



A Modular Way to Music

As an author you have always to find an approach of how to start a review. Sometimes it takes time until finding the right way, and sometimes it just happens instantly, which brings me towards the three gentlemen behind B.M.C. audio. Bernd Hugo, the former founder of Restek, Manfred Penning, formerly doing engineering in Restek as well as high grade speakers, and Carlos Candeias, a man whose name speaks for itself. After hard work and planning in January of this year the company was established. The main points I picked by personal interviews with the founders could be considered of being a mission for the customers: Quality without compromise and a modular, customisable concept. You may think those are nice words and paper is patient; but I can tell one thing at this point already: The described models in this review are truly audiophile dynamite, combined with a more than just fair calculation and thus a clear challenge.

The Idea

How about a CD transport which easily can be converted to a CD player? What about a D/A converter with a preamp option for driving active speakers? How about driving a power amplifier without the need of any preamp? What about high grade computer interfaces as digital audio input? How all this and more can be modularly designed, having very high grade enclosures as well as uncompromising quality and still being affordable? Such questions for sure more than once caused the B.M.C. guys some headache. The extend of such project, considering also the future development, includes so much that I better should start right from the beginning – just here and now.

B.M.C. starts with three models: The CD-transport BDCD 1, which is easily upgradable to a CD player, or just ordered this way. Then the separate digital to analogue converter DAC 1 and last but not least the phono pre-amplifier Phono MCCI. Since the modular concept is expanding as well as new models to be expected, from time

to time we will update the information about B.M.C.. I would like to emphasise that this is an conceptional implementation which is second to none. You can decide yourself which features you would like your B.M.C. to be equipped with, and you even can have just some modules without any enclosure. This opens the door for a lot of possibilities for handling such gear, which raises the question why such concept hasn't been introduced to the world of "HighEnd Audio" long time ago.

The Transport

In front of me stands a component completely made by extruded Aluminium, with dimensions of 435 x 100 x 360 mm (W x H x D) and a weight of 7,6 kg. The front panel shows a thickness of 15 mm and also the side panels follow the solid impression with 10 mm thickness. But even more than the casing parts, like front panel, sides and cover attract me magically, the giant wheel in the centre of the front panel does. Humans generally remember faces quite well and when watching this appearance I'm sure that this face will be remembered. The stated big knob of course is not just decoration, rather than having different tasks depending on the model. In case of the CD transport (or player) it means: Left or right turn skips music tracks and play/pause happens by pressing the knob. On the clear structured front panel is a power knob, the most important functions and a dimmer knob for the brightness. This way it is limited to the essentials – I like it this way. Of course you can access any track numerically by using the remote control. The BDCD 1 is a top-loader; the CD is inserted from the top and here I feel again the advantage simple and functional solutions. No finger-acrobatics when inserting or removing a CD is provided by four large finger-spaces and also putting on or lifting the 225g weight on top of the CD is quickly turning into a standard exercise: Means, lift the stabiliser, insert a CD, put the stabiliser on the CD, finished! Starting about the inner

values: This is a true belt drive CD player and no one might be as inside to such drives as Carlos Candeias is. It also should be said, that such transport is the best you can equip a digital audio player with. All laser-pick-up data are transferred to the servo PCB. On this board there is not just the CD transport control, but also all digital outputs. Power is provided by a special switching type power supply, which already includes a primary voltage stabilisation and thus cleans-up in advance and separate transformer take care of optimum supply for the specific functional departments. Additionally each functional group has its own extensive voltage stabilisation. I think Mr. Candeias is right: The performance of each component begins with the power supply and this switching power supply is obviously pushed to the top concerning quality. This is a fact which joined me several weeks through the whole time of testing and delivered any time an absolutely stable and powerful sound due to the clean and

constant voltage and current supply. The long years of R&D at Candeias-Electronics concerning switching power supplies clearly pay-off now.

The Converter

As the enclosure is just the same than the transport, there is no need for further description of look and feel. The fully equipped DAC weights 8,4 kg. The big wheel looks the same but the later on described function is different. You find a mute function and again the dim key. They key besides is used for digital and analogue input selection. On the left of the wheel you find some sound tuning functions like over-sampling "High (128fs)" or "Low (32fs)", two different digital filter characteristics "pulse" or "flat", an optional up-sampler for jitter reduction for SPDIF-inputs and at last a +6 dB signal boost. After so much "switching" and "pushing" lets evaluate the inner values and go directly to the candidate's pulse.



For getting a pulse first of all there is energy required, which is delivered by the power supply module. This is a classical approach using an R-Core-Transformer and an enormous capacity of 75,000 μF . The 10 A double-Schottky-diodes guarantee fast and clean rectification and special Balanced-Current-Capacitors can be found not only in the power supply but also at other key points important for sound perfection. All digital inputs are located on the rear panel and there are plenty: Superlink, AES / EBU (110 Ohm balanced), RCA and BNC (75 Ohm balanced) are connected to the Decoder-Logic-Module; the PCB beside the power-supply. The "Superlink" which uses four separate BNC-lines (Bit-Clock, Left/Right-clock, Audio data, and the DAC generated Master-Clock) is the optimum connection to the CD transport. The signal is not first coded and then again decoded to SPDIF as usual digital audio interfaces use to do. There is also a USB-connection for computer based audio listening. On the next PCB the so called "DAC-Module" the digital audio data gets converted to an analogue signal voltage. Just the same module is used in the CD player.

Let's get back to the signal conversion, which is preceded by two mono-configured 24Bit/192kHz TI-Burr-Brown PCM1792 with current output. Afterwards this current must be converted to a balanced signal voltage, certainly again consequently channel separated. Here we arrive at the vertically mounted red LEF-modules. The clever signal processing of the CI-input (Current Injection) and LEF-output (Load-Effect-Free) skips the need of voltage amplification and negative-global-feedback loops, providing a top-grade signal quality at the fixed analogue XLR- and RCA-outputs.

The last space inside the DAC is used by the "Preamp-Module", which is optional. It is very useful to have a variable output which can drive active speakers or power amplifiers either balanced or unbalanced. In addition the module provides analogue inputs (2 x RCA and XLR). Now again the big wheel gets into focus, because a variable output requires a volume control. The large knob is mechanically connected to a motor driven potentiometer, which can be used either manually or by remote control. The potentiometer is actually just a position indicator which and a processor calculating the volume value. This value is used twice: For controlling the resistor switcher on the preamp module and also of a pair of optical DIGM (Digital

Intelligent Gain Management) outputs. Those outputs are located beside the AC power inlet. What for is that interface? Very simple: B.M.C. is already developing power amplifier, that can be used directly from the DAC's FIXED output. So the music signal is transported undivided and without any additional amplification to the power amplifiers. It starts making great sense when the power amp has a lossless gain control with 66 precise 1 dB steps. In my opinion this is a highly efficient solution. The DAC covers the pre-amplifier functions as well and providing balanced and un-balanced analogue inputs completes this approach. This bandwidth of use of this DAC is simply great!

Before going to the listening test another important point: If you should not need all those features and just care playing CDs, the CD player would do the job. The interesting point is that the used module is just the same and thus you can expect a very similar grade of sonic performance compared to the CD-transport / DAC combination. Of course the DAC is taking certain benefit from the separate design and possibly this might be the reason for some later described sound quality differences. But first of all I would like to focus on the BDCD 1's musical performance as an integrated CD player.

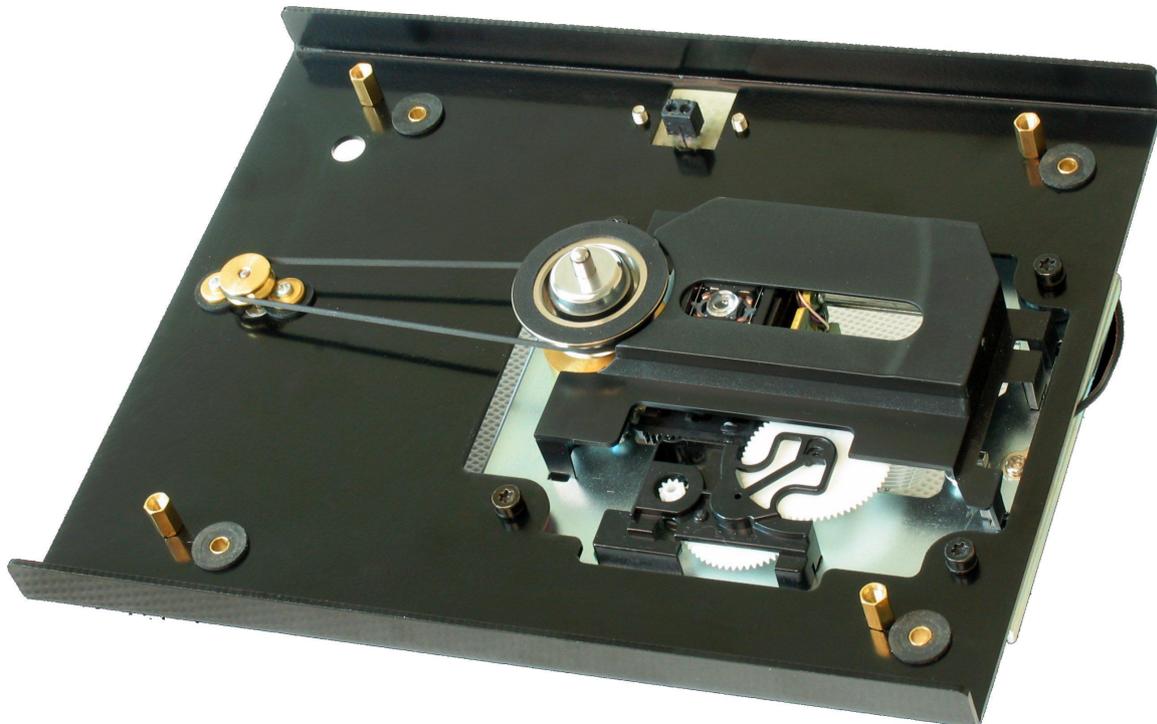
The CD-Player

What I it people like when thinking about renowned large analogue turntables? The quietness from which th music arises and the naturalness of the musical performance. The same is true for the digital domain. Both of my components of the 1000- and 2000-Euro class look pretty old now and have no glimpse of a chance to compare, as the BDCD 1 rather performs on a level you would expect at the top end of the four-digit-price-scale. You can't believe? Well, it is just there where this component plays, or precisely spoken musically performs. Whatever the Jazz pianist Gwilym Simcock do with the piano keys, musically spoken, I can see it right in front of me, no matter it I about softest touches or harshest attacks – I'm really watching it and almost can see Gwilym's hand movements. Rarely a CD-Player delivered that much fine-dynamics and emotional performance to my ears. Here the pre-biased idea of digital sound loses its bottom. Easily the BDCD 1 follows slightest change in rhythm and always again the quietness, this solid, natural foundation on which the music builds.

Really, this is something very few CD-player can do. In the second half of "Conundrum" Simcock really smashes into the piano keys and I'm asking myself how B.M.C audio managed making this component on one side sound so natural, and on the other that powerful. My last two points are best demonstrated at the lower range octaves. Clear, clean and ultra-stable it goes down to the sonic basement – what a resonator! - and just after a moment I'm listening to finest and sparkling trebles. The young piano player performs a wide variety of play, puss out all the stops and the BDCD 1 follows him right away, showing all facets of sound. A grown-up grand piano stands between and behind my speakers three-dimensional in my room, almost live and in colours. In a single word: Great!

Listening to Jacintha's "Danny Bay" for the first time I realise how the sound moves away from the singer and almost feel I can watch it. Just from the musical point of view it may not be so important, but anyway those are noticeable things. Real goosebumps I got from the pure breath in her voice while keeping very realistic surrounding. I know several CD-player making her voice just "breath", but not my actual testing component. At any time of the singing performance it accurately shows what the artist

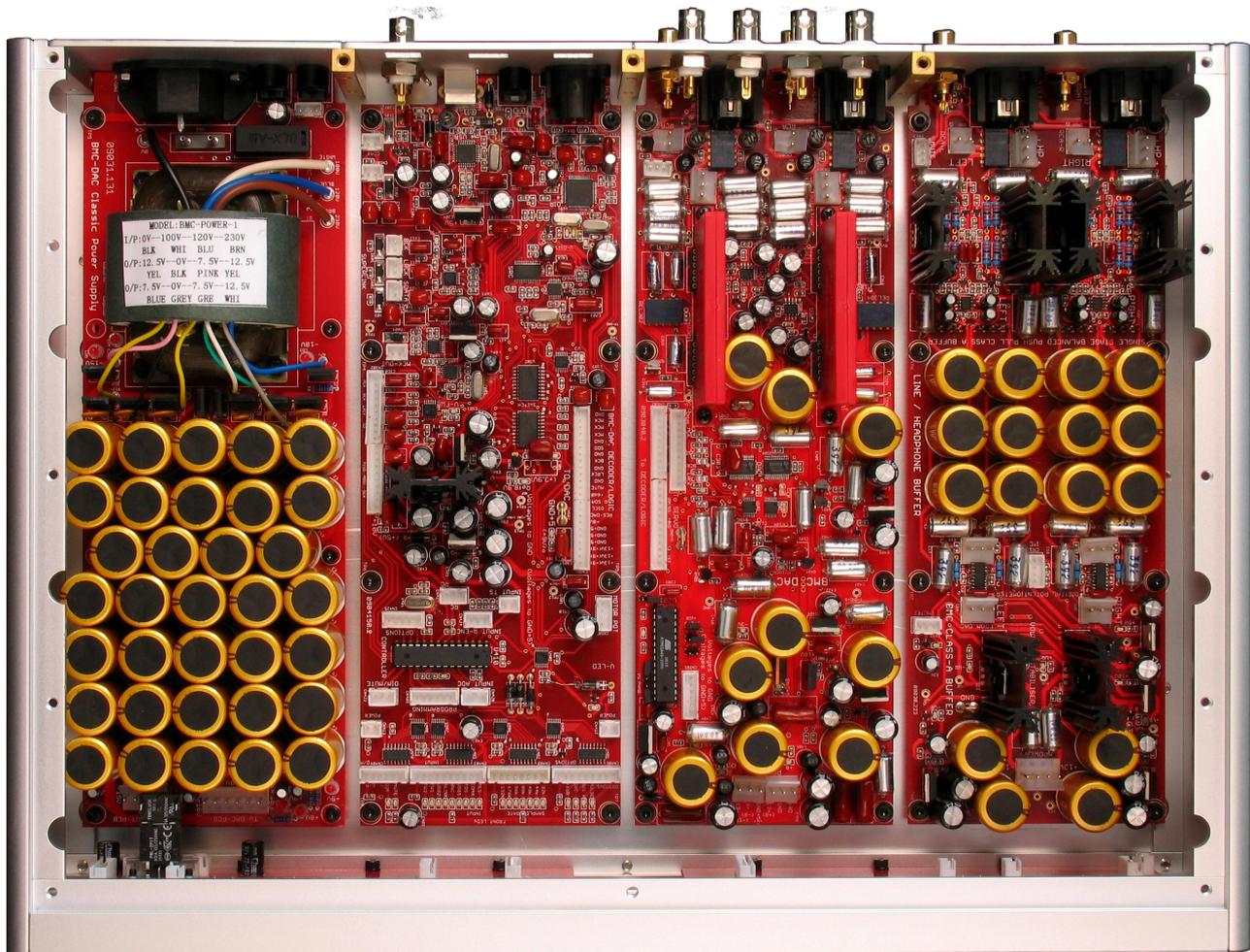
does with her voice, how she uses her lips, throat and chest for expressing herself and creating the intended atmosphere. The BDCD 1 works out all subtle details with an easy naturalness, which in this case shows the unique character of the singer. Very close to the performance of the best analogue equipment there is a micro-dynamical link, made from an ocean of subtle information, originating from a stoic quietness. You know that feeling? Just don't disturb, keep it, very closely being there... it is amazing how much you can be one with music. The the band goes on again and you are allowed to move again. The tension loses and you wish you could hear Jacintha's solo-part again and again. The guy on the drums dives the carrying rhythm at the track, delivers the key-feeling with his trending broom, and in the best manner the synchronised work of his wrist and the broom-made sound of the cymbals is getting obvious. All these related key-impression are in a common consensus making a music audition sounding real and natural. Just by a perfect timing the true musical content of a song gets recognisable. At this point lots of CD-player simply fail and that's why in mos cases such musical feeling won't happen. Real musicians are actively playing, here is a live musical performance happening. Perfect timing and thus



a clear musical consensus create something known as ensemble playing. Without this the music degrades to a simple chain of tones. My review component is a master of inner musical coherence; a true music-machine on a level I could experience very rarely. I could mention more about this recording, about the pianist, the bass or sax, or about tones rise and end, but it would be just too much. You simply peep into the recording room and as realistic as “Simcocks” grand piano is Jacintha's recording.

Soundtracks are a chapter of its own, specifically when it's about a ark, mythical and sometimes epic theme, like “Lord of the Rings”. There is everything inside, from powerful orchestra, epic choir passages, to sensitive, almost spherical kind of music, which for a CD-player is a true “must be able” challenge. The attack of a big choir might be comparable to some auto-mobile types. A nice hot GTI might be fun until experiencing the sensation of a generously motorised sedan, which means true power and control – but back to music. The expression and message of a dark musical theme, implemented by a large choir and orchestra, does not live from an everything

consuming pumped-up scenario, rather than a large musical dynamic build on fine-dynamical information. This is the key. The more you have to push the volume for getting a sensation, the less musical content is carried. This doesn't mean not to enjoy high listening volumes, but it describes the difference between “I could” and “I have to”. Also with modest listening levels the whole musical sense opens up to me when listening to the BDCD 1. Even though contrabass and cello are unusually present due to the music theme, the reproduction keeps a breathtaking transparency and blackness, which matches perfectly to this kind of music. Additionally I notice a lot of micro-information that actually made the musical consensus. If writing about visual impressions I would have to mention an immense contrast range and a edge-free picture. It is delicious to follow most decent singing which never is covered-up by an overwhelming orchestra, easy to follow but never breaks apart, which characterises a true musical acrobat audio component. Enya's floating voice – I know, everything made intentionally, stands up in the air right between my speakers and nurses



my audio-sense away from any technical orientation, just by her magical voice, just by this fine, sensible and magical flow; just be pure, untainted musical content.

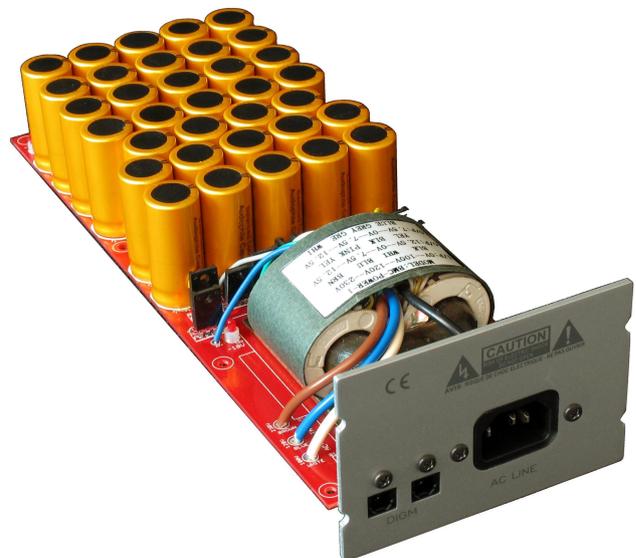
The BDCD1 does not sound at all; it makes music. It is a music-machine “par excellence” and makes an ensemble just sound real by its natural sonic behaviour.

The grade of sonic fidelity, combined with timing and rhythm, shows when listening to the CD “Depth of Image” from Opus 3 label. The first track “Tiden Bara Gär”, beside female voice also has a instrumental mix made by contrabass, bongos and triangle. Meticulously it has been taken care to prevail the original acoustics and keep the recording pure and simple, which means hands-off mixing consoles and no interest in dynamic compression. Consequently this recording just sounds open, wide space, precisely recorded, fast and sonically realistic. The triangle is not just a shining and fine treble sound event, rather than having a small but real body. Same is true for the bongos; true size and a reproduction quality that lets you hear the slightest variation of the hands pinching the bongos skin. At last again a wonderful contrabass, allowed to play just unvarnished and natural, without any special emphasis which is so popular for lots of Jazz recordings. Both guitars deliver their sparkling and sometimes even harsh sound character. It is easy to point at the location of any instrument as well as the singer, also in terms of depth. The relations just fit! The triangle joins the bongos like a precise clockwork, the plucked bass with clear definition takes care of substance, two guitars create a lively airy atmosphere and Therese Juell adds her accents with her Nordic singing. Once started this precision-rhythm-sound-power-music motor there is no way to stop. Up to myself it could just go on forever this way – that much I’ve got dragged into by all this. Dragged into because my inner me tells me after the first seconds of music that the CD translates to music one to one, sonically absolutely correct, with unlimited dynamic and that realistic that I have a hard time to focus on single criteria. Actually there is just music played back in an original consensus, which is true for any recording, no matter my older Supertramp discs, epic Bruckner orchestral music, or the unmistakable flair of Gregorian Chorus with old convent walls. The introduced CD player has the art of giving every single detail its specific role within the music, which is why you can hear

“richness in detail” in another light.

Combined

So what is the sound difference between the CD-Player and the separate Transport D/A set? I could check both conveniently just by direct change of listening source. But how to put this difference reasonably into words? The CD player simply knocks your socks off in a positive sense – please excuse my slang words, but sometimes such words simply hit the nail. The combined set delivers even some more sonic accuracy with stabler firmament and the music has some more swing. Everything has just some finer structure. Such difference may originate from the DAC's extensive power supply and the consequent separation of DAC and CD readout servo circuitry. But even after realising this higher level of music reproduction I could listen again with “just” the CD without the feeling of must have the DAC. So if I would know I “just” can afford the CD player, I could sleep peacefully anyway. In addition this concept is modular. At any time a BDCD1 owner may upgrade to a set and may use the original DAC module without buying it twice. Here one more comment, which might be my most important consult:

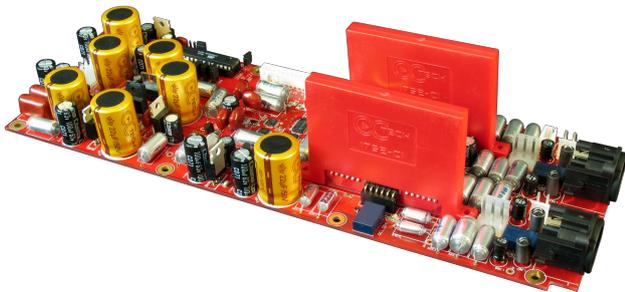


B.M.C. DAC1 Power Module

It Must be Said

Whoever could never decide whether wanting the precision of solid state devices or the flow of tube devices with the B.M.C.s will find easily that the solution to this dilemma is more related to the source than expected. If you should not get the right music from here you will never get it afterwards. No matter in which direction the following equipment may tweak the sound, it would be just a superficial solution without the musical real impact. The reviewed candidates demonstrate this idea very clearly and just from the source lots of sound questions never arise at any time.

Dear reader, this is about the highest level of musical connection, about fascination, again having the privilege of experiencing the musical content a recording in a true way. According to the experienced sound experience I reached a point of conclusion: The owner of those devices will not just make a re-discovery journey through the whole music collection, but also will have an experience you want not to miss any more.



Digital / Analogue Converter Module

Information

CD-Laufwerk BDCD 1,
CD-Player BDCD 1,
D/A-Wandler DAC 1
Preise: BDCD 1-Laufwerk: 2298€
BDCD 1-CD-Player: 2798€
DAC 1: 2798€
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To The Point

The B.M.C. company really amazed me. Not just the modern distribution, but also the modular concept should very well attract music lovers. Module PCB and enclosure parts are supplied by Candeias-Electronics and in Kassel (Germany) the final product is assembled. In both cases, enclosure and electronics, there is a remarkable standard of quality – really fine hands-quality is just one successful accomplishment of plenty. The boards are equipped with finest parts and Candeias pushes the power supply issue to the top of what I had the privilege to listen to. There are not many CD-transport / DAC sets with such natural, yet almost analogue and flowing sound character on one side, and also delivering a realistic performance, ultra-stable and build on a stoical quiet foundation, spoiling the ear. Additionally there is the fact that the owner can look forward to easily upgrade a component. Thus the reviewed audio components deliver a more than just fair price / performance ratio; in fact a true bargain!

Otwin Maas

