

# **Mark bass**

**BASS at its BEST**

[www.markbass.it](http://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.

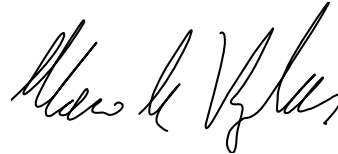
I am confident that the Markbass line of amps and cabinets is now ready to satisfy the needs of bass players all over the world.

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](mailto:info@markbass.it).

And above all, enjoy the music.

Marco De Virgiliis



MARKBASS - ITALY

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## 2. IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions;
- 2) Keep these instructions;
- 3) Heed all warnings;
- 4) Follow all instructions;
- 5) Do not use this apparatus near water;
- 6) Clean only with dry cloth;
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions;
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat;
- 9) Do not defeat the safety purpose of the polarized or ground-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet;
- 10) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus;
- 11) Only use attachments/accessories specified by the manufacturer;
- 12) Unplug this apparatus during lightning storms or when unused for long periods of time;
- 13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, or when the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped;
- 14) "Warning: to reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture; and objects filled with liquids, such as vases, should not be placed on this apparatus";
- 15) The socket outlet shall be installed near the equipment and shall be easily accessible;
- 16) The power cord must be unplugged prior to servicing.

## 2. PRÉCAUTIONS D'EMPLOI

- 1) Lire ces instructions;
- 2) Conserver ces instructions;
- 3) Suivre tous les conseils d'utilisations;
- 4) Suivre toutes les instructions;
- 5) Ne pas utiliser cet appareil au bord de l'eau;
- 6) Nettoyer uniquement avec un chiffon humide;
- 7) Ne pas bloquer le système de ventilation. Installer conformément aux instructions du fabricant;
- 8) Ne pas installer l'appareil près d'une source de chaleur tel qu'un radiateur, un fourneau, ou bien un autre appareil qui produit de la chaleur;
- 9) Ne pas modifier le système de sécurité de la fiche polarisée ou de de la fiche pour les prises de terre. Une fiche polarisée a deux broches, l'une étant plus distante de l'autre. Une fiche pour prise de terre a deux broches et une pointe pour la masse. La broche plus distante et la pointe pour la masse ont été installées pour votre sécurité. Si la fiche fournie de rentre pas dans votre prise de courant consulter un électricien pour la substitution;
- 10) Protéger le cordon d'alimentation afin qu'il ne soit pas piétiné ou écrasé tout particulièrement au niveau des fiches, des prises de courant femelles, et des parties qui sortent de l'appareil;
- 11) Utiliser uniquement les accessoires recommandés par le fabricant;
- 12) Ne pas branché l'appareil en cas d'orage accompagné d'éclairs. Le débrancher en cas de non utilisation prolongée;
- 13) S'adresser à un service assistance agréé si l'appareil a subi des dommages, si le cordon d'alimentation ou la fiche a été endommagé, si un liquide a été renversé sur l'appareil ou bien si un objet est tombé dans l'appareil, si ce dernier a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas correctement ou s'il est tombé;
- 14) "Avertissant: pour réduire le risque du feu ou de décharge électrique, n'exposez pas cet appareil à la pluie ou l'humidité et les objets remplis de liquides; tels que des vases, ne devraient pas être placés sur cet appareil";
- 15) La prise de courant doit être installée près de l'appareil et doit être facilement accessible;
- 16) La fiche principale doit être débranchée avant toute opération d'entretien.

## MORE INFORMATION

For warranty and service information, please contact your local Markbass distributor (contact information available at [www.markbass.it](http://www.markbass.it)). For more technical information, please visit us at [www.markbass.it](http://www.markbass.it) and fill out the form on the Contact Us page. We hope you enjoy your amp and use it to make great music!



"The Lightning Flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons."

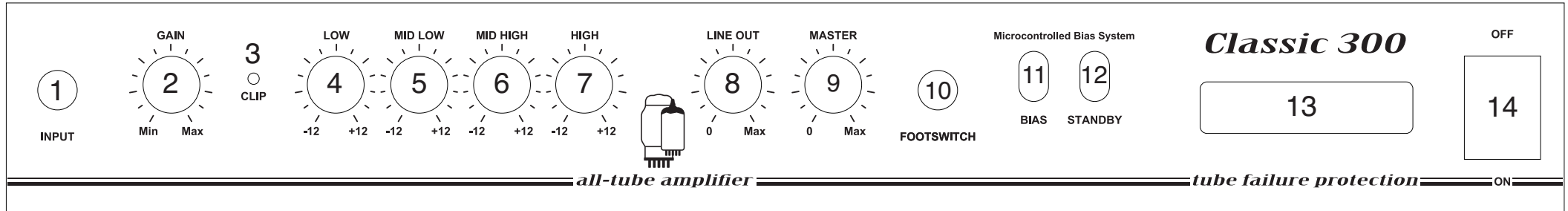


"The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product."

### 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.

#### BIAS CONTROL

When this button (11) is pressed the power tubes work in HIGH FIDELITY mode. In the "out" position, the power tubes work in LONG LIFE mode. For more details, please read the Microcontrolled Amp Management System chapter on page 9.

## STANDBY

This button (12) is a standby control that puts the amp into low consumption mode, which is useful when the head is momentarily not in use. It is not necessary to start the amp in standby mode. The amp is automatically muted while it starts up.

## FOOTSWITCH

The Classic 300's optional footswitch has one on/off switch. This is a mute control that interrupts the output signal from your amp, but allows it through to a tuner, should you have one plugged into the rear panel. This is handy if you need to tune discreetly during live performance.

## LCD SCREEN

The 2x16 LCD screen (13) shows a digital VU meter when used in normal mode. Otherwise it shows specific technical parameters, as explained in the Microcontrolled Amp Management System chapter on page 9.

## 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, this amp's EQ should allow you to find the sound you want.

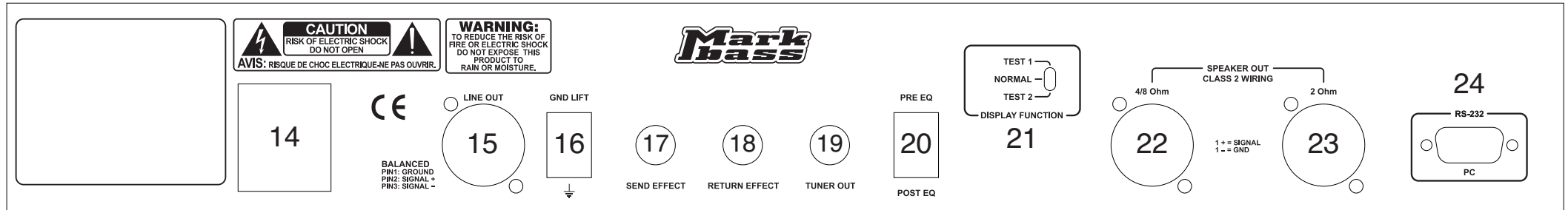
The LOW (4) EQ control is set to a center frequency of 80 Hz. This means that it either boosts or cuts the volume of the frequencies around 80 Hz, to a maximum of 12 decibels.

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.

## 3.2 Classic 300 Rear Panel



### LINE OUT

The balanced XLR (15) output allows you to connect your amplifier directly to a mixing console (either in live situations or in a recording studio) without the need of a DI box. Simply connect a standard XLR cable from this output to the soundboard/mixing console, or a snake connected to the board/console. If the soundman/engineer needs more or less signal from you, simply turn the front panel LINE OUT (8) control up or down as necessary.

### GROUND LIFT

Occasionally when you're playing live and using the LINE OUT (15), the soundman will detect a hum from your amp's signal. This is almost always due to a grounding problem related to your power source; you will likely eliminate this hum simply by flipping the GROUND LIFT (16) switch.

### EFFECT SEND AND RETURN

If you use effect pedals or rack gear, you can route them through the SEND EFFECT (17) and RETURN EFFECT (18) jacks on the rear panel of the amp. The effects loop is wired in parallel—this means that if something happens to your effects chain (a battery dies or a cable gives out, for example) while you're playing, you will not lose your main signal. If desired, however, the effects loop can be easily modified by authorized service personnel to operate in series.

### TUNER OUT

The TUNER OUT (19) is an unbalanced signal that can be sent to a tuner, allowing you to tune as you play without passing your signal through pedals, which can degrade the quality of your signal. You can also use this output to send your signal on to another amp, or any kind of recording unit that doesn't require a balanced signal.

### PRE EQ / POST EQ

This SWITCH (20) determines whether the signal that leaves the XLR LINE OUT (15) is affected by your amplifier's EQ settings or not. In most cases, you will find that sound engineers prefer to receive a pre-EQ signal. Note that the line out signal includes whatever effects you've connected through the effects loop.

### DISPLAY FUNCTION

This switch (21) determines what type of information is displayed on the LCD screen. In NORMAL position, a digital VU meter is shown. In TEST 1 position, the bias current of the power tubes is shown. In TEST 2, the screen shows the tensions of the driver and power tubes.



## SPEAKER OUT

The Classic 300 can be connected to speaker cabinets using either 1/4" speaker cables (do not use instrument cables) or speakon speaker cables. The first high-quality Neutrik SPEAKON COMBO jack (22) can be connected to a 4 or 8 ohm load. The second Neutrik SPEAKON COMBO jack (23) can be connected to a 2 ohm load.

**WARNING:** never use both jacks together! If you want to use two 8 ohm cabinets, connect one directly to the 4/8 ohm jack (22) and then link the second cabinet to the first. The Classic 300 delivers 175W of power into an 8 ohm cabinet, 300W into a 4 ohm cabinet or 300W into a 2 ohm cabinet.

## RS232 - PC

This port is used by authorized Markbass repair technicians for service and maintenance operations.

### 3.3.1 CLASSIC 300 MICROCONTROLLED AMP MANAGEMENT SYSTEM

The Markbass Classic 300 is a real analog tube head. But its groundbreaking Microcontrolled Amp Management System represents a major evolution in tube heads. The microprocessor manages every parameter in the head (tube bias, tube voltage, load, fan, etc.). This keeps your sound extremely consistent every time you play the amp, protects your amp from breakdown and malfunction, and dramatically extends the lifespan of your tubes. The powerful microprocessor also controls the 2x16 LCD screen that shows you a cool VU meter and dual-function information screen.

Here is a short description of the main Microcontrolled Amp Management System functions:

1. **POWER SUPPLY CHECK:** The microcontroller performs a check of all the supply voltages and shuts down the amp when there are anomalies.
2. **TUBE HEATING:** In order to prolong the life of the tubes and promote tube "health", the microprocessor biases the power tubes only when they are hot enough. The 'Tube Heating' delay guarantees the correct sequence of microprocessor functions.
3. **BIASING:** This is the main function performed by the microcontroller. Every time the head is switched on, the power tubes are accurately biased. This creates the optimal conditions for sound quality every time you power up. The advanced biasing process also makes it possible to play with a bad tube; when a tube fails the LCD screen gives you a warning, but lets you keep playing. The Classic 300 can operate in either LONG LIFE mode or HIGH FIDELITY mode. This can be changed at any time, but the tubes take a moment to rebias when you switch modes. In LONG LIFE mode, the tubes use less power and less 'tube life' is taken out of them. HIGH FIDELITY mode gives top quality, high-fidelity sound, but the power consumption and dissipation of the tubes increases. In either mode, unlike other tube amplifiers, the Classic 300 is able to greatly prolong the life of its tubes by keeping them optimally biased at all times.
4. **VU METER:** During normal use, the LCD displays a digital VU meter.
5. **LOAD CHECK:** Tube amps are very delicate. But with the Classic 300, you don't have to worry! Whenever there's an input signal, the microcontroller checks the load condition to make sure the speaker impedance is acceptable. This also protects your head from short circuiting or open circuit problems.
6. **FAN CONTROL:** The Microcontrolled Amp Management System monitors the internal temperature of the amp and selects from three different fan speeds, to make sure the fan is never louder than it needs to be.
7. **SERVICE MODE:** On the rear panel there's a three-position switch that allows you to choose between two DISPLAY FUNCTION options. The first option (TEST 1) shows the bias current (in milliAmperes) for the six power tubes. The second option (TEST 2) shows two different readings: on the first row you see the plate and grid power tube voltages (in volts), and on the second row you see the cathode voltages for the driver tubes. This information is not important for daily use of the amplifier, but is very useful for technicians.
8. **RS232:** This output is to be used only by authorized Markbass service technicians.

### 3.3.2 CLASSIC 300 TROUBLESHOOTING

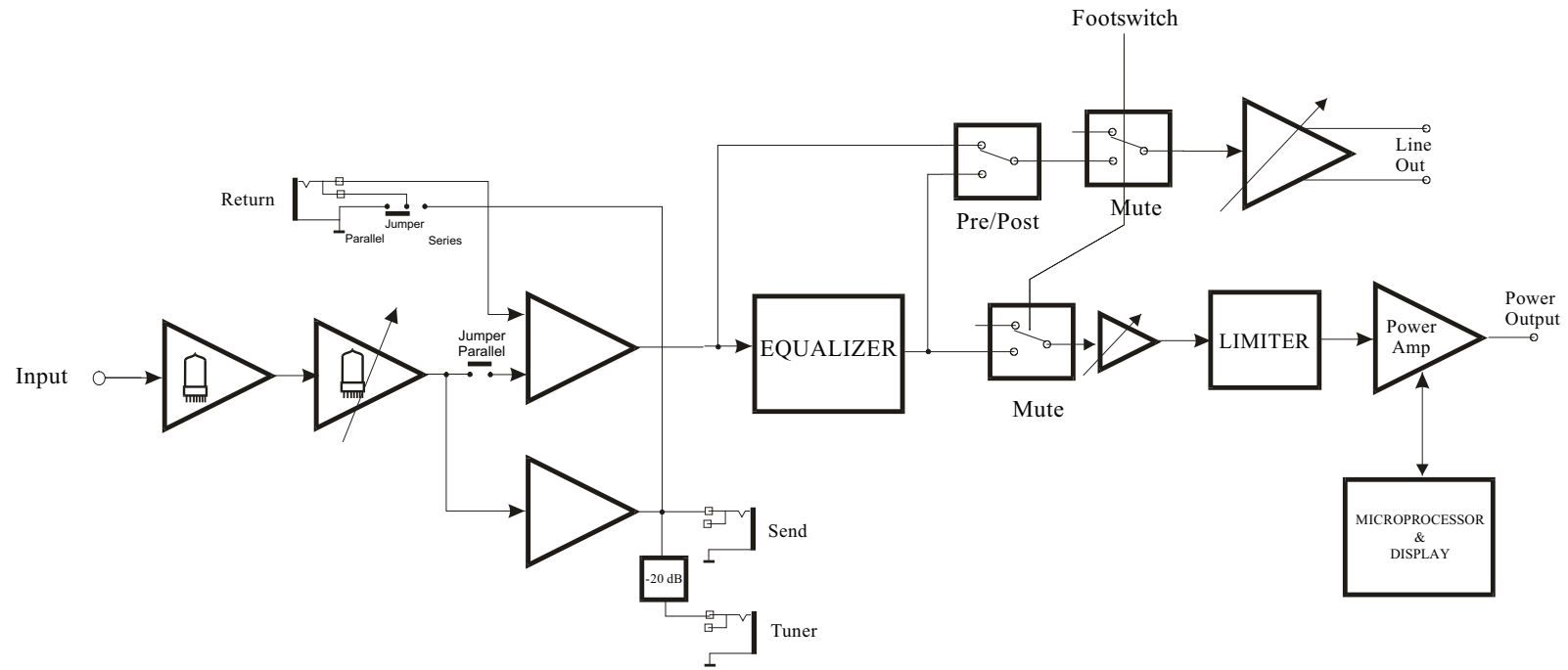
Error: the amplifier doesn't start-up    Warning: the amplifier keeps functioning    Message: operating messages

Display Message	Type	Explanation
Power supply failure!	Error	The power supply has failed. Contact an authorized technician for repair.
Amplifier failure!	Error	The power amplifier has failed. Contact an authorized technician for repair.
Cabinet not connected!	Error (until you connect a cabinet)	No cabinet is connected to your amplifier.
Cabinet impedance/short!	Error (until you connect correctly to a suitable cabinet)	The impedance of your cabinet/s is too low, or there is a short circuit. Check your connection and/or your cabinet/s.
Temp too high!	Error (until the temperature decreases)	The temperature inside the amplifier has reached an unsafe level. Make sure the amplifier is properly ventilated.
V(#) tube failure!	Warning	One or more tubes are not working correctly or have failed. You should have the tube/s replaced by an authorized technician as soon as possible.
Main voltage too low!	Warning	Main power supply voltage is below the nominal value by 10% or more.
Main voltage too high!	Warning	Main power supply voltage is above the nominal value by 10% or more.
Markbass Classic 300	Message	Startup message
Amp Management System V#.#	Message	Software version. This message appears during startup.
Tube heating	Message	Duration: 32 seconds. This message appears during startup. A progress bar shows the time remaining until the amp is ready to use.
Long Life – biasing..###	Message	Duration: approximately 10 seconds. This message appears during the power tube biasing phase, when Long Life mode has been selected.
High Fidelity – biasing..###	Message	Duration: approximately 10 seconds. This message appears during the power tube biasing phase, when High Fidelity mode has been selected.
Ready	Message	This message appears after the biasing phase, when the amplifier is working properly and ready for use.
Standby	Message	You have selected standby mode. Press standby again when you're ready to use the amp.
Mute	Message	You have selected mute mode. Use the footswitch to deactivate mute mode when you're ready to use the amp.

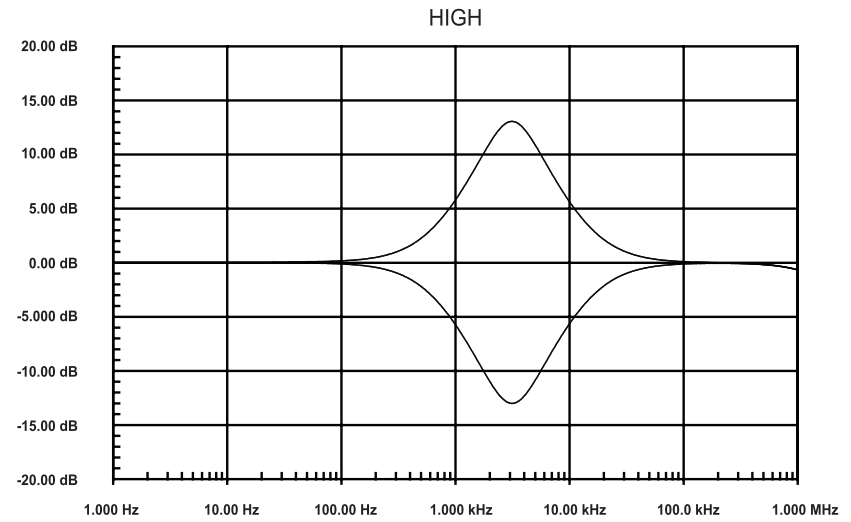
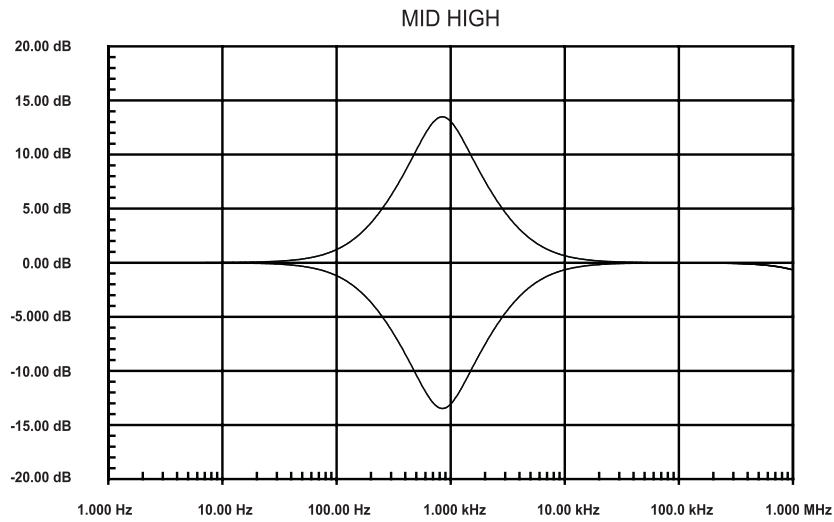
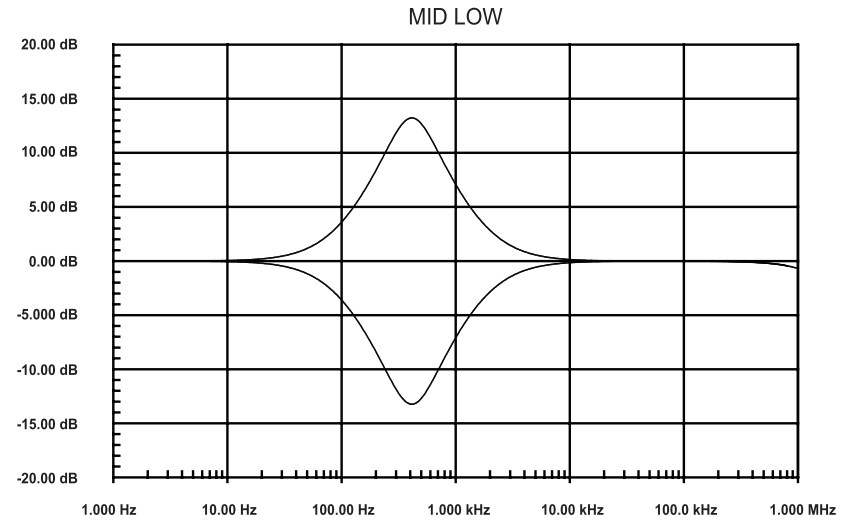
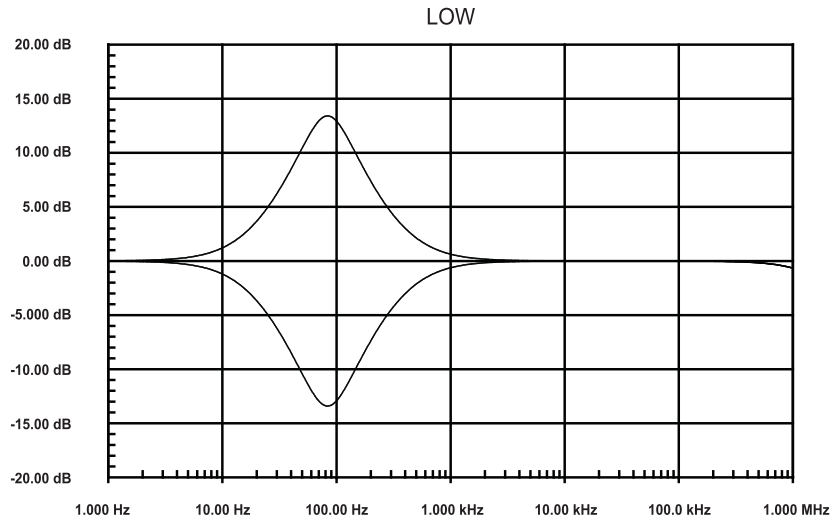
### 3.4 CLASSIC 300 TECHNICAL DETAILS

<b>INPUTS</b>		<b>OTHER</b>	
INPUT	impedance: 500 Kohm, max. voltage: 5 Vpp	HEIGHT	12.44 in. / 31.6 cm
RETURN EFFECT	impedance: 22 Kohm, max. voltage: 15 Vpp	WIDTH	19.76 in. / 50.2 cm
		DEPTH	11.65 in. / 29.6 cm
		WEIGHT	48 lbs / 22 kg
<b>CONTROLS</b>		OUTPUT POWER	300W RMS @ 4 ohms or 2 ohms, 175W RMS @ 8 ohms
GAIN	-60 dB to +35 dB range	POWER REQUIREMENT	100V; 120V; 230V; 240V 50/60Hz (Voltage is factory preset according to region of sale)
LINE OUT	level control on front panel		
PRE/POST EQ (for line out)	switch on rear panel	TUBE	2x ECC83; 2x ECC99; 6x KT88
GROUND LIFT	switch on rear panel		
MASTER VOLUME			
<b>EQUALIZATION</b>		<b>FUSE</b>	
LOW	center frequency: 80 Hz; level: $\pm 12$ dB	230V	4A 250V T 5x20
MID LOW	center frequency: 400 Hz; level: $\pm 12$ dB	240V	4A 250V T 5x20
MID HIGH	center frequency: 800 Hz; level: $\pm 12$ dB	120V	8A 250V T 5x20
HIGH	center frequency: 3 kHz; level: $\pm 12$ dB	100V	8A 250V T 5x20
<b>OUTPUTS</b>			
SEND EFFECTS	unbalanced, max. voltage 18 Vpp		
TUNER OUT	unbalanced, max. voltage 2.5 Vpp		
LINE OUT	balanced XLR, max. voltage 25 Vpp		
SPEAKER OUT	speakon / 1/4" (x2)		
FOOTSWITCH	mute		

### 3.5 CLASSIC 300 BLOCK DIAGRAM



### 3.6 CLASSIC 300 EQ GRAPHS



Product specifications are subject to change without notice

The logo for Mark Bass, featuring the brand name in a bold, italicized, sans-serif font with a white outline and a black drop shadow. The background of the entire advertisement is a dark, monochromatic image of a car stereo's frequency sliders, with labels like 'LOW', 'MID LOW', 'MID HIGH', and 'HIGH' visible.

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