
# Digital Series DS450

**In this documentation you will find information about:**



## Excellent sonic performance class-D design

High power and very pure signal amplification under heavy user conditions were the main goals in the development of the DS Series amplifier range. These (mono block) power amplifiers are built with an excellent sonic performing class-D design for increased efficiency by decreased weight and dissipation. With an output power exceeding 1600W @ 8Ω per channel, a S/N ratio of more than 110dB and a THD percentage of < 0.007% @ 1kHz (100W, 8Ω). The DS450 combines (sound)quality, power and very low weight into one unit.
The SA digital amps are among the best sounding digital amps on the pro-audio market!

## Dynamic Damping Control

An important feature is Stage Accompany's Dynamic Damping Control (DDC™) system, with which a very high damping factor is being realized (10.000 @ 1kHz). The result is even more remarkable in combination with a Stage Accompany "DDC prewired" loudspeaker system. This unique circuit compensates for the cable and connector resistance, which can be enormous when long loudspeaker cables are being used (lengths sometimes exceeding 50 meters, 164 feet). The result is an extremely tight and accurate bass and mid response, in combination with a "DDC-prewired" loudspeaker system. Furthermore, with "DDC™" both linear and non-linear distortion are reduced substantially. The amps can also be used on a normal, not DDC-prewired, loudspeaker.

## Active Clip Eliminator

Also built into the DS450 is our Active Clip Eliminator (ACE™), a circuit which constantly monitors all outputs of the amplifier for continued clipping. When clipping is detected, the related input is inaudible reduced to the safest maximum level in order to prevent harmonics from damaging the high frequency drivers, to maintain the amplifier's sonic quality and to prevent thermal shutdown.

## 64-bit 96kHz digital processing

Controlled by a very high quality 64-bit DSP unit the DS450 has all the necessary features of a modern professional amplifier to process input from the analog and digital domain. The internal DSP unit provides the following functions: SA speaker dedicated presets, compressor, limiter and delay, up to 10 parametric filters on each in- and output, up to 24dB/Oct. Bessel / Butterworth / Linkwitz-Riley crossovers, max. 1s delay on each input, max. 40ms delay on each output, full configuration and real time monitoring via PC over Ethernet (10/100Base-TX, IP addressing through DHCP or APIPA) or USB interface. The Stage Control software, to remote control the DS450 is available for MS Windows (32-bit and 64-bit) and Mac OS X.

## Aluminum Reinforced Molest Resistant chassis

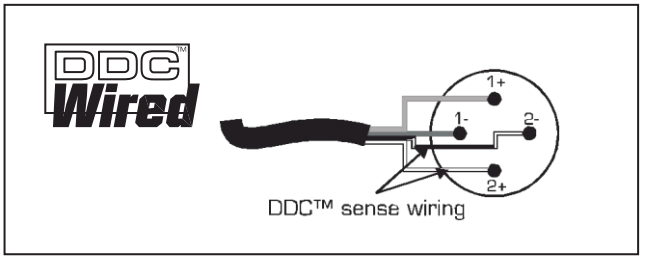
As base, the well-known Stage Accompany ARMoR™ chassis is used, made from 3mm thick ("mill-spec") aluminum. Indestructible, absolute torsion free, best strength to weight ratio in the industry, improved heat dispersion and a high radiation shielding are the characteristics of this chassis.

## Road(y) proof

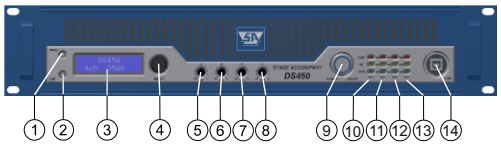
The amp is equipped with "Soft start" circuit, variable fan speed, ground lift and LED indicator "power", "signal", "clip". Specific readouts about output power, level, limiting and others will be showed at the 2.5" front panel display.
The amp is protected against high temperature, DC on output, short circuit and HF on input.

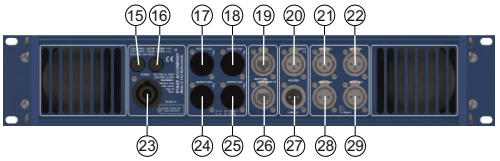
## Wiring for DDC™

For absolute top quality sound reproduction, the DS450 is equipped with dynamic Damping Control™. The DDC™ system is based on 2 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.

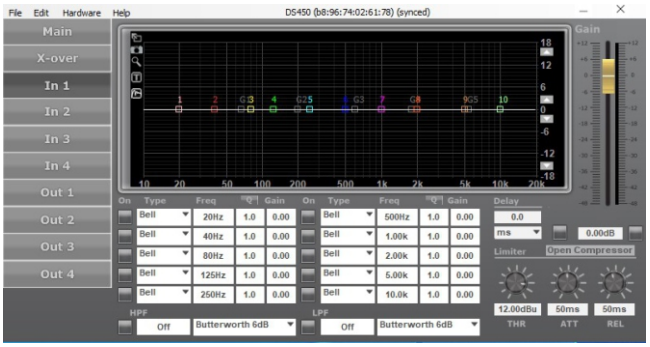


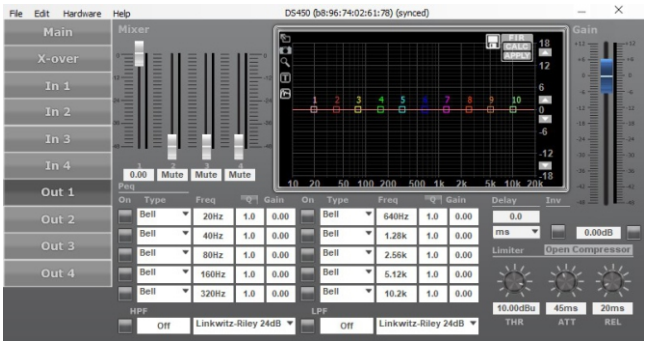
## Front and rear view of the DS450




1. DSP Button “MENU“
2. DSP Button “EXIT“
3. DSP Display
4. DSP “Select“ Button
5. Input Gain (Channel 1)
6. Input Gain (Channel 2)
7. Input Gain (Channel 3)
8. Input Gain (Channel 4)
9. Power Switch
10. Power, Signal & Clip LEDs (Ch 1)
11. Power, Signal & Clip LEDs (Ch 2)
12. Power, Signal & Clip LEDs (Ch 3)
13. Power, Signal & Clip LEDs (Ch 4)
14. USB connection
15. Fuse (Channel 2)
16. Fuse (Channel 1)
17. Output (Channel 3)
18. Output (Channel 1)
19. Ethernet connection
20. AES/EBU digital input
21. Input (Channel 3)
22. Input (Channel 1)
23. AC mains connection
24. Output (Channel 4)
25. Output (Channel 2)
26. Switched Ethernet connection
27. AES/EBU buffered output
28. Input (Channel 4)
29. Input (Channel 2)




## Technical specifications

| | | |
|---|---|---|
| Efficiency | : | 92% @ full power |
| Max input level | : | +23dBu |
| Input impedance | : | 25kΩ |
| Frequency range (@ 100W into 8Ω) | : | 10Hz – 40kHz |
| Gain | : | 34dB |
| Channel separation | : | > 90dB @ 1kHz |
| Total harmonic distortion | : | 0.05% 20Hz – 20kHz, Pout < Pmax/2<br>0.05% 20Hz – 20kHz, Pout = 1W amplifier section |
| Output noise | : | 120uV unweighted, 20Hz– 20kHz |
| Damping factor | : | 10.000 @ 1kHz, 8Ω |
| Output power (@ 1kHz, < 1% THD) | : | 4 x 1600W @ 8Ω<br>4 x 2500W @ 4Ω |
| Amplifier section | : | flat load-independent frequency response |
| Audio, data & mains connections | : | 1 x Neutrik USB connector (located at the front)<br>4 x XLR-3 female connector for input signal<br>4 x SpeakON NL4 for output signal<br>1 x 32A PowerCON connector for mains power<br>2 x EtherCON connector (switched 10/100/Base-TX, can be stacked up to 24 units)<br>2 x XLR-3 AES/EBU connector for input and buffered out |
| DSP section | : | up to 10 parametric filters on each input and each output<br>Butterworth, Bessel, Linkwitz-Riley filters up to 24dB/oct.<br>compressor, delay and limiter on each input and each output |
| Mains supply voltage | : | stated at the rear of amplifier |
| Power consumption | : | 3500VA |
| Housing | : | 19” Rack Mount, 2HU high, 415mm deep |
| Weight | : | 14.0kg (30.6lb) |
| Warranty | : | 3 years |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