

Screen Series SSA100

In this documentation you will find information about:

- Excellent sonic performance class-G design
- Dynamic Damping Control
- Extended Function Network
- Easy connection
- Maximum reliability
- Technical specifications

Excellent sonic performance class-G design

The SSA amplifier range is specifically designed to meet the very high demands of cinema sound reproduction.

SA developed these truly "digital-cinema" dedicated amplifiers, with some very unique features, dramatically enhancing the cinema experience.

The SSA amplifiers feature SA's well-known "high speed, high current" class-G design. This improved efficiency design, together with the huge capacitor bank energy of 120 joules, makes the SSA100 deliver a 700W of fast and sustained power per channel (peak @ 2Ω).

Dynamic Damping Control™

Very important feature is Stage Accompany's "Dynamic Damping Control" (DDC™) system with which an almost unrealistic infinite damping factor is being realized (10.000 @ 1kHz). By using two return wires from the speaker, the control-loop of the amplifier is extended up to the speaker chassis, completely eliminating the influence of speaker cable and connector resistance. This influence is not to be underestimated with speaker cable lengths in cinema easily exceeding 50m(164ft)! The result is an extremely tight and accurate bass and mid response, without the need for using high impedance speakers. Furthermore, with DDC™, distortion is reduced substantially.

Extended Function Network

Through the "tamper-free" internally accessible EFN™ circuit slots, extra "signal processing" functions can be added to the SSA100 amplifier. There is a choice of 2 type of modules; EFN-DP modules for dedicated processing of SA systems, or EFN-XP modules for filtering (HP, LP) for other traditional systems (user spec. as option). The EFN-DP modules consist of three functions, all operating at the same time; 1. clip/excursion protection (inaudible protection against speaker damage), 2. dedicated filtering (best system performance) and 3. power optimizing (maximum system output). For each SA cinema sound system a processing module is available, so the amplifier can be fully dedicated to the system it is powering. With the EFN-DP modules, all SA cinema systems deliver absolute maximum output with optimum sound quality without any chance of mechanical damage. Because of the high quality of this circuit, it doesn't audibly affect the movie's dynamic range.

Easy connection

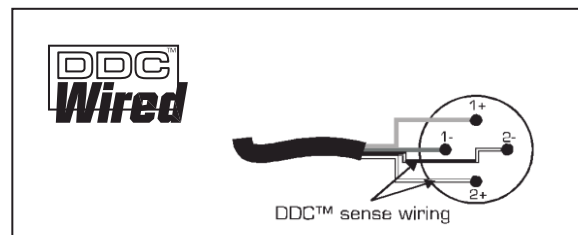
In order to minimize installation time, as well as to minimize cabling in the rack, the SSA100 amplifier features a 15-pin D-connector. With this connection, all signal wiring to/from the booth monitor is done by simply connecting one D- connector cable (standard type) between amp and monitor. This Data-port is completely compatible with existing D-pin connected monitors! (for "traditional" connection, the SSA100 also features two XLR input connectors). The loudspeaker outputs feature two SpeakON NL4 connectors, for locked, wear-free connection.

Maximum reliability

For maximum operation reliability, the SSA100 features: "Soft Start", protection against high temperature, DC on output, short circuit, HF, full stability at 2Ω loads, packed in SA's famous ARMoR™ chassis (3mm thick "mil-spec" aluminum), finished with SA blue powder-coating. To prevent unwanted change of gain-settings, the gain potentiometers are located on the rear of the unit. Other convenient features include: variable cooling fan speed (less dust flow), ground lift switch and LED indication for "power", "signal", "clip" and "protect".

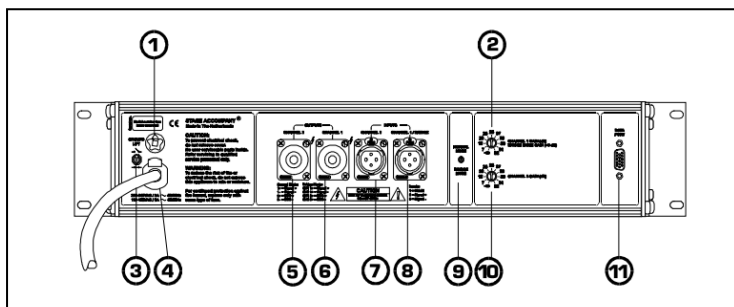
Wiring for DDC™

For absolute top quality sound reproduction, the SSA100 is equipped with dynamic Damping Control™. The DDC™ system is based on two loudspeaker wires that return from the speaker to the (SA) amplifier. The picture below shows the wiring of SpeakON NL4 connector in combination with the DDC™ system.



Rear view of the SSA100

1. Fuse
2. Gain (channel 1)
3. Ground lift switch
4. AC mains cable
5. Output (channel 2), SpeakON NL4
6. Output (channel 1), SpeakON NL4
7. Input (channel 2), XLR-3
8. Input (channel 1), XLR-3
9. Bridge mode switch
10. Gain (channel 2)
11. Data port, HD15F



Technical specifications

Input sensitivity	: 1.0Vrms (+2.5dBu) for full RMS power into 40hm
Max input level	: +20dBu
Input impedance	: 20kΩ
Common mode rejection ratio	: >55dB @ 1kHz
Frequency range (@ 50W into 8Ω)	: 15Hz – 20kHz, +0..-0.3dB 10Hz – 70kHz, +0..-3dB
Gain	: 32dB (40x)
Channel separation (@ 50W into 8Ω)	: >75dB @ 1kHz >55dB @ 20kHz
Total harmonic distortion	: <0.3% @ 20Hz – 20kHz, more than 2Ω load at all powers, 1dB below clipping <0.01% @ 1kHz, 50W into 8Ω <0.1% @ 20kHz, 50W into 8Ω
Intermodulation distortion, SMPTE, (@ 50W into 8Ω)	: <0.07% @ 200Hz – 10kHz <0.2% @ 10kHz – 20kHz
Signal to noise ratio	: >112dB A-weighted
Slew rate	: >40V/us
Damping factor	: 10.000 @ 1kHz, 10V across 8Ω
Output power RMS/Peak (@ 1kHz, < 1% THD)	: 2 x 290W / 2 x 340W @ 8Ω 2 x 425W / 2 x 535W @ 4Ω 2 x 525W / 2 x 700W @ 2Ω
Output power bridge mode RMS/Peak (@ 1kHz, < 1% THD)	: 1 x 580W / 1 x 680W @ 16Ω 1 x 850W / 1 x 1070W @ 8Ω 1 x 1050W / 1 x 1400W @ 4Ω
Mains supply voltage	: stated at the rear of amplifier
Power consumption	: 50VA (standby), 700VA 1/8 of maximum output power pink noise into 20hm
Housing	: 19" Rack Mount, 2HU high, 410mm (16.1") deep
Weight	: 17.7kg (39.0lb)
Warranty	: 3 years



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That's How Music Should Sound!