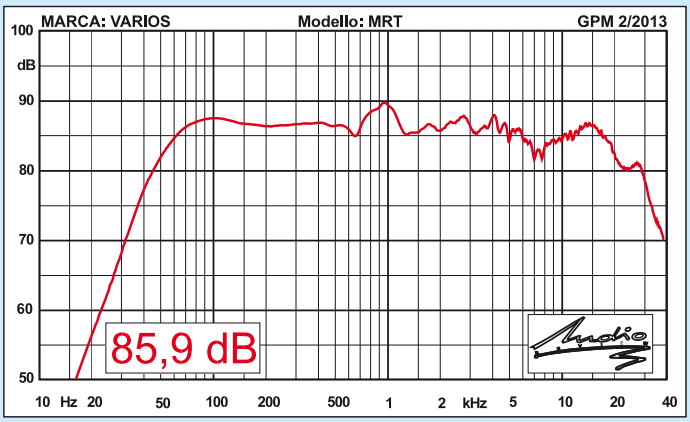
Manufacturer's Technical Specifications
Type: freestanding bass reflex
Recommended power: 50 – 150 Watts rms
Sensitivity: 88dB for 1 W at 1 meter
Frequency response: 35-20.000 Hz
Nominal impedance: 8 ohm
Number of paths: two-way
Tweeter: 28 mm soft dome
Woofer: polypropylene, 140 mm
Dimensions: (length x height x width) 310x580x280 mm
Weight: 18 kilos each
Accessories: Tweeter connection cable

As the old saying goes, "Variety is the spice of life", this definition can perfectly apply to our firm and the loudspeaker system herewith presented in the only manner we know how to do so meaning, through a careful test inspection. In several commercial sectors, it is customary to choose one parameter and take it to its extreme to make sure the product becomes more appealing without even paying attention to what is happening around us and when architecture weighs heavily on anything which has to do with electro-acoustics, then are we in trouble. Rarely does the designer worry about how his product works because he has separated things according to what is beautiful or ugly without even taking into consideration other important factors. Beautifully designed objects which also function properly are extremely limited in number in our business sector and can be counted on the fingers of one's hand giving proof of how rare it is to put together form and substance in perfect harmony. The first name which comes to mind is obviously Bang & Olufsen. Well, a new producer of loudspeakers has decided to take on this difficult challenge of combining concepts of aesthetics, unknown to high fidelity, with sound diffusion. In short, as we can see from the opening pictures, we are talking about a multi-colored model of fertile imagination, one loudspeaker representing the face of a woman the other of a man.

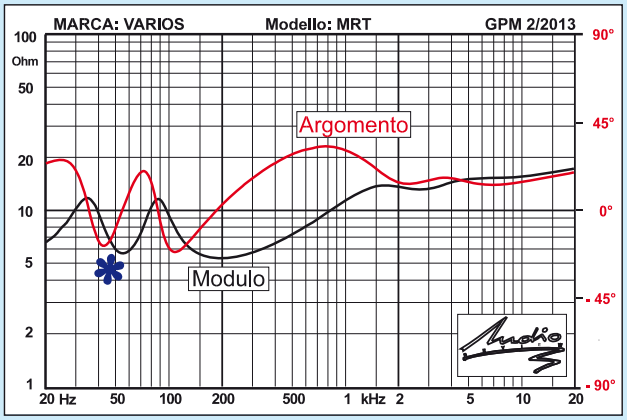
Loudspeaker system The Vario's Vincent & Lola MRT.

Technical Features Observed

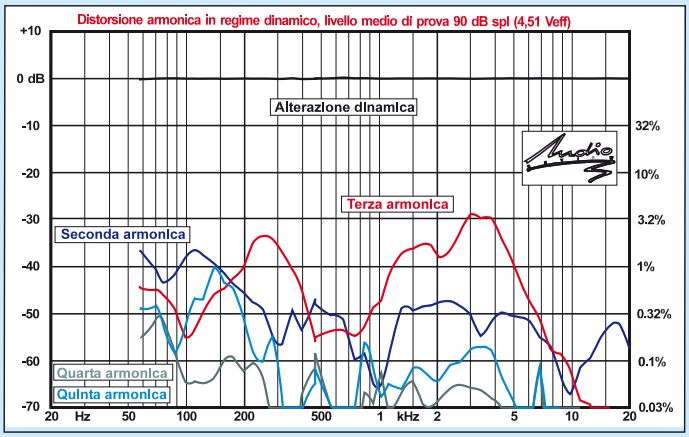
Frequency response with 2,83 V/1m



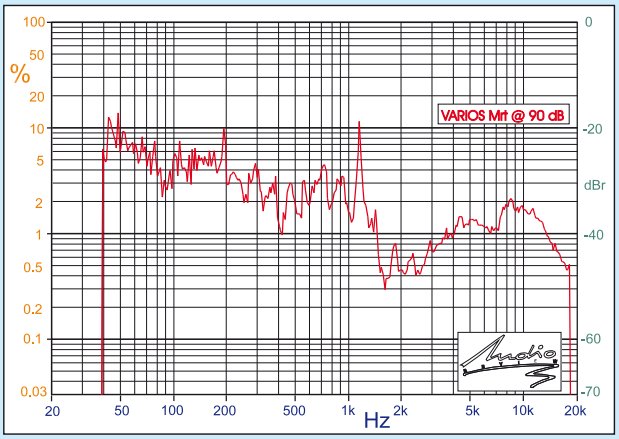
Module and impedance topic



2nd, 3rd, 4th, 5th harmonic distortion and dynamic change at 90 dB spl



Total Noise distortion at 9 decibels



The heavy loudspeaker was positioned on a high base and measured, given the dimensions, at a distance of one meter without considering any other dimensions. As we can see from the response graph, the bass range progression is very close to the theoretic progression, with 23-24 decibels per octave gradient. At medium range, we notice an intensification at an average width of approx. 1.000 Hz and regular progression up to the medium-high range where a small notch slightly taints a highly correct progression. Notice how the ultrasonic range shows absolutely no breakup and how regression at the right end of the graph is regular and without any "special effect". The impedance module illustrates how the accord frequency selected is set between 52 and 55 Hz and how a mere mechanical factor is produced at a feeble extension towards high values of the module at typical bass reflex frequencies, with a 22 ohm resistance placed in parallel to the woofer contributes. This particular structural feature of the transducer applied if on one hand slightly reduces the attack front of the bass range on the other hand produces and advantage meaning a limited phase excursion. Between maximum phase elongation in the negative zone and minimum accord frequency module the maximum load condition is found identified as 46,7 Hz with a 4,74 resistive ohm value. In short, the load seen by the amplifier is one of total repose even for the most "valve-like" mono-triode power electronics. At the dynamic measuring bench we notice the excellent start of all harmonic components, at low frequency below 2 %. In medium range, we note vice-versa how the third harmonic increases noticeably reaching values between 2.000 and 5.000 Hz, reaching unexplainably up to 3.2% also in a frequency portion distinguished by non existent dynamic compression moreover, followed up by a worthy peer, the fifth harmonic. The sharp difference between TND and harmonic distortion can be seen in the graph entitled "Total Noise Distortion" where in such frequency portion we can see a drastic reduction of those values which reach minimum in that very frequency interval. To be high-lighted the slight increase as frequency increases and peak at 1.200 Hz, generated most likely by a sequence of reflections within the cabinet. With diminishing frequency we can observe a well subdued behavior and excellent total performance , up to the lowest frequencies.

G.P. Matarazzo

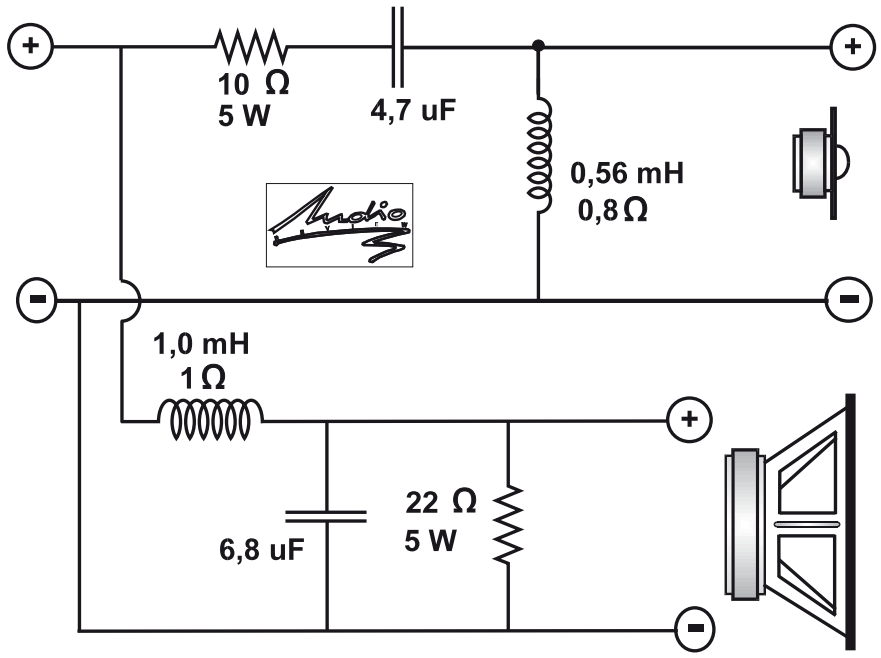
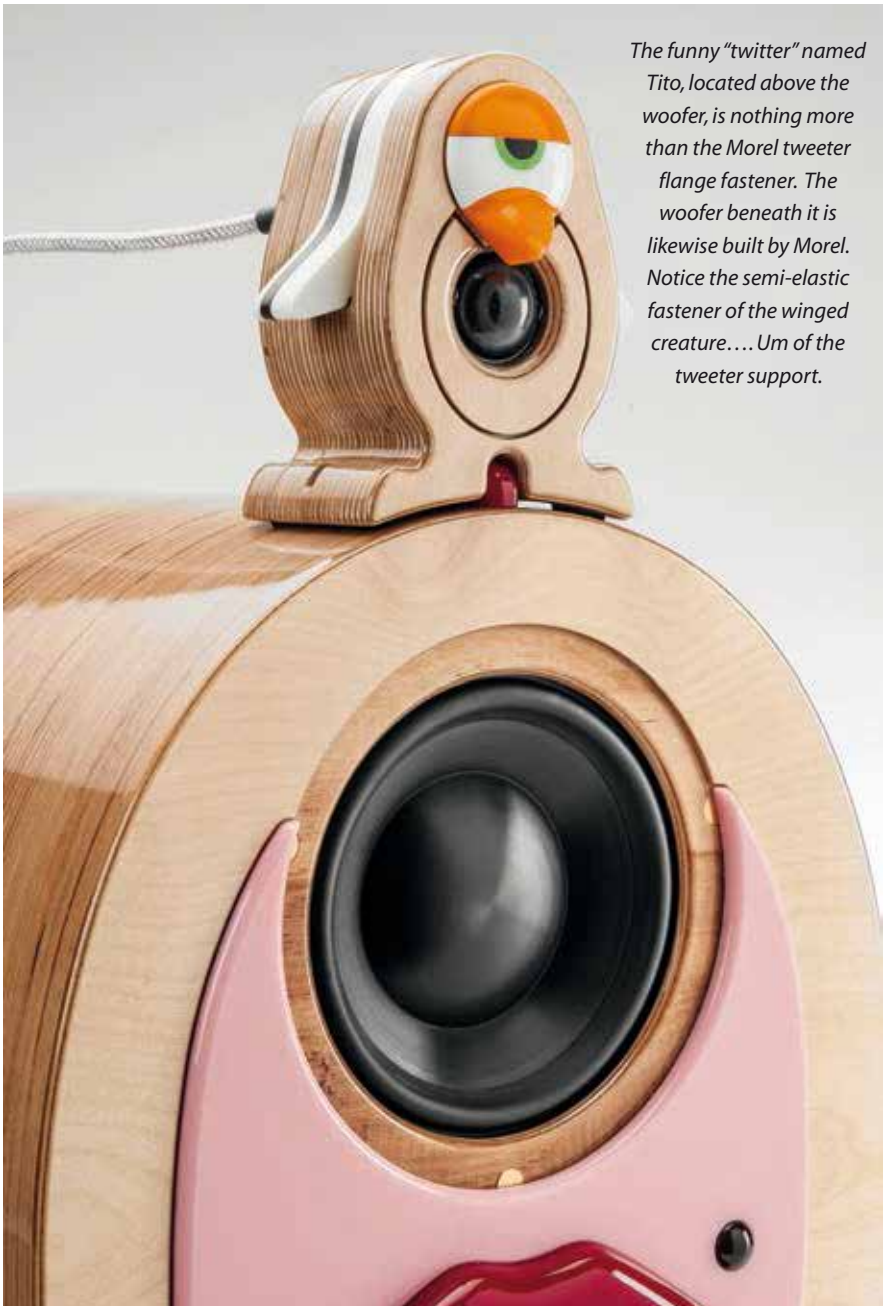


Figura 1



The funny "twitter" named Tito, located above the woofer, is nothing more than the Morel tweeter flange fastener. The woofer beneath it is likewise built by Morel. Notice the semi-elastic fastener of the winged creature…. Um of the tweeter support.

The names given are Vincent for the male loudspeaker and Lola for the female one. Both loudspeakers host only a woofer and an accord reflex while the "twitter", named Tito, placed above the two cabinets hosts a transducer for high notes. The singular oddities end here as the cabinet has been designed for maximum sturdiness and compactness with the sole scope of providing good listening performance. Let's see then how this loudspeaker has been executed, wiping away almost immediately the grin on the face of those who believe it is only a matter of pure whimsical flair on behalf of a particularly gifted designer.

Construction

The construction design features are not at all limited and can be seen right from the outset by simply observing the loudspeaker which has no fastening screw in place for the 140 mm woofer, not even under the grid depicted as an eye which hides it from our eyesight. In any case, the cabinet has been created with downright "slices" of plywood milled according to shape and glued one after another towards the back-panel closure, fixed in place to the remaining structure by a disquieting number of screws which block the bottom section to the more sturdy and dull parts of the cabinet structure. This feature alone lets us imagine some type of mass and considerable stiffness. The woofer is fixed in place at the back of the loudspeaker by three "fingers" which, thanks to an ample stud in an overhanging position, fasten the basket to the front baffle. With this technique, coloring due to interaction between basket slots and baffle thickness can be avoided while on the other hand we need to account for minimum front loading volume which occurs in front of the membrane which, for such diameters, should be set up around 1.000Hz. The accord conduit conveys towards the exterior through a laminated slot truly ingenious, reproduced from the full structure, as for the ligneous structure, with an internal set up

Three wooden fingers fixed in place in an overhanging position fasten the woofer basket eliminating the typical coloring resulting from

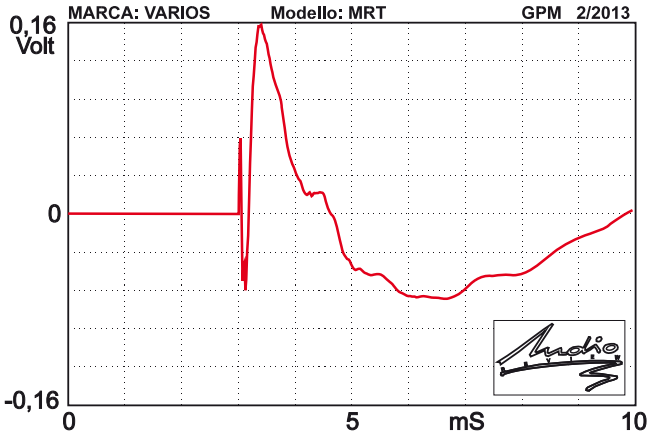
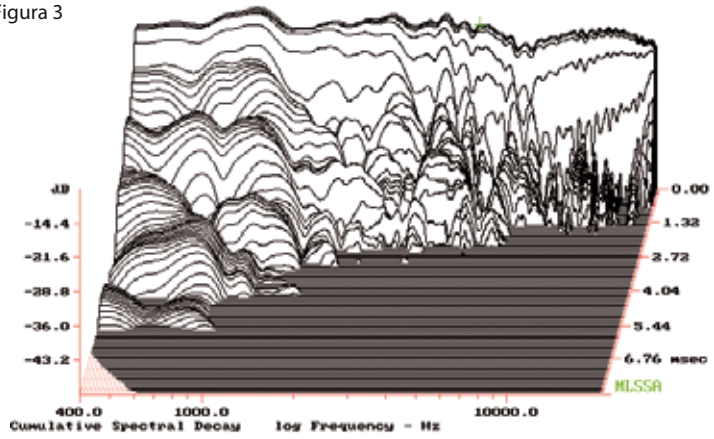
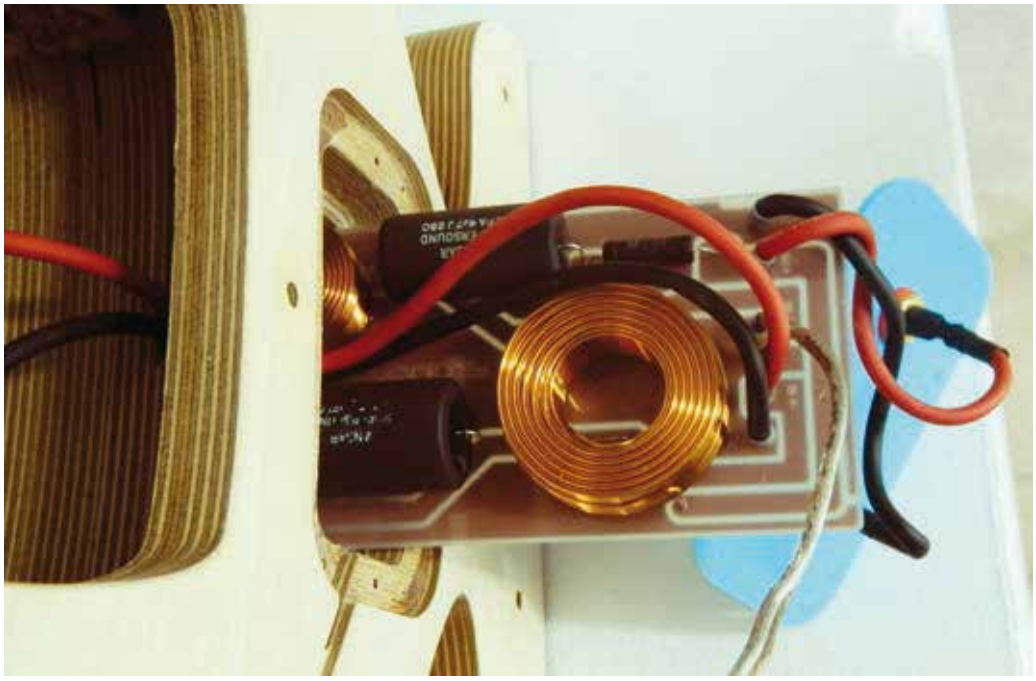


Figura 2

Figura 3



which VARIO'S technicians declare was designed as to limit turbulence in the vicinity of the accord frequency when signal to loudspeaker terminals is too high. The crossover filter is enclosed in an airtight subvolume designed on a fiberglass base, on average of compact dimensions. The cables inside the cabinet are prolonged to the exterior to provide signal to tweeter by external link. The crossover filter designed by Vario's engineers can be seen in Illustration 1. Notice the low-pass obtained from a dry cell of second electrical order with a parallel resistance added to the 22 ohm woofer. The conception could appear quite emblematic if we take into account an already minor factor of mechanical merit of the woofer but which comes useful either "to layout" the impedance module at higher frequencies or to regulate response in the vicinity of the accord frequency. Notice the inductance loss resistance of 1 ohm in series to the woofer which has an electrical resistance slightly lower than 5 ohm, resistance which owes this value to the fact that it is surrounded by air. The Tweeter's high-pass is similarly built, a filter of second electrical order preceded by a resistance of noticeable value in the order of 10 ohm, which needs to balance out the tweeter's sensitivity to the 86 decibels expressed by woofer, attenuated respect to its average pressure from divider made up of inductance resistance plus parallel amounting to a 22 ohm resistance and RE woofer. Transducer are produced by Morel, comprising all necessary characteristics, meaning a mobile reel which features a hexagonal section wire for greater bundling density compared to a circular section wire. The coiled reel is positioned on a 75 mm support and "energized" by a magnetic set comprising a ferrite loop and a neodymium pellet, with a force factor value higher than 7 Txm notwithstanding resistance is normally low. The membrane produced by Morel is made out of a special polymer. Stiffening material is injected into polyurethane while still soft during heating process. The tweeter is hosted, as we can see, by Tito the birdlike creature placed above the big round faces, of same size for Lola and Vincent, which are the loudspeakers. The item is a soft 28 mm dome-like component fortified with excellent musical features and a good cut-off response at highest frequencies. As can easily be seen, and with both transducers phase connected, the Step Response in Illustration 2 gives both peaks, the fast one by the tweeter and the slightly slower but wider one of the woofer, in an upper order. The final waterfall check shows response progression at changing time once the stimulus which sets the membrane going is interrupted. As we can see in Illustration 3, the decay is consistent throughout the entire medium-high range, with only one ripple around a kilohertz and slight resonance in the order of 4.000Hz, probably due to dimensions and shape of "chirping Tito which hosts the driver.



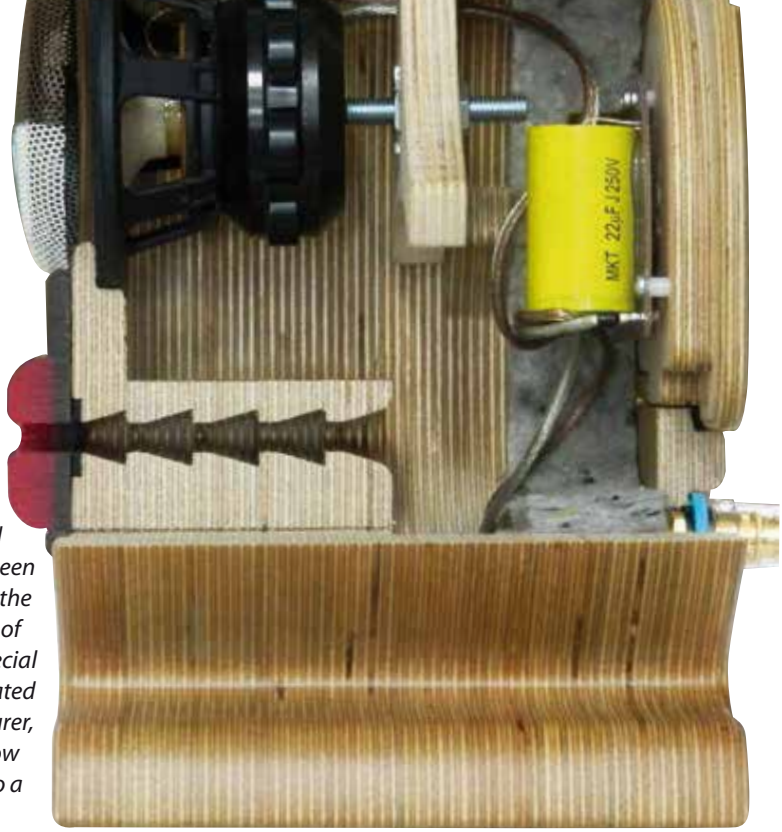
The crossover filter is positioned within a separate chamber from the woofer's loading volume. Observe the ample section where cables are positioned as to avoid unpredictable shifting and possible interaction with transducers. Connection to twitter is achieved by a cable completely external to loudspeaker.

The back panel is held in place by a good number of screws. Observe cable progression within the wooden structure from connector to tweeter.

Final Remarks

Evaluation herewith carried out on construction and assembled components has shed light on particular attention paid to limit any resonance or vibrations. Components are of good quality and a fair vision of the real listening world is achieved. The item is simply not just a loudspeaker with the sole function of reproducing music, but of course this consideration is irrelevant to test purpose. What needs to be high-lighted is performance given in the surrounding ambient which is highly appreciable and beyond any idle talk what really counts are the facts. Sales price does not seem in any way off balanced as to performance, an extremely complex construction, last but not least, quality level components.

Gian Piero Matarazzo



The accord conduit has been carved out of the single layers of wood. The special contour, as stated by manufacturer, keeps air-flow turbulence to a minimum.

Listening

Let me state before anything else that from a listening point of view this loudspeaker has not displeased me at all as it is equipped with a fine balanced tone and a more general harmonious design. One may ask oneself why am I disclosing ahead of time test results and my reply is simply to high-light an aspect which has nothing to do with the listening phase. I wasn't able to inspect them directly from the dome of the tweeters and a good part of the test was carried out with my eyes partially open. This however should not be considered a limitation of the loudspeaker rather my own limitation as I have always dealt with normal aesthetic creations. What needs to be underlined is the fact that the loudspeaker has a good sound, is well balanced in the surrounding ambient and serves the purpose of stage design under proper dimensions. The low range is remarkable and not in any way limited except when volume is raised full blast, even if I would have preferred a little bit more character. In this case too, however, besides normal bass stiffness we observe the correctly maintained propor-ions of the stage. The ligature between a low and medium-low range is remarkable, harmonious all in all, with noticeable performance on percussions. No rupture can be seen among the basic leather skins of the bass drum and its connection front, placed at a higher level of the spectrum frequency. Reproduction of percussions is on average firm and aggressive and well distributed. At higher levels of listening only the rolling sound appears to stiffen a bit and slightly more limited compared to other drum skins. The vocal range, especially the male one, is reproduced with the right tone proportions and correct share percent of performers, who perhaps hardly gather at the center of the stage but who can correctly be identified among the different tones of a chorus even among a mixed group. Female voices appear slightly forward on stage compared to male voices even if, as I see it, this feature is not linked to an overall balanced tone rather to a slight change in the scene, normally not so apart, and credible in my opinion as concerns high-sound set-up. At high volume the loudspeaker responds well moving slightly forward the heart of the scene but in a very discreet manner to the point that the sound front appears coherent and credible. The high range is clean and articulated with good extension towards high and enviable cleanliness. The highest point of frequencies reproduced, where the sole harmonics of chord instruments and the front attack of wind instruments are located, are to my particularly liking, with an always pleasant performance never based on sheer effects. All in all, the sensation we get of a fine and immediate articulation cannot be attributed to a slight but constant increase of high frequency levels creating a difficult listening condition rather, vice-versa, a specific feature of the driver which can stand up to consistent articulation without involving and upsetting system response. In my opinion, after pondered meditation of extensive measure, one feature to be connected with the quality of a very high range is given by the progression of response beyond the audible band. In the case of Vario's we notice in fact how, beyond set limit per properties, pressure declines very slowly and without any significant peaks, typically observed with stiff domes. Music for grand orchestras is reproduced at remarkable levels and serves the purpose of justifying such attainment. Good timbre, execution of performers beyond mere adequacy and conquering respect of sound schemes. Turn up the large amplifier to its limits to see the scene shrink slightly, internally, would not be the case as I do believe these loudspeakers have no pretence whatsoever in reaching such limits. The results of this strange listening session is therefore positive and satisfactory. And to think that at the very beginning I had a hard time looking at them.

G.P. Matarazzo