

DVD player - PULSAR DVD 1230 R



Our brand-new DVD player is setting new standards. The DVD 1210 R was the first DVD player to compare favourably with a High-End CD player in every respect, and has been acknowledged for years as the best-sounding DVD player for the audiophile listener. Outstanding test results and first places in reader's choice nominations are ample evidence of the rightness of our concept. The **DVD 1230 R** now assumes its mantle, and incorporates distinct improvements; it combines one of the most advanced metal disc mechanisms available with the latest generation of processors and the proven mechanical sub-chassis layout of our CD players. Naturally we have devoted particular attention to the audio side of the machine, as we were determined to extract optimum sound quality from the high-resolution DVD discs. In our design the audio output is connected directly to the pre-amplifier stages, in order to obtain the best High-End analogue characteristics possible. For the same reason we employ a newly developed converter stage for the audio output, capable of carrying out 384 kHz/24-bit conversion using the switchable filters employed in our CD players. The net result is that our DVD player delivers simply exceptional audiophile sound reproduction with CDs, together with a picture of dream-like quality thanks to the new video board with discrete amplifiers and higher bandwidth.

Connection elements



Analogue Out	The analogue output of the DVD player supplies a fixed-level output signal. It is designed for connection to a pre-amplifier, integrated amplifier or receiver featuring its own volume control.
Digital Out Stereo	Co-axial digital output for connection to an external digital/analogue converter, digital amplifier or digital recorder. Please be sure to use high-quality 75 Ohm cable terminating in Cinch connectors. This output always supplies a digital stereo signal.
Digital Out Surround	Optical digital output for connection to a digital surround decoder. This output supplies PCM, AC-3 and DTS signals. Co-axial digital output for connection to a digital surround decoder. Please be sure to use high-quality 75 Ohm cable terminating in Cinch connectors. This output supplies PCM, AC-3 and DTS signals.
Analogue Out	Sound output for television sets, video-recorders and surround decoders.
Video Out	Picture output for television sets, video recorders and surround decoders.
S-Video Out	Socket for SVHS television sets, video recorders and surround decoders.
AV Out (Scart)	Socket for televisions, video recorders and surround decoders with SCART connectors. This output supplies RGB and video signals.
R-Link	Control interface for connection to a T+A amplifier featuring the RLink control system.

Drive and mechanism

We use the most modern system on the market: a pressure-cast chassis with a stable linear laser guidance unit consisting of two matched lasers of different wave lengths designed specifically for CD Audio and DVD. The drive reads all types of CD perfectly. The proven mechanical construction of our CD players, with their multiple de-coupling measures, ensures that no mechanical shocks are able to influence the servos. The system is also completely vibration-free, and features outstanding data retrieval capabilities - even with scratched CDs. As in our CD players, the unit features a dual mains PSU, with separate sections for the digital and analogue circuits and separate, generously dimensioned transformers.

Digital outputs

The DVD 1210 R features three digital outputs: one co-ax and one TOSLINK output for connection to surround decoders, supplying PCM and the usual multi-channel formats (AC3, DTS, MPEG), together with a pure stereo digital output. The latter can be connected to a D/A converter or a digital pre-amplifier such as our PD 1200 R. Jitter-free output is guaranteed by the re-synchronisation feature which is used in much T+A equipment; this takes the form of a sophisticated multi-frequency re-synchronisation circuit.

Sampling rate conversion with 5 switchable conversion algorithms 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.

Specifications

<i>Disc drive</i>	Precision aluminium diecast linear drive GaAlAs semi conductor laser: 785 nm / 10mW (VCD / CD) 650 nm / 7mW (DVD)
<i>Synchronism</i>	Quartz-controlled, oscillations not measurable
<i>Formats</i>	CD-DA, Video-CD (1.0, 1.1, 2.0), D-VCD, CD-R single session, CD-RW single session, S-VCD (Chaoji, Shinco, CVD), D-SVCD, DVD Video (SL, DL, DS), DVD-R, DVD+R, DVD+RW 4.7GB Video, Hybrid SACD (CD-Layer only)
<i>Digital filters</i>	Fully programmable 56 bit signal processor, with 5 different filter types for sampling rate conversion to 192 kHz, 8-times oversampling and 56-bit resolution
<i>Filters</i>	FIR short , FIR long , IIR -, Bezier -, Bezier-IIR -filter
<i>D/A converter</i>	Double mono differential circuit, two dual 24 Bit / 384 kHz sigma/delta converters
<i>Analogue filter</i>	Phase-linear Bessel filter 3rd order, 75 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</i>	109 dB
<i>Signal-noise ratio (unweighted)</i>	106 dB
<i>Channel separation 1 kHz / 10 kHz</i>	106 dB / 100 dB
<i>Stereo digital output coaxial</i>	Data format: SP-DIF, 0.5 Vss / 75 Ohms
<i>Surround digital output coaxial</i>	IEC 958 for CDDA / LPCM IEC1937 for MPEG 1, MPEG 2 and AC-3
<i>Surround digital output optical</i>	SP-DIF, TOS-Link , 660nm, -18 dB, leads up to 10 m in length
<i>Digital data format</i>	MPEG / AC-3 (digitally compressed) PCM 16, 20, 24 Bit / 44.1 kHz, 48 kHz
<i>Analogue output</i>	nom. 2,6 Veff / 22 Ohms
<i>TV standard</i>	625 (PAL, 50 Hz) 525 (NTSC, 60 Hz)
<i>Video format</i>	MPEG 1 für VCD MPEG 2 für DVD
<i>DVD resolution</i>	Horizontal 720 pixels Vertical 576 lines (50 Hz) / 480 lines (60 Hz)
<i>VCD resolution</i>	Horizontal 352 pixels Vertical 288 lines (50 Hz) / 240 lines (60 Hz)
<i>Video output</i>	1.0 Vss / 75 Ohms
<i>S-Video output</i>	Y = 1.0 Vss / 75 Ohms C = 300 mVss (burst) / 75 Ohms
<i>RGB (SCART output)</i>	0.7 Vss / 75 Ohms
<i>Analogue audio output</i>	1.9 Veff / 450 Ohms
<i>Dimensions</i>	7,5 x 44 x 39 cm
<i>Remote control</i>	FBS 12 included

Colours Black (RAL 9005), silver aluminium, chrome (Non-standard version)

We reserve the right to alter technical specifications.