

VTL Amplifiers, Inc.  
4774 Murietta Street, Suite 10  
Chino, California 91710  
USA



Tel (909) 627-5944  
Fax (909) 627-6988  
e-mail mail@vtl.com  
<http://www.vtl.com/>

## MB-450 Series III Balanced Signature Amplifier



Music lovers have long admired the VTL MB-450 Signature monoblock amplifier for outstanding performance at a fair value. The new Series III version of the long-standing MB-450 platform features a complete re-working of the entire signal path. Upgrades include a fully balanced differential input stage driving a differential phase splitter and a lower impedance push-pull output stage with a dramatically improved, fully balanced and enhanced interleaved and coupled output transformer. VTL's innovative engineering brings the legendary sonic performance of the venerable 450 Signature platform to even greater heights.

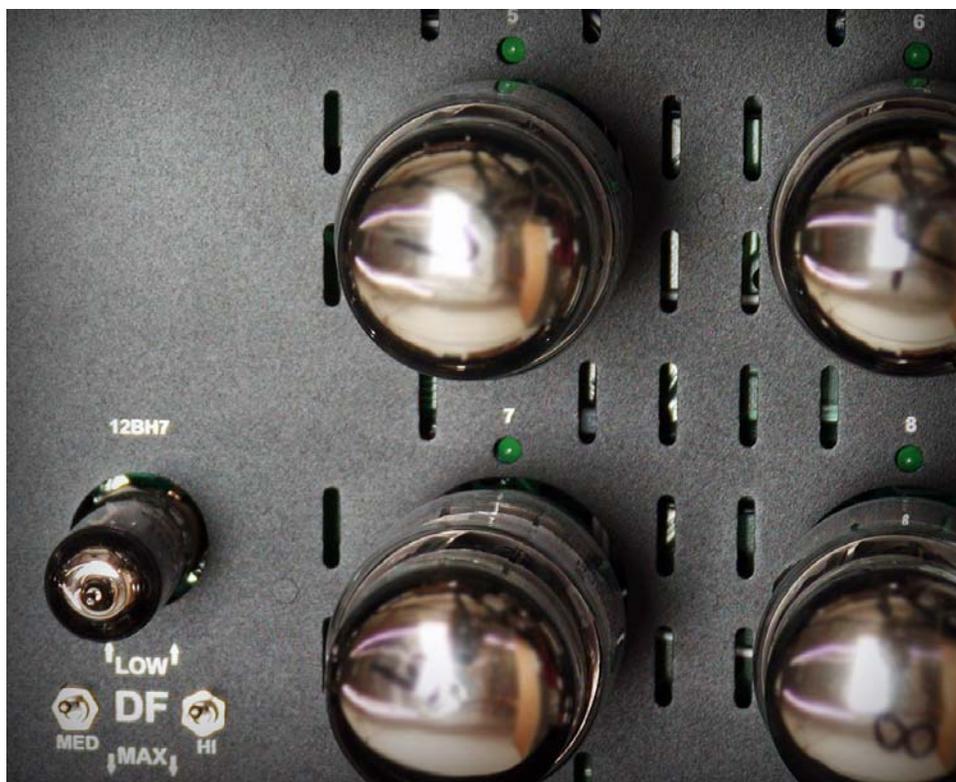
The new MB-450 Signature monoblocks gain further sonic benefits with a shorter, faster and fully balanced negative feedback loop, with zero global negative feedback. The negative feedback loop completely eliminates ringing and requires no capacitor compensation to maintain critical phase integrity and information. The result is an amplifier that remains stable even under the most demanding loads.

Adjustable precision-regulated bias and screen supplies hold the output tube operating point constant even under AC and main power supply fluctuations, and stabilizes the critical power supplies yielding tonal stability and sonic integrity especially during complex, dynamic signal conditions.

Another new feature is a user adjustable Damping Factor feedback control that allows the user to adjust the amplifier's output impedance by varying the amount of negative feedback. Impedance can now be

precisely set to suit the listener's taste, and to improve control of the loudspeaker loads to deliver best performance. The 4 possible settings are:

1. LOW -- Lowest damping factor, good loudspeaker control, most natural sound.
2. MED -- Better loudspeaker control, with some impact on sound quality
3. HI -- Best loudspeaker control, with a little more impact on sound quality, but on speakers that need the control the sonic improvement is clear
4. MAX -- Maximum damping factor, but sonic impact is noticeable



Finally, the amplifier has been substantially re-voiced with premium Mundorf silver oil capacitors, for a sweeter, more extended top end and mid range tonality that sounds more relaxed, with better flow and integration. Input stage capacitors are also bypassed.

Even a brief listen to the new MB-450 Series III monoblock reveals the successful implementation of the new technology. The mid bass has more authority and control while the critical midrange exhibits a new effortlessness in reflecting the natural instrumental colors and timbres. This greater sense of ease and control of the critical mid bass and midrange area enables the top end to sound completely natural and unconstrained. The impact of the music's broad brushstrokes is unmistakable, while at the same time, the listener enjoys the indelible intimacy and micro-dynamics that lay deep inside favorite recordings.

## Feature List:

1. Fully balanced differential circuit – even single-ended signal produces balanced signal at output
2. Re-designed fully balanced differential input and driver stages for increased signal swing, bandwidth and stability
3. Zero global Negative Feedback
4. Shorter, faster feedback loop for greater tonal control without phase shift.
5. Improved handling of loudspeaker loads for greater signal stability.
6. The amplifier is unconditionally stable, without the need for capacitor compensation.
7. Tube like JFET-type current source for lower sonic impact in single-ended mode
8. Lower impedance output stage for improved loudspeaker control
9. Dramatically increased interleaving and coupling in the balanced VTL proprietary Signature output transformer, for wider bandwidth and zero ringing
10. Variable user-adjustable DF feedback control to vary output impedance and damping factor for optimal matching to speaker load
11. Software microprocessor controlled
  - Tetrode/Triode Switchable
  - Auto Bias, Fault Sensing
  - Current in-rush limiting
  - Standby Mute function; with reduced tube current for increased tube life
12. 425 watts per channel in tetrode; 225 watts per channel in triode
13. Uses eight 6550 or KT-88 tubes per monoblock
14. Adjustable regulated screen supply for stable operating point; discrete regulated input and driver supply for greater signal resolution and tonality
15. Adjustable precision-regulated bias supply for greater signal resolution and noise rejection and improved isolation from mains supply variations; output operating point does not change with AC power fluctuations
16. Improved Autobias and fault sensing system to operate in fully balanced differential mode; amplifier is fully protected against output tube failure; no need for precision matching of output tubes
17. All premium Mundorf silver oil caps in signal path
18. Film bypass of power supply caps for greater HF resolution
19. Extruded aluminum front panel with luxurious, modern look – black and silver options available
20. Rack mountable
21. Rigid construction and improved ventilation for lower operating temperature
22. Factory upgradeable from Series II

# Specifications

## MB-450 Series III Signature Monoblock Data Specification

Vacuum Tube Complement	8 x 6550 or KT-88, 1 x 12AT7, 1 x 12BH7
Output Power	Tetrode = 425 watts  Triode = 225 Watts
20 Hz – 20 kHz < 2.5% THD	Into 5 ohms
Input Sensitivity	Variable between 1-2V, depending upon DF setting
Input Impedance	45K Ohms
Load setting	5 ohms
Optimum Load Range	4 - 8 ohms
S/N Ratio @ 450 W Tetrode	-110dB, 120 Hz
S/N Ratio @ 200 W Triode	
Power Consumption	Idle = 300 W Full Power = 1000 W
Primary Mains Fuse Rating	100/120V = 15A Ceramic Slo Blo 220/ 240V = 8A Ceramic Slo Blo
Input Fuse	100/120V = 1A Ceramic Slo Blo 220/240V = 1A Ceramic Slo Blo
Logic Fuse	100/120V = 1A Ceramic Slo Blo 220/240V = 1A Ceramic Slo Blo
B+ Fuse Rating	Plate Fuse -- 2.5A fast acting 600V Screen Fuse – 0.75 fast acting 600V
Dimensions	W = 18.5 inches (47cm), D = 18 inches (45.7cm), H =9 inches (23 cm)
Weight	93 lbs (42Kg) per monoblock unpacked 110 lbs (50 Kg) packed