

AMPLIFIER

EP 4 X 640 W

Power Supply

Power supply voltage:	11÷15 VDC
Idling current:	1.5 A
Idling current when off:	0.02 mA
Consumption @ 2 Ω, 14.4 VDC (Max Musical Power):	45 A

Amplifier stage

Distorsion - THD (1 kHz @ 4 Ω):	0.08 Ω
Bandwidth (-3 dB):	7 ÷ 60k Hz
S/N Ratio (A weighted @ 1 V):	98 dB
Damping factor (1 kHz @ 4 Ω):	130
Pre-In sensitivity:	0.3 ÷ 5 V
Pre-In impedance:	15 kΩ
Speaker-In sensitivity:	1.4 ÷ 24 V
Speaker-In impedance:	470 Ω
Minimum Load impedance:	
4 Ch	2 Ω
3 Ch	2 x 2 Ω + 1 x 4 Ω
2 Ch	4 Ω

CEA 2006-A RATINGS

RMS Power (4 Ω, ≤1% THD+N,
14.4 Volts): 100 W x 4 Ch

S/N Ratio (ref. 1 W output): 76 dBA



OUTPUT POWER (RMS) @ 14.4 VDC, THD 1%:

4 Ch	100 W x 4 (4Ω)
4 Ch	160 W x 4 (2Ω)
3 Ch	100 W x 2 (4Ω) + 320 W x 1 (4Ω)
3 Ch	160 W x 2 (2Ω) + 320 W x 1 (4Ω)
2 Ch	320 W x 2 (4Ω)

Other functions

Remote In:	6 ÷ 15 VDC - 1 mA
Remote Out :	12 VDC - 15 mA
ART™:	Automatic Remote Turn-On/Off with Speaker-In
Fuse:	3 x 30 A

Inputs/Outputs

Input	PRE / Speaker
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- FR-4 dual-layer 70 μm copper thick PCB and robust copper bars for high current transfer, shorter audio signal paths and high reliability.
- The output stage features 2 + 2 SANKEN TO3P 2SC3284/2SA1303 transistors pairs for each channel, providing the highest current and power delivery.
- The power supply stage is based on Dual Multi-winding toroidal transformers and Low ESR 105°C electrolytic capacitors.
- Special pseudo-balanced dual input circuitry to reject electromagnetic disturbances present on the Pre-amplified or Speaker-In.
- Pre-amplified and Speaker-In allow interface with aftermarket or OEM sources. Speaker-In are provided with compact "install-friendly" connector.
- ART™-Automatic Remote Turn-On/Off function turns the amplifier on and off in perfect sync with the source, eliminating the need for a remote signal when using the Speaker-In. Remote Out signal is also provided to turn on/off other components installed in the system.
- Flexible 12 dB/Oct. crossover system allows full range, hi-pass or lo-pass configuration. In lo-pass configuration a MIX function can be selected on B Channels, providing the ability for the amplifier to combine L&R input signals to drive the subwoofer system in a mono configuration.
- B Channels feature Bass Boost control adjustable within the 0 ÷ 12 dB range at 45 Hz for best bass frequency enhancement in 3-channel mode front plus subwoofer configuration.

Input configuration

Mode	Input / Filter	A Ch	B Ch
4 Ch		A IN	A IN
4 Ch		A IN	B IN
3 Ch A= stereo B= mono		A IN	A IN OR B IN
2 Ch		Apply same L&R signal using RCA Y-adaptor	

Filter configuration

Config.	A Ch	B Ch
1		
2		
3		
4		
5		
6		
7		
8		
9		

Filters & Controls

A Channels	Full / Hi-pass / Lo-Pass 40 ÷ 400 Hz @ 12 dB/Oct.
B Channels	Full / Hi-pass / Lo-Pass (Stereo/Mix) 40 ÷ 400 Hz @ 12 dB/Oct.
B Channels	Bass Boost 0 ÷ +12 dB @ 45 Hz

Measure

Max size (mm/inches):	240 x 500 x 54 / 9" 15/32 x 19" 31/32 x 2" 5/32
Weight (kg/lb):	5,42 / 11.94

EP POWER INSTINCT

Hi-Performance – Hi-Value Electronics

The **EP Energy-Power** series electronics are based upon **70µm** thick dual-layer PCBs made from **FR-4** material, contributing to the EP series superior performance in terms of S/N Ratio and overall signal integrity. Employing FR-4 material with 70µm thick copper traces ensures high reliability, and in combination with the robust copper bars where needed in the power supply areas, guarantees high current transfer, lowering the overall operating temperature of the amplifier.

SANKEN TO3P high current bipolar transistors are employed in the EP 2 X, EP 2, EP 4 X, EP 4 and EP 5, while the **EP 1 D** output stage is based upon multiple **TO-247 Power MOSFETs** each rated at 44Acurrent/380W.

Low-loss multi-winding toroidal core transformers increase the amplifiers efficiency and current capability. EP 2 X and EP 4 X power supply stage features Dual Multi-winding toroidal transformers, providing unparalleled output current and higher dynamics. **Low ESR 105°C** high temperature electrolytic capacitors ensure optimal transient current response and performance over all load conditions.



EP IN



The **EP Energy-Power** series can be interfaced with traditional pre-amp sources or speaker level **OEM** sources through an high noises rejection input circuitry. An install-friendly compact connector is provided for use with Speaker-In input. With the **EP 1 D**, a pre-amp output is featured that can be used to pass the same signal present at the Speaker-In input to other components in the system. **ART™** - Automatic Remote Turn-On/Off circuitry eliminates the need for a remote signal when using the hi-level inputs. **ART™** automatically turns the amplifier on and off in perfect sync with the source, without the troublesome noise found in other designs. **ART™** also provides a Remote Out signal to turn on/off other components installed in the system.

Thermal System

The unique anthracite mineral heatsink finish is achieved using a hi-tech scratch-resistant paint. Besides having a high resistance to incidental contact and environmental conditions, this special finish also contributes to heat transfer, effectively increasing the heatsink area.



Special steel springs are used to fix the power transistors, providing superior heat transfer from the device to the heatsink. The special split design provides precise pressure on each device, avoiding potential thermal issues caused by poor contact between the devices and the heatsink. Thanks to this detail, the thermal efficiency is increased, allowing the power devices to work with lower average temperatures.



Synchro D-Class

The **EP 1 D** is based on **Synchro D-Class** technology, where the Output Stage PWM Driver Module generates its own digital clock signal and also generates the clock signal used in the Power Supply PWM Driver. This circuit synchronizes both stages, avoiding potential noise generated within the audio band. The use of Synchro D-Class technology allows the EP 1 D to achieve an extremely high S/N ratio of 100dBA.

Synchro D-Class technology also features a different feedback point from traditional Class-D designs. The feedback signal used is taken after the output filters stage, avoiding the non-linearity of the analog output filters, which degrade the performance of the output stage. This results in better control of the subwoofer, for tight controlled output.



EP LINK

EP LINK provides the ability to "strap" two **EP 1 D** into bridged mode to achieve up to **1700W (RMS)** into a 2 ohm load. This circuit also allows the use of multiple pairs of EP 1 D. No external accessories are needed to realize the system. When operating in the EP LINK mode the first EP 1 D (Master) receives the input signal, with this exact signal, along with all of the control settings of the master passed to the second EP 1 D (Slave). This ensures that the two bridged amplifiers operate with the exact same output signal. The EP 1 D system brings you to the top of SPL competitions!