

Eton PA 1 + PA 2 + PA 4: Sound boosters for modern vehicles



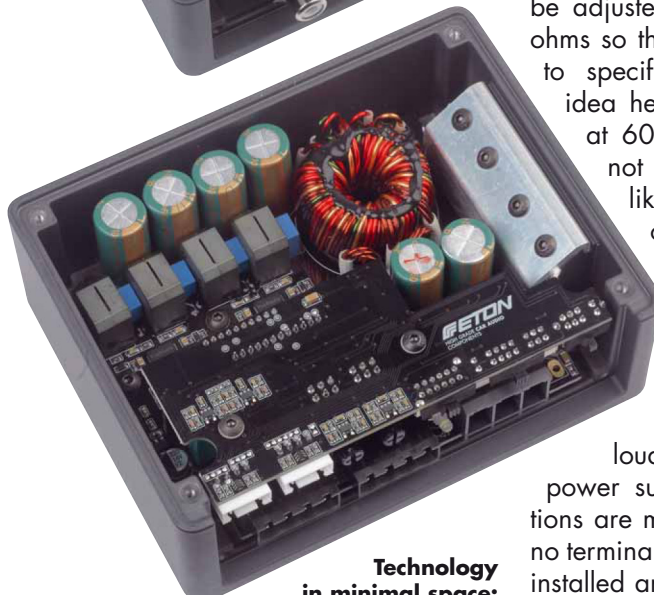
Micro Power Amps

► With the tiny PA series Eton offers interesting amplifiers for a straightforward upgrade. We check out what these little power amps are best suited for.

Eton beefs up its range of smallest power amps, presenting with its PA amplifiers a complete series of mono, 2-channel and 4-channel devices. These amplifiers follow in the footsteps of the Micro series, with a mono amp

in the range for the first time. The larger PA 1 and PA 4 come in the same housing, a mere 128 mm long; the PA 2 is even smaller, namely just 110 x 85 x 45 mm. This achieves the first goal: the PAs fit into the smallest gap and are

ideal as sound boosters tucked away in the dashboard to breath life into feeble original systems. Naturally, to do this they are trimmed for operation with original radios and amplifiers, although the PA 1 and PA 2 also have



Technology in minimal space:
PA 2 (top), PA 1 (center) and PA 4

The adjusting tool is parked in the stowage slot, the cover then goes on top and the designer piece is complete



proper RCA sockets. The high-level inputs are configurable in exemplary fashion, with three switches on the front control panel. We have an auto turn-on, with a choice of DC (direct current component for car radios) or AC (signal input); the sensitivity is then selectable between 15 volts for car radios and a very good 40 volts for factory amps. Finally, the input impedance can be adjusted from 10 to 150 to 600 ohms so that the PAs can be adapted to specific vehicles. Basically, the idea here is the higher the better: at 600 ohms the power amp is not seen by the car – in effect like an open circuit. The 150-ohm impedance has proven itself for VW and similar cars with factory amps, while 10 ohms is so low because it is meant to resemble the impedance of speakers on vehicles with loudspeaker diagnostics. All power supply and speaker connections are made via plugs, there being no terminals. So the PAs can be rapidly installed and removed. Nicely done is the included mounting material in the

form of sheet metal strips that can be fitted lengthways or crossways and cut to length as required. The filters are concealed under very finely made aluminum designer covers. For the PA 2 and PA 4 either high or low pass is selectable; the PA 1 has switches for 12 or 24 dB slopes and a subsonic filter at 30 Hz. As a nice touch, Eton includes an adjusting tool made of yellow plastic that avoids the use of a screwdriver – naturally nicely packaged in a stowage slot beneath the aluminum cover. Despite the very small size, the PAs promise plenty of power. Naturally, that is only possible with modern Class-D technology. The PA 4 relies on two 2-channel power amp chips. These manage without heat sinks and provide all the amplification. Due to the higher channel performance, the PA 2 relies on a pair of SMD transistors per channel. In the PA 1 we can identify the popular Class D driver chip IRS2092, followed by more SMD MOSFETs, in front of a heavy-duty flat wire coil in the low pass filter. The power supply units are implemented in the traditional push-pull design. It makes you wonder how Eton manages to achieve the enormous power here with such dainty transformers.



The front connection panels are packed full. The PA 1 and PA 2 have RCA sockets; in addition the mono comes with remote control

PA 1 PA 2 PA 4 • TEST REPORT CAR&HIFI 1/2025

Measurements and Sound

Beginning with the PA 1, we see first off that it has an unrestricted full-range capability. Close the bypass switch and it will run to over 50 kHz. It is totally unbelievable that this tiny little box is 1-ohm stable. As such it stands quite alone in the market. The power output

Eton PA 1

Price	about 180 Euro
Distributor	ACR, CH-5330 Zuzach
Hotline	info@eton-caraudio.com
Internet	www.eton-audio.com

Summary

Sound quality	20 %	1,1	■■■■■
Bass foundation	5 %	1,0	■■■■■
Pressure	5 %	1,0	■■■■■
Clearance	5 %	1,0	■■■■■
Dynamics	5 %	1,5	■■■■■
Lab	56 %	1,8	■■■■■
Power	40 %	2,0	■■■■■
Damping factor	5 %	1,5	■■■■■
Distortion	5 %	1,0	■■■■■
Signal/Noise Ratio	5 %	1,5	■■■■■
Practice	25 %	1,3	■■■■■
Features	15 %	1,5	■■■■■
Workmanship electr.	5 %	1,0	■■■■■
Workmanship mech.	5 %	1,0	■■■■■

Technical Data

Channels	1
Power @ 4 ohms	158
Power @ 2 ohms	275
Power @ 1 ohms	422
Sensitivity max mV	370
Sensitivity min V	5,0
THD+N (<22 kHz) 5 W	0,019
THD+N (<22 kHz) half load	0,042
Signal/Noise Ratio dB(A)	92
Damping 20 Hz	151
Damping 40 Hz	177
Damping 60 Hz	197
Damping 80 Hz	209
Damping 100 Hz	215
Damping 120 kHz	218

Features

Lowpass	25 – 250 Hz
Highpass	–
Bandpass	30 – 250 Hz
Bass-boost	–
Subsonicfilter	fixed 30 Hz
Phaseshift	–
High-Level inputs	•
Autosense	•, DC or signal
RCA outputs	–
Start/Stop compatible	• (7,3 V)
Dimensions (L x W x H in mm)	128 x 100 x 45
Other	fullrange, 12 or 24 dB/oct., remote control

Eton PA 1

Upper-Class 1,5

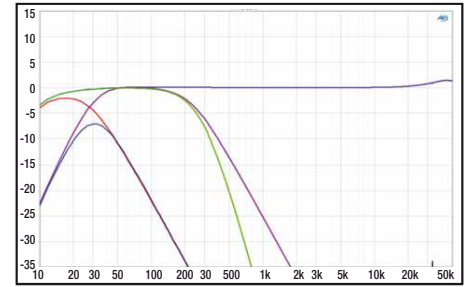
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Price/performance: excellent

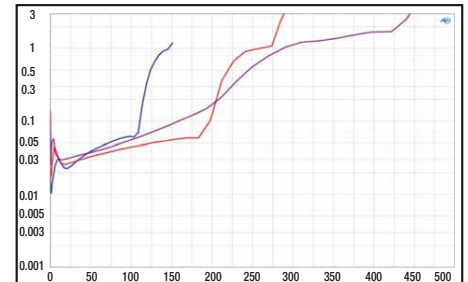
"The Eton PAs are fine examples for modern power amps."



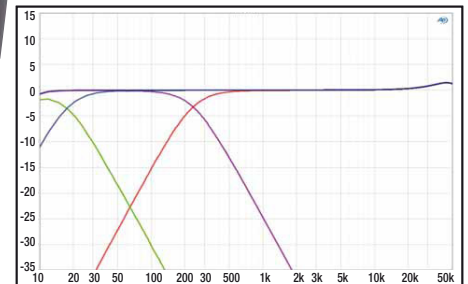
The filters are hidden under the lids: beside high or low pass, the mono also has a subsonic one



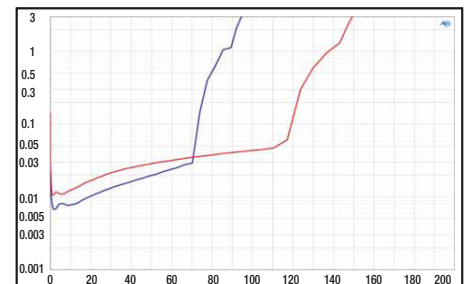
The PA 1 works over the full range and can be separated for sound integration with 12 or 24 dB



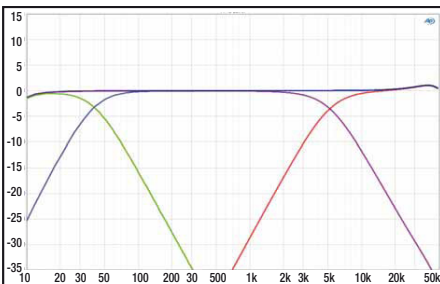
Very low distortion at low powers and even 1-ohm-stable: it goes up to a maximum of 450 watts, if you turn a blind eye



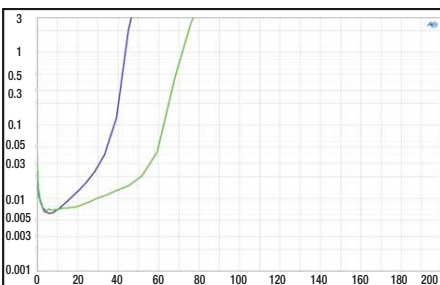
The PA 2 offers high or low pass for sub-sat separation down to 250 Hz



Super low distortion and enormous power output; here nobody sees how small the PA 2 is



With its crossovers the PA 4 can also separate tweeters and mid-range speakers; both channel pairs are similarly equipped



The first two channels go up to 43 watts into 4 ohms; the second channel pair at 73 watts also delivers enough for fully-fledged woofers

is gigantic with 160 watts into 4 ohms, and an already impressive 275 watts into 2 ohms, more than enough to satisfy a small subwoofer or to make a 20 cm woofer royally pleased. They could have stopped there, but Eton enabled a 1 ohm impedance, at which we measured way over 400 watts, even if the PA 1 minimally exceeded our tough 1 % mark for THD+N. After this incred-



Multi-channel apms	Eton PA 2	Eton PA 4
Price	about 180 Euro	about 210 Euro
Distributor	ACR CH-5330 Zurzach info@eton-caraudio.eu eton-audio.com	ACR CH-5330 Zurzach info@eton-caraudio.eu eton-audio.com
Hotline		
Internet		
Summary		
Sound quality 40 %	1,1	1,1
Bass foundation 8 %	1,5	1,5
Neutrality 8 %	1,0	1,0
Pressure 8 %	1,0	1,0
Clearance 8 %	1,0	1,0
Dynamics 8 %	1,0	1,0
Lab 35 %	1,4	1,8
Power 20 %	2,0	2,5
Damping factor 0 %	—	—
Distortion 5 %	1,0	1,5
Signal/Noise Ratio 10 %	0,5	0,5
Practice 25 %	1,3	1,3
Features 15 %	1,5	1,5
Workmanship electr. 5 %	1,0	1,0
Workmanship mech. 5 %	1,0	1,0

Technical data

	2	4
Channels	2	4
Power @ 4 ohms	85	2 x 43 + 2 x 73
Power @ 2 ohms	137	0
Power @ 1 ohms	0	0
Bridged power W	274	0
System power W	274	204
Sensitivity max mV	300	1300
Sensitivity min V	4,0	>8
THD+N (<22 kHz) 5 W %	0,007	0,006/0,007
THD+N (<22 kHz) half load %	0,014	0,01/0,007
Signal/Noise Ratio dB(A)	92	90/89
Damping 20 Hz	51	78/88
Damping 80 Hz	51	80/87
Damping 400 Hz	51	79/86
Damping 1 kHz	49	76/83
Damping 8 kHz	19	20/20
Damping 16 kHz	6	6/6

Features

	25 – 250 Hz	50 – 5k Hz
Lowpass	25 – 250 Hz	50 – 5k Hz
Highpass	25 – 250 Hz	50 – 5k Hz
Bandpass	—	—
Bass-boost	—	—
Subsonicfilter	via HP	—
Phaseshift	—	—
High-Level inputs	•	•
Autosense	•, DC or signal	•, DC or signal
RCA outputs	—	—
Start/Stop compatible	• (7,0 V)	• (7,0 V)
Dimensions (L x W x H in mm)	110 x 100 x 45	128 x 100 x 45
Other	—	2 or 4 CH In

ible performance we can attest to a very solid 85 and 137 watts into 4 and 2 ohms respectively for the PA 2. As a reminder: 110 x 85 millimeters fit in a cupped hand. The PA 4 exhibits another design that is perfectly suited for operation as an OEM booster. It is asymmetric with different channel pairs, with channels 1 and 2 delivering 43 watts, whereas channels 3 and 4 output 73 watts. In each case this applies for 4 ohms. Lower loads are not permitted. We see that the amplifier chips can be programmed, whereby the designers have cleverly exploited existing resources and enabled such a small power amplifier. As a reward, distortion remains at the lowest possible level, with top scores here basically for all the PAs. Soundwise everything is just fine: the PA4 already impresses with its mature sound, which also works with an aftermarket component speaker and has an easy job with original speakers. The bass region is in no way neglected and the tonal colors are just right. That it can get even better in regard to pulling power is shown by the PA 2, which ultimately runs like a big device. Here it really blasts out of the speakers and we would have no hesitation about connecting it up to big woofers. The reproduction of vocals is also pleasing here with a resolution that can be impressive. The PA 1 can also try its hand with an enclosed sub-woofer, which it effortlessly drives to maximum power. There is plenty of level and it never sounds like there is too little control. If the woofer can handle low bass, then so can the PA 1; dark beats also come across strongly when required.

Summary

PA 1, PA 2 and PA4 are tiny, but impress with plenty of power. Thanks to their flexible inputs they work with all kinds of original systems and are therefore recommended as easy-to-install sound assistants. Very successful power amps.

