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# PROLUDE AMPLIFICATION

# K★750

Bass amplifier

User's manual

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# 1 Introduction

## 1.1 *Some words to the Customer*

Welcome to the club of Prolude Amplification owners! It is my pleasure to have you as a member in this small team of people who have taken notice of my handwork and intellectual product, and finally have voted for it. I hope you will feel the same as they do while your amplifier, this small part of your musical production chain, is reliably working behind you.

## 1.2 *Some words about me*

My name is Róbert Fülöp. My favorite musical instrument is the bass guitar. Its sound, shape and role within the music have all contributed to my enthusiasm. To start with, my studies and my sphere of interest have both moved me to the direction of electronics. As a result PROLUDE AMPLIFICATION was born at the beginning of the new millennium. My goal is to provide bass players with the best possible sound quality. Being an electrical engineer I'm doing it mainly with a technical mindset. However - according to the feedbacks from my satisfied customers – the musicality is also present in the final product.

The technical development has been a long process so far - end it will never come to an end. I will make further efforts to improve the product, thus satisfying the steadily changing expectations of the customer.

**PROLUDE**  
**Amplification**

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## 2 Safety instructions, warnings

### 2.1 Basic precautions

WARNING - When using electrical products, basic precautions should be followed, including the following:  
Read all the instructions before using the product.

Do not use this product near water – for example, near a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool.

This product may cause permanent hearing loss. Do not operate for long periods of time at a high volume level or at any level that is uncomfortable.

Make sure nothing interferes with the ventilation of the product when in use.

The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.

The product should be connected to a power supply of the type described in the operating instructions or as marked on the product.

The power supply cord of the product should be unplugged from the outlet when left unused for a long period of time.

Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

The product should be serviced by qualified personnel when:

- The power supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the product; or
- The product has been exposed to rain or moisture; or
- The product does not appear to operate normally or exhibits marked change in performance; or
- The product has been dropped, or the enclosure damaged.

10. Do not attempt to service the product. All servicing should be referred to qualified service personnel.

11. For continued protection against the risk of fire, replace fuses only with those of the same type and rating.

### 2.2 Warnings used on the amp

The lightning flash with the arrow head symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated 'dangerous voltage' within this product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



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 this product.

### 2.3 Grounding instructions

This product must be grounded (earthed). If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a supply cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with the local codes and ordinances.

DANGER - Improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a suitable outlet fitted.

### 2.4 CE mark for European harmonized standards

The CE mark which is attached to these products means it complies with the EMC Directive (89/69/EEC), CE mark directive (93/68/EEC) and Low Voltage Directive (72/23/EEC).



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### 3 Specifications

Type	KO750
Description	Bass amplifier
Mains voltage	230 VAC 50 Hz
Mains connecting device	Standard mains cord
Inrush current limiter	NTC
Power consumption	Max. 900 W
Output power /100Hz continuous sine/	750W @ 2.66 Ohm 550W @ 4Ohm 300W @ 8Ohm
Minimal load impedance	2.66 Ohm
Bandwidth -+3dB@1W	25Hz-30kHz
Power amplifier	Class D
Speaker output connectors	Neutrik Speakon – Jack combo NLJ2MDXX-H
Instrument input connectors	Neutrik 6.3 mm Jack NMJ4HFD2
Input impedance	Passive: 1 Mohm Active: 43 kohm
Active Equalization	Low: +/-12dB @ 70 Hz Low-Mid: +/-12dB @ 320 Hz Mid: +/-12dB @ Mid – freq: 750 – 3000 Hz High: +/-12dB shelving type
Line out	500 mVp @ 600 Ohm
Phone	1.5 Vp @ 50 Ohm
Working temperature range	0 – 40 °C
Storage temperature range	-25 – 60 °C
Cooling	Two speed ventilator based on heatsink temperature
Weight	2.5 kg
Dimensions	Width: 301 mm Depth: 205 mm, + 15 mm knobs Height: 60 mm, + 5 mm foot

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## 4 Information for installing

At high power level it is necessary to consider the wiring between the amplifier and speaker cabinets.

In most cases the amplifier is placed on top of the speaker cabinet, therefore a very short speaker cable can be used for connecting the two. This is very good, because the shorter and thicker the loudspeaker cable, the better.

Do not use an instrument cable for connecting speaker cabinets!

Use high quality / Neutrik / SPEAKON-SPEAKON speaker cable with at least  $2 \times 1.5 \text{ mm}^2$  or more cross section. They are reliable, robust and have less influence on the sound.

Use a speaker cable in good condition and connect the speaker cabinet to the amplifier before you switch on the amplifier.

Try to minimize the number of power strips used to connect the amplifier to the mains.

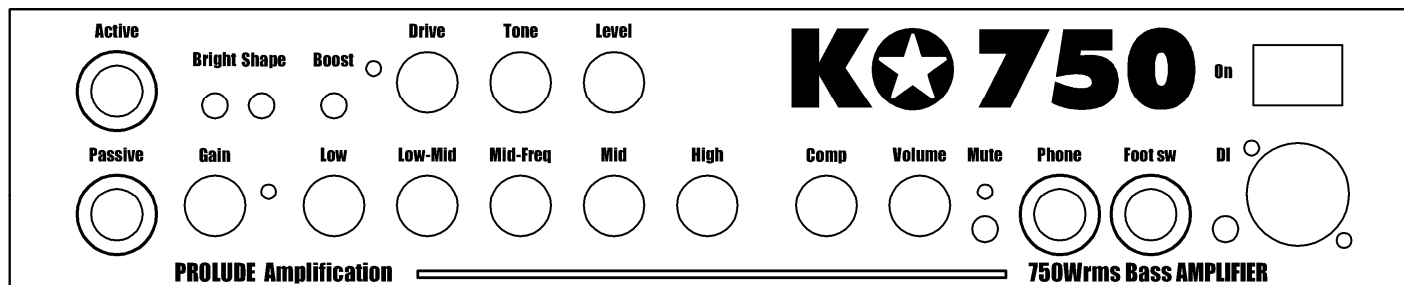
Use high quality, shielded instrument cable for connecting your instrument to the amplifier.

At high volume level the speaker cabinet might vibrate, so make sure that the placing is stable and the amplifier can not move anywhere.

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## 5 Controls and functions

### 5.1 The front panel



#### 5.1.1 Active

Input jack for active instruments.

#### 5.1.2 Passive

Input jack for passive instruments

#### Note:

There is no significant difference between the two inputs other than the input impedance and sensitivity. The passive instruments „prefer” the **Passive** input, because of its higher impedance and sensitivity.

#### 5.1.3 Gain

This controls the overall signal level of the preamplifier section. Various instruments produce different signal levels. The **Gain** control helps you to set these to the ideal signal level for the preamplifier section.

The two colour / green – red / LED – placed right from the **Gain** knob - is your feed back to set best signal level.

The **Gain** setting is OK, if the LED is blinking between green and red. It is OK to go red when you make a powerful plucking.

#### Note:

The setting described above is not a rule. Adding more **Gain** will not cause any problem. In such a case you get a larger signal level with some drive. In some situations this can sound good. At this point you have to consider the power handling of your speakers, because the overdriven sound strains them more.

If you set the **Gain** too low the preamp section will not send enough signal to the power stage and the output power may be not enough and may also detain the proper functioning the **Compressor**.

#### 5.1.4 Bright

Boosts the highs adding brightness to your sound.

#### 5.1.5 Shape

Mildly boosts the lows and highs whilst cutting the mids. You can switch on this function also with the first button of the Footswitch. In this case, however, the button on the front panel has to be in inactive position.

#### 5.1.6 Boost

Activates the **Boost** channel.

The **Drive** knob controls the signal level in the distortion section, while the **Tone** gives a possibility to control the overall color of the distorted signal.

If you turn left from the center position then get a deep rich warmer sound and moderate mids, or turn right to get dominant mids.

The **Level** is intended to set the Boost channel's volume.



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### 5.1.7 Active Equalization (High, Low-Mid, Mid-Freq, Mid, High)

Four band active equalization system with **Low**, **Low-Mid**, semi-parametric **Mid** and **High** controls. If you leave the knobs centered, you get a linear, uncolored sound. You can bypass this feature with the second button of the footswitch.

### 5.1.8 Comp

Dynamic compressor. At the lowest position of the potentiometer this feature is inactive. By turning up it produces more gain and simultaneously brings down the threshold level, where the limitation starts. Generally, the softer playing gets more gain, than the louder. The limitation area is feed back by the blue LED placed left to the **Comp** knob.

### 5.1.9 Volume

Controls the overall volume of the **Speaker Outputs**. The **Line-Out** and the **Phone** are not affected by this potentiometer.

### 5.1.10 Mute

Mutes the **Speaker Outputs**, the **Phone** and the **Line-Out**. If the button is pressed, the red LED is bright.

**Note:**

This Mute LED gives you additional information too, see section **5.1.16**.

### 5.1.11 Phone

**Phone** output drives stereo headphones / in mono mode /. Its volume can be controlled by the **Gain** potentiometer.

### 5.1.12 Foot Sw.

Footswitch input. You can connect a two-buttons footswitch here via a stereo jack cable.

You can activate the **Boost** channel or **Shape** function with the first button and bypass the **Active Equalization** by the second one.

**Note:**

To set the function of the first button, see section **5.4.6**.

### 5.1.13 DI (Line Out)

Balanced **Line Out** with Neutrik XLR connector. It gives a high quality line level signal to be used for PA or a recording system. The button disconnects pin 1 of the XLR connector.

**Note:**

In most cases the button has to be unpressed! When you get ground loop, hum or buzz while connecting to PA or a recording system pressing the button may help to eliminate this.

The **Phone** output provides an unbalanced, higher signal level. You can use it also for connecting to a computer's soundcard.

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### 5.1.14 On

You switch on the amplifier with this switch. After switching on there is a ventilator test for about 4-5 seconds, after which the amplifier is in ready mode.

**Note:**

At the end of the ventilator test you will hear a tiny pimple from the speakers connected. It is normal.

**Important:**

Please avoid switching on and off the amplifier too often, especially after playing at high volume level! After playing at high volume level give the ventilator a few minutes to cool down the amplifier before switching it off!

### 5.1.15 Mute LED

Multifunctional feedback LED.

Bright when:

- the **Mute** button is pressed;

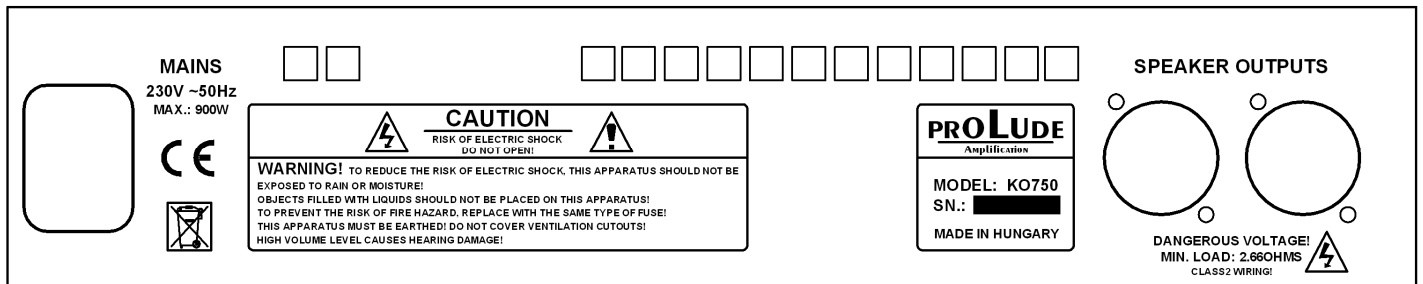
Or if unpressed:

- after switching on, during the ventilator test;
- when the power stage is overheated;

Flash when:

- power stage reached its maximum, the limiter is active;

## 5.2 Rear panel



### 5.2.1 Mains

The mains appliance inlet. You must use standard earthed mains cord.

#### **Important!**

This equipment should only be connected to 230VAC, 50Hz mains network!

The mains plug must be plugged into an appropriate outlet that is properly installed and grounded!

### 5.2.2 Speaker Outputs

Neutrik Speakon – Jack combo outlets. They are connected parallel inside the amplifier. Both of speakon or 6.3mm jack plugs are suitable to connect speaker cabinets.

The minimum load impedance should not be less than 2.66ohms.

#### **Note:**

The speakon connector is a more stable, robust and reliable solution. Use this - if you have one - instead of jack! Avoid long speaker cables and low quality plugs in order to maintain sound quality and volume. The amplifier can be used without speakers as well.

#### **Warning!**

There is dangerous voltage on the speaker output! Connect the cabinets to the amplifier before switching on and do not touch the hot pole of the speaker jack!

### 5.2.3 Ventilation cutouts

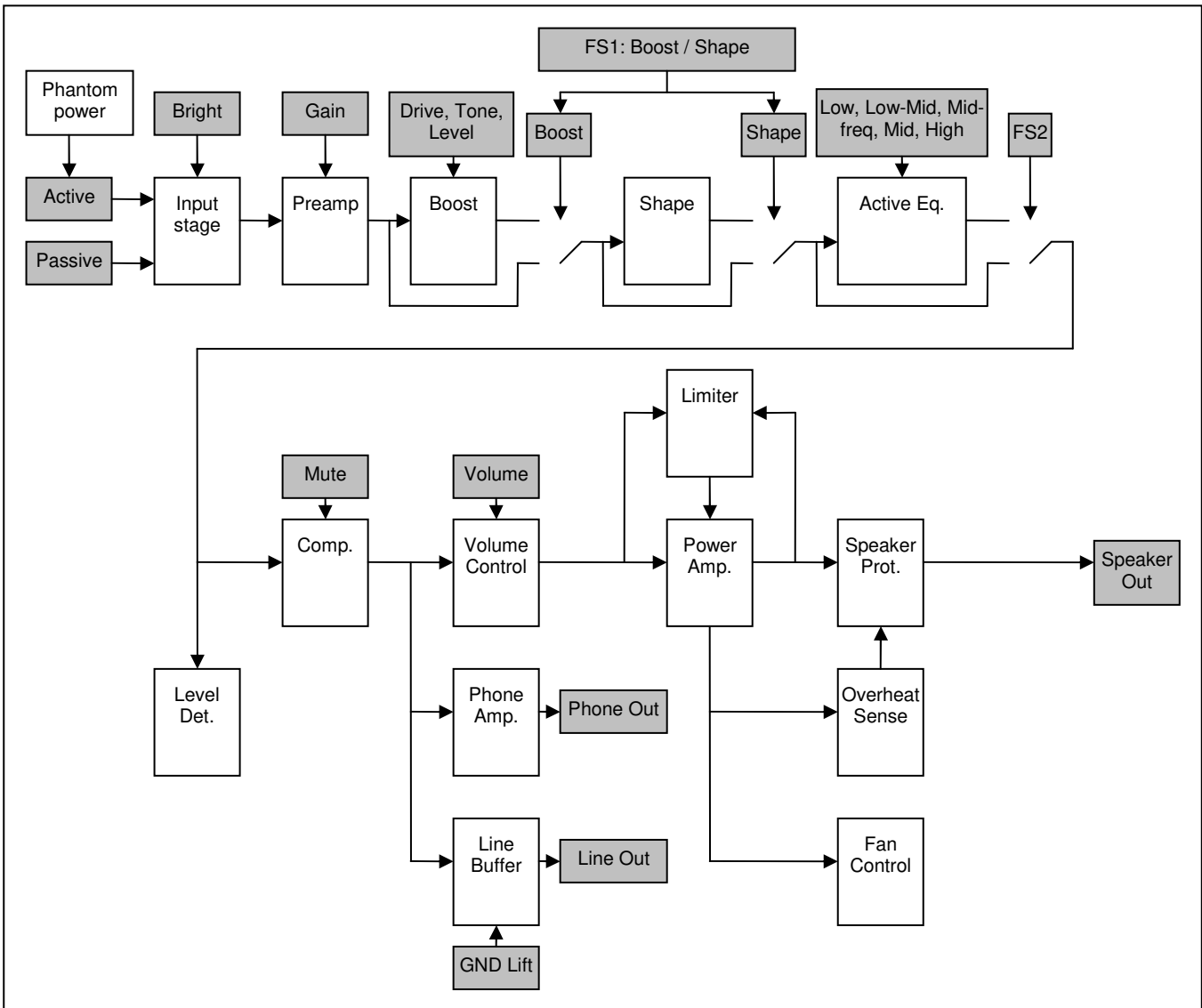
Do not cover the ventilation cutouts! Insufficient ventilating causes overheating, which can cause permanent damage to the power stage.

#### **Note:**

Overheating or fault of power stage is displayed by the Mute LED.

If this occurs, switch off the amplifier, wait for 30 minutes before then switching it on again! If the Mute LED stays lit after the ventilator test /2-3 seconds/ then the amplifier has to be brought to a qualified technician for repair.

### 5.3 Block diagram



### 5.4 Other functions, protections

#### 5.4.1 Short circuit protection

The amplifier contains a protection circuit against wrong / shorted / speaker cable or burnt speakers.

#### 5.4.2 Speaker protection

This circuit stops the power supply when power stage fault occurs, protecting the cabinets from harmful direct current.

#### 5.4.3 Overheat protection

Due to insufficient ventilation, ventilator fault or too high environment temperature while playing at high volume, overheating may occur. In such a case the protection circuit detaches the speaker cabinets until the temperature of the power stage cools down. This is being displayed by the Mute LED.

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#### 5.4.4 Ventilator control

The control of the cooling ventilator is based on the temperature of the power stage's heat sink. It automatically switches itself to high speed when the temperature reaches 50 °C and switches itself back to low speed when temperature decrease below 40 °C.

Do not cover the ventilation cutouts!

#### 5.4.5 Limiter

This function protects the power section against distortion. When it detects distortion on the output, decreases the input signal of the power stage. In practice, there is no significant distortion on the power stage when you overdrive it, the system will only lose some of its dynamics.

#### 5.4.6 DIP switches

The DIP switches are located on the bottom of the amplifier. You can set these functions:

1. if **ON**, the **Boost** channel can be activated by the first button of the Foot Switch
2. if **ON**, the **Shape** can be activated by the first button of the Foot Switch

**Note:**

If both switch 1. and 2. are **ON**, then you can switch on both of the **Boost** channel and **Shape**.

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## **6 Maintenance, cleaning**

The amplifier has no need for particular maintenance.

Occasionally check the starting of the ventilator when you switch on the amplifier!

Use only soft and dry or dampened cloth for cleaning. Avoid aggressive, caustic cleaning materials.

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Budapest, 2024.10.03.