Mark STUDIO 1

AMP MODELING SYSTEM

The **Mark Studio 1** plugin has been designed to faithfully replicate the sound of **Markbass** amplification for any hard disk recording application. When you record bass through any soundcard interface (even those of top quality), you always lose natural harmonics, and you're never able to reproduce the rich tone of a bass played live through an amp. In studios, recording with an amp is rarely easy: you need a dedicated room with a minimum of reflective surfaces; microphones need to be carefully positioned; and you need to deal with common phase and delay issues between the direct and microphone signals.
Managing these recording challenges is especially difficult and impractical in home recording situations.
However, the **Mark Studio 1** plugin (used either in real time or applied to a previously-recorded bass track) provides a convenient, versatile and great-sounding solution.
The plugin also gives you a much larger choice of virtual amps and cabinets than you would have if you were working with actual gear! You have a choice of any combination of three heads (**TA 501, R 500 and Classic 300**) and **six cabinets** (including different speaker size configurations, front-ported, rear-ported and sealed cabs); **six single microphones** and one preset **two-microphone combination**, and the added option of positioning a microphone on the rear bass port/reflex of the cabinet (with applicable cab models). The cabinet's tweeter is adjustable and can also be disabled.
You can mix the sound of the amplifier (MS1) with the direct sound (clean), or use only one of the three heads without a cabinet (and therefore without a microphone), in order to obtain the sound of the tubes and EQ circuits (depending on your model of choice) and not the speaker sound.
The plugin also allows you to simulate the "sound of the room" by giving you control of ambience, and also features a fully adjustable tube compressor, phase reverse, **64 factory presets** and **64 user presets**.
There are currently many flexible, dedicated guitar amp plugins on the market— but very few options for bass. Considering that most music includes bass, **Mark Studio 1** is a very welcome addition to the range of plugins currently available to musicians, producers and studios. **Mark Studio 1** DSP modeling was created using the actual, original **Markbass** amps and cabinets, in order to clone their characteristic tones. Throughout the development of the **Mark Studio 1** plugin, we tried to convey the true fidelity of the speakers, paying careful attention to mic position and capturing the signal with the utmost attention to detail. The modeling took place at Studio Logic in Milan (which boasts a Grammy Award and two Latin Grammies with Laura Pausini) under the supervision of sound engineer Renato Cantele and sound designer Max Costa: both experts in computer science and sound! In order to create the most accurate and realistic emulations possible, we created our sound models by using non-linear convolution instead of standard DSP techniques, in order to more accurately "clone" the sound.
For our audio modeling we used six of the most popular microphones, including dynamic, condenser and ribbon mics.
We carefully evaluated all the microphones, both individually and in combinations, as well as their positions relative to the speakers. This involved a lot of playing, listening and comparing: all in the cause of accurately capturing the true sound of **Markbass** amps and cabinets in a plugin, so you can always have them at your disposal! No matter what type of bass you use, the **Mark Studio 1** plugin will always give you a very musical array of bass sound choices. It's an indispensable tool to anyone who records on a computer and wants to improve the sound of the bass either during or after recording. Therefore, it's not only for bass players, but also sound engineers, producers, songwriters, arrangers, keyboardists, guitar players... in other words, anyone who appreciates great bass tone!

Mark Studio 1 plugin software is included in this box for both **OSX** and **Windows** in **RTAS/AU/VST** formats, and also as a **standalone** version for playing bass in real time through a computer without recording.

Paolo Costa *- bass player, MS1 product manager*

User Manual

1 Preset Name

How to store presets:

In **Mark Studio 1** you will find 64 factory presets that can also be modified and then stored in one of the 64 user preset banks. You can also create your own sounds from scratch, choosing different combinations of heads, cabinets and mics and storing your settings as user presets.

To store a new preset, choose a 'letter' bank and then a 'number' bank where you want to store the sound. To name your new preset, double-click on the name window, type in the name and hit enter.

To call up a preset, simply click on the letter and number of the bank you want to select.

---

2 Preset Banks

To select a preset, click on the desired letter and number.

---

3 Factory position: choose between 64 **Markbass presets** (*)

User position: 64 empty banks where you can store your own **presets**.

---

4 Amp/Cab/Mic

This is where you choose:

Amps (A) TA 501, R 500 and Classic 300 - (original manuals: *TA501*, *R500*, *Classic 300*)

Cabinets (C) STD 151HR (rear-ported 1x15"), STD 152HR (rear-ported 2x15"), STD 104HR (rear-ported 4x10"), STD 104HF (front-ported 4x10"), STD 106HF (front-ported 6x10") and Classic 108 (sealed 8x10"), - no cabinet (just amp sound).

Microphones (M) 3 Dynamics, 1 Tube, 1 Ribbon, 1 Condenser, Dynamic+Ribbon.

---

5 Here you can modify the microphone position relative to the speaker cone (**Border** or **Center**), the distance of the mic from the cone (**Near** or **Far**) and the **Phase** between the direct signal from the bass and the mic.

The **Phase control** reverses the phase of the sound captured by the microphone in front of the speaker. If you are using only the microphone sound (with no direct or line out sound), this control will not affect the tone much. However, when mixing the direct or line out sound with the inverted-phase sound from the microphones, the two waveforms tend to cancel each other out, and you will typically expect a loss of bass frequencies.

This can be resolved by changing the position of the Phase switch.

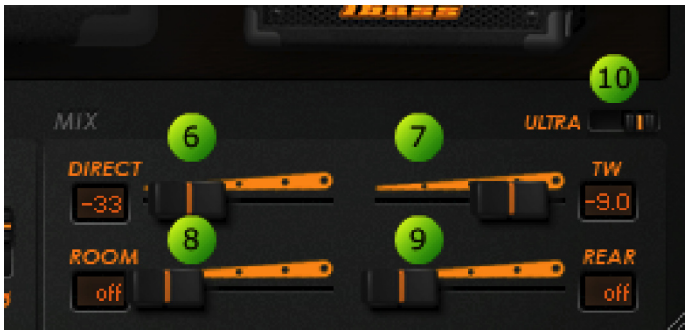
6 Direct - slider that adds direct ("dry", unaffected by the plugin) signal, mixing it in with the processed **Mark Studio 1** sound.

---

7 TW - independent level adjustment of the cabinet's tweeter. All the way to the left is off, all the way to the right is full.

---

8 Room - ambient reverb.



---

9 Rear - volume level of the mic positioned on the rear bass port/reflex (where applicable).

---

10 Ultra - adds Ultrabass EQ

The ultra (bass) switch allows you to turbo-charge your low frequencies.

It does so by raising the level of bass frequencies in the 40Hz range and also enhances the harmonic content of the low frequencies.

It doesn't generate new harmonics, but merely enhances the ones already present.

---

11 Gain - bass volume control (pay attention to the Clip LED).

---

12 Clip - This LED indicates volume clip. When the clip light is illuminating often, turn down the Gain (11) or Master (14) to avoid distortion.

---

13 Line Out - The level of the sound of the head, but not the cabinet.

If the Master volume (14) is off, you will not get signal from the Line Out.

Additional note: If you want to hear only the head sound, you must select **"no cabinet"** in the Cab section (4).

---

14 Master

Master volume of the **Mark Studio 1** plugin.

---

15 On/Off switch

Allows you to compare the plugin sound to your original sound.

16 On switch to activate the tube **Compressor** (When "On", the yellow LED on the VU-meter bar will be illuminated).
The **Studio 1 Compressor** replicates the exact parameters of **Markbass** compression to reproduce the same characteristic **Markbass** tone. As the name implies, compression reduces the dynamic range of a signal by making loud sounds quieter, and quiet sounds louder.
A compressor is basically a variable gain device, where the amount of **gain** allowed through the amp depends on the level of the input. In this case, the gain will be reduced when the signal level is high, making the louder passages softer and reducing the dynamic range. When the input level is low, the compressor will not modify the output level. When the input level rises, the compressor kicks in to reduce its level.

The **ratio** knob controls how much the compressor reduces the sound as the input rises: higher settings of this ratio will make loud passages more equal to soft passages.
The gain reduction of a compressor is not immediate: when the compressor detects a loud note, it uses some time to lower the gain. That time is the **attack** time, i.e. the time taken by the compressor to lower the gain. When a loud passage ends, the compressor restores the gain to unity. The time needed for this transition is the **release** time. Too short a release time can introduce distorsion: this can be desirable for some playing styles, but in most cases this is likely unwanted. Too long a release time can make the sound too soft, because the compressor uses too much time to return to unity gain.

---

17 The **pre / post switch** allows you to choose between two different positions for the compressor.
"Pre" positions the compressor between the bass and the amplifier: this is the standard setting.
"Post" position the compressor after the preamplifier and the EQ tone controls: in this way the amount of compression is affected by the EQ settings.

---

18 VU-meter bar that indicates if the compressor is activated, and the amount of gain reduction applied.

Extra note about the compressor:
One popular use of compression is to increase an instrument's sustain. This is technically incorrect since a compressor doesn't change an instrument's behavior, but merely affects its audio signal. The compressor will try to maintain a constant level of output by amplifying the incoming signal to maintain that constant level. For example, after a string on a bass is played, the voltage produced by the pickups gradually dies away.
A little compression will keep the instrument's level from changing radically after it's played, which is perceived as increased sustain or a 'smoothing' out of the sound. A release time longer than the instrument's decay will preserve the instrument's sound. Note that there is a trade-off with the compressor. You may want to have as much sustain as possible, but in the process, you are reducing the dynamics of your playing so you can no longer accent notes and phrases effectively. The attack of an instrument is a very important factor in music, and hard limiting can take the 'life' out of an instrument's sound. However, you can of course use extreme settings on a compressor to create unusual sounds as desired!

(*) Factory Presets:

N.	Name	Head	Cabinet	Microphone	Comp.	Room
A1	**Pop 1**	TA501	104 HR	Condenser 47		
A2	**Pop 2 (JB)**	TA501	104 HF	Dynamic 57		
A3	**Pop Kant (comp)**	R500	152 HR	Ribbon 122	Post	
A4	**Heavy Pop**	R500	104 HR	Dynamic 112		
A5	**Pop 3 (PB)**	R500	104 HF	Dynamic 57		
A6	**Pop Rock 1**	CL300	104 HR	Dynamic 57		
A7	**Pop Rock 2**	TA501	104 HR	Dynamic 57		
A8	**Pop Art**	R500	104 HR	Dynamic 52		

B1	**Old Pop (PB)**	TA501	151 HR	Dynamic 112		
B2	**Bluepop**	TA501	152 HR	Ribbon 122		
B3	**Tube pop**	CL300	104 HR	Ribbon 122		
B4	**Pop Light**	R500	104 HR	Dynamic 57		
B5	**Livepop**	R500	104 HF	Tubed		
B6	**Acipop (comp)**	TA501	108 CL	Tubed	Post	
B7	**Rock Radio**	TA501	106 HR	Dynamic 57		
B8	**Just Head**	TA501	-	-	Pre	

C1	**Rocking Fretless**	R500	151 HR	Ribbon 122		
C2	**Fly (MM)**	CL300	151 HR	Dynamic 52		
C3	**Yellorock**	TA501	106 HF	Dynamic 52 + Ribbon 122	Post	
C4	**Pushrock (comp)**	R500	106 HF	Dynamic 52 + Ribbon 122		
C5	**Tuberock**	CL300	108 CL	Dynamic 52 + Ribbon 122		
C6	**Hi Tube**	CL300	106 HF	Dynamic 52 + Ribbon 122		
C7	**Tube Bottom**	CL300	108 CL	Tubed		
C8	**Tube Full**	CL300	108 CL	Ribbon		

D1	**Big Finger**	R500	104 HR	Dynamic 57		
D2	**Rhythm Soul**	R500	104 HF	Dynamic 57		
D3	**Rocco 'n B**	TA501	104 HF	Ribbon 122		
D4	**R & Black (comp)**	R500	108 CL	Dynamic 52 + Ribbon 122	Pre	
D5	**R & White**	TA501	106 HF	Condenser 47		
D6	**Bluejam**	TA501	108 CL	Dynamic 52 + Ribbon 122		
D7	**Classic Motsound**	R500	151 HR	Ribbon 122		
D8	**Classic Motsound**	CL300	151 HR	Condenser 47		

E1	**Jazz Club**	TA501	151 HR	Dynamic 52		
E2	**Overjazz**	TA501	104 HR	Dynamic 112		
E3	**Rich Jazz Bass**	TA501	104 HR	Dynamic 52		
E4	**Tubedown**	CL300	151 HR	Tubed		
E5	**Old Bass 2**	R500	152 HR	Tubed		
E6	**Old Bass 1**	R500	151 HR	Tubed		
E7	**Papua Bob**	TA501	151 HR	Dynamic 52 + Ribbon 122		
E8	**Bass Tone**	CL300	151 HR	Ribbon 122		

F1	**Fun Kantele (comp)**	TA501	104 HF	Condenser 47	Post	
F2	**Groovology**	TA501	104 HR	Dynamic 112		
F3	**Big Stone**	TA501	106 HF	Tubed		
F4	**Furock Fly (comp)**	R500	104 HF	Dynamic 112	Pre	
F5	**Mellofunk**	CL300	104 HR	Condenser 47		
F6	**Steely Soul**	CL300	104 HF	Dynamic 57		
F7	**Soul Rock (PB)**	TA501	151 HR	Condenser 47		Yes
F8	**Funk Tie**	TA501	104 HR	Ribbon 122		

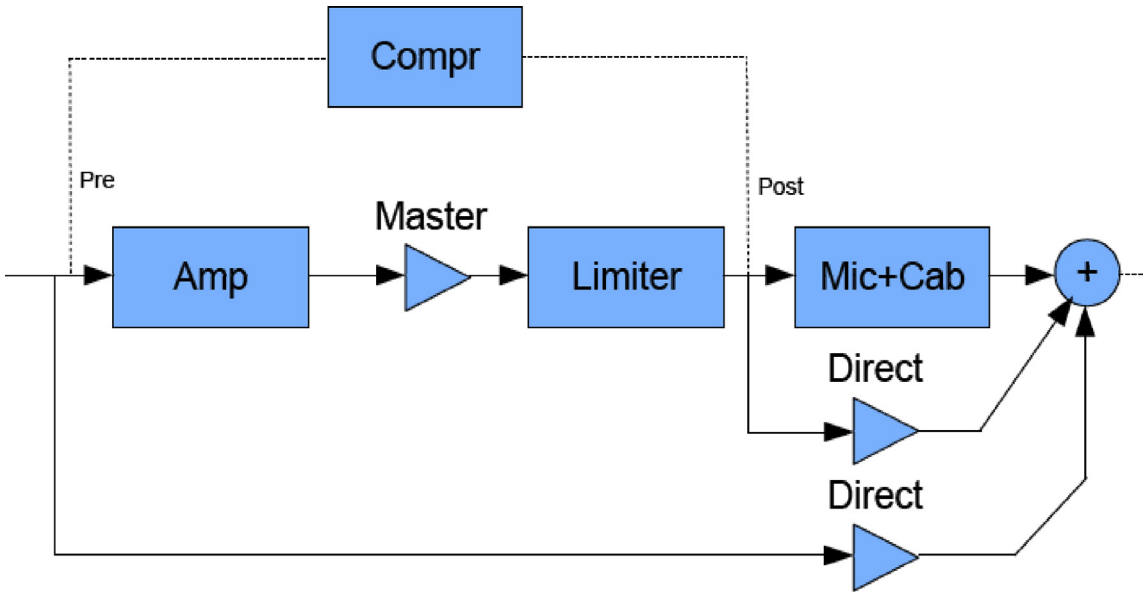
G1	**Rock & Roses (PB)**	CL300	108 CL	Dynamic 52		Yes
G2	**Clean Active Fretless**	TA501	151 HR	Dynamic 52 + Ribbon 122		Yes
G3	**Wonderbass**	TA501	106 HF	Tubed		
G4	**King Bass**	R500	152 HR	Dynamic 52 + Ribbon 122		
G5	**XXL Soul**	CL300	104 HR	Dynamic 52		
G6	**Chic Dead Strings**	TA501	104 HR	Dynamic 57		
G7	**Ultra Bass (comp)**	TA501	151 HR	Tubed	Post	
G8	**Rubber Power**	TA501	106 HF	Dynamic 52 + Ribbon 122		

H1	**Morning Rock Room (comp)**	CL300	108 CL	Ribbon 122	Post	Yes
H2	**Deep Groove (comp)**	CL300	151 HR	Dynamic 52	Post	Yes
H3	**Soft Rock in California (comp)**	TA501	151 HR	Dynammic 52	Pre	Yes
H4	**Pick Punk Rock (comp)**	R500	104 HR	Dynamic 52 + Ribbon 122	Pre	Yes
H5	**Rock Square (comp)**	R500	108 CL	Tubed	Pre	Yes
H6	**Bass on Feet**	CL300	106 HF	Dynamic 52 + Ribbon 122		Yes
H7	**Ambient Head (comp)**	TA501	-	-	Pre	Yes
H8	**Highdeep**	CL300	152 HR	Dynamic 52		Yes

Cabinets specif.

151 HR=1x15"
152 HR=2x15"
104 HR=4x10"
104 HF=4x10" bass reflex
106 HF=6x10" bass reflex
108 CL=8x10"

Mark Studio 1 Block Diagram:



Markbass thanks for their collaboration and invaluable contributions:
Paolo Costa - product manager and software development
Overloud - DSP technology and software development
Renato Cantele - sound engineer and development consultant
Max Costa - development consultant
Logic Studio Milano - recording studio

Also thanks to: Carlo Miori, Fabrizio Grossi, Sabino Cannone, Beppe Gemelli, Yukari Nagataka, Piero Costa, Carmelo La Bionda, Gabriele Gigli. Mauro De Nadai, Mauro Pagani, Valerie Germond, Dodo Nkishi, Taketo Gohara, Leif Searcy.

Markbass

BASS at its BEST

www.markbass.it

OWNER'S MANUAL

CLASSIC 300

Classic 300

OWNER'S MANUAL

1. INTRODUCTION

Congratulations on purchasing one of the world's best bass amplifiers! Markbass amps are built to the highest standards by a small team of skilled technicians in San Giovanni Teatino, Italy.

We have spent many years researching not only the highest-quality technologies for bass amp design and construction, but also the practical needs of the working bassist.

The end result is a product that combines outstanding sound quality with intuitive features, attractive design and extreme reliability---all in one impossibly lightweight unit.

This amp will allow your instrument to speak in its natural voice, faithfully conveying your musical ideas to your audience with stunning clarity.

Your amplifier has passed rigorous product testing and should survive even the toughest of environments on the road and rehearsal halls.

Nonetheless, please treat it with care and you will be rewarded with many, many years of glorious, rich, powerful bass tone!

If the clarity and power of this amp inspire you to play better music, we will have succeeded in our mission. Good luck and enjoy your new best friend!

Sincerely, Markbass

1.1 A WORD FROM MARCO DE VIRGILIIS

When I began to develop the Markbass concept in Italy several years ago I had one objective in mind: to produce a top-quality bass amp that would meet the needs of professional bass players everywhere. I wanted my amps to be compact and lightweight, yet able to handle the low frequencies that today's four, five and six string passive and active basses are capable of producing. Thanks to modern technology and the availability of high-quality components like low-profile toroidal transformers, neodymium speakers and so on, I was able to accomplish this.

The Markbass amplifier circuitry is designed specifically not to color the sound of the bass but to faithfully reproduce the unique tonal qualities of whatever instrument is played through it. I have worked very closely with many high-profile professional bass players around the world to fine-tune the Markbass product line.

I am confident that the Markbass line of amps and cabinets is now ready to satisfy the needs of bass players all over the world.

Thanks for choosing Markbass; I hope you will find your new amp to be an inspiring upgrade to your sound!

We encourage you to use your Markbass gear in all kinds of musical situations---and please help us to continue developing our products by sending your comments to info@markbass.it.

And above all, enjoy the music.

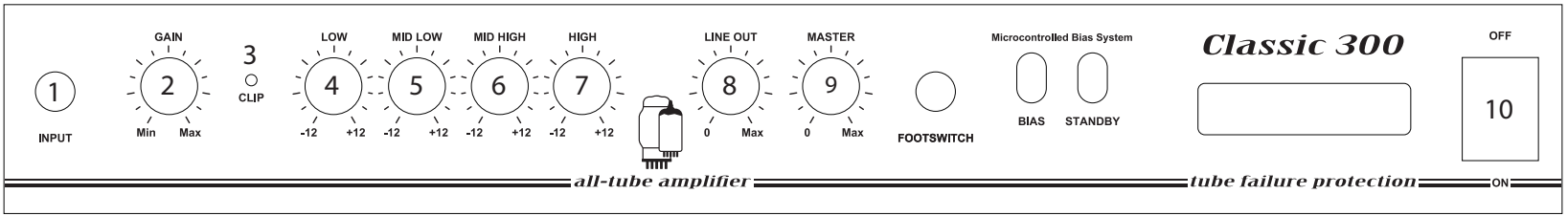
Marco De Virgiliis

MARKBASS - ITALY

www.markbass.it

3. CLASSIC 300 PRODUCT OVERVIEW
The Classic 300 is a high-quality all-tube bass amplifier, which delivers 300W of power into a 4 or 2 ohm cabinet or 175W into an 8 ohm cabinet.

3.1 Classic 300 Front Panel



INPUT
The input jack (1) can be used for both passive and active basses.

GAIN and MASTER
There are two knobs on the front panel of the Classic 300 that control the volume of your bass. The GAIN (2) control determines how much signal is passed through the preamp stage of the unit, which includes the preamp tubes, the equalization circuits and the effects loop. The MASTER (9) volume regulates how much output comes out of the power amp into your cabinet/s.
If playing through the amp causes the red CLIP (3) light to turn on at all, you should turn down the GAIN (2) control to avoid distortion.
When you first plug into the amp, start with the GAIN (2) and MASTER (9) controls set at their lowest levels, in other words turned all the way counter-clockwise. Then, turn your instrument's volume up to its full level and play as hard as you do in your most aggressive moments, and turn up the GAIN (2) control until the red light starts illuminating. Next, back off on the GAIN (2) just enough so that the light stays off as you play. This method will result in the optimal gain setting for the bass you're playing. Different basses have different output levels, mostly depending on their pickups—and in the case of active basses, the instrument's onboard preamp and EQ settings.
Once you've set the GAIN (2) level, use your MASTER (9) knob to control the volume of your bass. For more distorted tones at the same volume, turn up the GAIN (2) knob and turn down the MASTER (9).

LINE OUT
This LINE OUT (8) knob controls the volume level of the rear XLR LINE OUT (15), which is connected to the mixing console in live or studio situations.

EQUALIZATION
Markbass amps are designed to faithfully reproduce the natural sound of your bass. If you have a good instrument, very little equalization (EQ) if any should be required. Bass guitars produce a surprisingly wide range of frequencies from extremely low frequencies that are more felt than heard, to extremely high frequencies that pass through your cabinet's tweeter and are barely audible to the human ear. As you experiment with your EQ settings, you will notice that all the different frequency ranges play essential roles in making up your bass tone:

LOW frequencies constitute music's sonic foundation-they give power to your sound, physically resonating your listeners' bodies (and yours!), sometimes even causing people to move and dance!
LOW MIDs (MID LOW or Mid Frequency Low) make your bass sound loud, projecting the sound over long distances, filling the room.
HIGH MIDs (MID HIGH or Mid Frequency High) convey the pitch of the notes that you play. Clarity of this range ensures that the melodies in your bass lines are heard. If detail is missing in this range, your melodic contribution to the music will suffer.
HIGH frequencies carry the percussive content of your playing—the attack of your notes, the sound of your finger or pick passing over the string, fret noise, and in the case of slap bass, the 'tick' noise produced when the strings bounce off the frets.

If any one of these frequency ranges is neglected or poorly represented by your amp, you are not hearing an accurate representation of the sound that your bass is generating. Since these amps has been designed to give you clear, detailed and musical sound at all frequencies, when the amp is set flat with all EQ knobs at 12 o'clock you should hear a very true mirror of the sound of your bass.

However, the following circumstances will require you to use equalization:

1. The signal from your bass is lacking output level in one of the frequency ranges described above.
2. The room or venue you're playing in has poor acoustics and excites a certain frequency. For example, if you're playing on a hollow stage, certain low frequencies may sound disproportionately loud or out-of-control, and you may notice that every time you play a certain note, it sounds much louder than all the others. In these cases the offending frequency needs to be identified and reduced.
3. You're seeking to alter the basic sound of your instrument in order to achieve a particular musical effect.

Equalization should be treated as fine-tuning. Spend some time listening to your bass through the amp with all the EQ controls in the neutral (12 o'clock) position before you start changing the settings. You're likely to need little or no equalization!
However, if and when equalization is required, this amp's EQ should allow you to find the sound you want.

The LOW (4) EQ control is set to a center frequency of 80 Hz. This means that it either boosts or cuts the volume of the frequencies around 80 Hz, to a maximum of 12 decibels.
The LOW-MID (MID LOW) (5) EQ control boosts or cuts the frequencies around 400 Hz, by as much as 12 decibels.
The HIGH-MID (MID HIGH) (6) EQ control boosts or cuts the frequencies around 800 Hz, by as much as 12 decibels.
The HIGH (7) EQ control boosts or cuts the frequencies around 3 kHz, by as much as 12 decibels. The Q on this EQ (the range of frequencies controlled) is quite wide, spanning from about 2 kHz to about 30 kHz.

3.4 CLASSIC 300 TECHNICAL DETAILS

INPUTS	
INPUT	impedance: 500 Kohm, max. voltage: 5 Vpp
RETURN EFFECT	impedance: 22 Kohm, max. voltage: 15 Vpp

CONTROLS	
GAIN	-60 dB to +35 dB range
LINE OUT	level control on front panel
PRE/POST EQ (for line out)	switch on rear panel
GROUND LIFT	switch on rear panel
MASTER VOLUME	

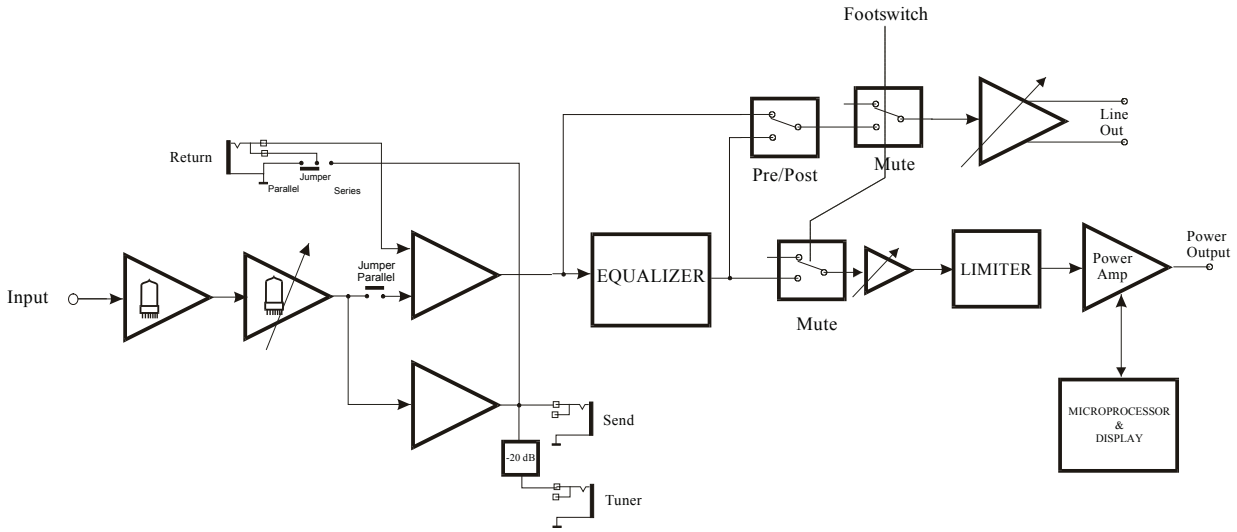
EQUALIZATION	
LOW	center frequency: 80 Hz; level: ±12 dB
MID LOW	center frequency: 400 Hz; level: ±12 dB
MID HIGH	center frequency: 800 Hz; level: ±12 dB
HIGH	center frequency: 3 kHz; level: ±12 dB

OUTPUTS	
SEND EFFECTS	unbalanced, max. voltage 18 Vpp
TUNER OUT	unbalanced, max. voltage 2.5 Vpp
LINE OUT	balanced XLR, max. voltage 25 Vpp
SPEAKON OUT	speakon / 1/4" (x2)
FOOTSWITCH	mute

OTHER	
HEIGHT	12.44 in. / 31.6 cm
WIDTH	19.76 in. / 50.2 cm
DEPTH	11.65 in. / 29.6 cm
WEIGHT	48 lbs / 22 kg
OUTPUT POWER	300W RMS @ 4 ohms or 2 ohms, 175W RMS @ 8 ohms
POWER REQUIREMENT	100V; 120V; 230V; 240V 50/60Hz (Voltage is factory preset according to region of sale)
TUBE	2x ECC83; 2x ECC99; 6x KT88

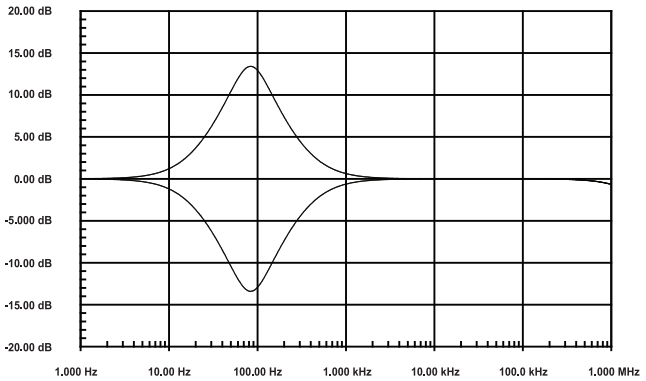
FUSE	
230V	4A 250V T 5x20
240V	4A 250V T 5x20
120V	8A 250V T 5x20
100V	8A 250V T 5x20

3.5 CLASSIC 300 BLOCK DIAGRAM

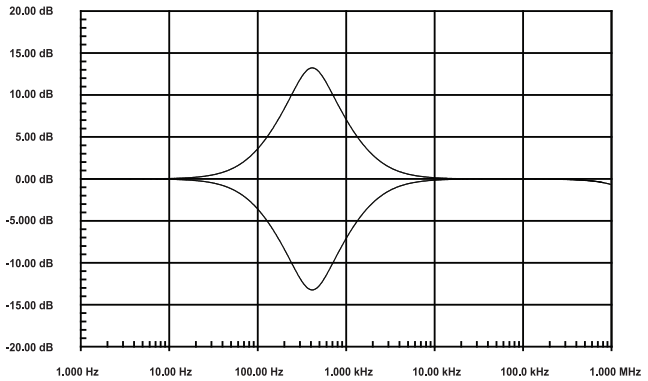


3.6 CLASSIC 300 EQ GRAPHS

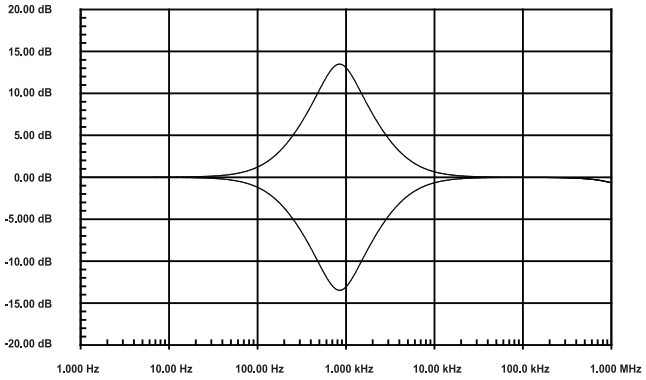
LOW



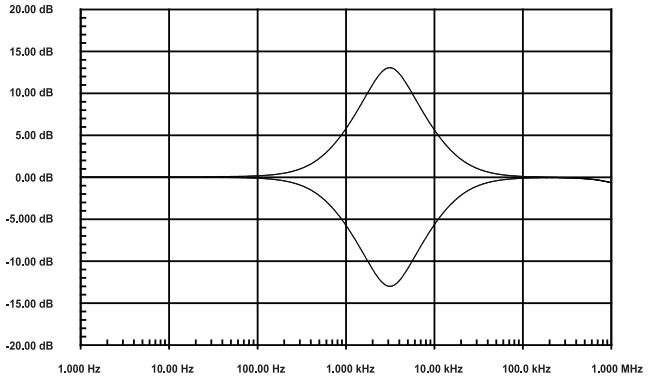
MID LOW



MID HIGH



HIGH



Product specifications are subject to change without notice

Mark bass

BASS at its **BEST**

www.markbass.it

Italy - 66020 San Giovanni Teatino (Ch) - Via Aterno, 44 - Tel. +39 085 446 5705 - Fax +39 085 440 7399 - www.markbass.it - info@markbass.it

v. 22.june.2007

Markbass

BASS at its BEST

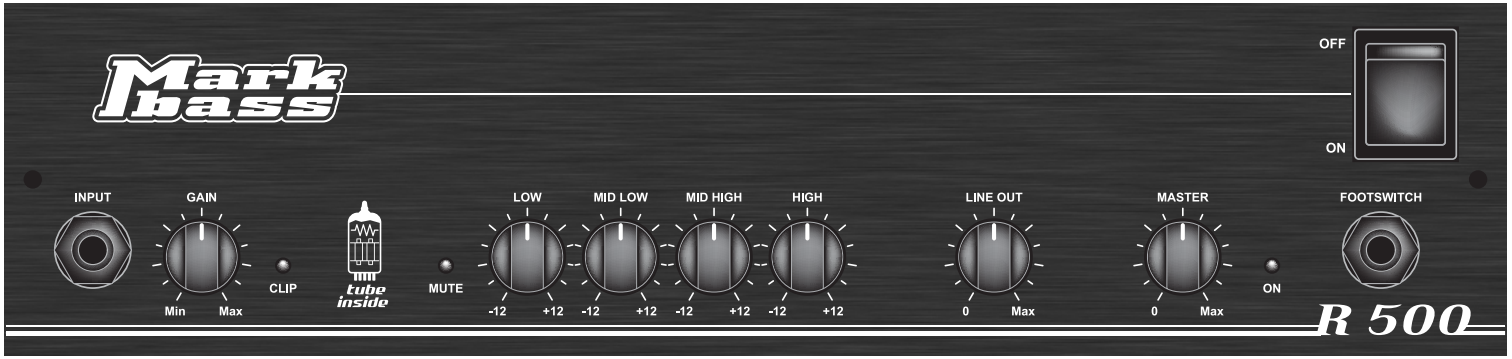
www.markbass.it

OWNER'S MANUAL

R500

R 500

OWNER'S MANUAL



1. INTRODUCTION

Congratulations on purchasing one of the world's best bass amplifiers! Markbass amps are built to the highest standards by a small team of skilled technicians in San Giovanni Teatino, Italy.

We have spent many years researching not only the highest-quality technologies for bass amp design and construction, but also the practical needs of the working bassist. The end result is a product that combines outstanding sound quality with intuitive features, attractive design and extreme reliability—all in one impossibly lightweight unit. This amp will allow your instrument to speak in its natural voice, faithfully conveying your musical ideas to your audience with stunning clarity.

Your amplifier has passed rigorous product testing and should survive even the toughest of environments on the road and rehearsal halls.

Nonetheless, please treat it with care and you will be rewarded with many, many years of glorious, rich, powerful bass tone!

If the clarity and power of this amp inspire you to play better music, we will have succeeded in our mission. Good luck and enjoy your new best friend!

Sincerely, Markbass

1.1 A WORD FROM MARCO DE VIRGILIIS

When I began to develop the Markbass concept in Italy several years ago I had one objective in mind: to produce a top-quality bass amp that would meet the needs of professional bass players everywhere. I wanted my amps to be compact and lightweight, yet able to handle the low frequencies that today's four, five and six string passive and active basses are capable of producing. Thanks to modern technology and the availability of high-quality components like low-profile toroidal transformers, neodymium speakers and so on, I was able to accomplish this.

The Markbass amplifier circuitry is designed specifically not to color the sound of the bass but to faithfully reproduce the unique tonal qualities of whatever instrument is played through it. I have worked very closely with many high-profile professional bass players around the world to fine-tune the Markbass product line.

I am confident that the Markbass line of amps and cabinets is now ready to satisfy the needs of bass players all over the world.

Thanks for choosing Markbass; I hope you will find your new amp to be an inspiring upgrade to your sound!

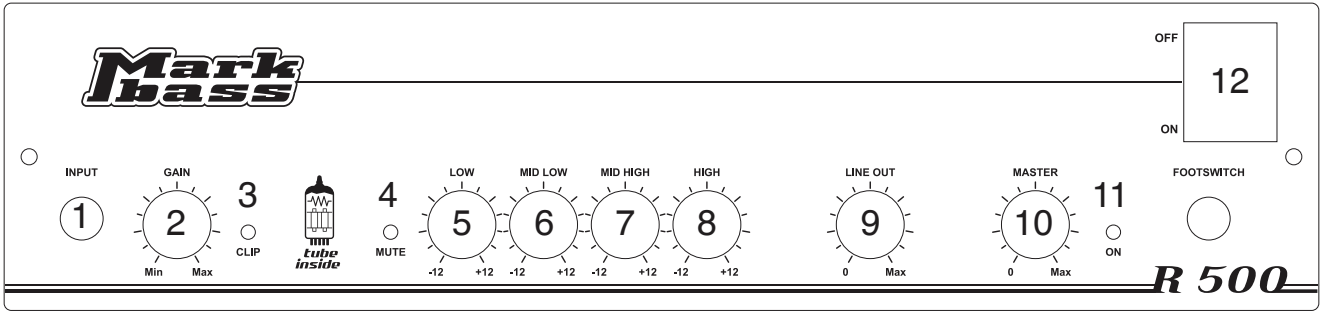
We encourage you to use your Markbass gear in all kinds of musical situations—and please help us to continue developing our products by sending your comments to info@markbass.it.

And above all, enjoy the music.

Marco De Virgiliis

MARKBASS - ITALY
www.markbass.it

3. R500 PRODUCT OVERVIEW
The Markbass R500 is a high-quality bass amplifier with a tube preamp and an analog power amp, which delivers 500W of power into a 4 ohm cabinet, or 300W into an 8 ohm cabinet.



3.1 R500 FRONT PANEL

INPUT
The input jack can be used for both passive and active basses.

GAIN and MASTER
There are two knobs on the front panel of the R500 that control the volume of your bass. The GAIN (2) control determines how much signal is passed through the preamp stage of the unit, which includes the preamp tube, the equalization circuits and the effects loop. The MASTER (10) volume regulates how much output comes out of the power amp into your cabinet. If playing through the amp causes the blue 'CLIP' (3) light to turn on at all, you should turn down the GAIN (2) if you want to avoid distortion.
When you first plug into the amp, start with the GAIN (2) and MASTER (10) controls set at their lowest levels, in other words turned all the way counter-clockwise. Then, turn your instrument's volume up to its full level and play as hard as you do in your most aggressive moments, and turn up the GAIN (2) control until the blue light starts illuminating. Next, back off on the GAIN (2) just enough so that the light stays off as you play. This method will result in the optimal gain setting for the bass you're playing. Different basses have different output levels, mostly depending on their pickups—and in the case of active basses, the instrument's onboard preamp and EQ settings.
Once you've set the GAIN (2) level, use your MASTER (10) knob to control the volume of your bass. If you wish to play with a distorted sound, turn up the GAIN (2) until you find the desired amount of distortion, then use the MASTER (10) to control your volume.

LINE OUT
This LINE OUT (9) knob controls the volume level of the rear XLR LINE OUT , which is connected to the mixing console in live or studio situations.

EQUALIZATION

Markbass amps are designed to faithfully reproduce the natural sound of your bass. If you have a good instrument, very little equalization (EQ) if any should be required. Bass guitars produce a surprisingly wide range of frequencies from extremely low frequencies that are more felt than heard, to extremely high frequencies that pass through your cabinet's tweeter and are barely audible to the human ear. As you experiment with your EQ settings, you will notice that all the different frequency ranges play essential roles in making up your bass tone:

LOW frequencies constitute music's sonic foundation—they give power to your sound, physically resonating your listeners' bodies (and yours!), sometimes even causing people to move and dance!

LOW MIDs (MID LOW or Mid Frequency Low) make your bass sound loud, projecting the sound over long distances, filling the room.

HIGH MIDs (MID HIGH or Mid Frequency High) convey the pitch of the notes that you play. Clarity of this range ensures that the melodies in your bass lines are heard. If detail is missing in this range, your melodic contribution to the music will suffer.

HIGH frequencies carry the percussive content of your playing, the attack of your notes, the sound of your finger or pick passing over the string, fret noise, and in the case of slap bass, the 'tick' noise produced when the strings bounce off the frets.

If any one of these frequency ranges is neglected or poorly represented by your amp, you are not hearing an accurate representation of the sound that your bass is generating.

Since these amps have been designed to give you clear, detailed and musical sound at all frequencies, when the amp is set 'flat' with all EQ knobs at 12 o'clock you should hear a very true mirror of the sound of your bass.

However, the following circumstances will require you to use equalization:

1. The signal from your bass is lacking output level in one of the frequency ranges described above.
2. The room or venue you're playing in has poor acoustics and excites a certain frequency. For example, if you're playing on a hollow stage, certain low frequencies may sound disproportionately loud or out-of-control, and you may notice that every time you play a certain note, it sounds much louder than all the others. In these cases the offending frequency needs to be identified and reduced.
3. You're seeking to alter the basic sound of your instrument in order to achieve a particular musical effect.

Equalization should be treated as fine-tuning. Spend some time listening to your bass through the amp with all the EQ controls in the neutral (12 o'clock) position before you start changing the settings. You're likely to need little or no equalization!

However, if and when equalization is required, you will find this amp's EQ controls to be powerful.

The LOW (5) EQ control is set to a center frequency of 80 Hz. This means that it either boosts or cuts the volume of the frequencies around 80 Hz, to a maximum of 12 decibels.

The LOW-MID (MID LOW) (6) EQ control boosts or cuts the frequencies around 400 Hz, by as much as 12 decibels.

The HIGH-MID (MID HIGH) (7) EQ control boosts or cuts the frequencies around 800 Hz, by as much as 12 decibels.

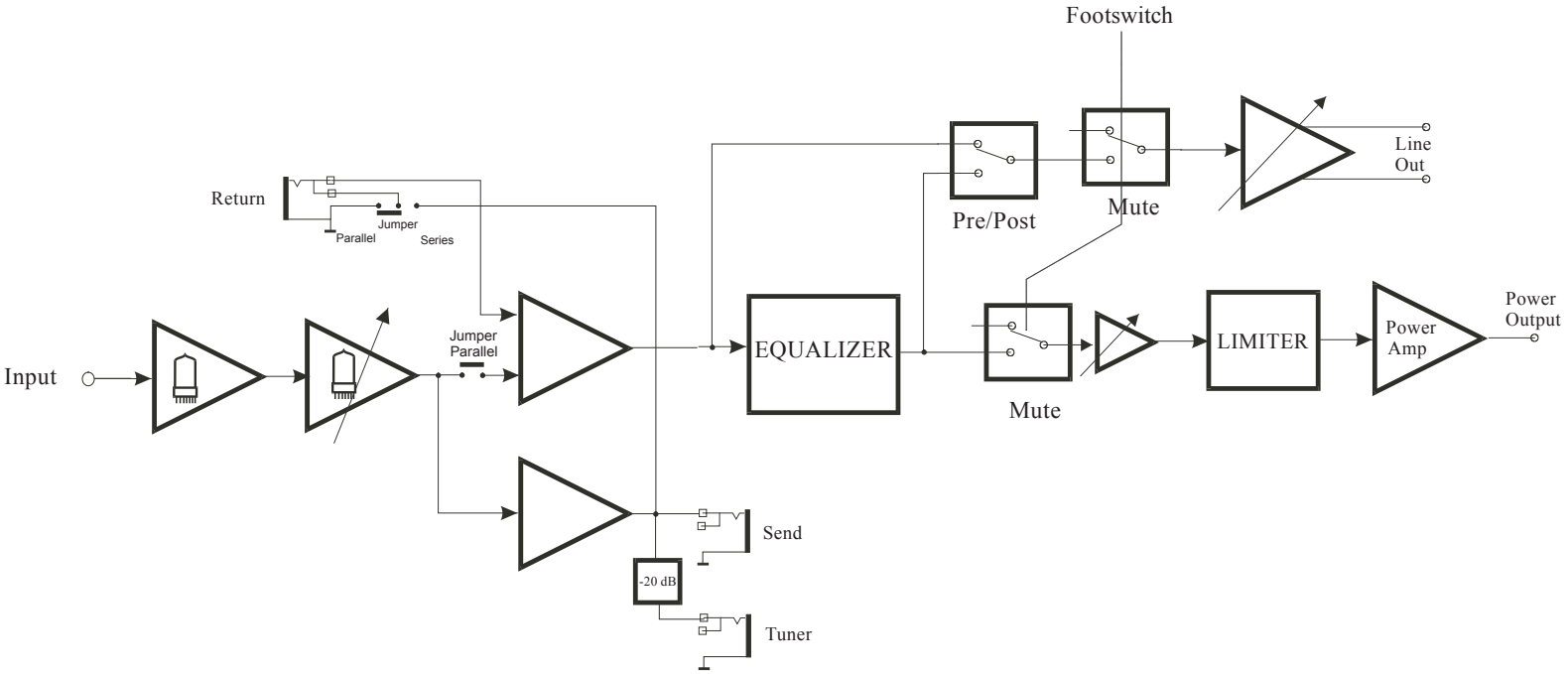
The HIGH (8) EQ control boosts or cuts the frequencies around 3 kHz, by as much as 12 decibels.

3.4 R500 TECHNICAL DETAILS

INPUTS	
INPUT	impedance: 500 Kohm, max. voltage: 9 Vpp
RETURN EFFECT	impedance: 33 Kohm, max. voltage: 12 Vpp
CONTROLS	
GAIN	-80 dB to +25 dB range
LINE OUT	level control on front panel
PRE/POST EQ (for line out)	switch on rear panel
GROUND LIFT	switch on rear panel
MASTER VOLUME	
EQUALIZATION	
LOW	center frequency: 80 Hz; level: ±12 dB
MID LOW	center frequency: 400 Hz; level: ±12 dB
MID HIGH	center frequency: 800 Hz; level: ±12 dB
HIGH	center frequency: 3 kHz; level: ±12 dB
OUTPUTS	
SEND EFFECTS	unbalanced, max. voltage 12 Vpp
TUNER OUT	unbalanced, max. voltage 2 Vpp
LINE OUT	balanced XLR, max. voltage 25 Vpp
SPEAKER OUT	speakon / 1/4" (x2)
FOOTSWITCH	mute

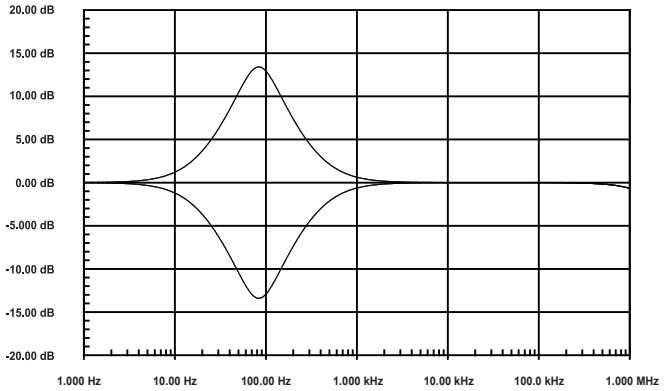
OTHER	
HEIGHT	2 rack units (3.36 in. / 86 mm)
WIDTH	14.21 in. / 36.8 cm (19 in. / 48.3 cm with rack ears)
DEPTH	11.89 in. / 30.2 cm
WEIGHT	8.16 lbs / 3.7 kg
OUTPUT POWER	300W RMS @ 8 ohms, 500W RMS @ 4 ohms
POWER REQUIREMENT	100V; 120V; 230V; 240V 50/60Hz (Voltage is factory preset according to region of sale and can be modified by authorized Markbass service technicians)
FUSE	
230V	4A 250V T 5x20
240V	4A 250V T 5x20
120V	8A 250V T 5x20
100V	10A 250V T 5x20

3.5 R500 BLOCK DIAGRAM

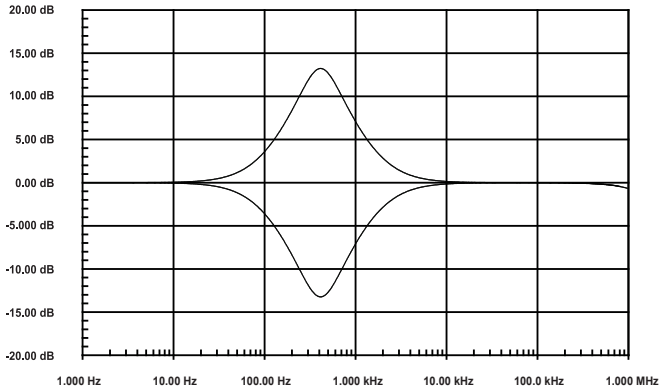


3.6 R500 EQ GRAPHS

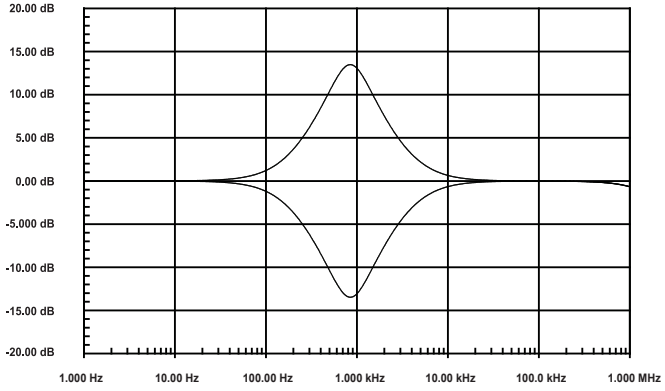
LOW



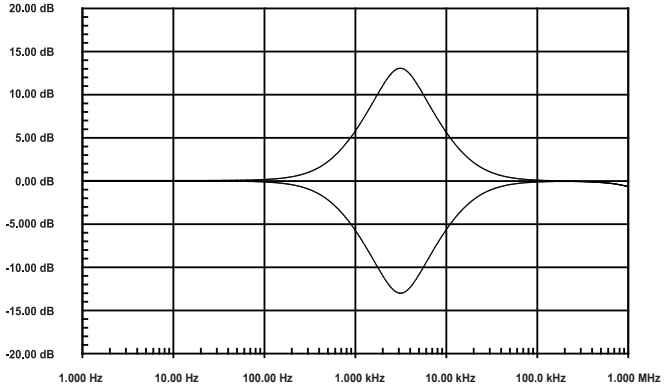
MID LOW



MID HIGH



HIGH



Product specifications are subject to change without notice

Mark bass

BASS at its **BEST**

www.markbass.it

Italy - 66020 San Giovanni Teatino (Ch) - Via Aterno, 44 - Tel. +39 085 446 5705 - Fax +39 085 440 7399 - www.markbass.it - info@markbass.it

v. 04.april.2007

Markbass

BASS at its BEST

www.markbass.it

OWNER'S MANUAL **TA501 ~ TA503**

TA501 OWNER'S MANUAL

1. INTRODUCTION

Congratulations on purchasing one of the world's best bass amplifiers! Markbass amps are built to the highest standards by a small team of skilled technicians in San Giovanni Teatino, Italy.

We have spent many years researching not only the highest-quality technologies for bass amp design and construction, but also the practical needs of the working bassist. The end result is a product that combines outstanding sound quality with intuitive features, attractive design and extreme reliability—all in one impossibly lightweight unit. This amp will allow your instrument to speak in its natural voice, faithfully conveying your musical ideas to your audience with stunning clarity.

Your amplifier has passed rigorous product testing and should survive even the toughest of environments on the road, in clubs, rehearsal halls and concert stages. Nonetheless, please treat it with care and you will be rewarded with many, many years of glorious, rich, powerful bass tone!

If the clarity and power of this amp inspire you to play better music, we will have succeeded in our mission. Good luck and enjoy your new best friend!

Sincerely, Markbass

1.1 A WORD FROM MARCO DE VIRGILIIS

When I began to develop the Markbass concept in Italy several years ago I had one objective in mind: to produce a top-quality bass amp that would meet the needs of professional bass players everywhere. I wanted my amps to be compact and lightweight, yet able to handle the low frequencies that today's four, five and six string passive and active basses are capable of producing. Thanks to modern technology and the availability of high-quality components like low-profile toroidal transformers, neodymium speakers and so on, I was able to accomplish this.

The Markbass amplifier circuitry is designed specifically not to color the sound of the bass but to faithfully reproduce the unique tonal qualities of whatever instrument is played through it. I have worked very closely with many high-profile professional bass players around the world to fine-tune the Markbass product line.

I am confident that the Markbass line of amps and cabinets is now ready to satisfy the needs of bass players all over the world.

Thanks for choosing Markbass; I hope you will find your new amp to be an inspiring upgrade to your sound!

We encourage you to use your Markbass gear in all kinds of musical situations-and please help us to continue developing our products by sending your comments to info@markbass.it.

And above all, enjoy the music.

Marco De Virgiliis

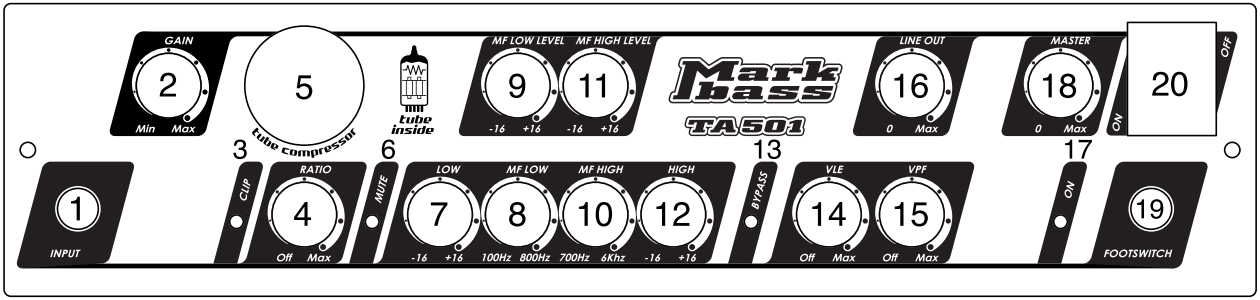
MARKBASS - ITALY

www.markbass.it

2. TA501 PRODUCT OVERVIEW

The Markbass TA501 is a high-quality bass amplifier with a tube compressor, a solid state preamp and an analog power amp, which delivers 500W of power into a 4 ohm cabinet, or 300W into an 8 ohm cabinet.

2.1 TA501 FRONT PANEL



INPUT

The input jack can be used for both passive and active basses.

GAIN and MASTER

There are two knobs on the front panel of the TA501 that control the volume of your bass. The GAIN (2) control determines how much signal is passed through the preamp stage of the unit, which includes the compressor, equalization and the effects loop. The MASTER (18) volume regulates how much output comes out of the power amp into your cabinet. If playing through the amp causes the blue "CLIP" (3) light to turn on at all, you should turn down the GAIN (2) control to avoid distortion. When you first plug into the amp, start with the GAIN (2) and MASTER (18) controls set at their lowest levels, in other words turned all the way counter-clockwise. Then, turn your instrument's volume up to its full level and play as hard as you do in your most aggressive moments, and turn up the GAIN (2) control until the blue light starts illuminating. Next, back off on the GAIN (2) just enough so that the light stays off as you play. This method will result in the optimal gain setting for the bass you're playing. Different basses have different output levels, mostly depending on their pickups-and in the case of active basses, the instrument's onboard preamp and EQ settings. Once you've set the GAIN (2) level, use your MASTER (18) knob to control the volume of your bass.

COMPRESSOR

The TA501 features a tube compressor equipped with one ECC81 tube, made by JJ Electronics in the Slovak Republic. The COMP RATIO knob controls the ratio of gain reduction applied to the signal. When this knob is turned all the way to the left, the compression ratio is 1:1-in other words, the compressor is off. When turned all the way up (clockwise), the compression ratio is infinity to one (1). At this setting the compressor is acting as a limiter. The attack and release variables have been carefully preset to the optimal settings for bass guitar. Compression evens out the sound of your playing by reducing its dynamic range. The more you compress, the more the loudest peaks of your playing are brought down in volume and prevented from "jumping out" too much. In combination with boosting volume, this allows you to "sound louder" overall. But if overused, compression can make your playing sound unnatural, choked and less expressive. As with EQ, the best policy is to add it gradually and sparingly, listening carefully to the effect it's having. Most players will find that they rarely need to turn the compressor knob past 9 or 10 o'clock.

LINE OUT

This LINE OUT (5) knob controls the volume level of the rear LINE OUT XLR, which is connected to the mixing console in live or studio situations.

EQUALIZATION

Markbass amps are designed to faithfully reproduce the natural sound of your bass. If you have a good instrument, very little equalization (EQ)—if any—should be required. Bass guitars produce a surprisingly wide range of frequencies—from extremely low frequencies that are more felt than heard, to extremely high frequencies that pass through your cabinet's tweeter and are barely audible to the human ear.

As you experiment with your EQ settings, you will notice that all the different frequency ranges play essential roles in making up your bass tone:

LOW frequencies constitute music's sonic foundation—they give power to your sound, physically resonating your listeners' bodies (and yours!), sometimes even causing people to move and dance!

LOW MIDs ("MF LOW" or Mid Frequency Low) make your bass sound loud, projecting the sound over long distances, "filling the room."

HIGH MIDs ("MF HIGH" or Mid Frequency High) convey the pitch of the notes that you play. Clarity of this range ensures that the melodies in your bass lines are heard. If detail is missing in this range, your melodic contribution to the music will suffer.

HIGH frequencies carry the percussive content of your playing—the attack of your notes, the sound of your finger or pick passing over the string, fret noise, and in the case of slap bass, the "tick" noise produced when the strings bounce off the frets.

If any one of these frequency ranges is neglected or poorly represented by your amp, you are not hearing an accurate representation of the sound that your bass is generating. Since the TA501 has been designed to give you clear, detailed and musical sound at all frequencies, when the amp is set "flat"—with all EQ knobs at 12 o'clock—you should hear a very true mirror of the sound of your bass.

However, the following circumstances will require you to use equalization:

1. The signal from your bass is lacking output level in one of the frequency ranges described above.
2. The room or venue you're playing in has poor acoustics and excites a certain frequency. For example, if you're playing on a hollow stage, certain low frequencies may sound disproportionately loud or out of control, and you may notice that every time you play a certain note, it sounds much louder than all the others. In these cases the offending frequency needs to be identified and reduced.
3. You're seeking to alter the basic sound of your instrument in order to achieve a particular musical effect.

Equalization should be treated as fine-tuning. Spend some time listening to your bass through the amp with all the EQ controls in the neutral (12 o'clock) position before you start changing the settings. You're likely to need little or no equalization!

However, if and when equalization is required, you will find this amp's EQ to be powerful and impressively detailed.

The LOW EQ (7) control on the TA501 is set to a center frequency of 40 Hz. This means that it either boosts or cuts the volume of the frequencies around 40 Hz, to a maximum of 16 decibels.

The LOW-MID (MF LOW) (8) and HIGH-MID (MF HIGH) (10) controls are semi-parametric EQs. This means you have more specific control over what frequency you boost or cut. The knobs on the bottom row, MF LOW (8) and MF HIGH (10), determine the center frequency of the range to be controlled. The knobs above, MF LOW LEVEL (9) and MF HIGH LEVEL (11), determine how much the frequency area selected will be turned up or down, again to a maximum of 16 decibels. The HIGH EQ (12) control boosts or cuts the frequencies around 4.5 kHz, by as much as 16 decibels. The Q on this EQ (the range of frequency controlled) is quite wide, spanning from about 2 kHz to about 30 kHz. If you need to reduce an offensive frequency using the semi-parametric EQ controls, start by turning the EQ's LEVEL knob counter-clockwise (usually this will be in the low-mids)—try around the 9 or 10 o'clock position. Play the note on your bass that sounds out of control. Then gradually turn the MF LOW (8) knob or MF HIGH (10) knob if the frequency is higher until you notice the annoying sound go away. Unfortunately bad room acoustics can be very hard to compensate for... but you'll find that the EQ on this amplifier is detailed and powerful enough that you should be able to fine tune your amp to sound great anywhere!

VLE and VPF FILTERS

The TA501 amplifier features two magic knobs that alter the equalization of your bass signal with specially formulated musical results. Most players use these controls more than the EQ since they were designed specifically to meet the practical needs of bassists.

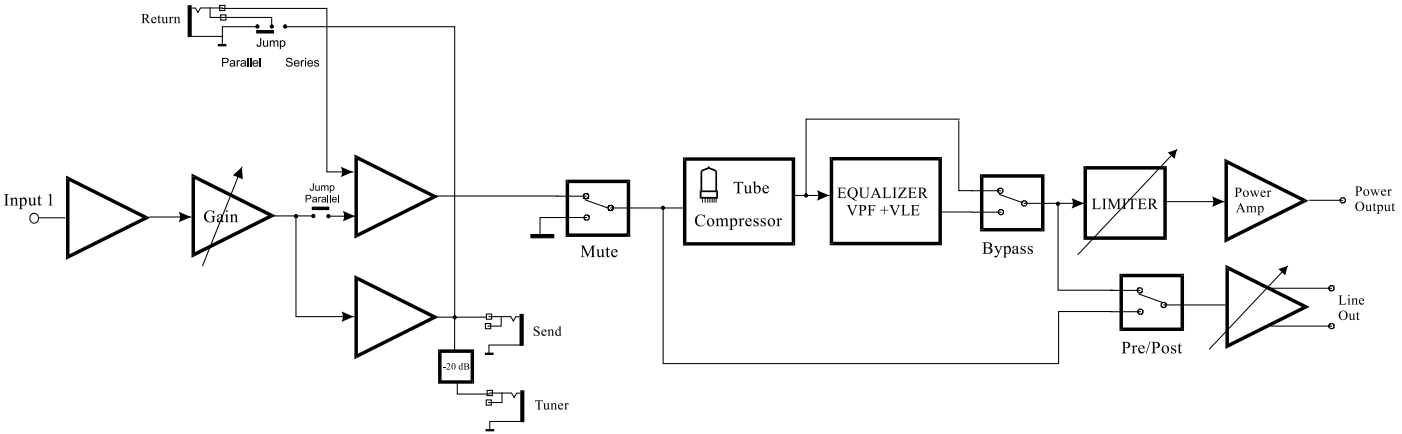
The VLE (14) (Vintage Loudspeaker Emulator) filters out high frequencies to give you a mellower, less modern sound. As you turn the knob clockwise, you will find that a wider and wider range of high frequencies gets cut (see page 8 for a graph of this filter's function). This EQ effect is especially useful for acoustic and older styles of music.

The VPF (15) (Variable Pre-shape Filter) boosts lows (around 35 Hz) and highs (around 10 kHz), and cuts mids at 380 Hz. This filter has very powerful uses for rock music and is also a favorite of many slap bass players (see page 8 for a graph of this filter's function).

Again, we recommend you start off with these filters in the off position, and dial them in gradually to discover what effect they have. Explore them separately first—but you may find that using both in combination can lead to some very appealing and musical results!

3. TA501 TECHNICAL DETAILS

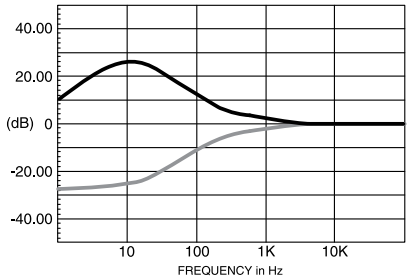
INPUTS	
INPUT	impedance: 500 Kohm, max. voltage: 9 Vpp
RETURN EFFECT	impedance: 33 Kohm, max. voltage: 12 Vpp
CONTROLS	
GAIN	–80 dB to +25 dB range
COMPRESSOR RATIO	min. 1:1 / max. :1
LINE OUT	level control on front panel
PRE/POST EQ (for line out)	switch on rear panel
GROUND LIFT	switch on rear panel
MASTER VOLUME	
EQUALIZATION	
LOW	center frequency: 40 Hz; level: ±16 dB
MID LOW	(semi-parametric) frequency 100–800 Hz; level: ±16 dB
MID HIGH	(semi-parametric) frequency 700 Hz – 6 kHz; level: ±16 dB
HIGH	center frequency: 4.5 kHz; level: ±16 dB
VLE (Vintage Loudspeaker Emulator)	max cut range: 250 Hz – 20 kHz
VPF (Variable Pre-shape Filter)	center frequency 380 Hz (cut)
OUTPUTS	
SEND EFFECTS	unbalanced, max. voltage 12 Vpp
TUNER OUT	unbalanced, max. voltage 2 Vpp
LINE OUT	balanced XLR, max. voltage 25 Vpp
SPEAKER OUT	speakon, 1/4"
FOOTSWITCH	mute, EQ bypass
OTHER	
HEIGHT	2 rack units (3.36 in. / 6 mm)
WIDTH	14.21 in. / 36.8 cm (19 in. / 48.3 cm with rack ears)
DEPTH	11.89 in. / 30.2 cm
WEIGHT	8.16 lbs / 3.7 kg
OUTPUT POWER	300W RMS @ 8 ohm, 500W RMS @ 4 ohm
POWER REQUIREMENT	100/120V; 230V; 240V 50/60Hz
FUSE	
EUROPE	4 A 250V T 5x20
AUSTRALIA/UK	4 A 250V T 5x20
USA/CANADA	8 A 250V T 5x20
JAPAN	10 A 250V T 5x20



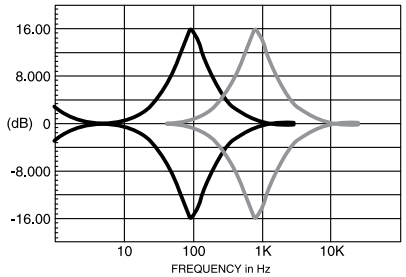
SCHEMATICS - TA501

5. TA501 FILTER AND EQ GRAPHS

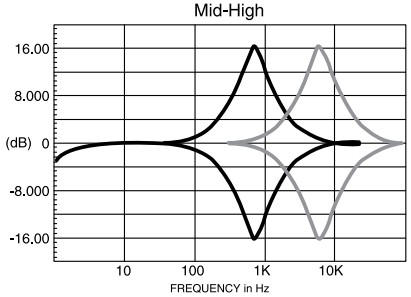
Low



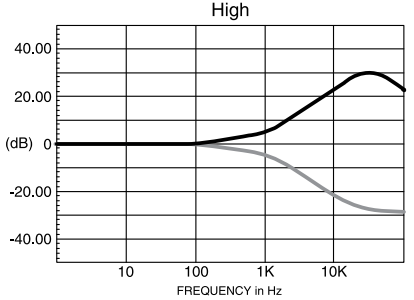
Mid-Low



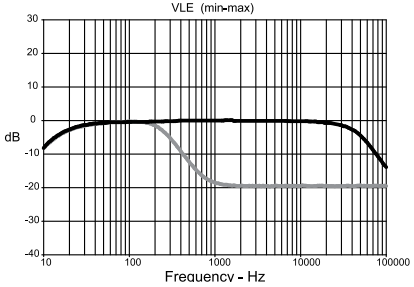
Mid-High



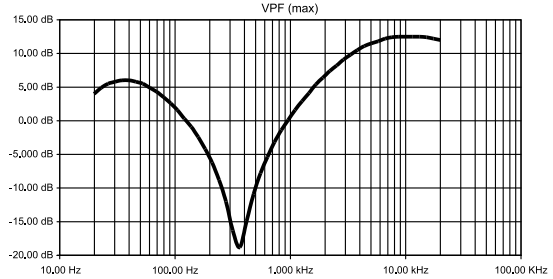
High

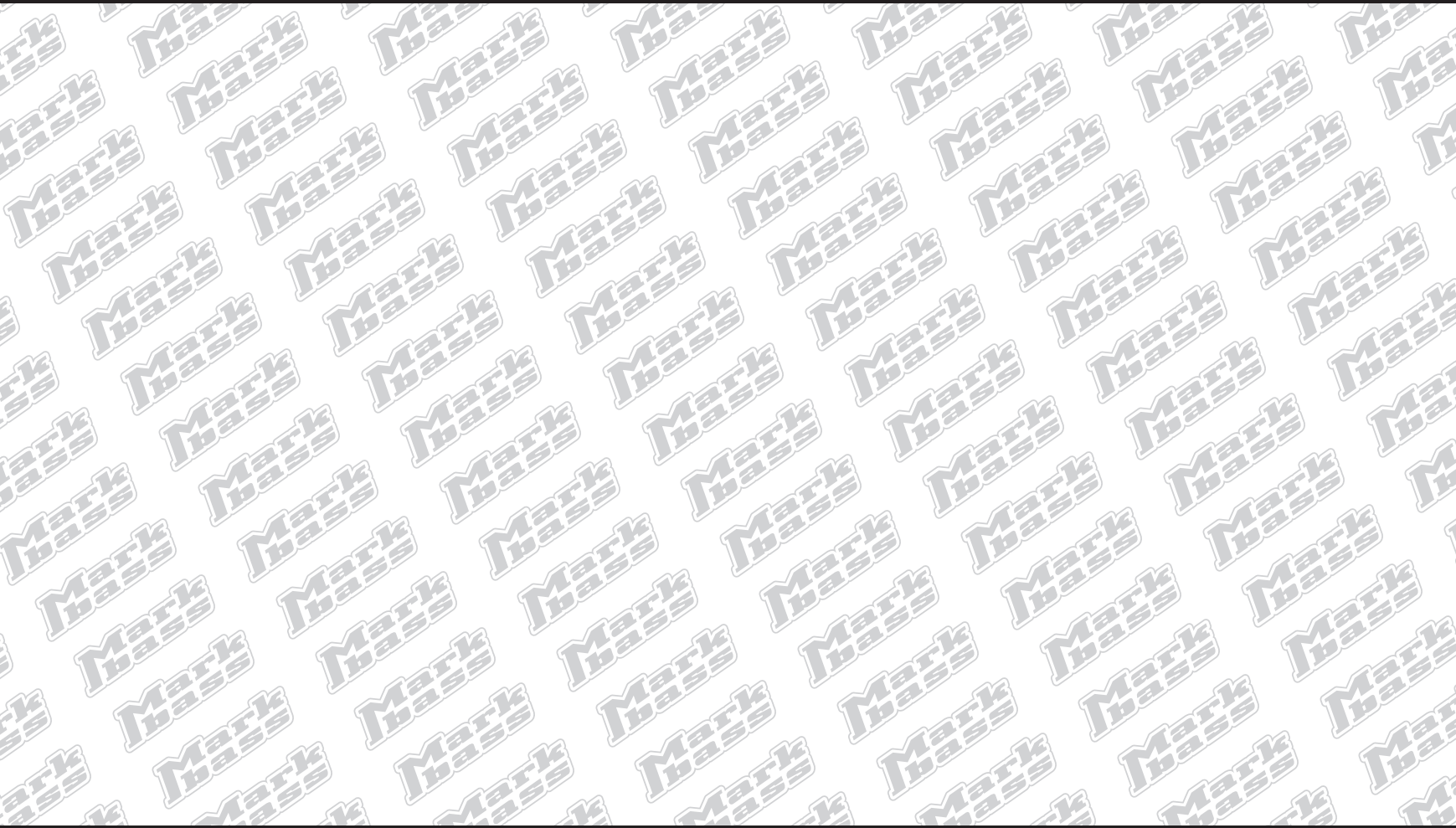


VLE (min-max)



VPF (max)




Markbass

Product specifications are subject to change without notice

BASS at its **BEST**

www.markbass.it

Italy - 66020 San Giovanni Teatino (Ch) - Via Aterno, 44 - Tel. +39 085 446 5705 - Fax +39 085 440 7399 - www.markbass.it - info@markbass.it