

# ARABESQUE

by



## At the crossroads of design, technology and music

Crystal Cable® has been trendsetting in creating and designing high-end audio components that combine innovative technologies, superb sound quality and an emerging musical experience with an elegant and aesthetic look. This trend is being continued with the Arabesque™ series of loudspeaker systems. Our engineers have over a quarter century design experience and use advanced technology and exceptional materials. Crystal Cable® chose to challenge conventions. By using physical modelling technology for building 3D models, we understand how a loudspeaker will interact with various acoustic conditions imposed by the various room shapes and room sounds. Crystal Cable® is one of the very few companies to actually apply predictive engineering to truly optimize a loudspeaker for multiple room situations.

And in the end, still listening tests are needed for the final approval.



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## Nature sourced

When our technicians started developing the first Arabesque™ loudspeaker, they used computer simulation techniques they knew from their work designing special cables for the aeronautical and medical industries. They literally used rocket science and so discovered a special shape to be optimal for loudspeaker cabinets. They were struck by the fact that it was a classic shape found in many artistic outings of old cultures from China through the Middle East to Europe. These cultures based it on even an older source: nature. Using the most advanced Comsol® physical modelling program brought us back to nature.

This shape, in the western world known as the arabesque, brings tremendous advantages to a loudspeaker housing. The most important is the way it guides the sound from the rear of the loudspeaker cones towards the friction port in the tail section of the cabinet, without the reflections inside the cabinet influencing the sound quality. Therefore no acoustical damping is needed, greatly improving the impulse response of the speaker. The friction port further reduces low frequency distortion dramatically. Another advantage, when built from the right material, is the absence of panel resonances. The asymmetrical, rounded shape provides a perfect dispersion for stereo, resulting in an impressive stereo image and the perceived absence of the physical loudspeakers in almost any room.

**No wonder Arabesque™ loudspeakers sound so natural. They are nature sourced.**

## Arabesque™ and your room

Lossless interfacing of equipment is Crystal Cable's core business. It should be no surprise that our engineers use Crystal Cable's highly advanced mono-crystal wire for the internal wiring of our speakers. Rhodium plated WBT nextgen and Crystal Cable's own connector ensure proper connections to the amplifier. On the acoustic side, interfacing the speaker's movements to the surrounding air, makes a big difference too. Ever wondered why speaker placement was so critical as where the placement of instruments like a piano in the same room is not? It is the way the piano is acoustically coupled to the room. Using physical modelling, our engineers spent considerable time optimizing the way low frequencies are transduced from the speaker to the room. This resulted in a clean, ultra fast and deep bass reproduction in most acoustical conditions. It also makes speaker placement easier. For the midrange the unique Arabesque™ shape provides a dispersion pattern that gives excellent control over early reflections, thus offering an impressive precise and royal stereo image. It is also partly responsible for the clean reproduction of voices, strings, brass and piano. An even energy distribution over the entire audio spectrum offers a natural sounding diffuse field. So, although invisible to the eye, even the interfacing between the speaker and the air in your room is optimal.

As the French say: "Noblesse oblige".



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## Physical modelling

Computer technology has been used for designing and virtually testing space shuttle and aircraft designs to avoid risky test flights. Then the car industry discovered the advantages of physical modelling, resulting in enormous improvements on safety, fuel consumption, performance, comfort and price. Crystal Cable® was amongst the first loudspeaker manufacturers to use the costly, multi-awarded Comsol® FEM physical modelling software, as used by Nasa, for development and virtual testing of loudspeakers. When a loudspeaker design is 'built inside the computer' all physical properties of both the loudspeaker system and the surrounding air pressures can be studied while virtually playing sounds. It not only facilitates easy detection of cabinet resonances and uneven sound pressures inside the cabinet, but also offers a good analysis of the distribution of sound pressure outside the cabinet. This gave the opportunity to perfect room-loudspeaker interaction, making loudspeaker placement easier. Resulting in the unorthodox shape, ultra low distortion and unparalleled sound quality from a series of relatively compact and elegant looking loudspeakers; the Arabesque™ series.

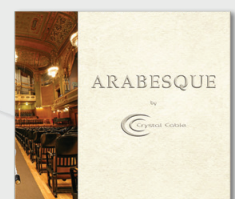
## Only the best components

All Arabesque™ systems are built from the best components available. Natural glass or aluminum are used for the cabinets. All piston drivers use an under-hung magnet construction. These are 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, it then also causes soft clipping which is a good alternative for true distortion.

The construction also forms a symmetrical magnetic field for the voice coil, resulting in a more linear behaviour. The aerodynamically shaped magnets prevent wake turbulence directly behind the cone. Dome tweeters are ultra fast and stiff beryllium types as where the Glass Master houses the unique RAAL ribbon tweeter. Cross over filters are built using audiophile grade silver-oil condensers and big air-coil inductors. Internal wiring is top notch Crystal Cable mono-crystal, ending in WBT nextgen connectors and the proprietary Crystal Cable 4-pole connector. Arabesque™ loudspeakers come in only one quality: the best.

## The proof of the pudding

Space age development tools are of great importance by developing Arabesque™ loudspeakers, but in the end listening tests will decide whether a design is approved or not. The tests are performed using a pool of contemporary equipment to assure high compatibility with products in the market. A philosophy that goes back to the first cables developed and led to the release of the ever so popular Arabesque™ cd, still available through your local distributor and the Crystal Cable® website [www.crystalcable.com](http://www.crystalcable.com).



# ARABESQUE GLASS MASTER

## The Arabesque™ Glass Master

The Arabesque™ Glass Master was the first result of the cost-no-object research and development project Crystal Cable® initiated to make its debut into the loudspeaker market. It is unique in almost any way: shape, glass cabinet, the absence of internal damping and the cross-over circuit in the base. But perhaps the most unique feature is the combination of the elegant design and true high-end audio quality. Now you can have the ultimate sound quality without compromising the aesthetics of your living room, like yin and yang.

The Arabesque™ shape is a stunning breakthrough. This complex enclosure is not only free of intrusive resonance and clustering standing waves, but is also capable of extremely fast and powerful bass. Specially modified Scan Speak Illuminator bass-mid drivers were chosen for their wide working bandwidth and ability to integrate seamlessly with the specially made RAAL ribbon tweeter that extends the range to 100kHz. Unbelievably fast, this drive unit is another reason why the Arabesque™ redefines transparency.

## Transparent in every way

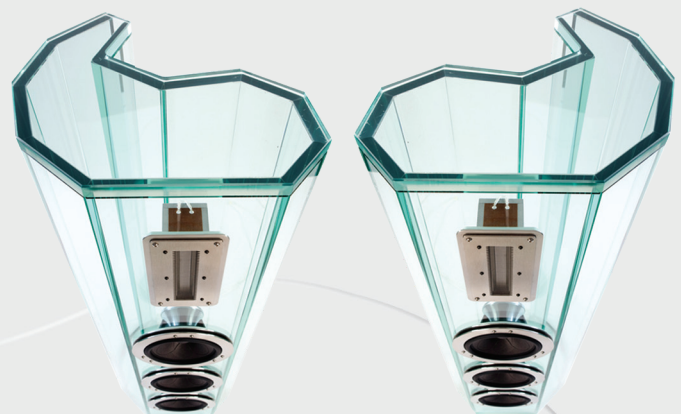
Talking about transparency, the cabinet is made of mitred 19 mm (3/4 inch) natural glass strips and invisibly glued to create a svelte, artistic design. The completely transparent cabinet allows you to see and appreciate every component inside, while the heavy base is milled from a solid block of high-grade aluminum and perfectly matched to the cabinet's dimensions. Its seven adjustable feet allow levelling of the speaker on any surface. The base also houses an advanced passive crossover, made with the highest-grade German components. Internal wiring is executed entirely in Crystal Cable® Dreamline conductors. Precious rhodium plated WBT nextgen connectors as well as a proprietary Crystal Cable® terminal provide for bi-wiring or bi-amping of your sound system.

Although the basic rules for stereo apply, the Arabesque™ Glass Master finds its place easy in any living room. Partly because of the optimized coupling of the speaker to the room, a virtue of all Arabesque™ loudspeakers. The mirrored left and right speakers further facilitates easy placement by offering asymmetrical dispersion. Aesthetically the transparent cabinets are far less obtrusive than conventional speaker cabinets.

The Arabesque™ Glass Master by Crystal Cable® is a genuinely state-of-the-art, high-end loudspeaker, a milestone in craftsmanship as well as a fine piece of art. Its unique combination of technology and materials make it both musically and visually transparent. It really must be seen and heard for it to be fully appreciated.

## Technical specifications:

Frequency range: 27Hz-100kHz(-3dB)  
Crossover frequency: 2000 Hz  
Crossover: electrical 2nd order, electro-acoustic 3rd order  
(using high-grade Tritec air cored inductors and silver-foil capacitors)  
Power handling: Max. 315W RMS  
Total harmonic distortion: <0.5% from 70Hz-20kHz  
Max SPL: 115dB  
Peak input power: 600W  
Efficiency: 95dB @ 2,83V  
Impedance: 4 Ohm nominal  
Recommended amplifier power: 20W or more  
Height: Approx. 140cm / 55 inh  
Weight: approx. 100 kg / 220 pounds each (net)



# ARABESQUE

## MINI

### The Arabesque™ Mini

The Arabesque™ Mini is, as its name implies, a compact monitor size implementation of the Arabesque™ design principles. Measuring only 32.6 cm (12.8 inch) it posed new challenges to the design team. At these measures glass was no option and after computer modelling a myriad of materials, solid aluminum came out as the optimum. New production methods had to be developed to be able to build the Arabesque™ shape in anodized aluminum but the result was enormously rewarding. The Arabesque™ Mini features one customized ScanSpeak bass-midrange driver, combined with a super fast Beryllium tweeter. A sophisticated cross-over network, built with the best of components, and very advanced mono-crystal Crystal Cable® wiring complete the design. Precious rhodium plated WBT Nextgen connectors as well as a proprietary Crystal Cable® terminal provide for bi-wiring or bi-amping of your sound system. This all makes the Arabesque™ Mini produce a surprisingly full and powerful sound, setting new standards in its class and size.

Being an Arabesque™ loudspeaker, the Mini has all the advantages of it's siblings like the uniquely shaped cabinet, free of intrusive resonance and clustering standing waves. As with all Arabesque™ designs, no internal damping is needed. Therefore the Arabesque™ Mini is capable of extremely fast and powerful bass reproduction, unsurpassed in it's size. It offers the unique combination of elegant design and true high-end audio quality. Again, Crystal Cable's main design goal has been met: ultimate sound quality without compromising the aesthetics of your living room, like yin and yang.

The Arabesque™ Mini easily finds it's place in the living room because of the optimized coupling of the speaker to the room, a virtue of all Arabesque™ loudspeakers. The mirrored left and right speakers further facilitates easy placement by offering asymmetrical dispersion, giving better control over early reflections in the room. The compact size and the optional pedestal facilitates aesthetically pleasing placement in any living room.

#### Technical specifications:

Frequency range: 45Hz-40kHz(-3dB) near wall position  
Crossover frequency: 2000Hz  
Crossover: second order low Q  
Power handling: Max. 150W RMS  
Total harmonic distortion: <0.5% from 200Hz-20kHz  
Max SPL: 106dB  
Peak input power: 150W  
Efficiency: 86dB @ 2,83V  
Impedance: 8 Ohm nominal  
Recommended amplifier power: 50W or more.  
Weight: approx. Approx 18kg / 40 pounds each (net) excluding stands



# ARABESQUE

## The Arabesque™ III

The Arabesque™ III was a logical descendant from the Arabesque™ Mini: aluminum appeared to be the material to make resonance free cabinet panels. The Arabesque™ III is a floor-standing loudspeaker with a compact footprint, matching almost any room. The Arabesque™ shaped anodized aluminum housing makes damping materials obsolete, prevents cabinet resonances and offers perfect constant energy dispersion.

Four unique, customized Scan-Speak Illuminator bass-midrange drivers allow for very low distortion and sufficient power to please a large audience. The friction port at the narrow end of the Arabesque™ shape further reduces low frequency distortion by 70%. The very low mass midrange driver demonstrates a unique sense of realism, which makes every type of music highly attractive to listen to. The drivers are beautifully engineered, using powerful Airflow Neodymium magnet systems, low mass and high speed. One ultra musical beryllium tweeter completes the six driver design. All drivers are connected through a 6dB cross over network of equally high quality, featuring large silver-oil capacitors and huge air core coiled inductors. Ample dimensioning of all components prevents saturation for equal behaviour at all sound levels. Precious rhodium plated WBT nextgen connectors as well as a proprietary Crystal Cable® terminal provide for bi-wiring or bi-amping of your sound system. All drivers are connected using the highly advanced mono-crystal wire from Crystal Cable®. Five adjustable feet facilitate stable placement on any floor.

The slender Arabesque™ III easily finds its place in any living room. Being a true Arabesque™ design it benefits from the optimized coupling of the speaker to the room. The mirrored left and right speakers further facilitates easy placement by offering asymmetrical dispersion. Aesthetically the black or silver anodized aluminum cabinets will easily match any interior.

The Arabesque™ III by Crystal Cable® is a genuinely state-of-the-art, high-end loudspeaker, again a milestone in craftsmanship as well as a fine piece of art. Extremely well built and elegantly designed it adheres to the Arabesque™ philosophy of combining high-end sound and aesthetics without compromise. It really must be seen and heard for it to be fully appreciated.

### Technical specifications

Impedance: 8 Ohm  
Efficiency: 91dB @ 2,83V  
Frequency response: 33Hz-45kHz  
Crossover frequencies: 300Hz, 2000 Hz @ 6dB/oct  
Total harmonic distortion: < 0.3%  
Power handling: 600W max.  
Height: 110cm  
Weight: approx. 53,5kg/118lbs each

