

MONOPHONOM



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M3



M3, MONOAUURAL POWER AMPLIFIER

B.M.C.'s M3 is a low-distortion LEF power amplifier with DIGM adjustable gain and a balanced XLR-CI input. The M3 can be used as a classic monaural power amplifier.

The M3 is B.M.C.'s top amplifier and surely one of the best amplifiers available at any price.

In the short B.M.C. signal chain, the unattenuated signal is used from the fixed output of the source, while our exclusive DIGM system adjusts the volume by setting the gain of the amplifier. The lossless volume setting happens at the B.M.C. DAC 1, which optically transmits the desired value to the M3.

B.M.C.'s balanced Current Injection (CI) input, a technical and sonic highlight, imparts an even more intense musical experience by processing the original signal current until it generates the speaker output voltage.

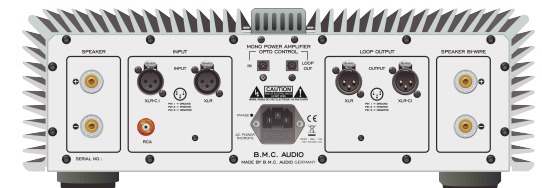
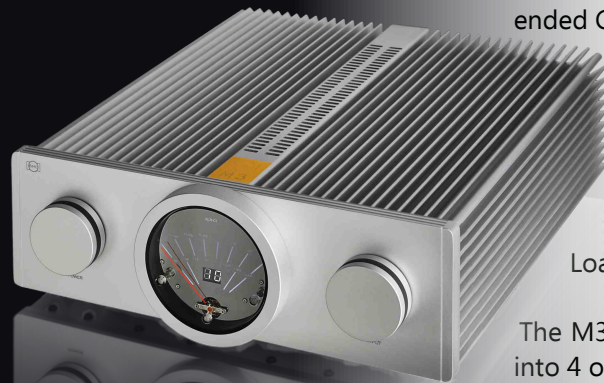
The channel separation of mono power amplifiers cannot be surpassed. A fully regulated power supply with a 2kW toroidal transformer and Balanced Current capacitors delivers a silent background and rock-solid stability.

The Load-Effect Free (LEF) output stage avoids any distortion before it occurs by relieving the sound-critical single-ended Class-A transistor of all duties other than providing perfect signal reproduction.

Unlike other amplifiers, an LEF amplifier handles a speaker's current demand separately from the voltage demand. The result is unparalleled mastery of musical complexity that brings to startling life delicate details, rock-shaking power, high dynamics, sonic vitality, and accurate imaging -- all on a three-dimensional soundstage.

Load-Effect Free amplification is a new experience.

The M3 also boasts solid output power: 200 watts into 8 ohms, 380 watts into 4 ohms.



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SPECIFICATIONS

Output Power	2 x 200 W / 8 Ω, 2 x 380 W / 4 Ω
Frequency Response 20 Hz – 20 kHz, 1 W	-0.08 dB
Bandwidth 1 W / -3 dB	2 Hz – 180 kHz
S/N at DIGM 57 (relative to Pmax)	110dB
S/N at DIGM 40 (relative to Pmax)	125dB
S/N at DIGM 40 (relative to 1W)	103dB
THD+N at 1 Watt, 1kHz	0.01%
THD+N from 50mW to 50W, 1kHz	Less than 0.02%
THD+N under 0,1%	0.3 mW to 150 Watt
Damping Factor (8 Ohm, 10W)	300
Inputs	2 x bal. XLR, RCA
Input Impedance	50 kΩ RCA, 100 kΩ diff. XLR
Input Sensitivity	Max. 750 mV/RCA, 1.5 V/XLR
Volume Adjustment (DIGM)	DIGM in 66 1dB increments
Speaker Output	1 Stereo-Pair binding posts
AC Voltage (fixed by country)	AC 100V, 115V or 230V, 50/60 Hz
Power Consumption	110W – 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.

LEF AMPLIFIER

An innovative low-distortion amplifier circuit without overall negative feedback loop.

A new circuit solves distortion problems by removing their cause, instead of trying to correct distortion afterwards. Therefore a negative feedback loop is obsolete with all its unwanted "contributions" to the music reproduction. This revolutionary circuit we call LEF, Load Effect Free, because the music signal voltage source, which determines the sound quality, is freed from voltage and current swings, so it perfectly delivers the music signal to the speakers.

The significant, relatively small voltage-source transistors just care about the music signal, but never deliver any power. Everything related to power is handled by separate external circuits, and the unloading of power from the signal-voltage source removes the cause of distortion.

The LEF amplifier delivers signal voltage and current from separate, phase-independent sources. Besides avoiding distortions, this also delivers superior control of the speaker.

And compression effects never occur, so you can enjoy complex orchestral tutti or passionate sopranos in effortless and natural sound.

This is the basic working principle of **LEF = Load effect free.**

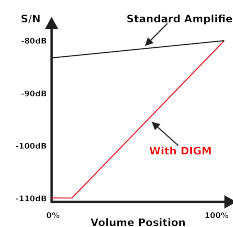


DIGM VOLUME CONTROL

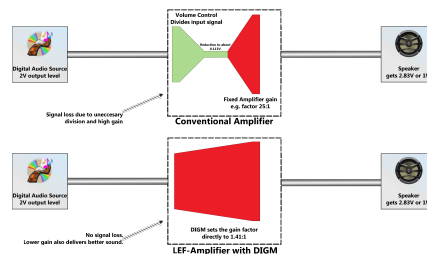
DIGM (Discrete Intelligent Gain Management) replaces a traditional lossy volume control in an audio system, delivering significantly better performance. Gain control instead of signal waste!

The source signal does not get divided but instead is fully used, avoiding the usual degradation. Instead, DIGM controls the amplification factor (gain) in a way that just the gain needed for the selected volume is applied. Because after the DIGM there is no further gain stage the output noise is reduced proportionally with the volume level.

You experience more quietness.



DIGM - Discrete Intelligent Gain Management
Example of DIGM operation compared to traditional amplifiers, targeting 3W / 8Ω ($\approx 2.83V$) of output power.



POWER SUPPLY CONCEPT

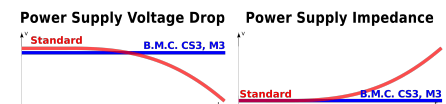
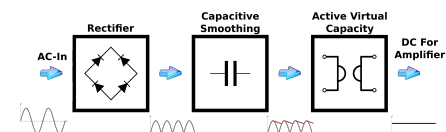
The requirements can be summarized as follows:

- Low noise and low ripple on the DC power
- No voltage drop under load
- Low impedance
- Linear impedance vs. frequency

A 2 kW toroidal transformer is the solid base for a very powerful, dynamic and stable energy supply. Extraordinary musical expansion and transparency are accomplished by storage in a whole battery of custom-made balanced-current capacitors.

THE ACTIVE VIRTUAL CAPACITY

The M3 in addition features a giant virtual capacitor which has been realized with extremely powerful MOSFET.



Power Supply Ripple

