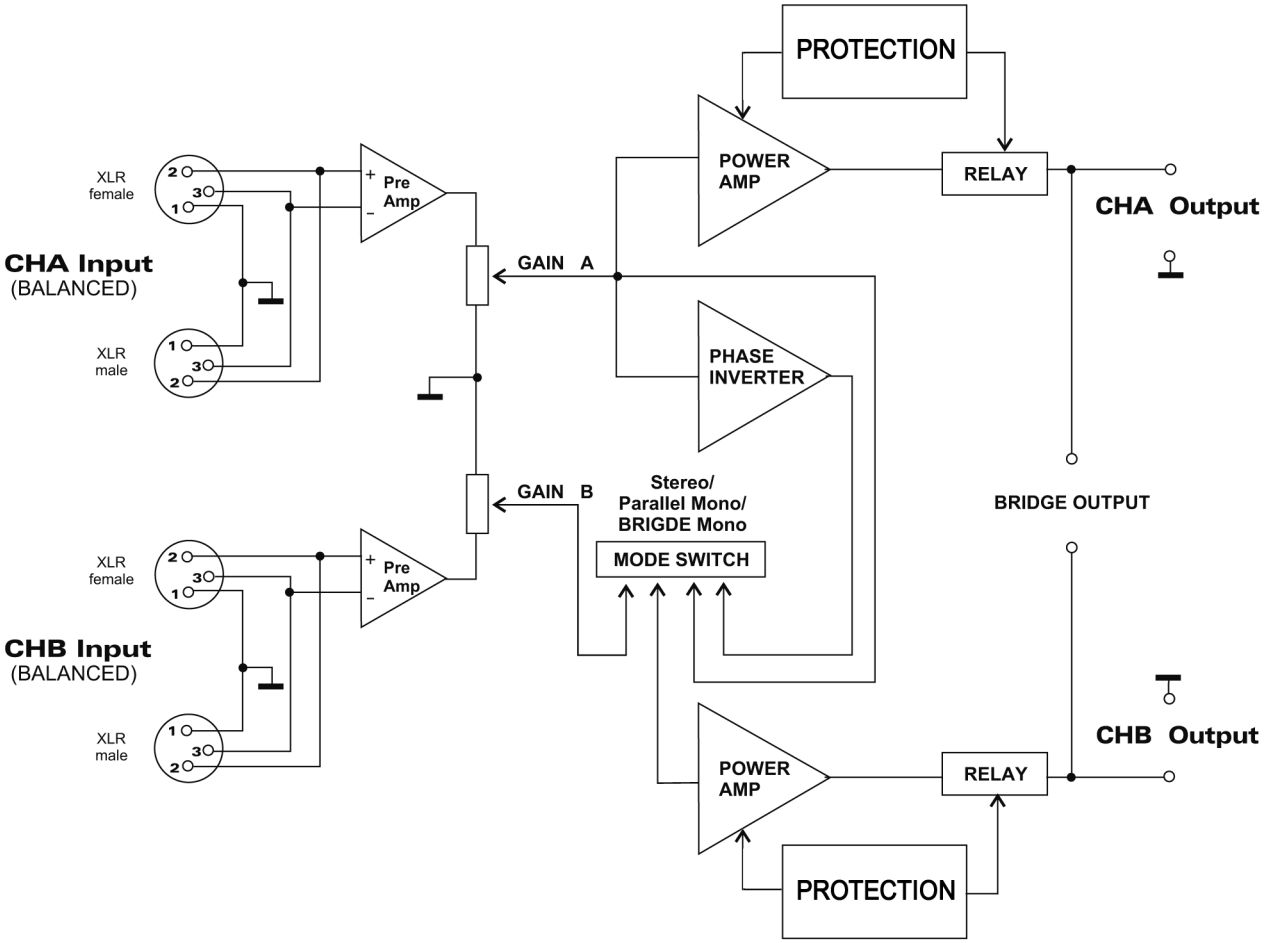
t&mPerformance

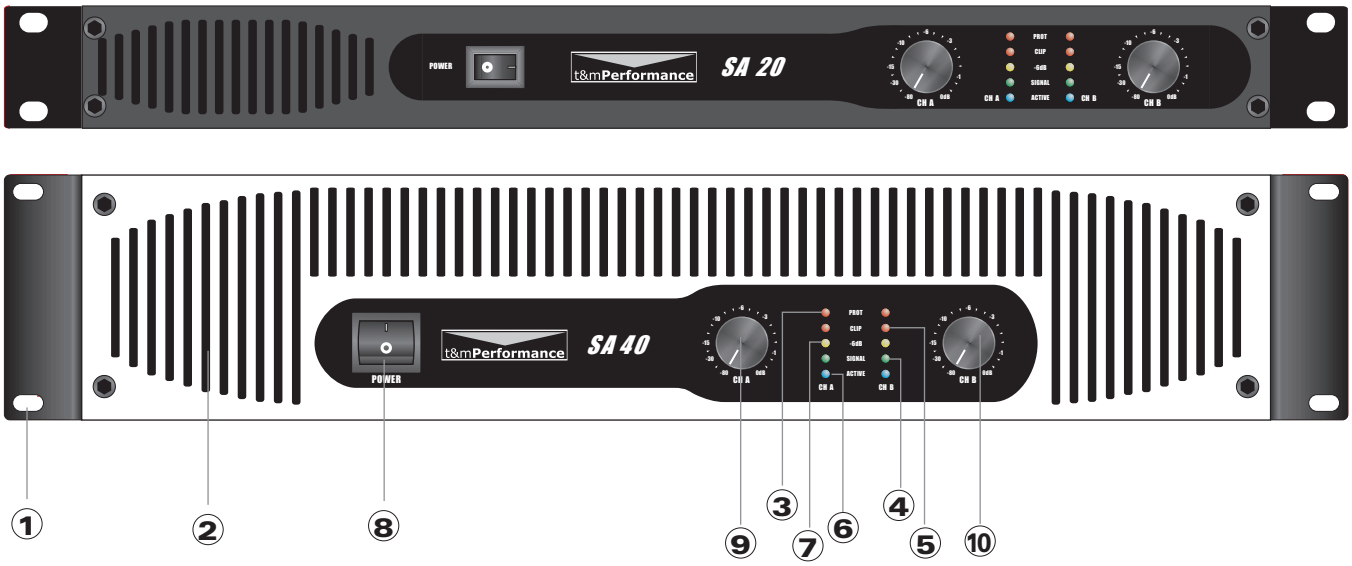
2-channel power amplifiers

Owner´s Manual

Block Diagramm



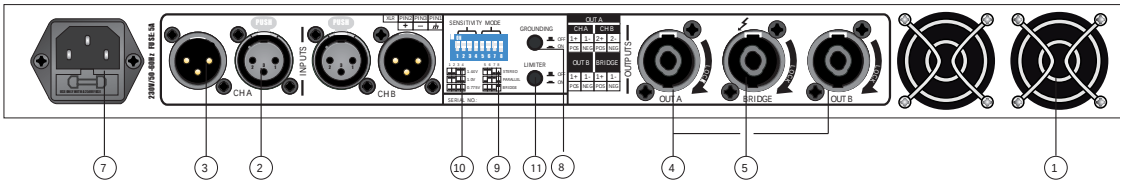
Front Panel view and controls



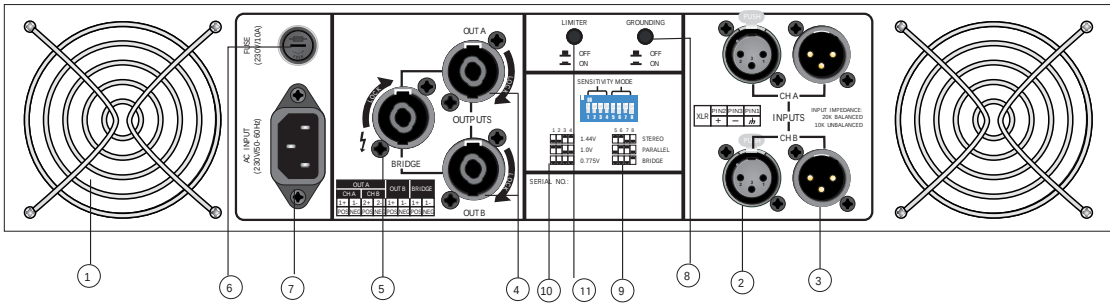
1. Rack Ears
2. Air Intake
3. Protect LED
4. Signal presence LED
5. Clip LED
6. Active LED
7. -6 dB level LED
8. Power switch
9. CH A volume control
10. CH B volume control

Rear Panel view and controls

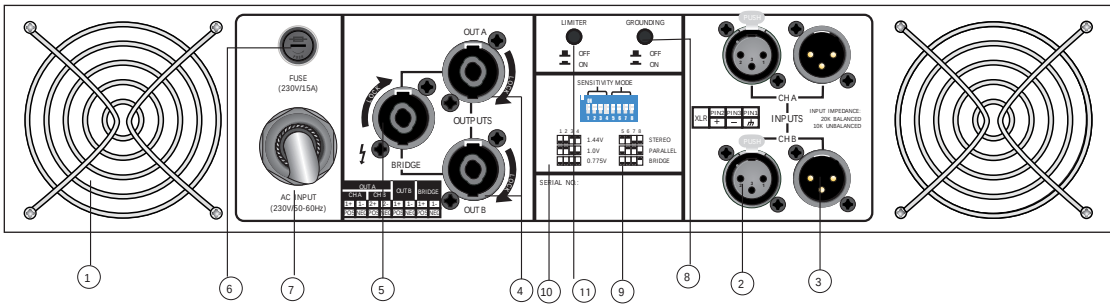
SA20



SA40
SA70



SA100



1. Cooling fans
2. XLR-f inputs
3. XLR-m link / parallel outputs
4. Speaker outputs CH A and B (Speakon® compliant)
5. Speaker output bridge mode (Speakon® compliant)
6. Mains fuse holder
7. IEC main power connector (power cord @ SA 100)
8. Ground-Lift switch
9. Dip switches (4) - determine operational mode
10. Dip switches (4) - determine sensitivity
11. Limiter switch

Technical specifications

	SA 20	SA 40	SA 70	SA 100
Output Power (RMS) @ 8 Ohm	2 x 150 Watt	2 x 275 Watt	2 x 460 Watt	2 x 700 Watt
Output Power (RMS) @ 4 Ohm	2 x 200 Watt	2 x 400 Watt	2 x 700 Watt	2 x 1100 Watt
Output Power (RMS) bridge @ 8 Ohm	1 x 400 Watt	1 x 800 Watt	1 x 1400 Watt	1 x 2200 Watt
Frequency response (+/- 1 dB)	20 - 20 kHz			
THD (20 - 20 kHz)	< 0.03 %			
Crosstalk (20 - 20 kHz)	60 dB			
Damping factor (20 Hz - 1 kHz)	250			
Slew Rate	45 V/s			
Input impedance, balanced	20 kOhm			
Input sensitivity	0.775 V / 1 V / 1.44 V			
SNR	> 103 dB			
Current Draw @ 1/8 Power[1] @ 4 Ohm	1.6 A	3.6 A	2.9 A	3.9 A
Current Draw @ 1/3 Power[2] @ 4 Ohm	2.2 A	5.3 A	7.4 A	10.8 A
Heat Dissipation @ 1/8 Power[1] @ 4 Ohm	224 Watt / 765 BTU/h	516 Watt / 1759 BTU/h	486 Watt / 1656 BTU/h	616 Watt / 2100 BTU/h
Heat Dissipation @ 1/3 Power[2] @ 4 Ohm	287 Watt / 979 BTU/h	633 Watt / 2157 BTU/h	1250 Watt / 4264 BTU/h	1753 Watt / 5979 BTU/h
Protection circuits	overload, DC, Limiter (audio peak), soft start, overheat, HF, back-EMF			
Cooling	2 individually and by temperature controlled fans			
Input connectors	2 x XLR-f / 2 x XLR-m			
Output connectors	Speakon compliant			
Power supply	~ 230 V ± 10 % 50 Hz / 60 Hz			
Housing	Steel chassis and front panel, black			
Weight	12 kg	16 kg	23 kg	26 kg
Dimensions (w x h x d) in mm	482 x 336 x 45	482 x 360 x 89	482 x 453 x 89	

[1] 1/8 Power = IEC Standard, normal music

[2] 1/3 Power = compressed music, clipping level

EU Decleration of Conformity

EC declaration of conformity

We declare, that the following products:

t&mPerformance
art. no. 40.04.00, model SA20,
art. no. 40.04.01, model SA40,
art. no. 40.04.02, model SA70,
art. no. 40.04.03, model SA100
art. no. 40.03.00, model SA4200,
art. no. 40.03.01, model SA8200

Comply with the following specification in accordance with the provision of the Electromagnetic Compatibility "EMC" Directive (2004/108/EC) and the Low Voltage "LVD" Directive (2006/95/EC)

EMC:

- EN55013:2001+A1:2003
- EN55020:2002+A1:2003+ A2:2005
- EN61000-3-2:2000+ A2:2005
- EN61000-3-3:1995+ A1:2001

LVD:

- EN60065:2002+ A1:2006

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Ibbenbüren, 16.11.2009

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Kai Bockmann, Geschäftsführer Trius Vertrieb GmbH & CO. KG

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Operating instructions

Please check before using

- **Power supply**

The AC line voltage must be in accordance with the following:

Voltage: ~230V±10%

Frequency: 50Hz/60Hz

- **Mode selection**

The dip switches (located on the rear panel) configure the amplifier for either stereo, parallel or bridged mono mode. Factory default setting is Stereo Mode.

Stereo mode

In Stereo Mode, both channels operate independently, with their input attenuators controlling their respective levels. Signal at channels A´s input produces output at channel A´s output, while signal at channel B produces output at channel B´s output. Recommended minimum nominal load impedance for stereo operation is 4 ohms per channel.

Parallel mode

When set to Parallel Mode, a signal applied to A´s input will be amplified and appear at both channels outputs. Only channel A input may be used.

Bridged mono mode

Bridged mono mode straps both amplifier channels together to make a very powerful, single - channel amp. One channel "pushes" and the other "pulls" equally, doubling the power. Signal is applied to the Channel A input only. Signal level is determined by CH A level control.

- Clean or replace dust filter

From time to time or after using this unit in dusty environments the dust filter of the amplifier should be cleaned or replaced. To take off the front panel, remove the corresponding Phillips-head screws. Take out the filter foam, clean or replace it and assemble the front panel again.

Clean the filter foam with warm water and a little bit of rinsing agent. Take care to dry the the foam completely before reassembling it.

Safety instructions

1. Keep this manual for future reference.
2. Heed all warnings.
3. Follow all instructions.
4. Do not use this unit near water.
   Do not spill water or other liquids into or on the unit.
   Do not operate the amplifier while it is wet or standing in liquid.
5. Clean only with dry cloth.
6. Do not block the air intake or exhaust ports.
7. Do not operate the amplifier near heat producing devices such as radiators, heat registers, stoves or other apparatus that produce heat.
8. Always operate the unit with the chassis ground wire connected to the electrical safety earth. Do not defeat the safety purpose of a grounding-type plug. A grounding type plug has two pins and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
9. Connect only to AC power outlets rated 230-240V, 50-60Hz.
10. Do not use this amplifier if the power cord is broken or frayed. Protect the power cord from being walked upon or pinched particularly at the plugs and the point where it exits from the apparatus.
11. Only use accessories specified by the manufacturer.
12. The unit is intended to use in a 19” rack. Follow the mounting instructions. When a rack on wheels is used, use caution when moving the loaded rack to avoid injury from tipping over!
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Do not connect an amplifier output in parallel or series with any other amplifier’s output. Do not connect the amplifier output to any other voltage source, such as battery, mains source, or power supply, regardless of whether the amplifier is turned on or off.
15. Do not run the output of any amplifier back into another channel‘s input.
16. 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 into the unit
    - An object has fallen into the unit
    - The unit has been exposed to rain or moisture
    - The unit does not operate normally
    - The unit was dropped or the enclosure is damaged
17. Do not remove top or bottom covers. Removal of the cover will expose hazardous voltages. There are no serviceable parts inside and removal may void the warranty.
18. An experienced user shall always supervise this professional audio equipment, especially if inexperienced are using the equipment.

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