

CAR & HiFi

INTERNATIONAL

2/24 · 4,80 €

European Edition

Best topics

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- Sound quality subwoofer • Powerful five channel amplifier
- 2 high output subwoofer boxes

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Phoenix Gold ZR12005 – Five-channel amplifier with plenty of power





Premium Power

► With the ZR12005, Phoenix Gold announces a universally deployable five-channel amplifier that promises plenty of power packed into a very small space.



The amplifier paths work with a Class D driver IC and a large-dimensioned toroidal coil

The ZR series is almost at the pinnacle of Phoenix Gold's product range, topped only by the ZQ reference series. So it's no wonder our ZR12005 comes across as quite classy and well-made on the outside. We find power terminals large enough for decent cables and five pairs of equally solid speaker terminals. A remote control is included to control the level of the subwoofer channel. The bass channel is also fully equipped and can draw its signal from the small channels as required. In addition to the low-pass filter, there is a subsonic filter and a boost that can be adjusted by 12 dB.

The filters for channels 1 – 4 make no difference between the channel pairs, offering a choice of high-pass or low-pass with partly very extensive control ranges. The high-pass filters have „x10“ multiplier switches extending the adjustment range to 5 kHz. Only Phoenix Gold knows why

the low-pass filters have to make do without the switches and, therefore, can't keep up. Nevertheless, the ZR12005 is a very versatile amplifier. It controls the complete hi-fi system, including the subwoofer, for example, in the classic front + rear + sub configuration, but full-range speakers

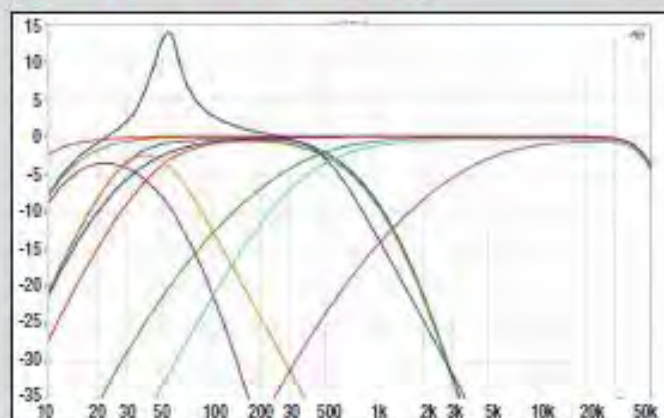


The front panel is packed with controls, and the subwoofer channel has low-pass, subsonic, and boost

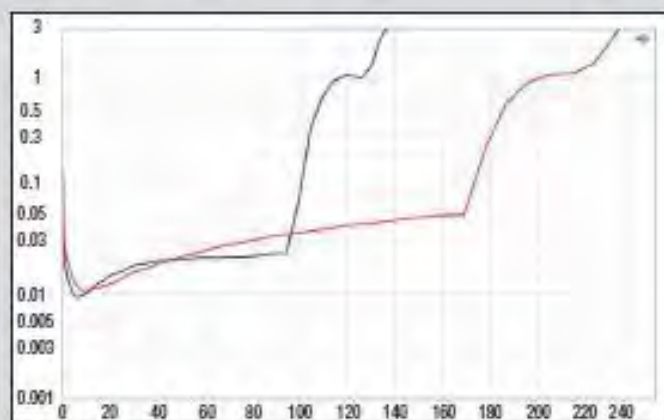


Solid screw terminals make for a high-quality impression

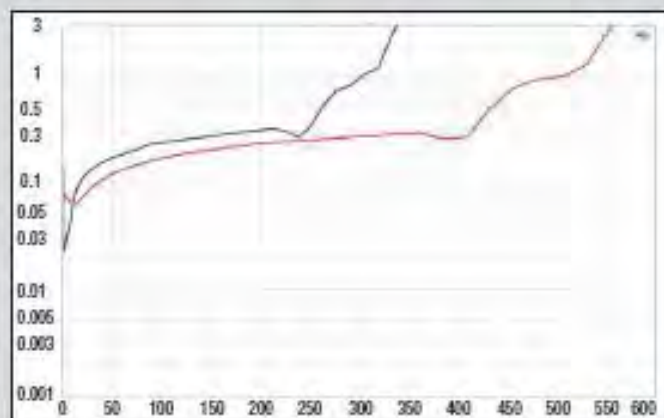
CAR & HIFI Laboratory



The full-range channels run up to 45 kHz. The bass channel stops at 500 Hz. x10 switches for the high-pass filters ensure a cross-over frequency of up to 5 kHz.



Channels 1-4 deliver rich performance with minimal distortion.



Channel 5 shows slightly increased distortion but delivers over 500 W into 2 ohms

kers and tweeters are also welcome. And if you want to be completely free, you can add a DSP to the ZR.

Things are pretty cramped inside the slim aluminum housing made of brushed black aluminum. Modern SMD assembly shrinks the required board area to accommodate all five channels easily. The power supply employs an ample power supply with a transformer that can deliver a lot of juice. The four small channels have an identical construction; each channel works with a Class D driver chip, and a pair of MOSFETs provides the PWM power amplification. Finally, there is the low-pass filter, each with a prominent toroidal coil. The subwoofer channel has a similar design, except for a larger coil made of thicker wire, which can handle more power. The filter frequency for the bass channel also does not have to be as high as for the full-range channels.

Measurements and sound

The Phoenix Gold performs very well in the measurement laboratory. The SNR gives no cause for complaint, nor does the distortion. The bass channel can have distortion of up to 0.3 % THD+N, which is not a problem at all at bass frequencies. The four full-range channels are an order of magnitude better; here, we only measured a very low distortion of around 0.02 %. However, there is also some criticism of the ZR12005,



In addition to the input filtering, the third 40 A has found its way into the interior because there was no more space on the front panel

namely in terms of electromagnetic interference. Unfortunately, the amplifier generates interference in the FM radio frequency range, so we cannot guarantee undisturbed radio listening. Compatibility with undervoltage, e.g., in start-stop vehicles, could be better. The ZR12005 performs excellently in our power measurement: 115 W and 198 W stereo power into 4 and 2 ohms is very impressive. And the subwoofer channel outdoes itself. Channel 5 already delivers over 300 watts into 4 ohms and over 500 watts into 2 ohms - that's more than enough power for any reasonably standard subwoofer. Finally, we note that the power supply not only looks powerful but also provides over a kilowatt of system power (measured with all channels loaded at 2 ohms). Sound-wise, the ZR12005 is also bursting with energy. The bass channel rips through the subwoofer with such force that nobody will miss a dedicated subwoofer mono power amplifier. The full-range channels also impress with rich bass reproduction and plenty of pressure. The Phoenix Gold can also adequately reproduce finer tones, such as singing voices or the delicate harmonics of natural instruments. Moreover, the music flows naturally, and your feet bounce to the beat during live recordings - it grooves!

Conclusion

The ZR12005 from Phoenix Gold impresses with plenty of power in compact packaging. The sound is powerful and dynamic, making the amplifier an all-in-one premium-class amp for car audio systems.

Elmar Michels



Specifications

Channels	5
Channel power	
4 ohms W	4 x 115 + 1 x 315
Channel power	
2 ohms W	4 x 198 + 1 x 510
Channel power 1 ohms W	-
Bridged power W	2 x 396
System power W	1040
Sensitivity max. mV	390
Sensitivity min. V	>8
THD+N (<22 kHz) 5 W	0,01/0,043
THD+N (<22 kHz) half power	0,02/0,293
Signal-to-noise ratio dB(A)	84/90
Damping factor 20 Hz	60/132
Damping factor 80 Hz	60/132
Damping factor 400 Hz	59/132
Damping factor 1 kHz	57/132
Damping factor 8 kHz	14/132
Damping factor 16 kHz	3/132

Features

Low pass	50 - 500 Hz (CH1 - 4)/ 30 - 500 Hz (CH5)
High pass	50 - 5k Hz (CH1 - 4)
Band pass	-
Bass boost	0-12 dB/45 Hz (CH5)
Subsonic filter	10-55 Hz (CH5)
Phase shift	-
High-level inputs	• (adapter)
Auto turn-on	• DC
RCA output	-
Start/stop capable	- (8,6 V)
Dimensions (L x W x H in mm)	323 x 160 x 49
Others	Remote contr., 4 or 5 CH In x10 switch

Phoenix Gold ZR12005

Price	400 Euro
Contact	AAMP European Division, UK/Sweden
Internet	www.phoenixgold-eu.com

Rating

Sound	40 %	★★★★★
Bass	8 %	★★★★★
Neutrality	8 %	★★★★★
Transparency	8 %	★★★★★
Spatial imaging	8 %	★★★★★
Dynamics	8 %	★★★★★
Lab	35 %	★★★★★
Power	20 %	★★★★★
Damping factor	5 %	★
Signal-to-noise ratio	5 %	★★★★★
Noise	5 %	★★★★★
Practice	25 %	★★★★★
Features	15 %	★★★★★
Build quality electronics	5 %	★★★★★
Build quality mechanics	5 %	★★★★★

Top Class



CAR & HiFi
INTERNATIONAL

Germany 2/24

Price/performance: excellent
„Top performance amplifier.“

ULTIMATE PERFORMANCE CLASS-D AMPLIFIERS

ZR series

4 & 5 CHANNEL & MONOBLOCK OPTIONS

**NEW
FOR 2024**

RANGE FEATURES

High Level Auto Turn-On
OEM Connection Ready
High & Low Level Inputs
Heavy Duty Connector Block
4-Way Protected Circuit
Remote Control included
Fanless Design

ZR12005 1200W 5-Channel Class-D Amplifier

Power Ratings (RMS):

175W x 4 + 500W x 1 @ 2Ohm
100W x 4 + 275W x 1 @ 4Ohm

ALSO IN THE RANGE

ZR6004R

**NEW
FOR 2024**

**600W 4-Channel
Class-D Amplifier**

Power Ratings (RMS):
175W x 4 @ 2Ohm
105W x 4 @ 4Ohm
350W x 2 @ 4Ohm

ZR10001

**1000W Monoblock
Class-D Amplifier**

Power Ratings (RMS):
1000W x 1 @ 1Ohm
670W x 1 @ 2Ohm
385W x 1 @ 4Ohm

ZR20001

**2000W Monoblock
Class-D Amplifier**

Power Ratings (RMS):
2000W x 1 @ 1Ohm
1300W x 1 @ 2Ohm
650W x 1 @ 4Ohm

 **PHOENIX GOLD**

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