

welcome



Dr. Udo Zucker – Physicist, PhD in Science,  
designer of award-winning electronics,  
dedicated audiophile and Chief Executive  
Officer of TAG McLaren Audio

Award-winning TAG McLaren technology  
- the TAG2000 F1 control system has  
been selected as a Millennium Product by  
the British Design Council



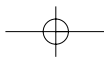
welcome to

**TAG McLaren**  
audio

**TAG McLaren Audio exists** with one aim in mind: to produce the very best audio equipment in the world.

Like many people, I often have my best ideas when relaxing to a piece of music or watching a movie. For years, knowing the technical capabilities of TAG McLaren, I have nurtured the ambition to push sound reproduction to the absolute limit; that's why we formed TAG McLaren Audio.

At the core of our development team are highly experienced engineers whose heritage of award-winning hi-fi and world-beating electronic control systems is envied by many and equalled by few.



welcome

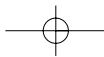
build quality, a rare combination in hi-fi but one which TAG McLaren Audio delivers.

Dr Udo Zucker

In addition to our experience in the world of hi-fi we are able to utilise our expertise in mechanical engineering, composite material technology, multi-layer printed circuit boards, fast digital signal processing, electronic noise suppression, radio frequency technology and software design to name but a few.

All these skills are sharpened to compete in the toughest of all technical sports: Formula One motor racing. We directly apply them to enhance our high-end audio products. For example, composite and aluminium material technology is used to make resonance - free loudspeaker cabinets, suspension technology decouples electronics from the sound field and digital signal processing makes better home cinema products. The list is almost endless.

TAG McLaren's aim is sonic perfection combined with aesthetic delight and solid





Calliope Bass Module shown with attached  
Calliope Bookshelf loudspeakers

Thank you for purchasing the TAG McLaren Audio Calliope Bass Module.

## Calliope Bass Module

The Calliope Bass Module combined with the Calliope Bookshelf loudspeaker forms a magnetically shielded three way, full range, high performance, 4th order reflex-loaded loudspeaker system capable of reproducing music with outstanding clarity and transparency.

### enclosure technology

The Calliope Bass Module employs high performance materials eschewing the traditional wooden cabinet to eradicate the unwanted sonic signature of energy re-radiation. The curved profile forms a stiff, single-piece aluminium extrusion which is further reinforced with the addition of the die-cast aluminium end caps secured with high tension bolts. This creates a structurally inert and inherently well damped enclosure which ensures that the only acoustic energy is created by the drive units and not the enclosure.

### optimised dispersion enclosure geometry

Marrying form and function harmoniously, the geometric form of the enclosure has been carefully designed to optimise the dispersion of sound energy

from the enclosure. The Calliope loudspeaker system generates an even and consistent energy output both on and off axis resulting in a solid and accurate image.

### drive unit technology

The Calliope Bass Module's three drive units have been designed to optimise their performance. The 150 mm bass unit employs a woven glass-fibre cone to create a stiff yet well damped diaphragm that remains piston-like through the pass-band. An oversized, carbon-loaded pulp dust-cap is employed to provide further stiffness to the moving diaphragm assembly to improve low frequency transient behaviour.

### high quality crossover

The components used throughout the crossover are of the highest quality to ensure signal integrity and clarity. The



inductors use oxygen-free, high purity copper (OFHC) wound on bobbin cores to improve saturation current limits, reduce d.c. resistance and minimise stray magnetic field leakage. The capacitors are manufactured with an over-size polypropylene dielectric and are rated at 250V DC to guarantee uncompressed power output. The resistors are high power devices offering extremely high peak voltage operation without compression. All component connections are hard-wired as opposed to being printed circuit board tracks to maintain optimum transfer of music signals.

#### **OFHC loudspeaker connection terminals**

The use of proprietary OFHC gold plated binding posts achieves a clear sonic improvement compared to the typically

used alternatives employing high copper content alloys. Furthermore, nickel plating has not been used between the OFHC foundation and the gold finish as it added 'grain' to the sound. Whilst this will lead, in the long term, to some dis-colouration of the binding post due to the copper atoms partially diffusing into the anti-corrosion gold layer, the customary nickel plate interlayer is well known to affect sound quality and was eliminated.

#### **single input connection**

After extensive research into the sound quality of the FI AvantGarde loudspeaker, it was discovered that the potential benefits of multi-wired terminals for loudspeaker cable connection were outweighed by the losses incurred in their implementation, e.g. additional contact interfaces and electrical connection straps. In addition, it

has been found that even with the finest top grade power amplifiers, single input terminals improved perceived dynamics and musical expression. The results of this research have been applied to the full range of Aluminium Technology loudspeakers.



## getting started

We know you are keen to get your Calliope Bass Modules working. This section will have you listening to your favourite music as quickly as possible.

### packaging

Your Calliope Bass Modules have been carefully packaged for safe transportation. If you have the storage space, please retain all the original packaging. This will allow you to transport your loudspeakers safely in the future.

### before you start

Make sure that all the components of your audio system are disconnected from the AC supply whenever you change any connections.

### bass module installation

There are three spacer mountings per loudspeaker in the accessory pack of your Calliope Bass Module.

Place the Calliope Bass Module on the floor as shown in the picture.

Screw the threaded ends of the spacer mountings into the threaded bushes situated on the underside of the Calliope Bookshelf loudspeaker.

Peel off the protective film from the underside of the spacer to expose the adhesive surface.



### bass module installation (cont'd)

Gently lower one of your Calliope loudspeakers onto the Calliope Bass Module ensuring that the location pips on the lower side of the spacer mountings locate into the recesses on the Calliope Bass Module upper cap. Once in position press down the Calliope Bookshelf loudspeaker to allow good contact between the adhesive, applied to the spacer, and the Bass Module.

### loudspeaker connection

To connect your Calliope Bass Module to your Calliope Bookshelf loudspeaker, use the black and white speaker cables supplied in the accessory pack, connected as shown in the drawing.

Secure the wires by tightening the terminals of both the Calliope Bookshelf and the Bass Module. Do not overtighten the terminal.

Use high-quality loudspeaker cable. For best sound quality, we recommend that you use loudspeaker cables terminated in 8 mm spade terminals. Connect the lower red (positive) terminal of the right channel Bass Module to the right, positive output terminal on the back of your amplifier. Unscrew the terminal enough to fit the spade into it and then tighten the terminal. If you are unable to fully tighten the terminal, try pushing the spade connector in a clockwise (tightening) direction. Do not over-tighten the terminal.

Then connect the lower black (negative) terminal of your right channel Bass Module to the right, negative output terminal on the back of your amplifier. Repeat this procedure to connect your left channel Bass Module.



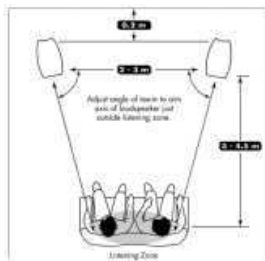
**room placement**

The geometric form of your Calliope loudspeakers has been designed to project a wide and even dispersion of sound into the room in order to eliminate the common problem of 'hot seat' imaging.

**finding the best location**

You will get the best sound from your Calliope loudspeaker system if you follow these guidelines:

Try to place each loudspeaker so that the rear edge of the enclosure is approximately 0.20 m (8 inches) from the rear wall and at least 0.50 m (2 feet) from side walls. Space them between 2 and 3 metres (6 - 10 feet) apart. Try to locate both loudspeakers in a similar acoustic environment. Be the loudspeakers in so that the axis of the loudspeakers point just outside the listening zone (see figure below).

**fine tuning**

To fine tune the position of your Calliope loudspeaker system, choose some music you are familiar with and sit in the central listening position. Pay attention to the tonal balance of the reproduction and the accuracy of the stereo sound-stage. Moving the loudspeakers away from the rear wall and into the room will reduce the amount of low frequency energy with respect to the rest of the audible bandwidth. Conversely, moving the loudspeakers closer to the rear wall will increase the low frequency energy. The distance between the loudspeakers and the amount of toe-in will affect the stereo sound-stage. With careful and patient experimentation, you will find a configuration that will provide an even and neutral tonal balance with an accurate sound-stage. Don't be afraid to experiment.

**for extended bass performance**

For optimum performance, your Calliope Bass Modules have been fitted with port dampers in the two port tubes located at the rear of your Bass Module.

To increase the amount of low frequency output from your Calliope Bass Modules, remove either one or both of the plugs from the port tubes. To replace the plugs, just gently push the plug into the port tube until the outer surface of the plug sits flush with the outer edge of the port tube.

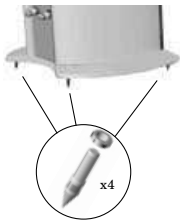
## installation

### support spikes

Once you have found the ideal position for your loudspeakers within your listening room, you may wish to add the mounting spikes supplied. This will allow the loudspeakers to be levelled and provide rigid support improving image stability and bass definition.

### grille removal

The Calliope grille geometry has been carefully designed such that it has only a very small effect on the acoustic response, so the penalty for leaving the grilles in place is slight. However, if you want to realise the best performance from your Calliope Bass Modules you might want to remove the grille. To do so, gently prize the side edges of the grille out of the enclosure relief channel, starting at the bottom edge.



## running in and warming up

TAG McLaren Audio equipment is designed to give optimum performance for many years.

### running in

The performance of your Calliope loudspeaker system will improve during the first few weeks of operation.

### warming up

Every time you use your Calliope loudspeaker system, the performance will improve until the components have reached their optimum operating temperature which, depending on replay volume, is usually achieved within 5-10 minutes of operation.

**cleaning**

In order to maintain the appearance of your Calliope Bass Modules, you can clean them as follows:

Any grease or dirt on the enclosure may be removed with a soft, lint-free cloth moistened slightly with a mild solution of warm water and detergent or washing up liquid. Do not use any other solutions. Do not use any solvents or abrasives.

Take great care not to get any liquid inside the loudspeaker enclosure or on the drive unit diaphragms. If this happens, you should have your Calliope Bass Modules serviced.

**service**

Under no circumstances should you attempt to service your Calliope loudspeaker system. All servicing should be carried out by one of our authorised service agents.

If service is required, please contact your authorised TAG McLaren Audio retailer. If your Calliope Bass Modules are still under guarantee, please refer to the guarantee card which gives you details on how to claim against the guarantee.

Please package your Calliope Bass Modules carefully when transporting or shipping. If you do not have the correct packaging at this time, please contact your retailer for assistance.

**construction**

3-way, 4<sup>th</sup> order reflex loaded system when used with Calliope Bookshelf loudspeaker, magnetically shielded

**crossover**

damped 3<sup>rd</sup> order (electrical) low pass to bass module, damped 2<sup>nd</sup> order (electrical) high pass to Calliope Bookshelf loudspeaker  
400 Hz crossover frequency

**low frequency extension (in-room)**

-10 dB @ 24 Hz (-3dB @ 38 Hz)

**response uniformity (anechoic)**

80 Hz - 350 Hz ( $\pm 1.5$  dB)

**sensitivity**

88 dB/ W / m (4 pi anechoic)

**impedance**

4  $\Omega$  nominal (3.0  $\Omega$  minimum)

**distortion**

<0.3% THD. (ref. 1W, 100 Hz - 400 kHz)

**power amplifier requirement**

50 W minimum recommended

**maximum S.P.L.**

112 dB (in-room)

**operating temperature range**

18 - 35 °C