

With a woofer located on the side of the loudspeaker, the A3 offers a beautiful and harmonious line that will make it easy to integrate in any living room.

This solution, meticulously developed by our engineers, allows the speaker to offer very high performances in the bass while keeping an elegant narrow facade.

With an exceptional musicality, the A3 will give you a chance to listen to all the subtle details of music with all high end hi-fi and A/V component.

## The ACT line

With the ACT line, BC Acoustique wanted to create speakers with a pure and sharp design using advanced technology.

The ACT speakers are the result of several years of research and development. Looking at their fine design, it is hard to realize the efforts that went in the making of the speakers and the level of technology that can be found inside. The result is quite an achievement.

Three specific technical aspects were particularly studied:

- **Internal resonance modes**
- **Phasing**
- **Distortion level**

These three aspects are often weak points on speakers found on the market, and this for a simple reason: the measuring devices used in the world of electroacoustic do not offer the necessary precision to clearly show some important phenomenon for which the human hear is highly receptive.

With this in mind, BC Acoustique decided to develop its own set of measurement devices and to adapt its manufacturing process and testing facilities to these innovative techniques. These devices give our engineers a higher precision in their work, making this a significant progress in the field of electroacoustic.

These technical evolutions make the ACT line an accomplishment with remarkable sound qualities. No place was left for luck.

But we always kept in mind that the final goal of all these evolutions was to make sure that the listener would forget all the technical aspects and enjoy the best of what music and sound can offer. This is BC Acoustique's philosophy.





## The Tweeter

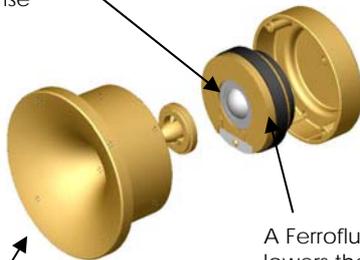
The A3 uses 3 drivers. For the treble BC Acoustique chose a BC100 horn tweeter. A common model to all ACT speakers, this tweeter is the result of an important collaboration with Fostex, one of the most prestigious high end drivers' manufacturer.

Compared to a classic dome tweeter, the BC100 brings a remarkable definition of higher frequencies, an incredible clarity, efficiency and good transiency.

Its frequency response chart is regular up to 50 kHz for an ideal transcription of high definition sources (SACD or DVD-Audio) without the inconveniences that can be found with super tweeters.

The BC100 can also reproduce all the dynamic that you can find in music or movies without any loss or distortion.

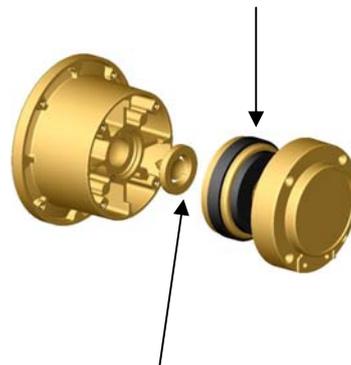
Titanium **Dome**, rigid and light for a fast step response



A Ferrofluidated **moving coil** lowers the resonance frequency and increases power handling

Aluminium **horn** with a profile developed to improve frequency response linearity, ease the phase coherency and limit directivity

A large **double magnet** gives the motor power and speed



The **compression chamber** optimises the acoustic impedance of the sound wave



## The Midrange

The A3 uses a 18cm midrange driver, conceived in cooperation by BC Acoustique and the renown Norwegian drivers manufacturer SEAS.

Cone profile and suspension were specifically designed for a steady frequency response with no accidents. This naturally flat frequency response limits to a minimum the effects of the crossover and to avoid the problems of phase rotation.

Everything was optimized to make sure that the midrange would be natural and open. Precision, fluidity, the absence of coloration and distortion will offer a wonderful listening experience.

## The Woofer

The woofer for the A3 is a superb 26cm driver with composite aluminium/magnesium cone also made specifically for BC Acoustique by SEAS. This woofer was developed to reproduce bass frequency with high precision even under high acoustical pressure.

The A3 generates deep and powerful bass. Cleared from tonics and unnecessary resonances, the bass offers an amazing speed and remarkable precision.

### Composite Aluminium and magnesium cone.

Its extreme stiffness keeps all components in perfect alignment even for very high acoustic pressure

Stiff alloy injection moulded **basket**. The very large openings above and below the spider reduce sound reflections and air flow noise

Large size **magnet** to improve sensitivity and transient response

2'' diameter high temperature **voice coil** with black anodized aluminium coil former gives high power handling without distortion and reduced power compression

**Spider** was specifically studied to offer a perfectly symmetrical movement





## The Crossover

The crossover of the A3 was designed with components selected for their top quality. The state of the art connectors come from WBT renown for their mechanical and electrical performances. The terminal allows bi-wiring. . Internal cables all come from Tara Labs, a leader in cable technology.

The crossover is using only a fairly slow first order slope of 6dB/Octave for the midrange. This solution preserves the phase of the drivers on the most audible frequencies. This keeps the homogeneity and coherence of sound while the stereophonic scene is perfectly stable, deep and wide.

To make the ACT line easy to adapt to a room, the use of a number of specific resistors allow the auditor to change the level of the tweeter. 5 positions are available to increase or reduce the tweeter level by up to 3dB. It will be simpler to adapt the speakers to the listening conditions of the room and to the other components of the Hifi/AV system.



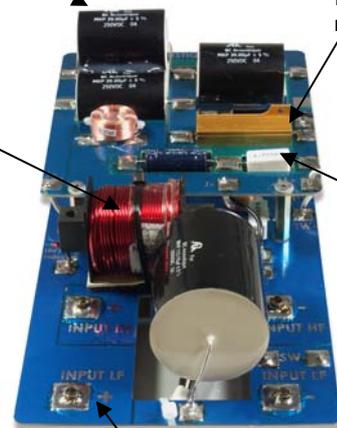
WBT Bi wiring terminal

Polypropylene Capacitors

Non inductive resistors

Unsaturated coils

High power ceramic resistors



Wide tracks circuits

## Those small details...

The front grilles are made with removable fabric that can be changed. A completely invisible magnetic system of fixing uses powerful neodymes magnets inserted inside the cabinet and the grille. Thus the fitting is always perfect. The use of magnets has absolutely no effect on sound. On the contrary this solution does not use the usual plastic pins that create problems of reflections and disturbances on the frequency response.

If you do not want to use the front grille, you can also easily put it on the back of the speaker where other magnets have been inserted. This way it will be easy to put away. There will be no mark of plastic pins on the front panel to taint the design of the speaker.

The A3 are delivered with specific feet to obtain a perfect stability and a mechanical decoupling to isolate the speaker from the floor and eliminate vibrations.



## The Woodwork

As for all the other models of the ACT line, the cabinet of the A3 has been carefully designed. The woodwork is made out of high density 30mm thick MDF. All wood panels are veneered on both sides to avoid any risk of bending of the wood on the long term.

The internal architecture is quite complex, using diffusors and resonators, inclined panels and stiffening pieces for the cabinet.

The A3 uses a bass reflex solution. The tuned vent, whose position on the back of the cabinet was carefully studied, is used to increase the energy level but also to get rid of one of the resonating frequency inside the cabinet.

Damping material is used in strategic places to damp internal waves without affecting micro information.

The drivers are mounted in a very specific way to conciliate acoustic and mechanical benefits while preserving the unique aesthetic of the speaker's front panel.

No screw is seen from the outside on the front panel as the drivers are held from the inside. The outer aluminium ring allows a very tight and homogenous fixing of the basket. It facilitates the flow of unwanted vibrations and its curved profile limits the creation of reflections on the outer rim of the basket.

### Diffusors

Located on the sides of the tweeter/midrange compartment, they break the sound waves to avoid any echoing inside the cabinet. These do not affect all micro information.

### Inclined panels

Limit the stationary waves.

### Stiffening pieces

Bring more rigidity to the cabinet and suppress stationary waves. Thorough studies were done to find the best setting in the speaker for these elements.

### Resonators

This independent compartment was designed to absorb unwanted frequencies





### Quality Control

The A3s are carefully hand made in BC Acoustique's factory. All drivers are tested, selected, ran in and paired.

Crossover is set precisely to compensate potential variations in one or more components. Each crossover is thoroughly tested and measured. It is then compared to the standard measurements.

All these information are recorded and stored in our data base to guarantee the quality of technical service for each speaker that we produce.

### Finish and Accessories

The A2 are available with 4 different finish : Wengé, Amarante, Maple, Cherry (from left to right).

They are delivered with a box of accessories including handling gloves, a soft rag, a bottle of cleaning lotion, a test CD that will allow you to set your installation and improve the run in of your speakers.

The A3 as well as all BC Acoustique's speakers have a lifetime warranty (see conditions).

#### Drivers

<b>Tweeter</b>	Horn BC100
<b>Midrange</b>	18 cm polypropylene
<b>Woofers</b>	26 cm Aluminium
<b>Terminals</b>	WBT - Bi-wiring
<b>Crossover</b>	6/18 dB at 3,5kHz 12/6 dB at 200Hz

#### Performances

<b>Frequency Range (+/-3dB)</b>	35Hz - 50kHz
<b>Distorsion</b>	<0,6%
<b>Maximum long term power</b>	200 Watts
<b>Maximum short term power</b>	700 Watts
<b>Sensitivity (2,83v/1m)</b>	91,5 dB
<b>Nominal Impedance</b>	4 Ohms
<b>Minimum Impedance</b>	3,6 Ohms

#### Specifications

<b>Type</b>	Bass-Reflex Floor Standing
<b>Dimensions (HxWxD)</b>	110 x 23 x 40 cm
<b>Weight</b>	52 Kg
<b>Cabinet</b>	MDF HD 30mm
<b>Diffusors</b>	YES
<b>Resonators</b>	YES - 3



[www.bc-acoustique.com](http://www.bc-acoustique.com)

# Fiche Technique d'information

**Evolution de la A3**

**Date : 13 juin 2005**

The ACT A3 is evolving significantly. 2 aspects of the speaker have been upgraded :

- The bass section has been redesigned.
- The manufacturing and integration of the crossover have been completely rethought.

## The Bass:

The bass section of the A3 has been transformed. The woofer has been replaced by a new one with a treated paper diaphragm. The size, load and coil size do not vary, but the mobile parts of the driver are much lighter. This improves considerably transient response. When listening, the bass sounds faster and more integrated to the rest of the spectrum.

Another important change on the bass is the improvement of the nominal impedance. The value is now 6 Ohms, easing the work load of the amplifier. Its damping factor becomes more important for a better control of the movement of the driver.

### In short:

- **New Bass driver**
- **A faster bass with better transient response**
- **Higher impedance, better damping factor for the amplifier**
- **Response in extreme bass untouched**



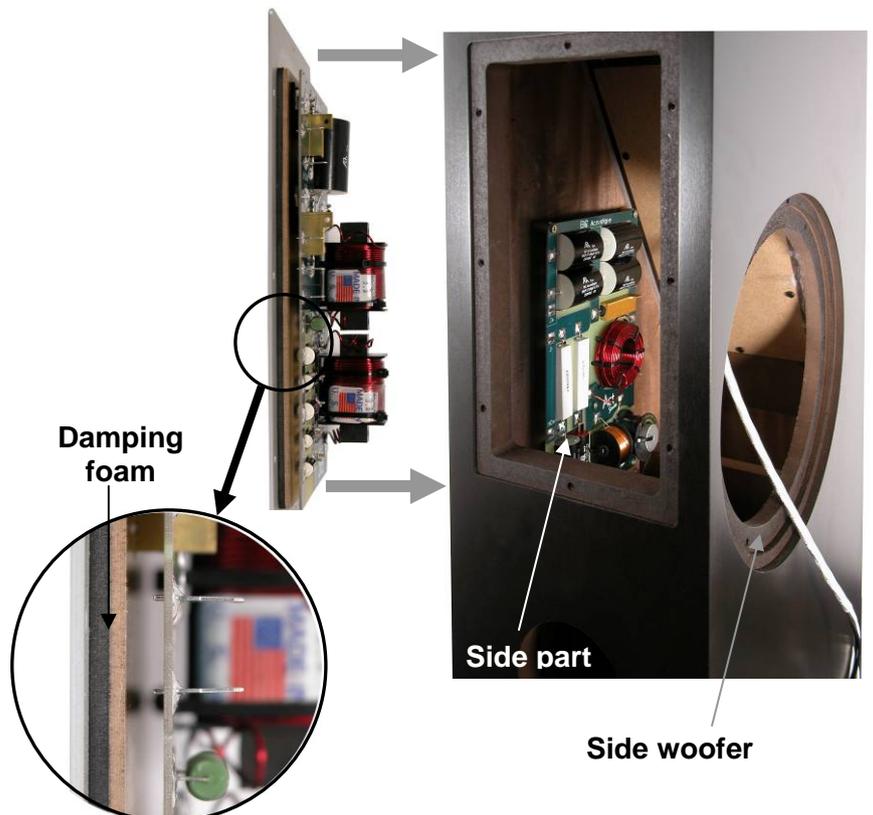
## The crossover:

The former crossover was fixed to the back of the terminal and was made of 2 levels.

To improve integration and fixing, the new A3 has now a 2 parts crossover. The first part is fixed on the side panel of the cabinet, opposed to the woofer. The second part remains on the back of the terminal but its integration has been improved: a damping foam is used between the terminal plate and the crossover to cancel any vibration or resonance.



The 2 parts of the crossover



### In short:

- **Less electromagnetic interactions between the 2 parts of the crossover**
- **Less vibrations and resonances**
- **Better stability and increased reliability**