

CD-Player - PULSAR CD 1240 R



The **CD 1240 R** offers even more sophisticated features than the **CD 1230 R**. The bass range is assigned to multi-bit converters for their outstanding sonic qualities, whilst the treble range is assigned to superior Sigma/Delta converters, now boasting 384 kHz / 24-bit resolution. It is also equipped with a freely programmable signal processor (DSP) which provides the basis for five different switchable oversampling filters (see **CD 1230 R**). As standard it features one additional high-quality digital co-ax output, sophisticated mains power supplies with separate high-performance transformers for the digital and analogue sections, and additional copper shielding. It is difficult to believe, but the **CD 1240 R** sounds even better than its renowned predecessor, the **CD 1220 R**.

Connection elements

Analog Out	The analogue output of the CD player supplies a fixed-level output signal. It is designed for connection to a pre-amplifier, integrated amplifier or receiver with its own volume control
Digital Out	Optical digital output for connection to an external digital/analogue converter. Optional co-axial digital output.
RC IN	RC input socket for connection to an "R"-series pre-amplifier, integrated amplifier or receiver.
R-Link	Interface for future system expansions

Standard-filter (long FIR-filter)

The long FIR-filter is the standard oversampling filter used in digital technology. Advantages: Extremely linear frequency response in the audible range, very high stop band attenuation, linear phase, constant group delay.

Filter 1 (short FIR-filter)

The short FIR-filter has similar characteristics to the long **FIR** filter, but very much lower coefficient (160) and consequently considerably lower pre- and post-echoes. Advantages: Extremely linear frequency response in the audible range, high stop band attenuation, linear phase, constant group delay.

Filter 2 (IIR-filter)

This filter is a classic 8th order IIR-filter. It exhibits absolutely no pre-echo effects, albeit a slight tendency to post-echo. This is also a feature of natural instruments, and in any case the post-echo is usually masked by the normal audible signal. Advantages: No pre-echo at all, no treble loss, very high stop band attenuation.

Filter 3 (Bezier- / IIR-filter)

This combination circuit consists of three cascaded filters: a Bezier filter, an IIR filter and a

second Bezier filter. It represents a good compromise between transient response and frequency response. Advantages: Virtually no pre-echo, minimal post-echo (in masking range), relatively flat frequency response, no pronounced treble loss.

Filter 4 (Bezier-filter)

The Bezier-filter is the ideal filter in terms of transient response, virtually no pre- or post-echo, linear phase, slight treble roll-off at 20 kHz. Advantages: Optimum transient response, linear phase, constant group delay.

2-way-converter

Multi-bit and Sigma/Delta (1-bit) converters each have their own advantages in terms of sound quality. Whereas the multi-bit converter provides outstandingly impressive and well-rounded sound characteristics, especially in the bass range, Sigma/Delta converters offer unexcelled clarity, fine detail and resolution in the high-frequency range. For the first time in the world the **CD 1220 R** combines the advantages of both types of converter.

In fact the **CD 1220 R** features no fewer than three converters on each channel: two Sigma/Delta converters in double-differential mode and an additional 20-bit multi-bit co-linear converter. The multibit DAC is responsible for the conversion process in the bass range, while the primary use of the Sigma/Delta types is in the mid-range / treble area. The net result of these innovations is improved sound plus significant reductions in residual background noise and harmonic distortion compared to products exploiting the previous state of technology.

Specifications:

<i>Mechanism</i>	Professional, close-tolerance linear disc mechanism with triple-beam LDGU optics, 780 nm semi-conductor laser, 2 mW power
<i>Wow and flutter</i>	Quartz-controlled, not measurable
<i>Mechanical construction</i>	Rigid all-metal case, multi-shielded sub-assemblies, multi vibration de-coupled
<i>D/A converter</i>	Double differential mode. Two 1-bit Sigma-Delta converters with 256-times total oversampling and two multibit DAC 20-bit co-linear converters in 2-way circuit
<i>Filter</i>	<u>FIR kurz</u> , <u>FIR lang</u> , <u>IIR</u> -, <u>Bezier</u> -, <u>Bezier-IIR</u> -Filter
<i>D/A converter type</i>	Double differential mode. Two 1-bit Sigma-Delta converters with 256-times total oversampling and two multibit DAC 20-bit co-linear converters in 2-way circuit
<i>Analogue filter</i>	Phase-linear Bessel filter, 3rd order with 60 kHz limit frequency
<i>Frequency response</i>	20 Hz - 20 KHz
<i>Distortion / intermodulation</i>	< 0,0015 %
<i>Effective system dynamics</i>	97 dB
<i>Signal: noise ratio (A-weighted)</i>	109 dB
<i>Signal: noise ratio (unweighted)</i>	106 dB
<i>Digital output</i>	Datenformat: SP-DIF 1 x Opto = 600 nm/-18 dBm

	1 x Coax = 0,5 V / 75 Ohm
<i>Analogue output</i>	nom. 2,6 Veff / 22 Ohm
<i>Dimensions</i>	7,5 x 44 x 39
<i>Remote control</i>	Via R system or as non-standard version
<i>Special features</i>	Completely separate analogue and digital mains power supplies, own transformers for analogue and digital sections
<i>Colours</i>	Black (9005), silver aluminium, chrome (Non-standard version)

We reserve the right to alter technical specifications.