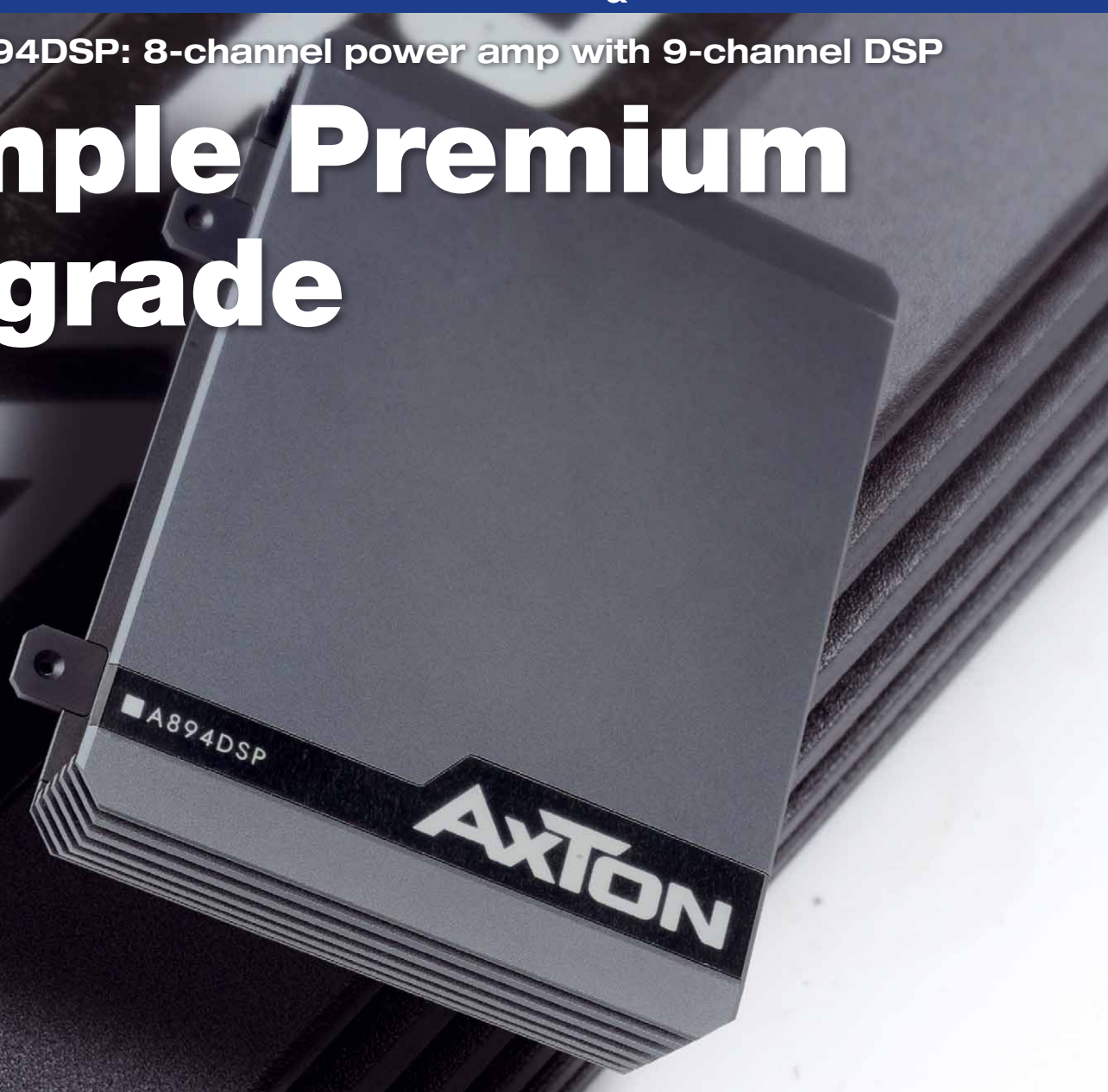




A894DSP • TEST REPORT CAR&HIFI 4/2025

Axton A894DSP: 8-channel power amp with 9-channel DSP

# Simple Premium Upgrade

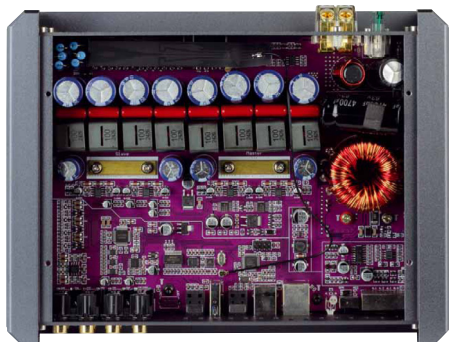


► **The A894DSP sees Axton present a new top model for its DSP amplifiers. It comes packed full of features at a price that is still very reasonable, which of course makes us very curious.**

In the A...DSP power amp series, in recent years Axton has presented models that were all placed at the budget end of the market for DSP amplifiers. Mostly with four amplifier channels, these small Axton units have usually been used as sound boosters for original speakers, for example for front and rear door systems. By contrast the new A894DSP is of a different caliber. You notice this as soon as it is unboxed, when the cover, which of course is mat, is peeled away to reveal a finely made thick cast housing. Numerous ports and

switches populate both housing front panels as evidence of a truly generous configuration. For example, there are fully-fledged, independent low level inputs in the form of RCA sockets and high-level inputs as Molex connectors, each with 6 channels. Digital in and outputs are both optical S/PDIF. Moreover, there is an Axton specialty onboard, namely the electrical digital input in the form of a USB socket. This port will take the highly recommended Bluetooth-enhancement ABT50 (which however also offers an optical output

and so can be used universally). The A894DSP already has Bluetooth onboard. This is version 5.0 in decent quality for audio streaming. Furthermore the DSP is programmed via Bluetooth. For outputs we find 8 amplified channels in two groups, which will be important. In addition, the ninth DSP channel is output as an RCA pair, ideal for a bass power amp, for example. The digital output can also be processed using DSP. For this there is not a dedicated pair of channels, but channels 5 and 6 are simultaneously routed to the Toslink for the amplification. Next to the DC Auto turn-on is the switch for the other special feature of the A894DSP: the 4-way switch determines the



**Neat and tidy:  
8 Class D channels and a signal processor with the A894DSP**

BTL modes, which are 8.0, 6.1, 4.2 and 4.1. Behind this are the differently interconnected channels of the second group of four (channels 1-4 are always kept separate for small speakers). Channels 5-8 can be interconnected step by step in a kind of bridge mode. In mode 6.1 we have separate channels 5 and 6, while 7 and 8 are interconnected as a mono channel like a bridge. With 4.2 there are two interconnected pairs 5 and 6 as well as 7 and 8. Finally, in mode 4.1 channels

5-8 form a single mono channel, which is also 2 Ohm stable. At this point, it should no longer work without hardware switches; it should be a kind of parallel connection of the amplifier ICs. Exactly how it works depends on the properties of the chips. In any case, the result is that the A894DSP can be used very flexibly, from an eight-channel power amplifier for fully active systems to a five-channel power amplifier with a fully-fledged subwoofer. Especially for higher original equipment the power amplifier is suitable for center, front woofer, active doors – everything is possible. The specialist dealer also has the appropriate cable sets available. From simple ISO adapters to several BMW and Mercedes cable sets, plug and play sets are available. Open it up and the interior looks fresh and stylish. Even just the lilac circuit board is an eye-catcher. The power supply unit appears rather dainty. The lion's share of the circuit board is taken up by signal processing and amplification. For once, the DSP chip is not from Analog

### Technical Data

#### Inputs

- 6-CH high-level with Auto sense
- 6-CH RCA
- Sensitivity high: 8.4 V
- Digital S/PDIF optical
- Digital electrical (USB coaxial)
- Digital Bluetooth

#### Outputs

- 1-CH RCA, processed
- 2-channel S/PDIF optical, processed
- Remote-out

#### DSP-channels

- 9

#### DSP software (Android and iOS)

#### Equalizer

##### Inputs:

- Fully parametric EQ, 9-band mono
- 20 – 20k Hz, 1-Hz steps
- +15 – -15 dB, Q 0.3 – 9.9

##### Outputs:

- Fully parametric EQ, 31-band per channel
- 20 – 20k Hz, 1-Hz steps
- +12 – -12 dB, Q 0.3 – 9.9

#### Crossover

- 20 – 20k Hz, Bessel, Butterworth, Linkwitz, 1-Hz steps
- Slope up to 24 dB/oct.

#### Time and level

- Sample rate 48 kHz, 7-mm steps (0.02 ms)

#### Outputs

- 0 – 550 cm (15.90 ms), 763 samples
- Phase reversal 0, 180°
- Gain control 0.1-dB steps, mute function

#### Features

- 5 Presets
- Programming per app (iOS and Android)
- Bluetooth 5.0 music streaming and programming
- BTL modes 6.1, 4.2, 4.1
- Integrated sound profile
- 'Dynamic treble', adjustable
- Noise gate, adjustable
- Limiter, adjustable

#### Optional accessories

- Cable remote control
- ABT50 (HiRes streaming)
- VCable sets (e.g. ISO, BMW, Mercedes)



**The start screen is in landscape format like the entire app**

Channel Routing		Restore	Clean
CH1:FL-Full Range	Go>>	CH2:FR-Full Range	Go>>
CH3:L SUB-SLF L	Go>>	CH4:R SUB-SLF R	Go>>
CH5:RL-Full Range	Go>>	CH6:RR-Full Range	Go>>
CH7:FC-Full Range	Go>>	CH8:OFF	Go>>
CH9:OFF	Go>>		

**When routing, positions such as tweeter are assigned to the left. The deactivations are important for the BTL modes**

Devices but AKM, another Japanese company. Otherwise known for its converters, it also offers a DSP chip with the AK7735EQ. Of course there is also a 32-bit controller for the DSP and the good old TL494 for the PSU. Then we find a whole series of multi-pin devices that are responsible for Bluetooth and digital inputs and, like the converters, are busy with 'translation work'. The amplification is of course done with ICs, which are screwed to the heat sink with the aid of metal plates. We also see the 8 Class D coils and capacitors for the final low-pass filter.

### Measurements and Sound

The A894DSP performs quite well over the test course, delivering results at a very good level throughout, apart from



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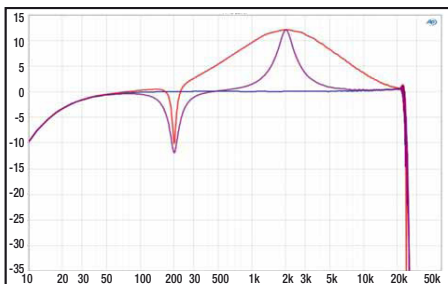
the moderate damping factors typical of chip power amplifiers. Though it does not score top marks at a high-end level anywhere, it doesn't have any flaws either. The distortion figures have a zero after the decimal point, as they should, and the noise floor is also absolutely in the green zone. We are also very satisfied with the power output: 56 watts per channel into 4 ohms is absolutely sufficient, and we measured over 90 watts of channel power at 2 ohms. The system performance with 8 fully loaded channels is a long way from this, but there is still just under half a kW in the Axton. Specially prepared cable sets are included for the BTL modes, and the power amplifier must also be powered up in the correct switch position. In the app, channel 7 is the golden channel, and then its „Give it“. With two interconnected channels in 6.1

### Software

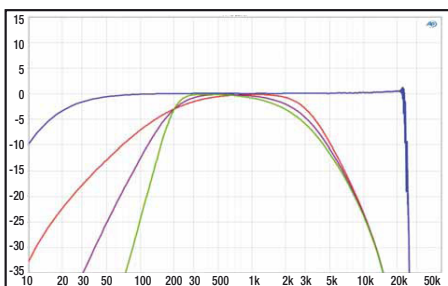
The Axton A894DSP is programmed exclusively via smartphone app that is available for Apple and Android. Similar to the previous Axton app, the new app for the A894DSP has been completely reprogrammed. From the start screen you can go to the sub sections Routing, Time Alignment, Input EQ, Crossovers, Channel Level and Output EQ. What we find missing is a remote control function with level setting for master and sub level. For this you have to order the optional remote control. Instead with Dynamic Bass and Dynamic Treble you have two controls that provide something like a loudness function. The DSP can do it, so why not offer it? The source selection also includes the setting Auto, where the power amp automatically selects by signal input. This works for all sources, whether analog, Toslink, Bluetooth or the electrical digital input. However, there is no prioritization: first come first served. Audio functions cover the basics and there is even a separate 9-band stereo input EQ for analog, Bluetooth and S/PDIF. The output EQ is fully parametric for all channels and offers 31 bands. These can also be set using drag and drop or by entering numbers. The crossovers range up to 24 dB per octave and are available as Butterworth, Bessel and Linkwitz. However, as is so often the case, they are programmed in a casual manner with arbitrary slopes and odd orders in the case of the Linkwitz. The sampling rate is 48 kHz, so we have 7 mm steps (0.02 ms) for the time alignment. In addition, on the start screen you can also load and save setups on the device and on the phone. Here we see a special feature, namely the presence in the app of specific setups. For the market launch there is one for the BMW 3 Series G20 that has been elaborately calibrated with microphone and all the bells and whistles. And with the matching BMW speaker sets from Axton. So if you have treated yourself to the A894DSP and the matching speakers, you will get a perfectly calibrated setup free into the bargain. Further presets matching the optional vehicle wiring sets are available. However, at the time of testing these are basic setups without calibration to a specific vehicle. In this connection Axton has announced it will integrate a community function in the app. It will then be possible to share setups and use those from other users.

and 4.2 modes, we measured exactly twice the 2-ohm output at 182 watts. Set to 4.1, a good 200 watts come through the wire at 4 ohms and 325 watts at 2 ohms, which is pretty unique for the small amplifier ICs. The listening test on the component speaker system is also absolutely convincing. Here the A894DSP sounds clearly defined and

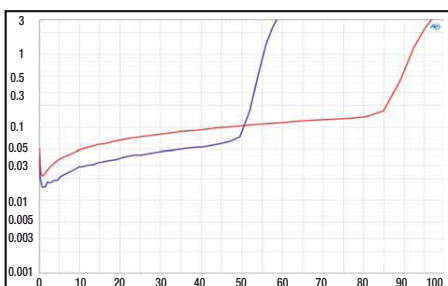
quite fresh. There is never a feeling of fatigue, and the Axton conjures up a generous impression of space in the listening environment. There's plenty of bass, not dry as dust, but punchy when needed. Finally, the tone colors are just right and you feel in good hands even with natural instruments or voices that are difficult to reproduce.



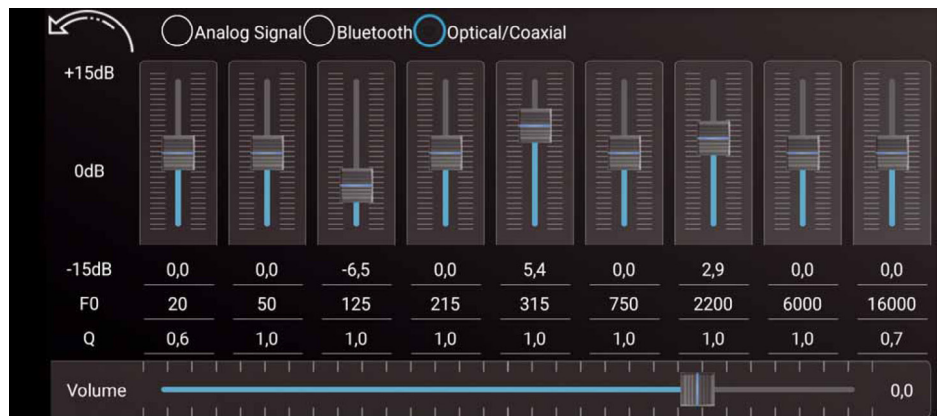
The EQs work perfectly with a practical Q range. There is no shelf or allpass



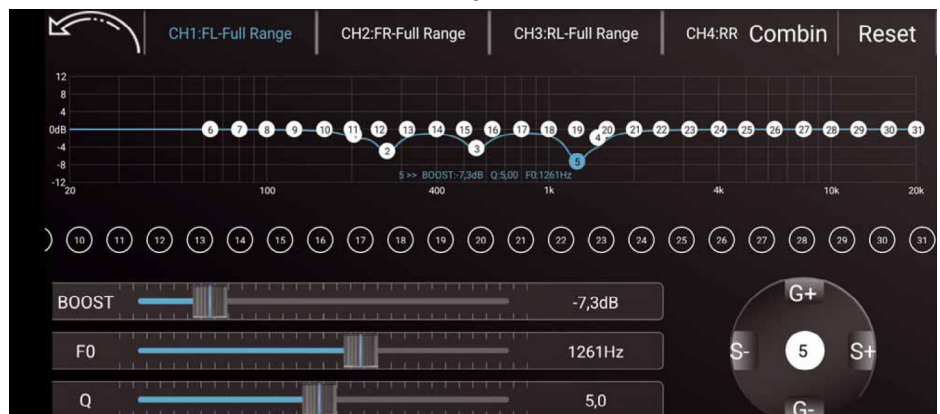
Level roll-off below 30 Hz. High-pass 6 – 24 dB at 200 Hz and low pass 12 dB/oct. at 3 kHz as Butterworth, Bessel, Linkwitz



Power measurement 56 W at 4 ohms and 91 W at 2 ohms

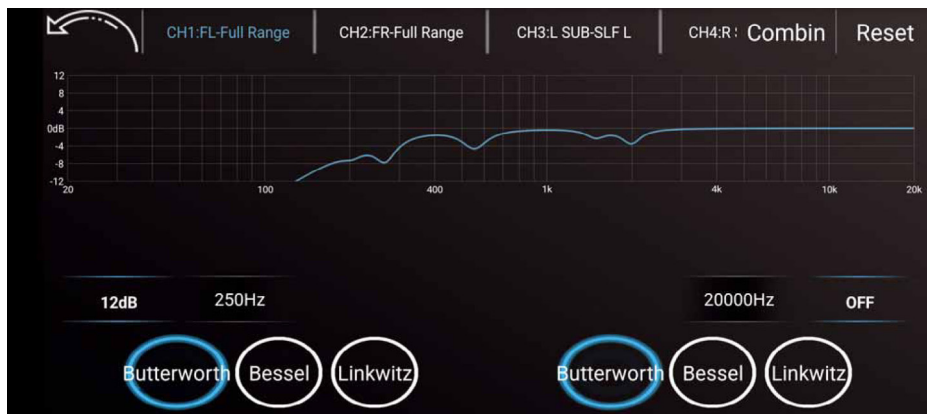


A 9-band stereo EQ is available for the inputs

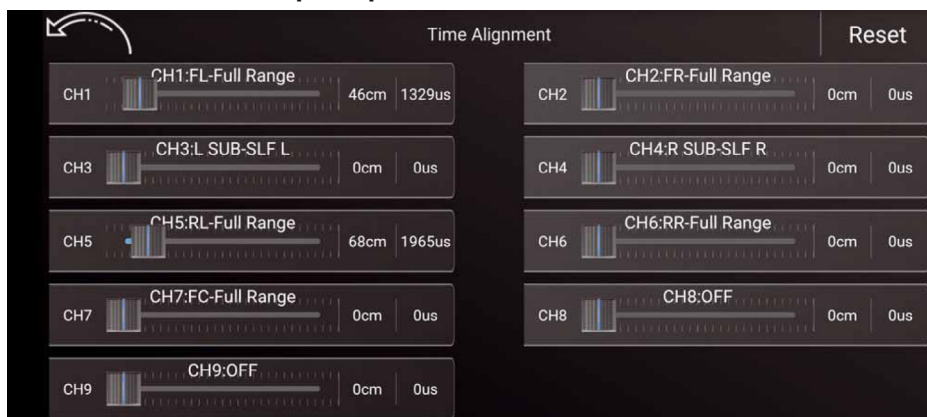


There are 31 parametric EQ bands per output channel

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The crossovers offer bandpass up to 24 dB/octave



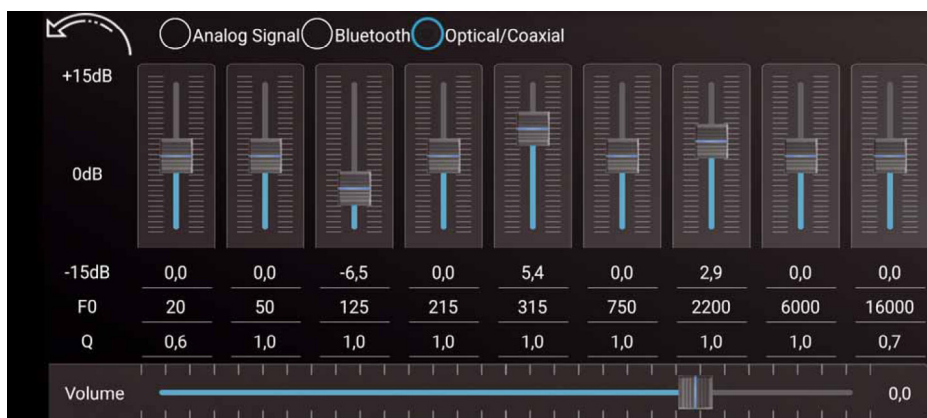
Clear time alignment in 7 mm steps

### Summary

With its solid, high-quality construction, top equipment and more than good performance, the Axton A894DSP is busily collecting points. For 500 euros it is a great offer, ideally suited for quick upgrading of even more complex factory equipment



Analogue or digital or accessories? The Axton has great connectivity



A 9-band stereo EQ is available for the inputs

**PRACTICE TIP**  
**Top-class**  
**CAR<sub>&</sub>HIFI** 4/2025

### Axton A894DSP

Price about 500 Euro  
Distributor ACR, CH-5330 Zurzach  
Hotline info@acr.eu  
Internet www.axton.de

### Summary

Sound quality	40 %	1,1	■ ■ ■ ■ ■
Bass foundation	8 %	1,5	■ ■ ■ ■ ■
Pressure	8 %	1,0	■ ■ ■ ■ ■
Transparency	8 %	1,0	■ ■ ■ ■ ■
Soundstaging	8 %	1,0	■ ■ ■ ■ ■
Dynamics	8 %	1,0	■ ■ ■ ■ ■

Lab	35 %	1,5	■ ■ ■ ■ ■
Power	20 %	1,5	■ ■ ■ ■ ■
Damping factor	—	—	—
Distortion	5 %	1,5	■ ■ ■ ■ ■
Signal/Noise Ratio	10 %	1,5	■ ■ ■ ■ ■

Practice	25 %	0,8	■ ■ ■ ■ ■
Features	15 %	0,5	■ ■ ■ ■ ■
Workmanship electr.	5 %	1,5	■ ■ ■ ■ ■
Workmanship mech.	5 %	1,0	■ ■ ■ ■ ■

### Technical Data

Channels	8
Power @ 4 ohms	8 x 56
Power @ 2 ohms	8 x 91
Power @ 1 ohms	—
Bridged power W	168 – 325
System power W	464
Sensitivity max mV	—
Sensitivity min V	—
THD+N (<22 kHz) 5 W	0,021
THD+N (<22 kHz) half load	0,043
Signal/Noise Ratio dB(A)	89
Damping 20 Hz	3
Damping 80 Hz	22
Damping 400 Hz	62
Damping 1 kHz	67
Damping 8 kHz	29
Damping 16 kHz	10

### Features

Lowpass	20 – 20k Hz
Highpass	20 – 20k Hz
Bandpass	20 – 20k Hz
Bass-boost	-12 – 12 dB/20 – 20k Hz
Subsonicfilter	via HP
Phaseshift	0, 180°/LZK, AP via DSP
High-Level inputs	•
Autosense	•, DC
RCA outputs	2 CH Mono, processed
Start/Stop compatible	• (7,0 V)
Dimensions (L x W x H in mm)	238 x 180 x 50
Other	9-channel-DSP

### Axton A894DSP

**Top-Class** **1,2**

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Price/performance: very good

"Great offer for sound upgrades on multi-channel systems."