

# AUDIO

HIFI · SURROUND · HIGH END · MUSIC



**TOM PETTY**

Der Altmeister zeigt's allen

RESOLUTION AUDIO CANTATA MC

# MUSIC CENTER

Divine Digital Sound as a Player, Streamer, and DAC

EXKLUSIV: B&W 800 DIAMOND

## DIE BESTE B&W

Warum die neue Superbox jeden begeistert



ELAC, DALI, GERMAN MAESTRO

## KOMPAKT-BOXEN AB 800€

Faszinierende Auflösung mit exzellenten Hochtönern



Sonderdruck  
Aus Ausgabe 7/10

**AUDIO**

### PHONOSTUFEN

Von 160 bis 5300€:  
Klangtuning für Ihre LPs



### CINCHKABEL

Von 110 bis 400 €:  
8 Marken im Test

### VOLLVERSTÄRKER

Röhren-Faszination  
schon ab 400€



# ENGRAVED IMPRESSION

www.audio.de ›07/2010

Whoever sees the **Cantata MC from Resolution Audio** for the first time is fascinated. Whoever hears it for the first time is addicted to it. The amazing DAC in its sculptured cabinet remains optically and acoustically in one's memory.

■ Text: Christine Tantschinez / Photos: H.Härle, MPS, Archive

**Cantata MC from Resolution Audio**

---

## TEST

CD Transport, DAC, and Streaming Client in one cabinet as well as a matching USB-ethernet Adapter.

---

**RESOLUTION CANTATA MC 5900€**  
**RESOLUTION PONT NEUF 400€**

www.audio.de ›07/2010

# RESOLUTION AUDIO CANTATA MC

5900 EURO

It was love at first sight. These contours! The body milled from a solid aluminum block, every model with its own unique top surface, cool and soft like the skin of an exotic animal. Additionally the Matrix Display, ingeniously hidden in a pattern of holes, shines brilliantly or if desired subtly dimmed, and the undoubtedly carefully thought out absence of any kind of superfluous additions - pure and clean, like a David cast out of aluminum. It could have been superficial love with the Cantata MC, a brief flirtation with its beautiful appearance, until reality in the listening room would have been brought to light brutally: No, that doesn't work, that's not going to work with us. But fortunately the renowned body is much more than only an elegant shell.

## TOO BEAUTIFUL IN ORDER TO BE TRUE?

Already the designation as a "Universal DAC" indicates the difficulty of squeezing an instrument like the Cantata into the usual cabinetry. It does incorporate a disc transport, but it would waste its talents as only a CD Player. It can reproduce music as a streaming client from a local network, but despite that still does not fit by a long shot into the many audiophile heads prevalent scheme of plastic network players. Outfitted with just about all known digital inputs from AES to USB, it can transform practically



### ◀ SUPPLIED FOUR TIMES:

Four toroidal transformers for different tasks. The first 1) supplies among others the front display, the second is responsible for the CD transport as well as for the 2) USB and ethernet PC board. The third takes care of the 3) digital section, and the fourth supports the 4) path of the audio signals after the DAC to the output stages.

### ▶ TWICE BEAUTIFUL: ▼

A matching amplifier for the Cantata MC will be available in the fall.



every digital stream into its analog equivalent. At Resolution Audio, the fathers of the Cantata, one attempts with the abbreviation "MC" for "Music Center" to provide an inkling of what role it could play in a high-end system: Transmitter, receiver, DAC - and thanks to chip actuated analog volume regulation, even as a preamplifier. With that we have arrived for a look under the beautiful surface of the Cantata. Whoever removes the black bottom cover will discover, embedded in its cooling aluminum attire, the no less attractive circuit board layout with carefully distributed areas of responsibility, every single section carefully separated and fed with its own toroidal transformer. A thick power supply pro-

vides solely for the output PC board, on which four Burr Brown stereo DACs (PCM 1704) perform their tasks completely symmetrically. Another transformer takes care of the central processing units which are responsible for the digital filters and for the signal processing of the incoming data streams via SPDIF or AES. Incidentally these are not only physically separated from the chips of the USB and the ethernet board: iCouplers are used as "bridge watchers" in order to galvanically decouple possible interference from the computer area onto the audio board. However the thus isolated path is by no means a pure one-way street - the timing signal of both oscillators (one for the 44 kHz family, the second

for the clock rates 48, 96, 192 kHz) may, in fact must find its way to the USB controller.

### TRULY UNSYNCHRONIZED

Although by now there are many USB DACs on the market, it only becomes true art by means of the "Asynchronous Mode." For this the DAC sends its own data tact as a guideline for the signal supplying computer, which of course on the one hand enormously reduces the feared jitter (the Cantata presents via USB dream values of 157 ps), and on the other hand requires enormous programming work. Because the utensils for this kind of USB communication are not available off the shelf, they must be expensively

purchased, and then perhaps even require additional modification.

In the Cantata at any rate, the conversion of the USB signals is among the most noble and finest that was ever presented to the AUDIO-Listening Room. As already the Ayre QB-9 USB-DAC (Test AUDIO 9/09), the offering via the alleged disdainful computer accessory cable, even high-end CD players with the most expensive built-in tools, cannot withdraw this delicacy, accuracy, and enormous colorfulness, from the silver carrier. Furthermore the just mentioned enormously robust Ayre DAC, itself an epitome of precision and elegance, could not do much against the fasci-

nating detail resolution of the Cantata paired with the necessary pinch of strength and dynamics. For example Robert Plant and Alison Kraus played the melancholy "Polly Come Home", from the ingenious collaboration "Raising Sand" (Decca), clearly with added substance, and with more forceful, almost majestic, bass. Whether both of the DACs were fed with the usual CD resolution of 44.1 kHz and 16 bit or even with 96 kHz and 24 bit variation, played a subordinate role (also refer to box below).

### FROM FIVE TO ONE HUNDRED

For ingrained iTunes users who already maintain and stockpile their music collection on their computer, the USB

## 96 KHZ PER USB UND ITUNES: SO GEHT'S AUF DEM MAC

gramm. Allerdings hat iTunes einen kleinen Haken: Von Haus aus erlaubt es nur die Ausgabe von 44 Kilohertz Samplingfrequenz und 16 Bit, auch und besonders an über USB angeschlossene Soundkarten oder eben DA-Wandler. Wer auch High-Res-Stücke mit 24 Bit und/oder 96 Kilohertz abspielen will, benötigt entweder eine gänzlich andere Abspielsoftware, ein zusätzlich im Hintergrund auf iTunes aufsitzendes Programm mit hochauflösender Ausgabe (wie z. B. Pure Music) - oder muss manuell im Betriebssystem umschalten. Bei Mac OS X findet sich das dazu dienende Menü unter „Programme“, „Dienstprogramme“, „Audio-Midi-Setup.“ Dort unter Audio-Output das Ausgabegerät und die gewünschte Rate einstellen.



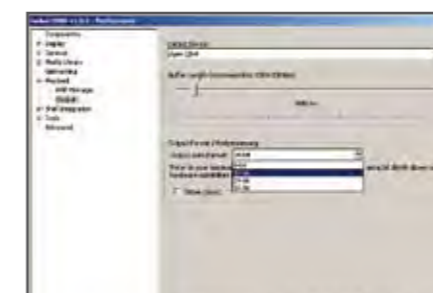
**AUDIO-MIDI-SETUP BEI MAC OS X**  
Die Eingangs- und Ausgangsgeräte finden sich entweder links als Übersicht oder als Auswahlregister bei „Audio-Geräte“. Unter „Eigenschaften“ lassen sich die Ausgangsoptionen einstellen.



Die kostenlose Musik-Verwaltungssoftware iTunes

von Apple erfreut sich bei vielen Nutzen großer Beliebtheit. Obwohl es durchaus leistungsfähigere und auch besser rippende Optionen gibt, spricht besonders die sehr gute Benutzerführung und die Fernbedienbarkeit mittels iPod Touch und iPhone (Remote) für das kostenlose Pro-

## ...UND SO AUF DEM PC

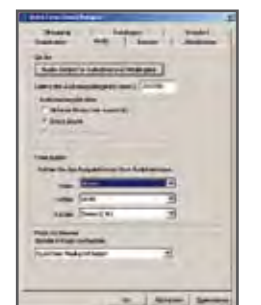


### FOOBAR ALS ALTERNATIVE

Wer sich von Windows XP nicht gerne in die USB-Ausgabe reinreden lassen will, kann sich die kostenlose Software Foobar holen und mit einem ASIO-Treiber kombinieren.

Bei Windows-Versionen unter Vista mischt sich gerne der sogenannte „K-Mixer“ in die Audio-Ausgabe über USB ein. Umgehen lässt sich dieser Teil des Standard-Windows-Driver-Moduls (WDM-Audio) nur über einen sogenannten ASIO-Treiber, (Audio-Stream Input/Output), einst entwickelt von Steinberg. Allerdings: iTunes will dann nicht mehr so recht seinen Dienst tun, prangert das angeblich fehlende Ausgabegerät an. XP-Nutzer müssen für die Ausgabe von 96/24-Material entweder die Software wechseln (zum Beispiel auf das kostenlose „Foobar“) - oder mit dem K-Mixer leben und die Ausgabe über iTunes verändern. Dazu muss man den Quicktime-Player aufrufen (der eigentliche Kern von iTunes) und darin die generellen

Quicktime-Einstellungen öffnen (nicht die des Players). Unter dem Punkt „Tonausgabe“ dann die Samplingfrequenzen und Wortbreite auswählen. Achtung: Diese Einstellungen gelten nur für die Ausgabe über iTunes.



**QUICKTIME-EINSTELLUNGEN**  
Im Quicktime-Player finden sich die Ausgabeeinstellungen für iTunes.



**TWENTY-TIMES LONGER** The nondescript-appearing Pont Neuf is able to create a complete 100-meter pathway from a 5-meter USB cable, i.e. a conduit from USB to an ethernet cable.

connection to the Cantata is downright ideal. The Cantata sample in the AUDIO listening room was also fed by a noiseless and undemanding Mac Mini because, on the one hand the Cantata MC with its world exclusive premiere in the AUDIO editorial office, is still missing its final firmware fine-tuning (whose evaluation will be supplied in a final report in issue 08/10), and on the other hand because the practice-oriented employment of the little helper, the Pont Neuf (400 Euro) could be comprehensively tested.

A USB connection may not exceed five meters, but if one wants to extend this route one makes use of the little adapter (therefore the reference to the probably most famous Paris Seine crossover) and connects it via USB to the computer, and on the other side with a common ethernet cable up to 100 meters long.

The transmission of the not so common (long) USB signal with the ethernet connection took place in the functional test, and succeeded astonishingly well - moreover audio wise there were hardly any differences. A gratifying prospect for the tonal capabilities of the Cantata as a streaming-client.

The duel Cantata for about 6000 Euro against the listening room veteran Linn Akurate DS for about 5200 Euro was obligatory, even when the Cantata was connected via ethernet and the Linn via USB to the same sources. The Linn played, as usual, elegantly sovereign with its inherent slightly dry presentation. The Cantata MC in the area of accuracy and timing achieved a solid tie, but then showed off with a depth and a blaze of colors which let the Linn emerge almost somewhat stiff. Guitars, concert halls, and even solitary singers in puristic recording studios, emerged more true-to-life through the Cantata, literally a sound to fall in love with.

## CONCLUSION



**Christine Tantschinez**  
AUDIO Editor

**Even though love sometimes makes one blind, with the Resolution Cantata it's definitely worthwhile to grant it a look, even though a photograph hardly does justice to the actual component. Rarely has a DAC so successfully put the music in the foreground and not itself. It adds nothing, omits nothing, and plays music with total purity. For me one of the best USB DACs in the world.**



## PROFILE

RESOLUTION AUDIO CANTATA MC	
Distributor	Reson 0 77 53 / 62 43 35
www.	reson.de
List Price	5900 Euro
Warranty	2 Years
Dimensions W x H x T	43 x 5 x 22 cm
Weight	5 kg
<b>DIGITAL IN/OUT</b>	
USB: Host / DAC / iPod / Update	- / • / - / -
USB-Sample Rates	44,1 – 96 kHz
Coax/optical/BNC/AES	• / • / - / •
Ethernet	•
<b>OUTPUTS</b>	
RCA/XLR	1 / 1
Volume Control /fixed	• / •
Switchable digital filter	- / -
<b>CONFIGURATION</b>	
Remote Control	•
Freq. Indicator / Bit Depth	• / -
Software updatable	• (per CD)
CD transport	•
Network Client	•
Gapless	k. A. (Test Will Follow)
Required Server	UPnP AV
Special features	Ground lift switch

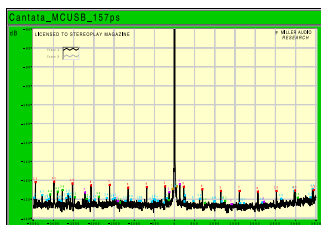
## AUDIOGRAMM

	+ Fine and at the same time powerful, incredibly dynamic. A DAC of a special class with an extravagant look.
	- CD transport cannot keep up with the USB capabilities.
Sound RCA <sup>1</sup>	135 <sup>1</sup>
Sound XLR	135
Configuration	Very good
Usage	Outstanding
Workmanship	Outstanding
<b>AUDIO SOUNDVERDICT</b>	<b>135 POINTS</b>

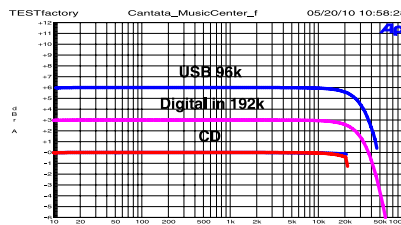
<sup>1</sup> Input as DAC

## LAB MEASUREMENTS

The Cantata Music Center scored with almost unreal good measurement results in the laboratory. The already legendary CD jitter of 163 ps, is only outperformed with the USB result of 157 ps. Besides that the ideal output impedance of 100 ohms via RCA demands recognition, and with XLR it is only 49 ohms. The signal-to-noise ratios of 94 dB are likewise noteworthy. Standby usage: 0.7 Watt, in operation 17.8 Watt.



**RESOLUTION AUDIO CANTATA MC**  
This USB jitter value of 157 ps with absolutely no side effects is often only possible in asynchronous mode.



**RESOLUTION AUDIO CANTATA MC**  
Aside from the impeccable frequency response, the error correction of the transport also makes a strong impression. (See figure above.)