

B.M.C. AUDIO CS2

Quick Start Guide



The CS2 is as easy to use as any amplifier: Connect the AC power, the input sources and the speakers. Power on, select an input, adjust the volume - enjoy!

In a consistent B.M.C. system using the optical DIGM control, the amplification gain of the CS2 will be controlled by the DAC volume control.

B.M.C. AUDIO CS2

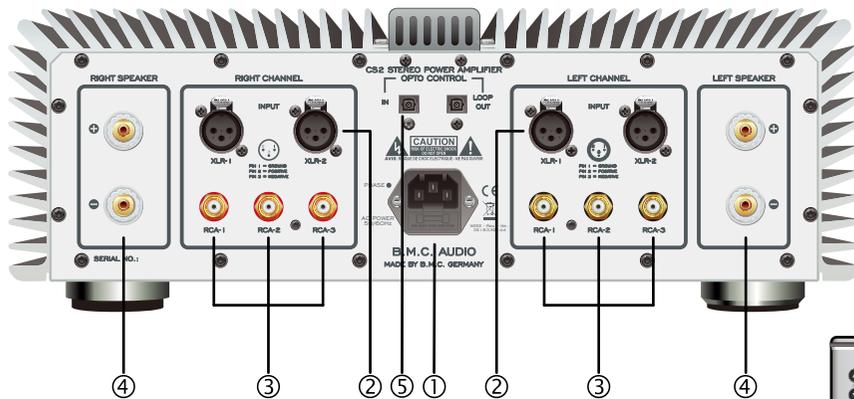
Owner's Manual



Dimmer
Power (turn)

Input Indicator
DIGM display
Power Meter

Input
Volume



④ ③ ② ⑤ ① ② ③ ④

- ① AC Power Connection
- ② XLR Inputs
- ③ RCA Inputs
- ④ Speaker Terminals
- ⑤ Optical DIGM Control Input



Never plug or unplug any cables while the CS2 is powered on!
Find a detailed user guide inside this manual.

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Technical Specifications

Output Power	2 x 200 Watt / 8 Ohm, 2 x 360 Watt / 4 Ohm
Frequency Response 20Hz – 20kHz, 1W	-0.08dB
Bandwidth 1W / -3dB	2Hz – 180kHz
Signal/Noise at DIGM 57 (relative to Pmax)	110dB
Signal/Noise at DIGM 40 (relative to Pmax)	125dB
Signal/Noise at DIGM 40 (relative to 1W)	103dB
THD+N at 1 Watt, 1kHz	0.01%
THD+N from 50mW to 50W, 1kHz	under 0.02%
THD+N under 0.1%	from 0.3 mW to 150 Watt
Damping Factor (8 Ohm, 10W)	250
Inputs	2 x balanced XLR and 3 x unbalanced RCA
Input Impedance	50kOhm to ground, 100kOhm differential at XLR
XLR-CI Impedance	1.5kOhm to ground, 3kOhm differential at XLR-CI
Input Sensivity	max. 750mV/RCA, 1.5V/XLR
Volume Adjustment	DIGM in 66 precise 1dB increments
Speaker Output	1 Stereo-Pair with gold plated binding posts
AC Voltage	AC 100V, 115V or 230V, 50/60 Hz
Power Consumption	75W – 800W
Dimensions Enclosure (W x D x H)	435 x 405 x 138 mm
Dimensions incl. Legs, Knobs and Terminals	435 x 450 x 150 mm
Weight	40kg
Note: Technical specifications and design are subject to change without notification. All specifications without warranty.	

Power Meter in Watt and dB

The Stereo Power Meter displays the output power in Watt at 4-Ohm speakers, and in dB relative to 1 Watt.

Since these electro-mechanical instruments are innately too slow for music pulses, an electronic circuit analyzes the signals at the speaker output and memorizes the result until the needle has been able to display it.

The dB level indicator refers to 0dB = 1 Watt.

Decibels (dB) is related logarithmically to power in the following way:

-30dB = one thousandth of the power

-20dB = one hundredth of the power

-10 dB = one tenth of the power

-6dB = a quarter of the power

-3 dB = half the power

+3 dB = twice the power

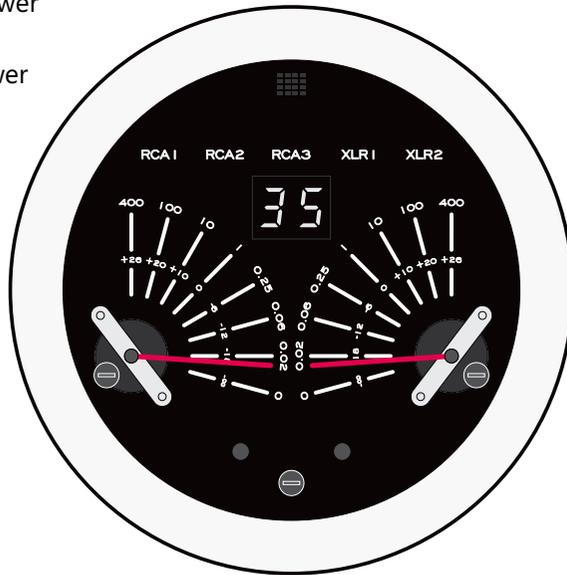
+6 dB = fourfold the power

+10 dB = tenfold the power

+20 dB = hundredfold the power

+26 dB = fourhundredfold the power

+30 dB = thousandfold the power



Power Meter in Watt and dB

Congratulations on the purchase of this exceptional LEF-power amplifier! We would like to say thank you to support our concept of a very short signal path, for there is the advantage of being able to select just the required gain.

B.M.C. AMP C1's volume control DIGM = Discrete Intelligent Gain Management avoids both unnecessary high gain and additional amplifier stages, as well as attenuating the input signal, as it is done in traditional solutions. The gain required for the desired sound level is set in the amplifier stage.

The great power supply with 2kW toroid transformer, Balanced-Current Capacitors and complete stabilization, for the power section as well, is designed unusually extensive and lavish. This is the ideal base for a silent background and for playing the very finest detail, as well as explosive dynamics.

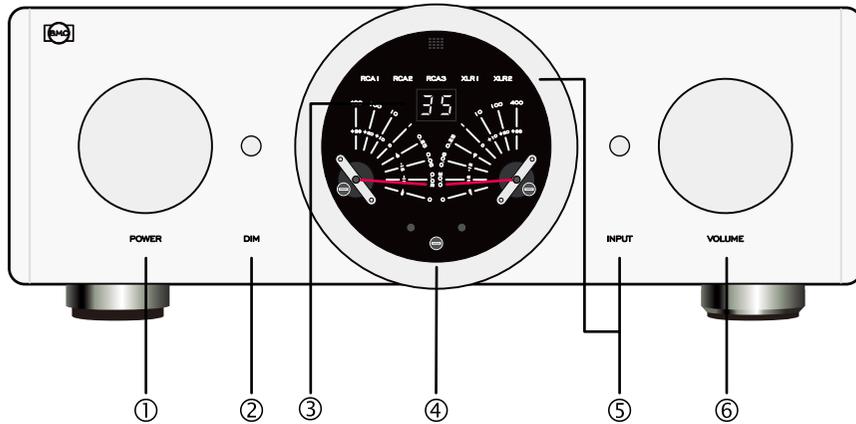
AMP CS2 offers 3 different Operating Modes

1: The classical integrated Amplifier mode, with the volume controlled at the unit - or at the remote control RC1. Anyway, the volume is changed by DIGM.

2: The classical Power Amplifier mode, with volume controlled by a preamplifier. There is still the advantage of a gain presetting by DIGM, may be for better signal/noise ratio, adjustment of channels for home cinema use, or matching the AMP CS2 to a mixing console of a recording or mastering studio. Due to the numeric display the preference gain can be set easily again after an new amplifier power-on.

3: In a consistent B.M.C. Audio chain with an OPTO CONTROL connection DIGM can be set by the B.M.C. DAC. The DIGM function will be same to the Amplifier mode (1), with the difference of where to turn the Volume knob. The big advantage of this operating mode is: You can use the input XLR 1 as a CI (Current Injection) input with it's audiophile advantage of an advanced and exceptional signal path.

Front Panel Functions



- ① **POWER**
Turn for powering ON and OFF the unit
- ② **DIM**
To dim the lights of this window
- ③ **DIGM Display**
Shows the selected DIGM Gain (00-66)
- ④ **Power Meter**
Shows actual power in WATT (at 4 Ohm)
Level indicator in dB, reference level 0 dB is 1 W
- ⑤ **INPUT**
Toggle switch to select the INPUT
The selected INPUT is lit up
- ⑥ **VOLUME DIGM**
DIGM = Discrete Intelligent Gain Management
The amplifier's gain can be adjusted in precise 1dB increments
The selected value (00 - 66) will be displayed
If an OPTO CONTROL connection is active, DIGM is controlled by the DAC

Content of Packing

CS2
AC Power Cable
Remote Control RC1
DIGM optical waveguide
Owner's Manual

Please keep the packing for eventual later transportation.

Advanced Functions

In classical integrated amplifier mode by default all inputs are operating traditionally and are compatible to any source component.

In case of a B.M.C. component like BDCD or MCCI more sound quality is achieved by using our "current injection" (CI) input mode for balanced inputs.

Select either XLR1 or XLR2, then again press the input key and hold it for about 5 seconds. The XLR-CI will light up and this configuration is stored for the individual input.

Do the same procedure again to disable CI for the selected XLR input.

Note: Never use CI inputs for non-B.M.C. components. In most cases the sound quality will decrease due to incompatibility and in some cases even a damage of the source unit might occur.



CE / FCC Declaration, Recycling

CE Declaration of Conformity

B.M.C. AUDIO GmbH declares that this product is in conformance with the Low Voltage Directive 73/23/EEC and Electromagnetic Compatibility 89/336/EEC as amended by 92/31/EEC and 93/68/EEC. The conformity of this product with the regulations of Directive number 73/23/EEC (LVD) is proved by full compliance with the following standards:

Standard number	Date of issue	Test type
EN60065	2002	General requirements
		Marking
		Hazardous radiation
		Heating under normal conditions
		Shock hazards under normal operating conditions
		Insulation requirements
		Fault conditions
		Mechanical strength
		Parts connected to the mains supply
		Components
		Terminal devices
		External flexible cords
		Electrical connections and mechanical fixings
		Protection against electric shock
		Stability and mechanical hazards
		Resistance to fire

The conformity of this product with the regulations of Directive number 89/336/EEC (EMC) is proved by full compliance with the following standards:

Standard number	Date of issue	Test type
EN55013	2001	Conducted emissions
EN55013	2001	Absorbed emissions
EN55020	2002	Immunity

FCC notice

Note: This equipment has been tested and found to comply with the limits for Class B devices, according to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Connect this unit to a different outlet than the receiver.
- Relocate or reorient the receiving antenna.
- Increase space between this equipment and receiver.
- Consult your dealer or an experienced radio/TV technician.



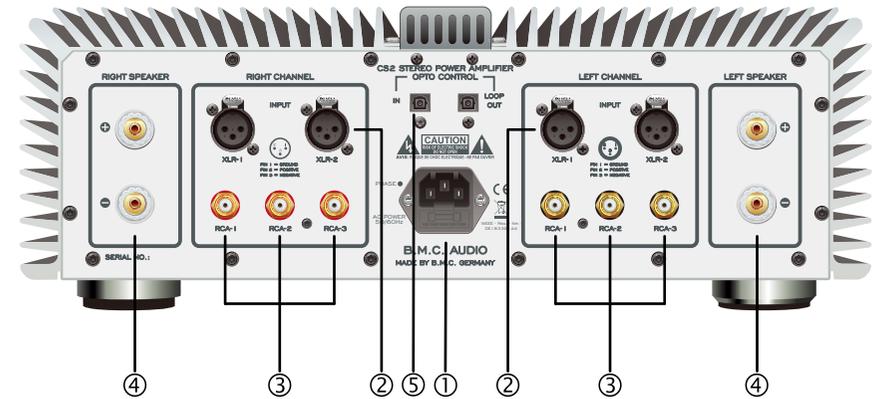
Waste Electrical and Electronic Equipment (WEEE) Directive

Waste Electrical and Electronic Equipment Directive Directive 2002/96/EC of the European Parliament and of the Council.

The bin symbol is shown on this product. It indicates that the product should not be disposed of with regular household waste, but should be disposed of separately. Electrical and electronic equipment may contain materials that are hazardous to the environment or human health and therefore should be disposed of at a designated waste facility or returned to your retailer for appropriate recycling.

If you wish to dispose of this unit and it still functions, please consider recycling/reusing it by selling it, trading it in at your dealer for new equipment, giving it away to friends or donating it to a charity shop.

Rear Panel Functions



POWER SUPPLY

① AC LINE

Terminal for connecting the AC power line

Your local voltage should fit to the specified voltage on the back panel

INPUTS

② XLR 1, XLR 2

Balanced 50 kOhm XLR Inputs

XLR 1 will switch to CI mode if an OPTO CONTROL connection is active

③ RCA1, RCA2, RCA3

Unbalanced 50 kOhm XLR Inputs

OUTPUT

④ SPEAKER

Speaker Binding Post for connecting 4-8 Ohm Speakers

EXTERNAL DIGM CONTROL

⑤ OPTO CONTROL IN / LOOP OUT

Optical connection to a B.M.C. DAC for DIGM control

(LOOP OUT for further distribution of the OPTO CONTROL signal)

Input Selection and Display

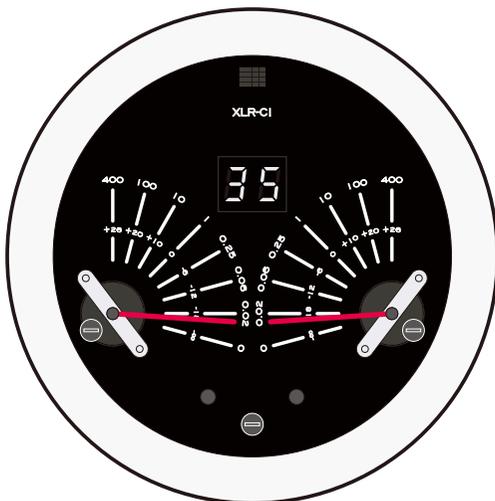
Select INPUT by pressing the INPUT switch on the front of the AMP CS2, or the IN-UP/DOWN buttons of the remote control RC1, AMP section.

The selected input is displayed in the meter window of the AMP CS2.

During the switching procedure the music signal will be faded down and up again, thus avoiding hard switching noise.



Exclusively in DIGM Power Amp Mode with an active optical DIGM connection the input XLR1 will change to the XLR-CI mode.



General Safety Precautions

1. Read this owner's manual.
2. Keep the owner's manual.
3. Pay attention to all important safety information and warnings.
4. Follow the manual instructions.
5. Never use the unit close to water or in a humid surrounding, like basins, a humid basement, swimming pools...
6. For cleaning use a dry micro fiber cloth exclusively.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. If placed in a shelf make sure to keep about 15cm to each side and 30cm to the top. Do not place the unit in a way covering the bottom plate like a sofa, a bed, thick carpets or blankets.
8. Do not install the unit near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not spoil the safety meaning of earthed AC power cables! The earth contact pin serves your safety. In case the attached cable does not match to your AC-Line wall socket, please ask an electrician to replace such outdated wall outlet.
10. Protect the unit's power cord from being walked on or pinched, especially around the plugs, convenience receptacles, and where it exits the unit's casing.
11. Only use attachments/accessories specified by the manufacturer.
12. Only use the unit with a cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the unit. If using a cart, exercise caution when moving the cart unit combination to avoid injury from it tipping over.
13. Unplug the unit during lightning storms or when leaving it unused for extended periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the unit itself, its power-supply cord, or plug has been damaged in any way, when liquids have been spilled onto the unit, when foreign objects have fallen into the unit, when the unit has been exposed to rain or moisture, when the unit does not operate normally, or when the unit has been dropped.
15. Plug the AC power cord into an easily accessible AC wall outlet, so it can be quickly unplugged in case of emergency.
16. Remove the AC wall plug for separating the unit from the AC power line. The AC plug should always be accessible.
17. Do not expose the unit to drips or splashes. Do not place any objects filled with liquids, such as vases, on the unit.
18. Do not place any open fire close to the unit, like candles.
19. This unit was designed to work properly in a temperature range from 15°C to 30°C and a maximum of 80% humidity.
20. AMP CS2 is heavy, 40 kg or about 88 lb. Please handle with care!

Important Safety Information

Explanation of the used symbols:

The lightning flash with an arrowhead, encircled by a triangle, is intended to alert the user to potential hazards of electric shock within the product's enclosure.

The exclamation mark, encircled by a triangle, is intended to point out to the user that there are important operating and maintenance (servicing) instructions in this manual.

Caution:

To reduce the risk of electric shock, do not remove the cover or rear panel. The unit does not contain any user-serviceable parts. Any burnt fuses inside this unit should be replaced by qualified service personnel only. Please leave service and maintenance to qualified service personnel. Reduce the risk of electric shock, do not remove the cover or rear panel. It does not contain any user-serviceable parts. Refer servicing to qualified service personnel.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Power Cord

The unit is shipped with a power cable matching the power outlets in the country of sale. Only the included power cable has been approved for use with the AMP CS2.

In case of questions please consult an electrician.



DIGM Volume Adjustment and Display

AMP CS2's amplification (gain) can be selected by turning the volume knob or by remote control, not as usual by attenuating the input level, but by setting the gain lossless according to the actual requirements.

The DIGM setting is always "10" after Power OFF / ON, for having a safe volume protecting your speakers.

In a consistent B.M.C. chain with an optical DIGM Control connection the gain will be selected by the B.M.C. DAC volume control.

DIGM = Discrete Intelligent Gain Management

The gain adjustment is done in precise 1 dB increments, which are indicated on the DIGM LED display: 00 - 66.

At DIGM 39 gain is about 1:1.

At DIGM 55 gain is so high that a full scale signal from a digital device with standard level output (eg B.M.C. DAC1 or BDCD1) will drive AMP CS2 close to maximum, without pushing it into clipping.

(For analog devices, there is unfortunately no well-defined limit.)

About DIGM 55 is recommended as a Standard Power Amplifier Gain Setting for high listening levels. For lower listening levels a lower DIGM setting is recommended for less noise and a better sound.

DIGM 66 is the highest possible gain setting with about the same amplification as other power amplifiers. We recommend using DIGM 66 only if required. A lower DIGM setting compensates by better sound quality.

At DIGM 00 the input is switched off for a complete mute.



Remote Control



Use the AMP section on top of RC-1 for the classical Amplifier mode

VOLUME +

Increase the sound volume

VOLUME -

Decrease the sound volume

MUTE

Mutes the signal.

Unmute by pressing MUTE again.

MUTE will not be cancelled by changing volume, only by pressing MUTE again!

INPUT UP / DOWN

Changes to the next / previous INPUT

Use VOLUME and MUTE of the DAC section of RC-1 for the B.M.C. chain mode with Volume controlled by the B.M.C. DAC

BATTERIES

If the operating range of the RC1 remote control decreases, change the batteries of the remote control to new ones.

Open and close the battery case with a TORX-10 screwdriver.

Insert new batteries of type AA / Mignon in correct +/- polarity.

Alkaline batteries may be used as well as rechargeable NiMH, but never mixed.

Troubleshooting

Whenever you suspect a malfunction of the unit, please first check a possible cause by proceeding the below list, before contacting your local dealer or the B.M.C. Audio service.

No Function or Display

- Check the AC-power cable is connected at both sides.
- Make sure there is AC power available at the wall outlet.
- Check the power switch position.



ERROR displayed

- An internal error occurred. Please switch off the unit, wait at least 1 minute, and switch on again. If error occurs again, switch off the unit and contact your dealer or B.M.C. Audio service center.

No music

- Check the interconnections of the audio system
- Check the function of the signal source
- Check the amplifier input and volume setting

Remote control non-functional

- Aim at the middle of the display from short distance
- If the operating range decreases, change the batteries of the remote control to new ones of type AA

Note: The CS2 has a micro-computer inside which may "hang-up" due to static discharge or other voltage sparks. In this case power off the unit, wait for about 1 minute and power on again.

Maintainance

- The CS2 requires no user maintenance.
- Clean the unit with a dry micro-fiber cloth only.
- Take special care not to scratch the acrylic window.

Service

In case you have to contact the B.M.C. Audio Service Center, please prepare the following information:

- Model-name, serial number and date of purchase.
- Name, tel. and address of the dealer.
- Precise description of the malfunction.