

ARABESQUE  
MINI



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## MINI

Very seldom a compact monitor type loudspeaker is capable of producing the unique combinations of extremely high resolution, low distortion sound over a wide band at a high sound pressure level. The Arabesque™ Mini does all that while at the same time meets high standards aesthetically.

The arabesque shape was a result of a design brief, demanding all of the above in the cost-no-object Arabesque™ Glass Master project. The panels of the Arabesque™ loudspeakers are arranged in a way that sound leaving the rear of the speaker cones must at best bounce six times internally before getting a chance to bounce back to the rear of the speaker cone. This multiple bouncing consumes time and energy, making those reflected signals late and low in level and therefore inconsequential. This also made internal air damping materials obsolete, preventing it from slowing down the woofer cone. As a result the woofer of Arabesque™ loudspeakers is ultra quick and open, resulting in uniquely low distortion figures. The concept was proven by the Arabesque™ Glass Master, as both users and reviewers have reported.

When the design team was challenged to do the same, but this time in a compact housing, the engineers went back to the physical modelling software Comsol® to virtually build a 'Mini'.

### Aluminum

Glass was no option for an Arabesque™ speaker only as high as a vinyl album.

By replacing the glass in the Comsol® modelling software for other materials, finding the right material was just a matter of time. It turned out solid aluminum would work well. But mounting a number of aluminum panels together with airtight seals provided some interesting construction challenges. These could be solved; the cabinets were to be hand-built and tested by well trained personnel.

### Drivers

Cabinet load and speaker efficiency determine the roll-off point at low frequencies in any speaker design. The cone diameter, maximum excursion and acoustic load determine the maximum air displacement. In case of the Mini the diameter was limited by the panel size of the cabinet so a large excursion type woofer was needed. The 15 cm / 6 inch woofer cone in the Mini is able to travel 26 mm / 1 inch. It is constructed in a way that the voice coil exits the magnetic field just before mechanical problems arise. This not only limits the risk of driver failure when played beyond its capability of 106 dB SPL, it then also causes soft clipping which is a good alternative for true distortion.

Under normal working conditions, the distortion is extremely low as a result of the friction port loading and the absence of damping materials, all part of the Arabesque™ concept.



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The tweeter is a super fast Beryllium type, providing the cleanest and fastest highs we ever heard from an electrodynamic tweeter. The cross-over design is simple and pure, but built from large, premium quality air coil inductors and silver-oil capacitors. The internal wiring is Crystal Cable® mono crystal, the binding posts are neodimium WBT nextgen's and a proprietary Crystal Cable® loudspeaker connector is also present.

### Performance

Loudspeaker specifications are hard to interpret. They, more often than not, lack any indication of the real performance potential of a speaker. Since we at Crystal Cable® are focussed on micro distortion in our cable development, we immediately focussed on distortion of loudspeakers, where distortion figures are frequently specified in two digit percentages. The distortion of the Arabesque™ Mini is 0,5% between 120 and 20000 Hz. Below 120 Hz it gradually increases to only 1% due to the virtues of the Arabesque™ design concept. Add to that the low Q loading of the bass driver and the linear phase design philosophy and you get the Arabesque™ Mini: extremely transparent - though musical, easy to drive, easy to place and extremely easy on the eye as well.



### Family Mini

The company philosophy of Crystal Cable is to match high-end design to high-end audio, not compromising one or the other. This made our cables renowned all over the world for their elegance, ease of use and sound quality. The Arabesque™ Mini's design is modern, functional and elegant. Not only the size makes the Arabesque™ Mini easy to place in the living, the Arabesque™ technical design features make acoustical interfacing with the room far more easy. It plays Tchaikovsky just as easy as R&B with finesse and at appropriate levels. Therefore the Mini is liked by all family members.