

Caruso[®] Blu

Complete Multi-Source Hi-Fi system



T+A





Caruso[®] Blu - The musical miracle cube

► In Autumn 2008 T+A introduced the *Caruso*. Combining ingenious overall design with the best available components, sub-assemblies and materials, this compact stereo system was intended to supersede all conventional mini-systems and table radios. Without fear of denial we can certainly claim that the machine fulfilled this aim: within a very short period the *Caruso* developed into a great cult favourite, and it found many enthusiastic users in the five years of its production. We now follow up this story of success with the machine's successor: a completely revised version which represents a new development.

Like its predecessor, the basic concept of the *Caruso* Blu is that of a complete stereo system with superb sound, whilst remaining as small and compact as possible. External changes are restrained in nature, and the new unit looks even more elegant and exclusive. In contrast, the internal design is a completely new, and now features the very latest components and technologies!

The *Caruso* Blu is capable of reproducing music from all modern sources:

- BluRay, CD and DVD
- Internet radio
- Network music servers
- USB storage media
- Bluetooth music transfer from mobile devices
- DAB+ and VHF radio
- Analogue sources such as turntable with phono pre-amplifier
- Digital sources such as TV sets and set-top boxes

The machine plays all these sources with outstanding quality through its five integral loudspeaker systems. Three power amplifiers, each generating 50 Watts of continuous power, are coupled directly to the speaker drive units, while the active crossover unit (active loudspeaker principle) ensures that the signals reaching the speakers are precisely defined. The integral digital processor enables the user to select various sound characteristics, with the result that it sounds excellent on a sideboard or desk as well as on a shelf. The machine delivers incredible sound quality for its size, and forms a very convenient means of waking yourself up in the morning.

We have deliberately invested a very great deal of effort in developing a simple, logical and intelligent method of controlling the *Caruso* Blu, and in spite of its extensive facilities it is easy, consistent and intuitive to operate - either using the machine's integral controls, the system remote control handset or the T+A Control App.

► The *Caruso* Blu is extremely versatile, and its facilities leave nothing to be desired. The front panel incorporates a high-quality headphone socket, a first-class Bluetooth receiver and a USB-AV port, while the back panel features two analogue RCA inputs, three digital inputs (optical and co-ax), LAN and WLAN connections for the Streaming Client, and a USB port for memory media and pre-amplifier outputs. Stereo pre-amplifier outputs are present, allowing power amplifiers or active speakers to be connected, and a dedicated output enables the use of an active sub-woofer. For use with a TV set the machine features a high-quality HDMI output, and the BluRay disc mechanism has Ethernet access for the use of BD-Life. Although most TVs are beautifully flat, their sound quality often leaves a very great deal to be desired. You can circumvent this weakness by connecting your television to one of the digital inputs of the *Caruso* Blu, so that TV sound can also benefit from its excellent audio quality.

This great versatility means that the *Caruso* Blu has enormous potential as the basis for a high-quality, fully featured stereo system.

If you wish, it can even be expanded to form a full-scale Hi-Fi system with additional active speakers, or a 3.1 virtual surround system with active speakers and sub-woofer.

In common with all T+A products, the quality and workmanship of the case of the *Caruso* Blu is also of the very highest order, although the compact format presented a tremendous challenge to our development team, as the case has to accommodate a large number of components. We believe that the *Caruso* Blu is something very special: a statement, a work of art. The sides, top cover, front and back panels consist of high-quality brushed aluminium, and even the loudspeaker chassis are made of steel.

Caruso[®] Blu - Complete Multi-Source Hi-Fi system



► The external controls maintain the classic T+A style, and provide an ultra-simple, intuitive means of controlling the *Caruso* Blu despite its enormous range of functions. The layout of the FM100 metal remote control handset is very clear, and the unit copes with auxiliary functions and text input in addition to the normal control operations. The machine's large-format, high-resolution, graphical VFD screen displays the data and information in different font sizes according to context, and offers several levels of brightness. The USB port on the right of the machine's front panel is intended for hard discs and memory sticks for the BluRay disc mechanism. The headphone socket has its own high-quality amplifier, and switches off the integral loudspeakers completely when in use. The sockets on the back panel are a clear indication of the impressive facilities of the *Caruso* Blu. The machine is primarily conceived as an audio device; it can be employed as a great-sounding compact system, but can also be upgraded to form a high-quality Hi-Fi system. That's why it retains two analogue inputs, intended for sources such as a turntable (with phono pre-amplifier) and a further analogue device. If your intention is to make the *Caruso* Blu into a classic Hi-Fi system with separate loudspeakers, then the RCA pre-amplifier outputs are ideal for connecting an active sub-woofer - such as the KW 650 - and *CM Active* bookshelf monitors. If you wish - according to the application and your own personal taste - you can switch the integral speakers off, allowing only the two stereo active loudspeakers to operate, but an alternative is to switch the integral speakers to the Centre role, supporting the stereo loudspeakers; an active sub-woofer generates additional low bass. In this guise the unit forms an excellent 3.1 system. The menu system provides a simple method of selecting and setting up the various possible functions and configurations.

The unit incorporates the same high-quality BluRay disc mechanism employed in our K2 Blu AV device. This means that DVDs and BluRays can be played through a monitor or TV set, as well as CDs for pure music reproduction. The HDMI output is of extremely high quality, while the modern disc mechanism supplies an outstanding picture; the video processor even features a high-quality up-scaler for DVDs.

The newly developed DAB+ and VHF tuners sound superb, and fully justify the use of a high-quality external aerial, which is strongly recommended.

Access to new music media is via the LAN socket or the WLAN aerial; the *Caruso* Blu automatically detects the streaming sources connected to it, allowing the facilities of your network and the Internet to be exploited to the full. The *Caruso* Blu even features the network circuit board and software fitted to our high-end streaming client, because this technology and its control system deliver the best sound results possible, as proved by the thousands of these machines currently in use. Sound quality from such sources can be even higher than from the original CD - depending on the definition of the stored music. The most significant feature of the *Caruso* Blu is that it reveals the difference!

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► The front panel of the *Caruso* Blu features a full-width acrylic glass plate which integrates the control circuit board, the high-definition VFD screen, the Bluetooth receiver and the disc drawer of the BluRay mechanism. All openings in the plate are accurately CNC-machined to very close tolerances, ensuring a sophisticated appearance coupled with smooth-acting buttons. The bright screen can be set to any of seven levels.



► The bass driver has also been further improved, and helps the new *Caruso* Blu to achieve even more low bass, good stability under load and greater linear excursion. This bass unit and the bass reflex port direct sound downwards, and act upon an airtight chamber within the case, generating the bass output for both channels. The crossover between the mid-range drive units and the bass unit features a steep rise, and both systems operate in correct phase to deliver a refined spatial sound image over the full bass / mid-range span.

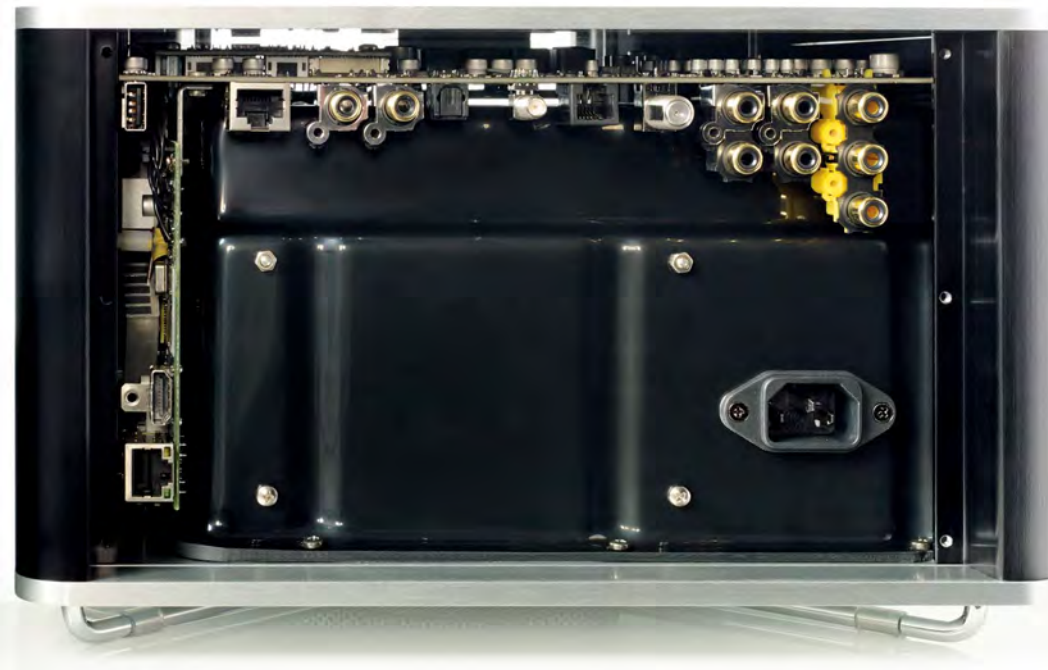


► To provide a further improvement in sound quality, we have fitted the *Caruso* Blu with high-quality 16 mm dome tweeters which improve the dispersion angle and spatial reproduction. At the same time these domes expand the frequency response right up to 30,000 Hz and beyond, creating an airy, open and very finely detailed sound image. Each of the left and right channels has its own 50 Watts power amplifier, coupled directly to the mid-range drivers - also a new development - while the dome tweeters are coupled to the mid-range units.



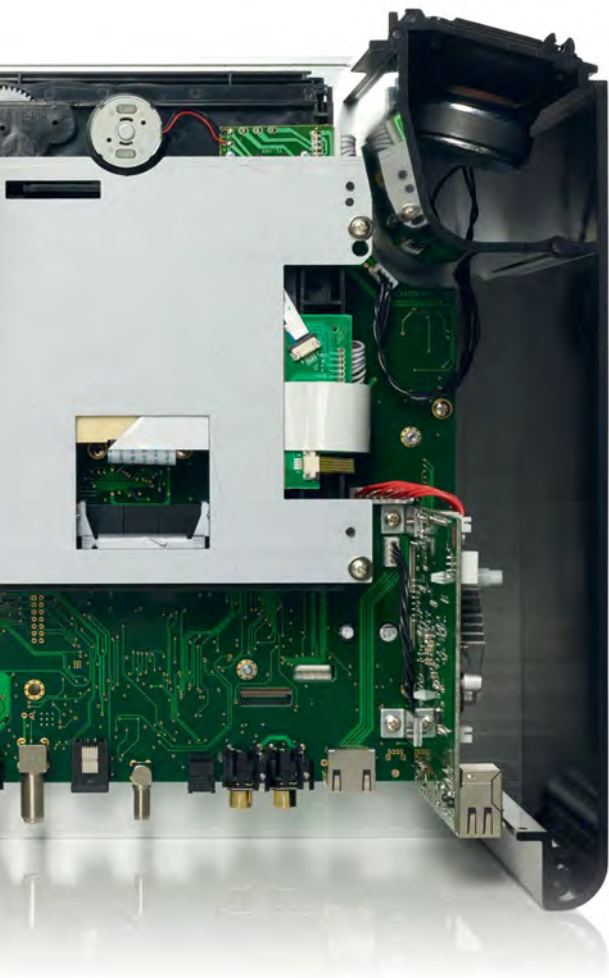
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- There are two fundamental reasons for the superb sound produced by the *Caruso* Blu : the first is the active concept of its integral loudspeakers, and the second is its very high-performance digital signal processor of the latest generation. This DSP linearises and optimises the frequency response of the integral drive units, acts as a steep-rise crossover for the different frequency ranges, and at the same time ensures that all systems operate in correct phase. The net result is that the *Caruso* Blu supplies a phenomenally clear, natural and consistent sound image at all points in the listening room. The unit also offers a choice of six different sound fields to suit its position in the room (table, bookshelf, speech, ...), and bass, treble and loudness adjustments are also possible. Even a Centre mode can be invoked.
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- There's just no room for anything else! The remaining empty space inside the *Caruso* Blu is so small that we consider it packed full. Under the top cover is the main circuit board housing the digital signal processor, the power amplifiers, the control processor and the power supply, and the cover itself doubles up as a heat-sink for the three 50 Watts power amplifiers. The next level down houses the BluRay disc mechanism, the mechanism's decoder circuit board and the streaming client circuit board.
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► The complex side panels are produced from high-quality aluminium using sophisticated extrusion tools. They even include a dedicated enclosed chamber for the mid-range / high-frequency drive units. Two newly developed mid-range / high-frequency drivers and dome tweeters are mounted in the front panel; they are responsible for the entire vocal and high-frequency range from 200 Hz to more than 30 kHz, and boast highly linear response combined with an outstanding dispersion angle. Each drive unit is driven directly by its own power amplifier, i.e. they are directly coupled, without the passive components of conventional crossover units. The active nature of this arrangement ensures a very high damping factor combined with excellent peak handling and radiation characteristics, and is the key to the exceptional sound image generated by the *Caruso* ^{BLU}. The power amplifiers and their directly coupled speaker drive units are driven by the integral DSP, which is responsible for all the signal processing - from linearisation

to crossover frequency - with zero losses.

► The base plate of the *Caruso* ^{BLU} supports the special bass driver, the bass reflex port, the high-performance mains PSU and a rigid, airtight bass chamber. The bass driver features an extremely large magnet with vacuum-moulded pole plate and a rigid, well damped cone and suspension capable of very large excursion. The result is that it is capable of reproducing very low bass as well as high volume and peak signals without introducing distortion.



CM Active - Aktive monitor



CM Active



CM Active Mini



- If required, the sound quality of the *Caruso* Blu can be further improved by employing two additional active loudspeakers in the form of the medium-sized *M Active*, a high-performance two-way monitor with 2 x 70 Watts continuous output, and the newly developed *M Active Mini* with 2 x 25 Watts continuous output. These speakers form the ideal complement to the *Caruso* Blu, transforming the unit into a full-scale Hi-Fi system. Although these speakers look very compact, their net volume is actually quite substantial because the major part of the cabinet is made of aluminium. This material produces a very strong, rigid cabinet even when the walls are relatively thin. Over the last few decades T+A has presented impressive proof of the sonic advantages of genuine, fully active loudspeakers in the shape of the Solitaire and TCI active speakers, and our expertise in this field is evident in the *M Active*: each drive unit is directly coupled to and powered by its own power amplifier to produce a superb quality of sound. The sophisticated active crossover unit linearises the frequency response and expands the low bass range, while the high-performance mains PSU delivers excellent peak handling ability even at low volume levels. The high-quality drivers are very carefully matched to the cabinet, and generate an extraordinarily dynamic and powerful sound image with impressive low bass, although the use of a separate sub-woofer can also be worthwhile. The KW 650 (from our K-series of loudspeakers) has a maximum output of more than 350 Watts, and delivers an impressive level of deep bass.



Specifications *Caruso*[®] Blu

BluRay player

Mechanism	3-laser BluRay linear mechanism on vibration-damping sub-chassis
HDMI audio output	PCM Stereo, HD bitstream out, Bitstream Legacy,
HDMI video output	HDMI 1.3; PAL, NTSC, 4:3, 16:9, Letterbox, Pan Scan
Disc formats	
Audio	CDDA (Audio CD), MP3 CD, CD R, CD/RW, Hybrid SACD CD Layer
Container + other formats	MKV, MPG, AVI, VOB, MP4, WMV
Video	BluRay Disc, DVD, VCD, SVCD
Photo	JPEG Picture CD

Streaming Client

Formats	MP3, WMA, AAC, FLAC, OGG-Vorbis, LPCM, WAV, ALAC, AIFF
Media server	UPnP AV, Media Player 10 (WMDRM10) vTuner Internet Radio Service, DLNA compatible servers
Interfaces	USB 2.0, LAN, WLAN
Bluetooth	A2DP / AVRCP Bluetooth Audio transfer protocol

FM

Reception standard	FM, FM-HD
Frequency response	87.5 - 108 MHz (Europe / US version) 76 - 90 MHz (Japan version)
Sensitivity	
Mono (26 dB S/N)	0.9 μ V
Stereo (46 dB S/N)	40 μ V
Overload margin	103 dB μ V
Total harmonic distortion	0.1 %
Signal : noise ratio (mono / stereo)	72 / 62 dB
Stereo channel separation	46 dB
De-emphasis (Europe / US version)	50 / 75 μ s
Data services	RDS / RDBS, station name (PS), programme type (PTY), Radiotext (RT), time

DAB

Reception standard	DAB, DAB+
Frequency response	168 - 240 MHz (band III)
Sensitivity (BER = 10 ⁻⁴)	2.5 μ V
Overload margin	103 dB μ V

Amplifier section

Inputs	
Analogue	2 x Aux, 2 V / 20 kOhms
Digital	SP/DIF (16 - 24 bit): 2 x coax (192 kHz), 1 x TOS-Link (96 kHz)
Headphone output	for dynamic headphones > 30 Ohms
Bass range	1 x 50 Watts continuous output
Mid-range / high-frequency	2 x 50 Watts continuous output
Total harmonic distortion	< 0.02 %
Sound management	DSP controlled sound characteristics
Outputs	PRE Out RCA, SUB Out RCA,
Mains power socket	Automatic mains voltage switching, 100 - 240 V, 50 - 60 Hz

Accessories

Features	FM100 system remote control handset, WLAN aerial, FM aerial
Dimensions H x W x D	Variable screen brightness, three-time alarm timer 18 x 28 x 28 cm / 7 x 11 x 11 "
Weight	8 kg / 17.6 lbs
Finishes	Black case with silver covers

Specifications *CM Active* and *CM Active Mini*

CM Active

Type	Fully active bookshelf monitor
Output (4 Ohms)	2-way bass reflex
Peak output (4 Ohms)	2 x 70 Watts
Damping factor	2 x 100 Watts
Total harmonic distortion	> 400
Frequency response	< 0.1 %
Drive unit, bass / mid-range	35 - 30,000 Hz
Drive unit, high-frequency	1 x 150 mm
Crossover unit	1 x 25 mm woven dome tweeter
Crossover frequency	active
Features	2500 Hz
Mains socket	Automatic power-on circuit, RCA input, T+A Trigger-on
Dimensions H x W x D	EU version: 230 V, 50 - 60 Hz
Weight	US version: 115 V, 50 - 60 Hz
Finishes	30 x 19 x 27 cm / 11.9 x 7.5 x 10.6 "
	7 kg / 15.4 lbs
	Black case with silver covers

CM Active Mini

Type	Fully active bookshelf monitor
Output (4 Ohms)	2-way bass reflex
Peak output (4 Ohms)	2 x 25 Watts
Damping factor	2 x 35 Watts
Total harmonic distortion	> 400
Frequency response	< 0.1 %
Drive unit, bass / mid-range	45 - 30,000 Hz
Drive unit, high-frequency	1 x 110 mm
Crossover unit	1 x 20 mm woven dome tweeter
Crossover frequency	active
Features	2200 Hz
Mains socket	Automatic power-on circuit, RCA input, T+A Trigger-on
Dimensions H x W x D	External power supply 100 – 240 V, 50/60 Hz
Weight	24 x 15 x 22 cm / 9.4 x 5.9 x 8.7 "
Weight external power supply	4 kg / 8.8 lbs
Dimensions H x W x D	0,25 kg / 0.55 lbs
Cable length	3 x 5 x 11cm / 1.2 x 1.9 x 4.3 "
Finishes	180 cm, 70 "
	Black case with silver covers

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