Technology and Art of Sound
Manufactured by elettromedia Italy

HERTZ

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AMPLIFIER

EP 5 630 W



1 FR-4 dual-layer 70µm copper thick PCB and robust copper bars for high current transfer, shorter audio signal paths and high reliability.
2 Output stage based on High Current & Power Dissipation SANKEN TO3P transistors. C channels, dedicated to the subwoofer, are realized with single hi-power output stage instead of bridged internal configuration of traditional designs offering higher power and control on the subwoofer speaker.
3 Dual separate power supply stages for A, B channels and C channel based on Multi-winding toroidal transformer and Low ESR 105°C resistant electrolytic capacitors.
4 Special pseudo-balanced dual input circuitry to reject electromagnetic disturbances present on the Pre-amplified or Speaker-In.
5 Pre-amplified and Speaker-In allow interface with aftermarket or OEM sources. Speaker-In are provided with compact "install-friendly" connector.
6 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.
7 Flexible crossover system allows full range or hi-pass 12dB/Oct. filter on A & B channels for front plus rear configuration and lo-pass 24dB/Oct. filter on C channel for optimal subwoofer driving.
8 3-Channel mode switch is provided to easy set up the amplifier for high power front speaker system plus subwoofer to achieve up to 190W x 2 (4Ω) + 250W x 1 (2Ω).

Power Supply

Power supply voltage:	11÷15 VDC
Idling current:	1.5 A
Idling current when off:	0.04 mA
Consumption @4Ω, 14.4 VDC (Max Musical Power):	44 A

Amplifier stage

Distorsion - THD A, B & C Ch (100 Hz @ 4Ω):	0.09 %
Bandwidth A & B Ch (-3 dB):	7 ÷ 60k Hz
Bandwidth C Ch(-3 dB):	7 ÷ 150 Hz
S/N Ratio A & B Ch (A weighted @ 1 V):	98 dB
S/N Ratio C Ch (A weighted @ 1 V):	102 dB
Damping factor A & B Ch (100 Hz @ 4Ω):	100
Damping factor C Ch (100 Hz @ 4):	200
Pre-In sensitivity:	0.3 ÷ 5 V
Pre-In impedance:	15 kΩ
Speaker-In sensitivity:	1.4 ÷ 24 V
Speaker-In impedance:	5 kΩ
Load impedance:	
5 Ch	4 x 2 Ω + 1 x 2 Ω
3 Ch	2 x 4 Ω + 1 x 2 Ω

CEA 2006-A RATINGS

RMS Power (4 Ohms, ≤1 % THD+N, 14.4 Volts): 60W x 4 Ch + 160 W x 1 Ch

S/N Ratio (ref. 1 W output):
60 W Channels: 80 dBA
160 W Channel: 80 dBA

Amplifier Power Standard CEA-2006 Compliant

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

5 Ch	60W x 4 + 160W x 1 (4Ω)
5 Ch	95W x 4 + 250W x 1 (2Ω)
3 Ch	190W x 2 (4Ω) + 160W x 1 (4Ω)
3 Ch	190W x 2 (4Ω) + 250W x 1 (2Ω)

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

Input configuration

3 Ch	Input	A Ch Mono	B Ch Mono	C Ch Mono
	A	A IN L	A IN R	A IN
	A+C	A IN L	A IN R	C IN

5 Ch	Input	A Ch Stereo	B Ch Stereo	C Ch Mono
	A	A IN	A IN	A IN
	A+C	A IN	A IN	C IN
	A+B	A IN	B IN	A+B IN
	A+B+C	A IN	B IN	C IN

Filter configuration

Config.	A Ch	B Ch	C Ch
1	Bypass	Bypass	Lo-pass 24 dB
2	Bypass	Hi-pass	Lo-pass 24 dB
3	Hi-pass	Bypass	Lo-pass 24 dB
4	Hi-pass	Hi-pass	Lo-pass 24 dB
5	Bypass	B Filter Not used	Lo-pass 24 dB
6	Hi-pass	B Filter Not used	Lo-pass 24 dB

Filters & Controls

A Channels:	Full / Hi-Pass 40 ÷ 150 Hz @ 12 dB/Oct.
B Channels:	Full / Hi-Pass 40 ÷ 150 Hz @ 12 dB/Oct.
C Channel:	Lo-Pass 40 ÷ 150 Hz @ 24 dB/Oct.

Inputs/Outputs

Input	PRE / Speaker

Measure

Max size (mm/inches):	240 x 450 x 54 9" 15/32 x 17" 23/32 x 2" 5/32
Weight (kg/lb):	4.80 / 10.58

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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 used in the EP 2, 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. **Low ESR 105°C** high temperature electrolytic capacitors ensure optimal transient current response and performance over all load conditions.

EP IN

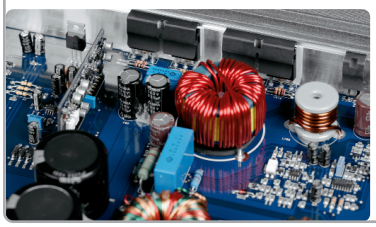


The **EP Energy-Power** series can be interfaced with traditional pre-amp sources or speaker level **OEM** sources through an high noises rejection input circuitry. An install-friendly compact connector is provided for use with Speaker-In input. With the **EP 1 D**, a pre-amp output is featured that can be used to pass the same signal present at the Speaker-In input to other components in the system. **ART**™ - **A**utomatic **R**emote **T**urn-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!

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