

SCHERTLER[®]

ACOUSTIC AMPLIFICATION

SWISS MADE | schertler.com



JAM

combo amplifier
for acoustic instruments

IMPORTANT SAFETY INSTRUCTIONS



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 A SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.

THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE PRODUCT.

WARNING

**TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK
DO NOT EXPOSE THE APPLIANCE TO RAIN OR HUMIDITY**

- 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 grounding-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) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) 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.



WARNINGS

PRECAUTIONS

WARNINGS

Please read this manual carefully before using your JAM amplifier and observe all safety precautions

Keep this manual for future reference

Do not pour any liquids onto this device, or operate it in excessively humid conditions.

Do not use or install this device near sources of excessive heat. Do not expose it to direct sunlight, or position it in a dusty environment without any form of protection.

Ensure that the mains voltage does not exceed the value indicated on the back panel.

Do not use this device if either the mains cable or its plug is not in perfect condition. (Replace if necessary.)

If the mains cable needs replacing, it must be done by an appropriately qualified person. The replacement cable must be exactly the same as the original.

To avoid interference, do not use this device near power transformers, TVs, RF transmitters, electric motors or any other source of electrical energy.

Do not point a microphone towards any speakers as this could result in feedback (Larsen effect) and ultimate damage to your device.

Only use the original connection cables – if supplied with the device. Otherwise this could prove both costly and inconvenient.

To completely disconnect this device from the AC mains, remove the power cable plug from the mains socket.

When cleaning, do not use solvents (e.g acetone or alcohol). These could damage the external finish and the serigraphy.

Do not attempt to service this device. If any malfunction is detected, call the nearest technical assistance centre, or a specialist technical centre.

To maintain good ventilation, never cover or obstruct the heat sink with blankets, sofas or any other furnishings.

Always leave sufficient clearance between the heat sink and any other surface.

No flammable sources, i.e. candles, should be placed on or near the device.

This device should never be exposed to water, even in small amounts. No object containing liquids should be placed on or near the device.

This device should only be connected to a mains socket outlet that has a protective ground.

When using or installing this device, always make sure that the mains socket and the mains cable plug are easily accessible.

INTRODUCTION

JAM becomes the third member of Schertler's "next generation" acoustic amplification series. The new 5-channel "all-rounder" combines a comprehensive feature set with the updated technology and enhanced "look" that defines all the models in this latest range.

Equipped with a 1" dome tweeter and 8" woofer, and featuring an optimized 2-way bass reflex construction, JAM offers 200W (150W + 50W) of bi-amplified power. The amplifier includes a balanced microphone (XLR) input, an unbalanced mic/instrument input and an input offering both balanced microphone and unbalanced mic/instrument options. Both instrument inputs feature a Bootstrap technology that enables the input to automatically adapt to any impedance. A separate stereo input channel will additionally accommodate devices such as a computers, MP3 or CD/DVD players. A 5th FX Return channel can also be used for inputting line level devices.

The 3 main microphone/instrument input channels include a Gain control for input sensitivity regulation and 3-band EQ, with parametric mids on input channels 1 and 3 and a switchable resonance (notch) filter (240Hz/150Hz) on channel 2. Phantom power is supplied for condenser and electrostatic microphones. Each of these channels also features an overload LED. Channel 1 is additionally equipped with a phase reverse switch to prevent feedback, or unwanted effects between the various channels.

JAM's Master Section controls include a new adjustable DI Out, a new Mute button, a Line Out enabling the connection of external systems, a digital reverb and an Insert for connecting an external dynamics processor. Connection options are further enhanced with an Aux Out (Channel 1) that also enables connection to other systems. A Low Cut filter (cutting frequencies below 180Hz) can be used with instruments that generate aggressive low frequencies. This also enables a separate subwoofer to be connected without causing any damage to the amplifier. JAM is additionally equipped with a high voltage CLASS-A preamp that has no integrated circuits and No Negative Feedback (NFB).

PRACTICAL ADVICE

When you are using an amplified speaker, one of the most important recommendations is to avoid at all costs a distorted input signal.

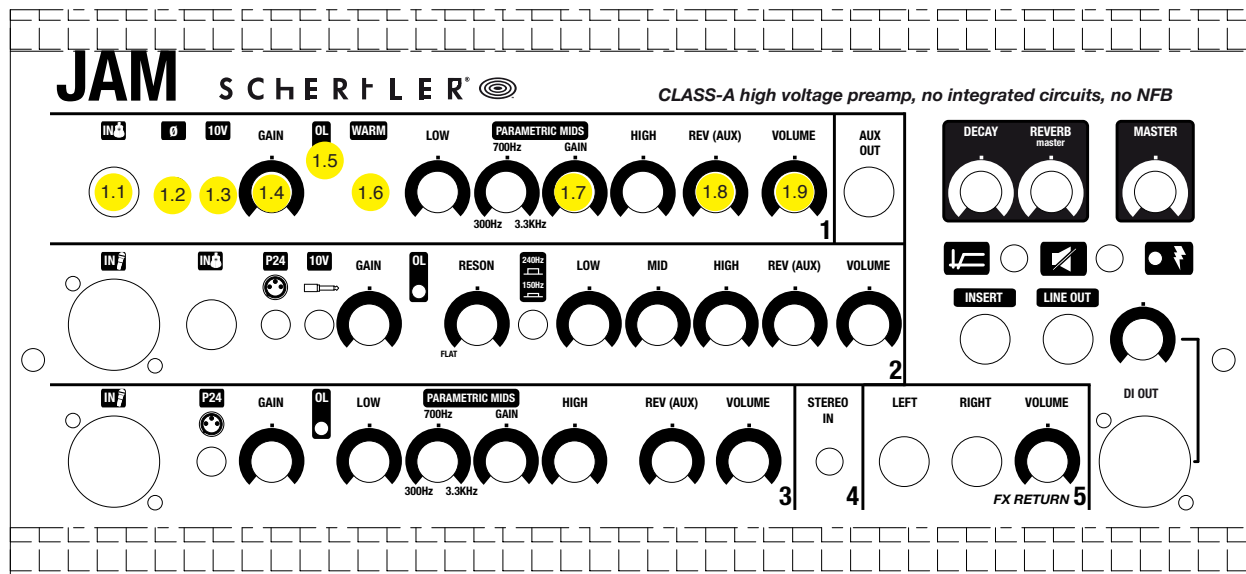
In other words, when you are controlling the sound in your amplifier's mixer section (or any other preamplifier), you must avoid reaching saturation level.

While playing your instrument or singing in the microphone, start turning up the Gain knob until the Overload LED begins to blink. At this point, turn the Gain knob back down slightly. This correctly sets the preamp level depending on your actual input signal. Now set the Master volume between 30% and 60%. With the Gain and Master levels appropriately set, you can now set the channel volume as you please.

In the case of amplified speakers, the arrival of a distorted signal (square wave) may damage the internal amplifier beyond repair, which may in turn damage the loudspeakers.

Correct use of speakers guarantees their long life.

1. FRONT PANEL - INSTRUMENT IN



1.1. INSTRUMENT IN

Unbalanced input for the connection of jacks (6.3mm or 1/4"), with optimal sensitivity for high level signals. The electronics will adapt to any situation. No special action is required.

1.2. PHASE

In case of feedback, or unwanted effects between different channels use the phase reverse switch.

1.3. 10V

Phantom power supplies the Jack connector with 10V for powering electret microphones.

1.4. GAIN

This variable gain preamplifier adjusts the sensitivity level to ensure the best possible processing of the INSTRUMENT IN signal through the channel.

It is important that this input level should be set and optimised in the best way to achieve the cleanest sound possible.

1.5. OVERLOAD

This LED (when lit) indicates that the level of the input signal is too high and it might introduce distortions

1.6. WARM

When engaged, this low-pass filter damps higher frequencies to produce a warmer sound when using bridge-mounted pickups such as the SCHERTLER STAT-Series for violin, viola, cello and double bass..

1.7. HIGH, MID, LOW

These controls are devoted to high, medium and low frequency regulation. Offering cut and boost of $\pm 15\text{dB}$, they allow a wide range of tonal variations to be explored. Parametrics MIDS regulation offers the possibility to cut or boost a frequency range between 300Hz and 3,3kHz. When the controls are positioned centrally there is no cut or boost of the selected frequency band.

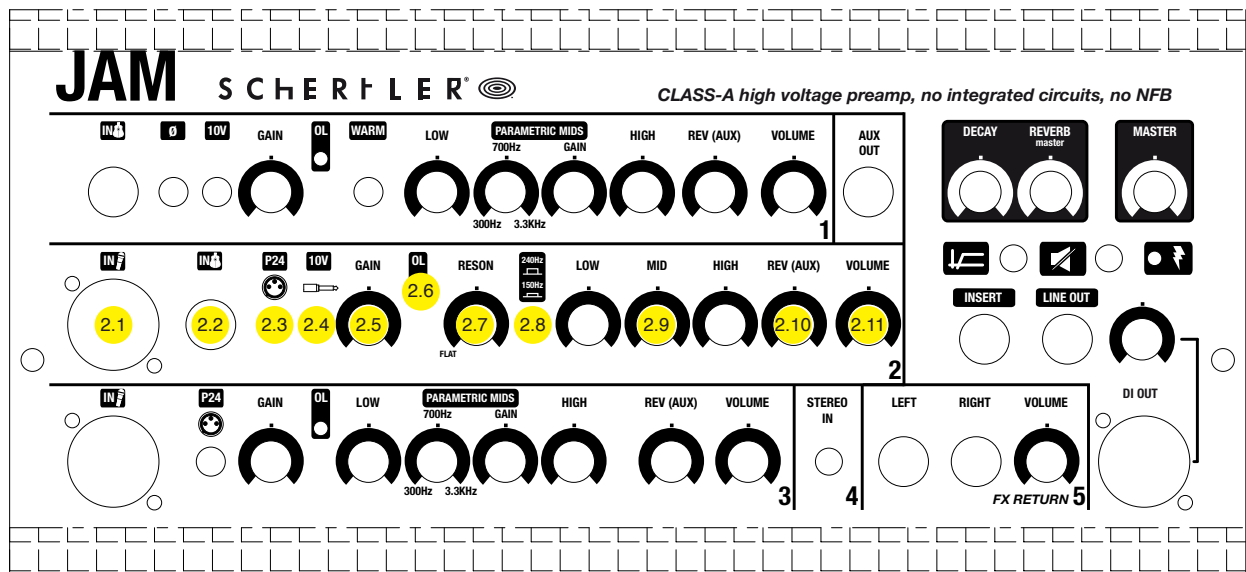
1.8. REV/AUX

This rotary control sets both the level of the digital reverb on the channel and the level of the signal to the AUX OUT output. If you want to bypass the on-board reverb, you can set the Reverb Master knob to zero and use the REV/AUX to control the amount of signal you want to send to an external effect unit or to an additional monitor.

1.9. VOLUME

This rotatory control regulates the channel volume.

2. FRONT PANEL MIC or INSTRUMENT IN



2.1. MIC INPUT

This input is electronically balanced for XLR type connections. The new MIC/DYN channel is now conceived for any kind of signal sources. You can plug in vocal microphones. The electronics will adapt to any situation. No special action is required.

2.2. INSTRUMENT IN

Unbalanced input for the connection of jacks (6.3mm or 1/4"), with optimal sensitivity for high level signals, the electronics will adapt to any situation. No special action is required.

2.3. P24

The amplifier's XLR input provides 24V phantom power for use with a condenser microphone. Most condenser (and dynamic) microphones, along with some preamps, can be safely phantom powered. In certain cases however, phantom power can cause damage to a device. This tends to occur with unbalanced microphones, preamps or stompboxes that have been modified for balanced XLR use. For any doubt, please contact us to check the compatibility of your audio device before using the amplifier

2.4. 10V

Phantom power supplies the Jack connector with 10V for powering electret microphones.

2.5. GAIN

This variable gain preamplifier adjusts the sensitivity level to ensure the best possible processing of the MIC and the INSTRUMENT IN signal through the channel.

It is important that this input level should be set and optimised in the best way to achieve the cleanest sound possible.

2.6. OVERLOAD

This LED (when lit) indicates that the level of the input signal is too high AND it might introduce distortions

2.7. RESON

The Resonance (notch) filter cuts the frequency of 150Hz/240Hz, to reduce low-frequency feedback. Left: no attenuation (flat), Right: maximum attenuation. Use the reson switch to select the resonant frequency of the instrument (240Hz/150Hz)

2.8. RESON switch

2.9. HIGH, MID, LOW

These controls are devoted to high, medium and low frequency regulation. Offering cut and boost of ± 15 dB, they allow a wide range of tonal variations to be explored. When the controls are positioned centrally there is no cut or boost of the selected frequency band.

2.10. REVERB

This rotary control sets both the level of the digital reverb on the channel and the level of the signal to the AUX OUT output. If you want to bypass the on-board reverb, you can set the Reverb Master knob to zero and use the REV/AUX to control the amount of signal to send to an external effect unit or to an additional monitor.

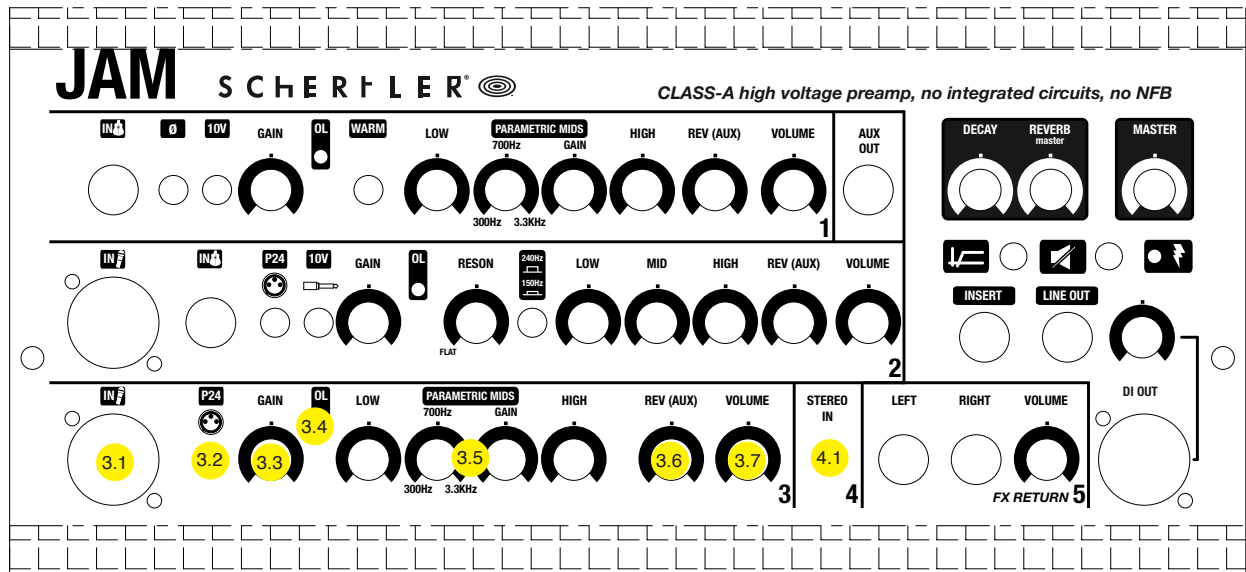
2.11. VOLUME

This rotatory control regulates the channel volume

2.11. OVERLOAD

This LED (when lit) indicates that the level of the input signal is too high so it might introduce distortions

3. FRONT PANEL MIC / 4. STEREO IN



3.1. MIC INPUT

This input is electronically balanced for XLR type connections. The new MIC/DYN channel is now conceived for any kind of signal sources. You can plug in vocal microphones. The electronics will adapt to any situation. No special action is required.

3.2. P24

The amplifier's XLR input provides 24V phantom power for use with a condenser microphone. Most condenser (and dynamic) microphones, along with some preamps, can be safely phantom powered. In certain cases however, phantom power can cause damage to a device.

This tends to occur with unbalanced microphones, preamps or stompboxes that have been modified for balanced XLR use.

For any doubt, please contact us to check the compatibility of your audio device before using the amplifier

3.3. GAIN

This variable gain preamplifier adjusts the sensitivity level to ensure the best possible processing of the MIC signal through the channel.

It is important that this input level should be set and optimised in the best way to achieve the cleanest sound possible.

3.4. OVERLOAD

This LED (when lit) indicates that the level of the input signal is too high and it might introduce distortions

3.5. HIGH, MID, LOW

These controls are devoted to high, medium and low frequency regulation. Offering cut and boost of $\pm 15\text{dB}$, they allow a wide range of tonal variations to be explored. Parametric MID regulation, offers the possibility to cut or boost a frequency range between 300Hz and 3,3kHz. When the controls are positioned centrally there is no cut or boost of the selected frequency band.

3.6. REVERB

This rotary control sets both the level of the digital reverb on the channel and the level of the signal to the AUX OUT output. If you want to bypass the on-board reverb, you can set the Reverb Master knob to zero and use the REV/AUX to control the amount of signal to send to an external effect unit or to an additional monitor.

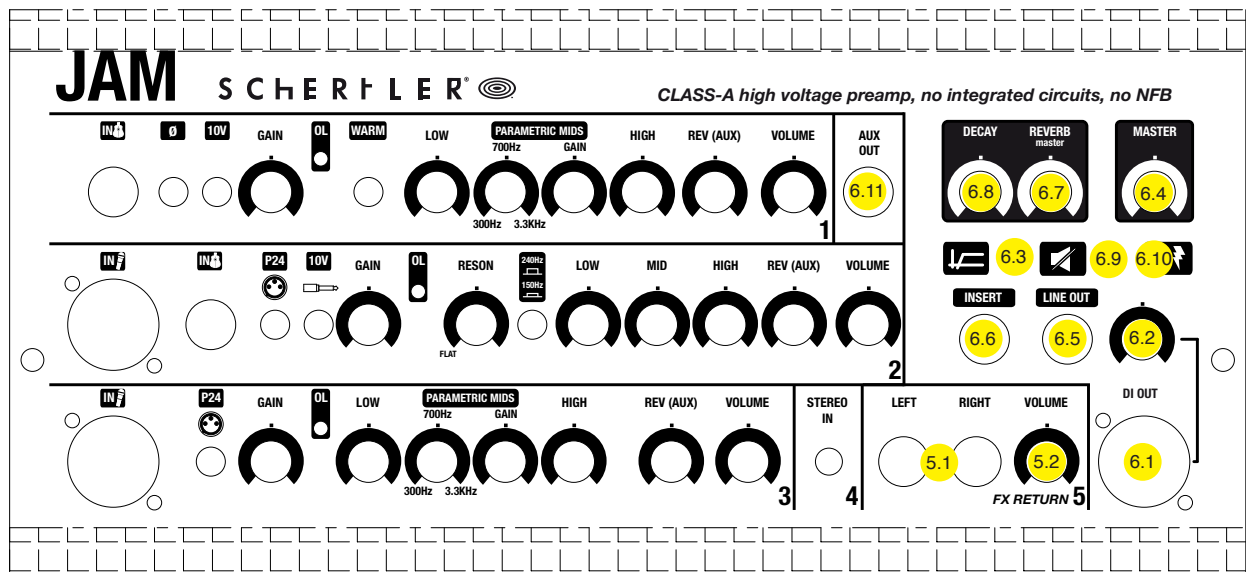
3.7. VOLUME

This rotary control regulates the channel volume

4.1. STEREO IN

Mini Jack stereo 3.5mm input for PC, MP3 and several electronic devices. The volume depends on the MASTER-VOL regulation

5. FX RETURN 6. AUX OUT / MASTER SECTION



5.1. FX Return

Left and Right unbalanced jack plug for FX Return

5.2. FX Return volume

This rotary control sets the output level on the FX Return

6.1. DI-OUT

General output. XLR balanced type connector for connections of external systems. The output volume does not depend on the regulation of the MASTER-VOL but is effected by changes in individual channel volume.

6.2. DI-OUT vol

This rotary control sets the output level on the DI-OUT

6.3. LOW CUT

When engaged, this filter cuts all the frequencies below 180Hz. This function is ideal if you play an instrument that generates aggressively low frequencies, It enables you to connect a subwoofer and prevent unpleasant vibration and possible damage to your JAM.

6.4. MASTER

Control overall system volume

6.5. LINE OUT

This unbalanced jack plug enables the connection of external systems. The output volume depends on the regulation of the MASTER-VOL.

6.6. INSERT

This stereo jack plug enables the connection of an external device (compressor, equalizer, etc.) in series to all the outputs

6.7. REVERB master

This control regulates the general level of the digital reverb, common to all channels. The amount of the effect can be regulated individually for the single channel through the dedicated controls.

6.8. DECAY

This control regulates the length of the reverb (time of the reverb from attack to silence).

6.9. MUTE

Mute switch, cuts the audio on the master

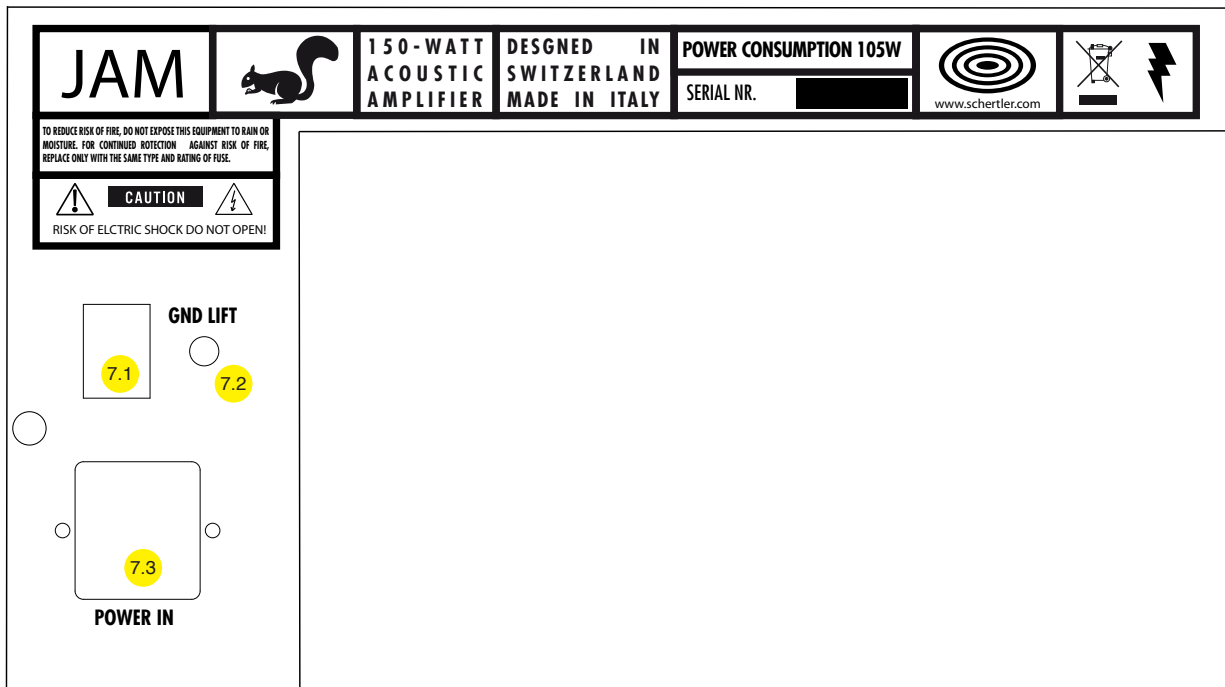
6.10. Power LED

This LED indicates when the amplifier is switched ON

6.11 AUX OUT

Additional output. This mono jack plug enables the connection to other systems.

4. REAR PANEL



7.1. POWER ON/OFF
System ON/OFF switch.

7.2. GROUND LIFT
This switch connects and disconnects the ground

7.3. MAIN POWER CONNECTION

Connection to mains

220 - 230 V

240 V~

120 V~

100 V~

50 Hz / 60 Hz

50 Hz

60 Hz

50 Hz / 60 Hz

Fuse carrier

T 1.6 A L 250 V

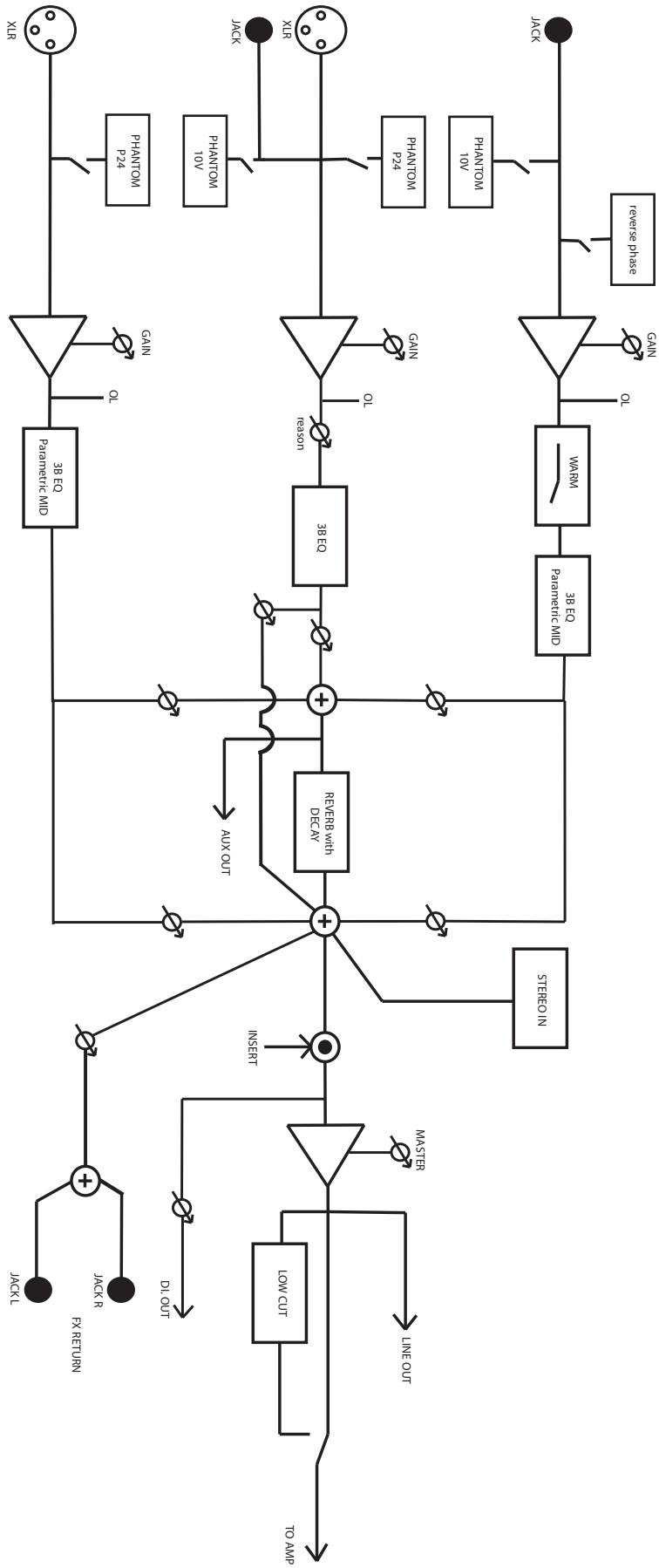
T 1.6 A L 250 V

T 3.15 A L 250 V

T 3.15 A L 250 V

PLEASE ENSURE THE PROPER VOLTAGE AND USE THE ORIGINAL CONNECTION CABLE

SIGNAL FLOW



TECHNICAL SPECS

Frequency response	40 Hz - 20 kHz
Sensitivity (1W-1m)	92 dB
SPL max	114 dB
Woofers	8"
Horn	Dome 1"
Crossover	Active 24 dB / octave
Box	Bass reflex
Construction	Birch laminated
System – Format	2-way, Bi-amp
Max Power out	150 W + 50 W
Weight	12,2 Kg
Dimensions	324 x 297 x 380 mm.

INPUTS

MIC IN

Connector	XLR balanced
Sensitivity	-52 dB
Impedance	4.7 Kohm

LINE IN

Connector	Jack 6.3 mm. unbalanced
Sensitivity	-47 dB
Impedance	820 Kohm

STEREO IN

Connector	Jack 3.5 mm. stereo
Impedance	4.7 Kohm

OUTPUTS

LINE OUT

Connector	Jack 3.5 mm. stereo
Level	0 dBu
Impedance	200 ohm

D.I. OUT

Connector	XLR balanced
Level	-15dBu
Impedance	200 ohm

INSERT

Connector	Jack 6.3 mm.
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INTERNAL EFFECT (digital reverb)

Frequency response	200 Hz - 10 kHz
Delay time	c.a. 30 ms.
Reverb time	Adjustable to c.a. 3 s.
Decay	Adjustable 1s. - 3,7s.

ALL SCHERTLER® PRODUCTS ARE COVERED BY A LIMITED THREE-YEAR WARRANTY (FROM THE DATE OF PURCHASE) AGAINST MANUFACTURES DEFECTS. DETAILS CAN BE OBTAINED FROM YOUR LOCAL DEALER/REPRESENTATIVE. SCHERTLER SA STRONGLY BELIEVES IN "COMMON SENSE" AND THUS, MISUSE OF OUR PRODUCTS ARE NOT COVERED UNDER RIGHTS OBTAINED THROUGH OUR WARRANTY POLICY OR THAT OF INTERNATIONALLY RECOGNIZED TERMS AND CONDITIONS.

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THE SCHERTLER® NAME/LOGO ARE REGISTERED TRADE-NAMES/ TRADEMARKS OF SCHERTLER SA, SWITZERLAND.
All SCHERTLER® PRODUCTS ARE OF PROPRIETARY TECHNOLOGY AND COVERED BY ONE OF MORE WORLDWIDE PATENTS.

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