



POWERSTAGE 700 BASS

User Manual

Seymour Duncan®

POWERSTAGE 700 BASS

User Manual

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Seymour Duncan

-10dB

AUX

GAIN

POWER

PREAMP
CLIP

POWERAMP
STATUS



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Limited Warranty

Seymour Duncan offers the original purchaser a one-year limited warranty on both labor and materials from the day this product is purchased. We will repair or replace this product at our option if it fails due to faulty workmanship or materials during this period. Defective products can be returned to your USA dealer, international distributor, or sent direct to our factory postage prepaid along with dated proof of purchase (e.g., original store receipt) and RMA number. Call or email our factory for an RMA number which must be written on the outside of the box. We reserve the right to refuse boxes without an RMA written on the outside. As you might expect this warranty does not apply if you've modified the unit or treated it unkindly. We can assume no liability for any incidental or consequential damages which may result from the use of this product. Any warranties implied in fact or by law are limited to the duration of this express limited warranty.

WARNING

To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



This symbol of a lightning flash inside a triangle is intended to alert the user to the presence of uninsulated "dangerous voltages" within the player's enclosure that may be of a magnitude so as to constitute a risk of electrical shock.



This symbol of an exclamation point inside a triangle is intended to alert the user to the presence of important operating and safety information in the documents accompanying the player.








This warning indicates that the marked surface and adjacent surfaces can attain temperatures that may be hot to the touch.



This symbol indicates the proper attachment point for the protective earth safety ground. In the case of any repairs being conducted by a qualified electrical repair technician, the wire connecting the earth terminal of the IEC power socket to the chassis must be connected only to the attachment point indicated by this symbol.

See all safety markings on bottom and back of product.

Important Safety Instructions

1. Read this instruction manual in its entirety before operating the equipment. Keep the manual for future reference.
2. Observe all safety precautions, warnings and instructions noted in this manual.
-  3. **WARNING** – To reduce the risk of fire or electric shock, do not expose this equipment to moisture. Keep this device away from sources of water such as pools, bathtubs and sinks. Do not expose to rain, dripping/splashing water or sprayed liquids. Do not place objects filled with liquids on the top.
4. Unplug from power source before cleaning. Clean only with dry cloth.
-  5. This product requires ventilation to operate properly. Do not block the fan opening or the vents on the side of the chassis. Maintain at least 6" clearance on all sides and top.
-  6. Keep this product away from sources of heat and open flame such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
-  7. Make sure that the power cord is intact and undamaged before using it. Do not use cords with visible damage to the insulation or end connectors. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
-  8. This device is equipped with a safety feature that requires the use of a three- pin grounding plug. Do not defeat the safety purpose of the grounding plug by using an adapter or any other means such as removing the third, grounding prong. If the provided plug does not fit your outlet, consult an electrician about replacing an obsolete power outlet or obtain the proper IEC power cord for your area.
9. Install in accordance with the manufacturer's instructions.
10. Do not attempt to operate if the unit has been damaged in any way.
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. **CAUTION – RISK OF ELECTRIC SHOCK! DO NOT OPEN!** There are no user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



14. **WARNING** – Due to the potential for hot surfaces and high sound pressure levels, this equipment is not suitable for use in locations where children are likely to be present.

Compliance Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try and correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This device been tested and found to comply with Federal Register CFR 47, Part 15, subpart B; Radiated Emissions, Part 15.109(a), Class B; Conducted Emissions, Part 15.107(a), Class B

This device been tested and found to comply with Industry Canada ICES-003 Issue 7:2020. This device complies with CAN ICES-003, Issue 7:2020 ITE Class B.

This device has been tested for and found to comply with Australia and New Zealand AS/NZS CISPR 32:2015

This device been tested and found to comply with VCCI-CISPR 32:2016.

This is a Class B product based on the standard of the VCCI Council. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

This device has been tested and found to comply with Europe's EMC Directive 2014/30/EU. The standards applied were
EN 55032:2015+A11:2020, EN 55035:2017+A11:2020, EN 61000-4-2:2009,
EN 61000-4-3:2006+A1:2008+A2:2010, EN61000-4-4:2012,
EN61000-4-5:2014, EN61000-4-6:2014, EN61000-4-8:2010,
EN61000-4-11:2004, EN61000-3-2:2019+A1:2021,
EN61000-3-3:2013+A1:2019

This device has been tested and found to comply with safety standard IEC 62368-1, including national deviations for the EU, Canada, Australia/New Zealand and Japan.

Note: Any changes or modifications to this equipment not expressly approved by Seymour Duncan could void the user's authority to operate this equipment.



Recycling Information

This symbol indicates this product is classified as Waste Electrical and Electronic Equipment (WEEE) in the European Union and should not be discarded with household waste. Other territories may vary.

Before Using Your Amplifier



Verify your AC Circuit Voltage and Capacity:

This amplifier is designed to accommodate line voltages from 100 to 240VAC, 50/60Hz. Connection to voltages outside this range may cause erratic operation or result in irreparable damage to the unit. The warranty does not cover damage caused by connection to voltages below 100VAC or above 240VAC. There are no user serviceable parts inside the chassis. Do not attempt to open the product or service it yourself.

Under maximum load conditions this amplifier may require heavy current draw. To ensure proper performance and avoid potential safety hazards, connect only to circuits that can provide a minimum of 15 amps of current. Avoid connecting to the same circuit as other high-current consumers such as heating devices, microwave ovens and high-wattage lighting as this may cause circuit breakers or fuses to blow. Avoid connecting any audio equipment to the same circuit as equipment with motors such as compressors, refrigerators or air conditioners as this can cause high levels of unwanted noise in your sound or dips in power as motors start up.

Set up:

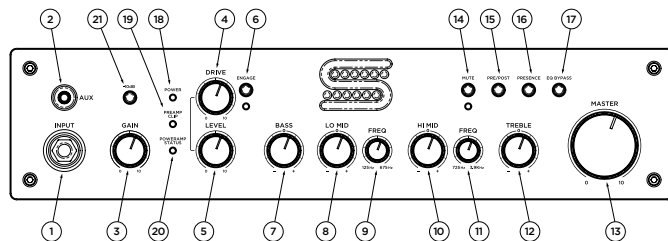
Place the unit on a firm, level surface. Make all input and speaker connections before turning the power on. It is best to place the amplifier in Standby when unplugging an instrument or changing to a different one.

Heat and Ventilation:

Make sure to allow space around the sides. Back and top for air circulation. Avoid use in extremely hot locations with direct exposure to sunlight or placement near heating equipment. Avoid use in moist or high humidity areas. Do not block fan openings or vent holes on the side. Allow for adequate air flow and do not place coats or blankets over the amplifier.

Panel Views

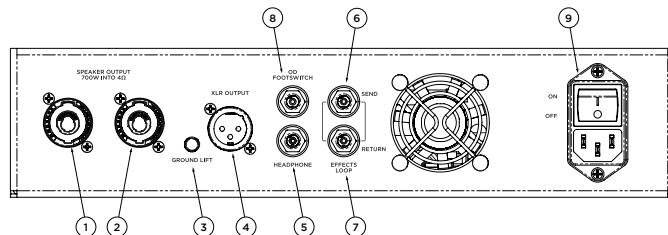
Front Panel



1. **Input Jack** – Main instrument input.
2. **Aux Jack** – Secondary input, summed with main input after the FX-loop (all EQ settings and bypassing apply to the aux signal as well)
3. **Gain** – Sets the input gain.
4. **Drive** – Sets the gain of the Overdrive stage (0dB to 34dB range)
5. **Level** – Sets the output level of the Overdrive stage going into the EQ circuit.
6. **Overdrive on push-button** –
In: Engages the Overdrive circuit.
Out: Bypasses the Overdrive circuit.
7. **Bass** – Provides ± 17 dB of boost or cut around 54Hz (Q – 1.2)
8. **Lo Mid** – Provides ± 13.5 dB of boost or cut at the frequency set by Lo Freq control (Q – 1.5)
9. **Lo Freq** – Sets the Lo Mid frequency from 124Hz to 637Hz.
10. **Hi Mid** – Provides ± 13.5 dB of boost or cut at the frequency set by Hi Freq control (Q – 1.5)
11. **Hi Freq** – sets the Lo Mid frequency from 722Hz to 3.9kHz.

12. **Treble** – provides ± 16.5 dB boost or cut at 5.3kHz (Q – 1.2)
13. **Master** – sets the overall output level to the speakers (does not affect headphone out)
14. **Mute push-button** –
In: Output is muted. LED below is lit RED.
Out: Output is active. LED below is lit GREEN.
15. **XLR Pre/Post push-button** –
In: EQ is bypassed in XLR out.
Out: EQ settings are applied to XLR out.
16. **Presence push-button** –
In: Enables a high frequency boost of 9dB starting at 2kHz, extending to 13dB at 20kHz
Out: Disables the high frequency boost.
17. **EQ Bypass push-button** –
In: EQ is bypassed in speaker/headphone output
Out: EQ is active in speaker/headphone output
18. **Power Indicator** – lights when AC power is present, and the power switch is turned on.
19. **Preamp Clip** – Lights when the preamp signal is 3dB below the point of clipping. It is OK for the clip indicator to flash occasionally on peaks. If the indicator remains on for longer periods, try turning down the Gain control. If this does not solve the problem, engage the -10dB gain reduction button. When using the Overdrive channel, the Overdrive Level can be turned down in combination with the Gain control.
20. **Power Amp Status** – This LED indicates over-current or over-temperature conditions in the power amp module. This may be caused by a shorted speaker cable or grounding one side of the speaker output. The status LED will also light when the amp is placed into “Mute”. It should turn off within a few seconds after the Mute is disengaged.
21. **-10dB** – Press for gain reduction of 10dB in input stage. Use for high-output active pickups to prevent clipping of input stage and increase dynamic range.

Back Panel



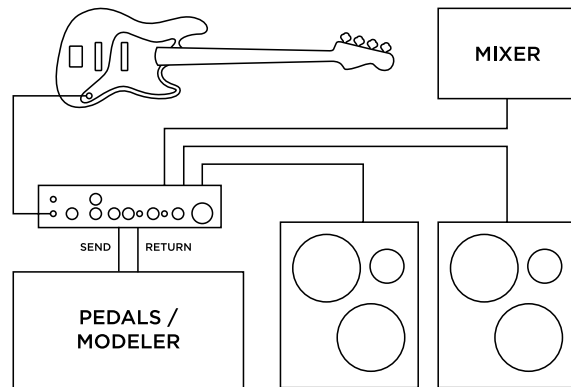
- Speaker Output A** – speakON Combo connectors that accept speakON cable connectors and 1/4" jack plugs. The two speakON connectors are wired in parallel.
- Speaker Output B** – speakON Combo connectors that accept speakON cable connectors and 1/4" jack plugs.
- Ground Lift** – Disconnects the XLR output ground connection, used to troubleshoot ground loops.
- XLR Output** – Balanced line output.
- Headphone Out** – Headphone amplifier output. Level is set by the Gain control only.
- Effects Loop Send** – Signal output for effects insert, taken from Preamp/Overdrive output.
- Effects Loop Return** – Signal input for effects insert, connect here to route signal directly into the EQ circuit.
- OD Footswitch** – a simple on/off footswitch can be plugged in here to activate the Overdrive feature remotely.
- Power On Switch** –

Up: AC power is on. Front panel Power Indicator LED is lit.

Down: AC power is off. Front panel Power Indicator LED is unlit.

Making Connections

Refer to the Connection Guide below.



Make speaker connections first.

Use a minimum of 14AWG stranded wire a maximum of 10 feet in length. Longer cable runs should use heavier wire. The speaker wires should be twisted in order to minimize radiated noise at the power amp switching frequency. Do not use shielded cable.

The power amplifier operates in Bridge-Tied-Load configuration therefore it is important that no ground connections are made in the power amp-to-speaker connection.

WARNING – Do not connect to speaker loads totaling less than 4Ω.

Connect input signal lines:

Use high-quality, shielded cable and ¼" phone plugs.

Preparing for use:

Turn Level control down

Connect AC cord. Observe all precautions noted in safety information.

Actuate power switch. The Red Power Amp Status LED will light for a few seconds and then the Blue power LED will light, indicating that the amplifier is ready to use.

- o If the Red Power Amp Status LED remains lit, turn the power off and check speaker cables for short circuits. Power can be applied with the speaker cables removed to verify the presence of a short and to isolate a problem.

Set up proper input level by observing the Preamp Clip indicator and adjusting the Gain control until the Preamp Clip indicator lights only occasionally the highest peaks of your playing. It may be necessary to readjust this after setting up the EQ. For high output pickups, engage the -10dB button.

It should be noted that the clip light is most critical for maintaining a clean signal at the XLR output. Here clipping will be more noticeable due to the extended frequency response. When listening through a speaker cabinet, minor amounts of distortion are typically inaudible, especially in a speaker system where the frequency response is very limited. In the case of listening through your speaker system, you should ultimately be guided by your ears.

Turn the Level control up slowly as you begin playing. Adjust for desired loudness.



WARNING! This amplifier is capable of producing very high sound pressure levels. Continued exposure to high sound pressure levels can cause permanent hearing damage. Set the Level control for a safe listening level or use hearing protection.

Adjust the EQ settings to compensate for any room anomalies and to fine tune your sound.

Shutting down:

Turn the power switch to "Off" position before removing any cables.



WARNING! - Amplifier housing may be hot after extended, high-power playing sessions. Allow adequate cooling time before handling.

Protection Features

This amplifier has several features designed to protect it under worst case conditions.

Power Amp Status / Over-current / Over-temperature indicator

The Power Amp Status LED serves multiple purposes, indicating the following:

Power Amp current limiting

PowerStage over-temperature warning

Lighting of this indicator can be caused by the following:

Shorted speaker cable

Speaker voice coil shorted to speaker pole piece or frame.

Either + or - output signal connected to Ground.

Total speaker impedance (parallel combination of speakers/cabinets) in excess of maximum rating.

Internal fault. Contact the manufacturer for repairs.

Over temperature protection

The over-temperature circuit monitors the temperature in the output stage and power supply. As the temperature in either approaches 125°C, the Pwr Amp Clip/O.C. indicator will light continuously. When the temperature reaches 150°C, the amplifier will shut down until the temperature drops below 120°C at which point it will reset.

Lighting of the “Temp” indicator can be caused by the following:

Lack of air circulation around amplifier.

Blocked vents.

Blocked or stopped cooling fan.

Excessively high ambient temperatures.

Heavy loading of output (low impedance loads) coupled with high power demand.

Combinations of any or all the above.

Preamp Clip / Status Indicator

This LED also serves multiple purposes, indicating the following.

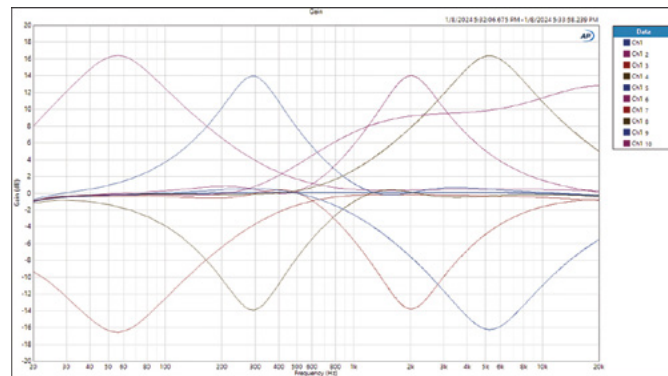
Preamp voltage clip warning – the LED will begin to light when the input signal is 3dB below the level of clipping. You should adjust the Gain control so that this LED flashes only occasionally on signal peaks. Use the -10dB gain reduction button for high output pickups.

Protect Status of the power supply/power amp module – when lit continuously, the amplifier has shut itself down and entered protect mode due to potentially destructive overload conditions. In these cases, the amplifier will typically resume operation after a short delay or after the overload condition has been eliminated. Some causes are:

- o Severe overcurrent conditions and/or a short circuit on the speaker output.
- o Over-temperature conditions due to heavy loading at high output levels.
- o Over-temperature conditions due to inadequate air flow or excessively high ambient temperatures.
- o Internal fault. Contact the manufacturer for repairs.

Fig.1: EQ curves

(showing Bass/Lo-Mid/Hi-Mid/Treble boost/cut, Presence boost)



PowerStage 700 Bass Specifications

Power Specifications

Maximum Output Power

- o 4Ω load – 700W @ 1% THD+N, 1kHz
- o 8Ω load – 350W @ 1% THD+N, 1kHz

Continuous Output Power without thermal shutdown

- o 4Ω – 270W
- o 8Ω – 270W

Nominal Mains voltage

- o 100 to 240 VAC, 50/60 Hz

Total Power efficiency

- o $P_o = 700W$ into 4Ω - 84%

*Specifications above are for an ambient temperature of 25°C, signal frequency of 1 kHz. Higher ambient temperatures or restricted air flow will result in earlier actuation of thermal shutdown circuitry.

Audio Specifications

Speaker Outputs

- o THD + N @ 1kHz, full rated power - $\leq 1\%$
- o THD + N @ 1kHz, 1W, 4Ω load – 0.006%
- o Output referenced idle noise – $\leq 70\mu V$, A-weighted
- o Dynamic Range, A-weighted @ 700W – 117dB
- o Bandwidth ± 0.7 dB, 20 Hz to 20kHz @ nominal power into 4Ω

EQ Parameters

- o Bass +/- 17 dB @ 54 Hz
- o Lo-Mid +/- 13 dB, user-adjustable from 125 – 675 Hz
- o Hi-Mid +/- 13 dB, user-adjustable from 725 – 3.9 kHz
- o Treble +/- 16 dB @ 5.29 kHz
- o Presence Boost +/- 11 dB @ 10 kHz

Environmental Specifications

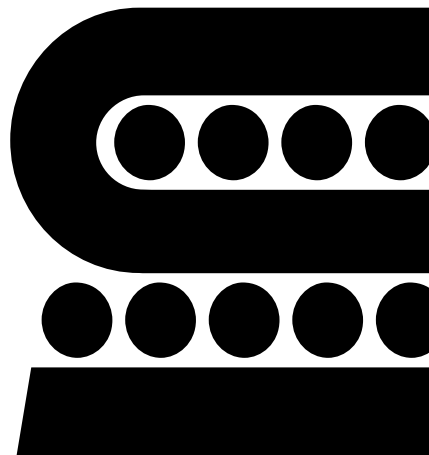
Ambient Operating Temperature – 0° to 35°C

Relative Humidity – 85%, non-condensing

Altitude, operating – 2000m (6500 ft.)

Outside Dimensions: 13.1" X 9.10" X 3.30" ht.

Weight: 5.68lbs./2.58kG



Make sure to visit **SeymourDuncan.com** for the most up to date info and sound samples.



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