TA 4D 4 channel system amplifier

THE BASIC PHILOSOPHY

KS AUDIO has been manufacturing loudspeaker systems with dedicated audio controllers since its inception. Furthermore, the brand ensures that from the input signal onwards, all components and parts are perfectly matched to achieve the best performance.

While the loudspeaker systems were initially electronically optimised with analogue SIM controllers, KS AUDIO has switched to a digital version with FIR filters since 1995!

With these FIR filters, not only is the frequency response adjusted, but the entire system is optimised "in time" over the entire frequency range. This results in an almost perfect impulse response. This unique approach, which results in products with the same sound characteristics, is called FIRTEC™.

In contrast to the current PWM/Class D standard in the world of professional amplifiers, KS AUDIO uses Mosfet amplifier technology in combination with a switching power supply, the so-called Class H amplifier technology. KS AUDIO uses 3 positive and 3 negative supply voltages to optimise the efficiency.

The reason for this choice is simple, we find the sound of this amplifier technology, especially at high frequencies, better than that of Class D technology with today's standards.

The combination of their unique FIRTEC™ technology, the use of the best components, the MOSFET-amplifier technology and of course the revolutionary acoustic solutions give them a lead in professional audio.

It is not for nothing that KS AUDIO is widely known for its superior sound.

THE TA 4D

The KS AUDIO **TA 4D** is a unique solution for all applications in the field of professional sound reinforcement. From a linear 4-channel power amplifier to a "digitally controlled multiway pa system", you can obtain any conceivable configuration by simply changing the program on the F MOD or by loading another program into the D MOD by using a USB stick.

4 channel system amplifier √

MOSFET Class H √

3 power-supply voltage stages √

FIRTEC™ DSP module slot √

12 x 4 matrix inputs √

Up to 4 analog and 4 digital channels √

Optional 4 DANTE™ channels √

TA 4D 4 channel system amplifier

With the digital controller F MOD and D MOD, all systems are operated with state-of-the-art linear-phase FIRTEC™ equalisation.

A special feature of the **TA 4D**/F MOD combination are the multiple signal inputs. You can not only connect 4 balanced analogue signals but also two AES3 signals, making 4 digital channels available.
Not only can each input in a matrix be assigned to any amplifier channel, but analogue and digital signals can also be used simultaneously. An input is automatically switched from analogue to digital as soon as an AES3 signal is detected and vice versa.

Optionally, the amplifier can also be equipped with a DANTE™ module, which provides another 4 channels according to the DANTE™ protocol. These signals can be used in addition to the analogue and AES3 inputs.

These 12 simultaneously usable signal paths often make the use of a matrix mixer in the installation superfluous.

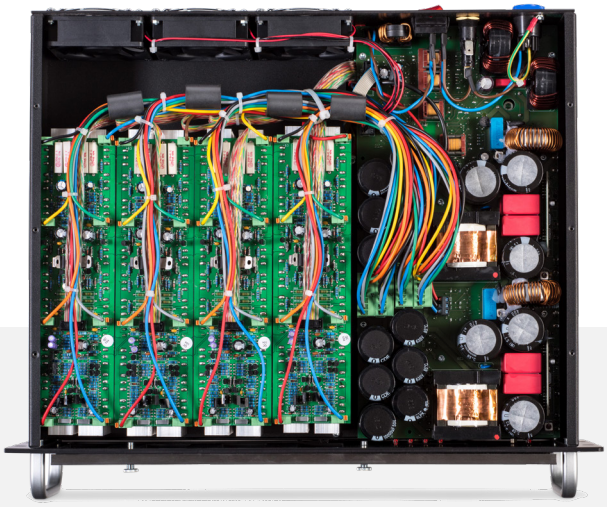
The function of the 4 speakON power outputs is automatically adjusted: They switch to ´single´, ´bi-amp´ or ´bridge´ mode as required.

The XLRs are optionally input or output, for both analogue and AES3 signals. When operating with the DANTE™ option, the network can be easily connected via the integrated switch.

The **TA 4D** naturally contains all the protection devices in the power output stages. The 4 channels are largely independent of each other, so that, for example, in the event of under-impedance on a line, only the respective channel is switched off. The´ready´-state is displayed separately. In addition, the three fans, which are infinitely variable over a wide range, with an easy-to-clean air filter at the front, offer a high level of comfort.

A 1.5 mm thick 19" sheet steel housing, large handles, a 4 mm front panel and, if required, rear mounting brackets underline the robustness of this unit.

The wide-range switching power supply works with PFC on almost any AC voltage. When designing the mains supply, it must be ensured that sufficient connected load is available for each **TA 4D**. The fuse protection must be slow-blow.



Audio specifications

Frequency response	5 - 50.000Hz without controller
Output power per channel (THD+N < 0.5%)	1000Wrms @ 4 Ω 2000Wrms @ 2 Ω
2 channel bridge-mode	2500Wrms @ 4 Ω
S/N Ratio	>115dB
Total Harmonic Distortion	< 0.05% (20 - 20.0000Hz)

We value the provision of honest information. Our amplifiers provide sufficient power for our most powerful speaker systems.

TA 4D 4 channel system amplifier

Amplification type and power supply

Amplification Type	MOSFET Class H with 3 voltage rails
Power transistors	72x MOSFET Pvmax=250W
Power supply model	Autosensing switch mode power supply with active Power Factor Correction (PFC)
Power input	powerCON in/out 110-240VAC 50-60Hz

Protection and indicators

Mains and power supply	Over and under voltage / over temperature / overcurrent
Power outputs	Over current / DC / short circuit / rail over and under voltage / over temperature
Chanel Indicators	Mute on/off - Signal present - Signal peak (D MOD and F MOD)
Ethernet Indicators D MOD and F MOD	Data connection - Data flow

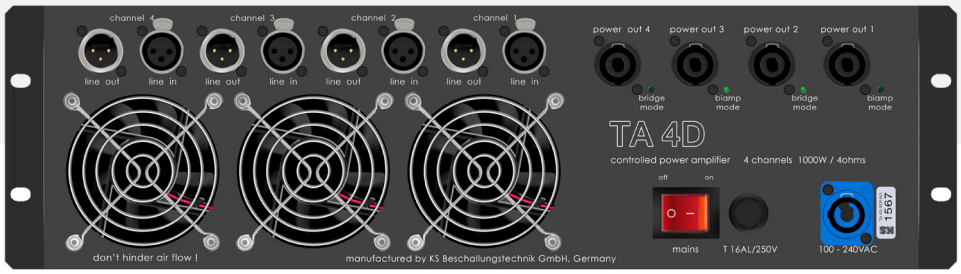
Audio connectors

Input Analog Ch. 1 - 4	XLR-3 Female
Link and Output Ch. 1 - 4	XLR-3 Male
AES/EBU Digital input	XLR3 Female - Autoswitch F MOD - 4 inputs /8 channels D MOD - 2 inputs /4 channels
Amplifier power output Ch. 1 - 4	speakON NL4 - Autoswitch Mode
Ethernet and link KS REMOTE and DANTE™ Network	2 x RJ45, 1000BaseT Ethernet

TA 4D 4 channel system amplifier

Physical data

Controller Slot for	KS AUDIO D MOD or F MOD - DSP Module
Cooling	Three vari-speed fans, front-to-back airflow
Dimensions (W x H x D)	19" x 3U x 350 mm 19" x 3U x 13.73”
Weight	**14kg	31lb**



Depending on the selected speaker preset in the F MOD or the saved preset in the D MOD, the TA 4D configures itself automatically. As many as 6 system modes are possible, which we explain below.

THE DIFFERENT MODES

Depending on the selected speaker preset in F MOD or the stored preset in D MOD, the **TA 4D** configures itself automatically. Up to 6 system modes are possible.

Full-range mode

In full-range mode, 4 input signals can be amplified, each with its own DSP function. The amplified signal is available at the 4 rear SpeakON connectors on pins 1+ and 1-.

No LED lights up for channels used in full-range mode.

BI-amp mode

For 2-way active speakers there is a bi-amp mode. The output signal is available on speakON 1 and 3, whereby pin 1+ and 1- contains the LF signal and the HF signal is on pin 2+ and 2-.

In this mode, an LED lights up at the speakON outputs 1 and 3.

TA 4D 4 channel system amplifier

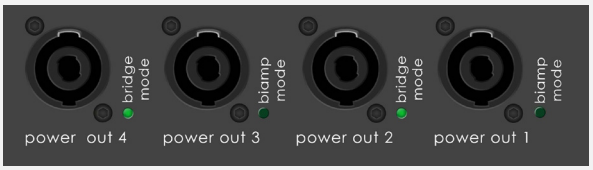
TRI-amp mode

For a combination of subwoofer(s) and active full-range speakers, there is the Tri-Amp mode.
Amplifier modules 1 and 2 are bridged for the subwoofer(s) and the amplified signal is available at speakON 2 on the rear.
The pin assignment is 1+ and 2+ as positive and 1- and 2- as negative.
The amplified active full-range signal with low-cut filter is available on the rear of speakON 3, with pin 1+ and 1- containing the LF signal and the HF signal on pin 2+ and 2-.

In this mode, an LED lights up at speakON outputs 2 and 3.

BRIDGE mode

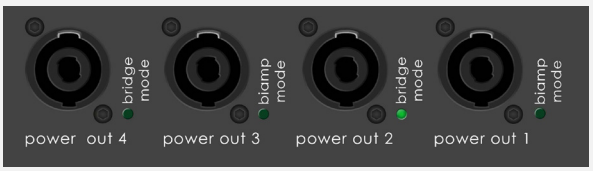
For those who only want to control subwoofers, there is the 2-channel bridge mode. Here, modules 1 plus 2 and 3 plus 4 are bridged. This creates a 2-channel amplifier with no less than 2x 2500Wrms.
The pin assignment is 1+ and 2+ as positive and 1- and 2- as negative.



In this mode, an LED lights up at speakON outputs 2 and 4.

SAT mode

The typical SAT mode is stereo full-range sound reproduction and the summed L and R signal for the mono subwoofer.
Amplifier modules 1 and 2 are bridged, with the amplifier signal at speakON 2. The pin assignment is 1+ and 2+ as positive and 1- and 2- as negative.
Amplifier modules 3 and 4 serve as full-range amplifiers with low-cut filters. The amplified signal is available on speakON 3 (left) or 4 (right) pins 1+ and 1-.



In this mode, only the LED on speakON 2 lights up.

3-WAY mode

Almost identical to the TRI-Amp mode is the 3-WAY mode. The difference is that in 3-WAY the woofer is considered a fixed component. This means that the crossover frequency from LF to MF, for example, cannot be selected variably.

In this mode, an LED lights up at speakON outputs 2 and 3.