



Frequently Asked Questions: Krysta – Line

Q : *Speakers are normally built out of wood, like musical instruments, so what are the advantages of a glass made loudspeaker ?*

A : First thing to remember, not all musical instruments are made out of wood, i.e. saxophones, trumpets, drums, cymbals etc, then in the case of a violin or a guitar the wooden case participates in the tune and sound by vibrating.

In the case of a loudspeaker it is the movement of the driver and not the vibration of the baffle that gives the sound, in fact when the case starts vibrating, the quality of the sound reproduction is altered. Many speakers illustrate this where manufacturers use structure-reinforcing devices to make a more rigid baffle. The ideal solution so far has been to use inside panels filled with sand, for its density and inertia and: glass is sand!

So the highly interesting choice of glass is not just for its aesthetics qualities but also for its extreme density, so no vibration of the case will come to alter the sound reproduction.

Q : *Why was there no glass speakers before Waterfall's and how does it work ?*

A : Clearly Waterfall is the pioneer in this field because, as seen above, glass is very dense but it is also a very reflective material. This was a real obstacle in the conception of our speakers as the energy generated from the back of the driver needs to be damped. In a conventional speaker, manufacturers use various damping materials inside the enclosure, but in the case of a transparent enclosure, these solid materials defeat the object of the exercise!!! The challenge was then to dampen this energy within the enclosure without using these damping materials, which appeared impossible.

The secret of the successful functioning of our speakers is all in the patented technology "Acoustic Damping Tube". ADT is a very simple principle: rather than dampen the energy on the sides of the enclosure, it is as efficient to muffle it at the source, that is, right from the back of the driver.

The Acoustic Damping Tube is therefore located at the back of the mid-bass driver and has 3 main functions:

- 1) Damping of the mid-range frequencies
- 2) Acting as a hydraulic damper in the low frequencies to control the excessive excursions of the cone to notably reduce distortion and increasing low frequency power handling
- 3) Perfect insulator between the driver and the glass sides.

This technology is applied to the three Krysta-line products: Athabasca, Iguasçu TWN and Victoria TWN.

Q : *Is it a special glass ?*

A : The glass used in the Krysta-Line products is 6mm thick glass with a metallic colour coating. The use of very specific glues and a specific gluing process does not allow for the use of safety or security glass.

Frequently Asked questions : Hurricane Line

Q : *How can you have so much energy with such a small speaker ?*

A : In order to compensate for such a small size satellite, Waterfall is using a neodymium magnet in the drivers, because it reduces the size of the magnet but still allows for a perfect magnetic flow, and our driver has a double neodymium magnet for maximum efficiency.

Q : *How can the satellite have such high power handling ?*

A : The electric power handling of a driver is linked to its handling of the heat in its voice coil and its ability to dissipate this heat. Waterfall, on all its drivers is using a Teflon voice coil support that can handle a temperature up to 250° C. The heat accumulated in the voice coil is dissipated through the magnet, but once the magnet has reached its maximum temperature, the heat from the voice coil can no longer be dissipated and the driver will be damaged.

Therefore, Waterfall has developed the "Heatstream Technology", a patented technology where excess heat is dissipated from the voice coil by coupling our magnet to the aluminium cabinet of the satellite. The actual body of the satellite becomes a cooler!

General FAQ :

Q : *What is the warranty on Waterfall products ?*

A : Like any other product falling under EEC standards , the Waterfall Speakers have a 2 year Warranty : Parts and Service.

Q : *Is it possible to mix the Krysta-line products and the Hurricane line products?*

A : Our range of products is designed to be totally homogenous. Each of our speakers has the same quality in tone and all share an excellent sound image. The only difference between them being their sizes and therefore the difference in low frequency response and acoustic pressure, in other words, it is the quantity and not the quality that varies.

It is then possible to associate the Krysta-Line with the Hurricane Line, to create Home Cinema "packs".

Q : *How do you choose a Home Cinema pack ?*

A : All Waterfall speakers have exceptional performance, so whatever your choice the performance level will be met. Every requirement can be met with our wide range of solutions.

Q : *How can you install your Home Cinema pack ?*

A : The general cohesiveness of your system will be reached when the processor will be parametered. As a general rule the best way to achieve the cohesion of your pack is to set the processor to "small" mode and the low frequency crossover of the processor at 120Hz.

These adjustments will fit any Waterfall product, but level tests are required in order to reach a homogenous distribution of the energy between all the speakers.

It is recommended to position the Subwoofer on the same plan as the front speakers, with the drivers parallel to each other.