

Efficiency Series ES20

In this documentation you will find information about:

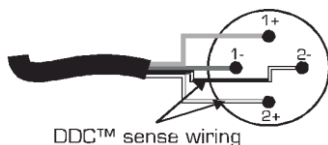
- Excellent sonic performance class-G design
- Dynamic Damping Control
- Extended Function Network
- Aluminum Reinforced Molest Resistant chassis
- Road(y) proof
- Technical specifications

Excellent sonic performance class-G design

High power and very pure signal amplification under heavy user conditions were the main goals in the development of the ES series amplifier range. These power amplifiers are built with an excellent sonic performing class-G design for increased efficiency by decreased weight and dissipation. With an output power exceeding 1000W @ 4Ω per channel (total energy supplied by the capacitor bank is a huge 280 joules!), a S/N ratio of more than 110dB and a THD percentage of < 0.01% @ 1kHz (100W, 8Ω). The ES20 combines (sound)quality, power and very low weight into one unit. The SA Efficiency series amps are among the best sounding 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.



Extended Function Network

Through the internal EFN™ circuit, extra functions can be added to the amplifier with plug-in modules. In this way the amp can be fully dedicated to every (SA) sound system.

The EFN-XP module provides high-quality cross-over filtering with standard 24dB Bessel filters (others optional available) for every type of sound system.

The EFN-DP module has three functions; SA speaker dedicated parameters for clip/excursion, dedicated filtering and power optimizing. With EFN-DP all SA systems can deliver maximum output and optimum sound quality without any chance of (mechanical) damage. Without the need for a loudspeaker management system.

Please specify SA cabinet type and/or system applications when ordering EFN modules.

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.

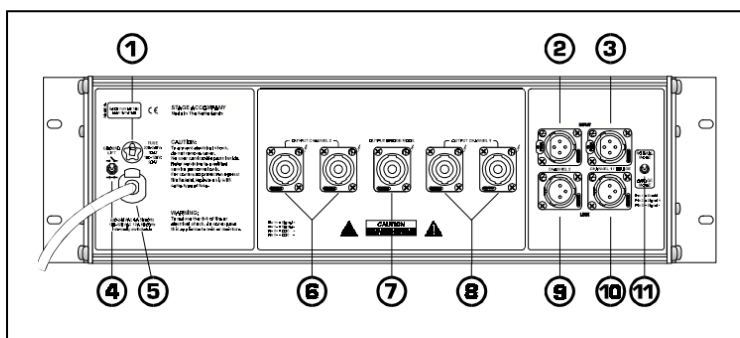
The amp is protected against high temperature, DC on output, short circuit and HF on input.

Wiring for DDC™

For absolute top quality sound reproduction, the ES20 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 on the left shows the wiring of SpeakON NL4 connector in combination with the DDC™ system.

Rear view of the ES20

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



Technical specifications

Input sensitivity	: 1.76Vrms (+7.1dBu) for full RMS power into 4Ω
Max input level	: +22dBu
Input impedance	: 50kΩ each leg (30kΩ unbalanced)
Common mode rejection ratio	: >70dB @ 20Hz – 20kHz
Frequency range (@ 100W into 8Ω)	: 10Hz – 20kHz, +0..-0.4dB 10Hz – 65kHz, +0..-3dB
Gain	: 30dB (31.6x)
Channel separation (@ 100W into 8Ω)	: >75dB @ 1kHz >60dB @ 20kHz
Total harmonic distortion	: <0.2% @ 20Hz – 20kHz, more than 2Ω load at all powers, 1dB below clipping <0.01% @ 1kHz, 100W into 8Ω <0.1% @ 20kHz, 100W into 8Ω
Intermodulation distortion, SMPTE (@ 100W into 8Ω)	: <0.1% @ 200Hz – 10kHz <0.3% @ 10kHz – 20kHz
Signal to noise ratio	: >110dB A-weighted
Slew rate	: >40V/us
Damping factor	: 10.000 @ 1kHz, 10V across 8Ω
Output power RMS/Peak (@ 1kHz, < 1% THD)	: 2 x 500W / 2 x 610W @ 8Ω 2 x 770W / 2 x 1000W @ 4Ω 2 x 960W / 2 x 1400W @ 2Ω
Output power bridge mode RMS/Peak (@ 1kHz, < 1% THD)	: 1 x 1000W / 1 x 1220W @ 16Ω 1 x 1540W / 1 x 2000W @ 8Ω 1 x 1920W / 1 x 2800W @ 4Ω
Mains supply voltage	: stated at the rear of amplifier
Power consumption	: 100VA (standby), 1400VA 1/8 of maximum output power pink noise into 2Ω
Housing	: 19" Rack Mount, 3HU high, 410mm (16.1") deep
Weight	: 21.4kg (47.0lb)
Warranty	: 3 years



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