May 2011

CD22 Design Brief, 3 pages.

CD22 CD player

The CD22 is the successor to and upgrade for the successful and acclaimed CD21 CD player. Every component, from the CD transport to the audio output stage, has been designed to achieve the highest possible audio performance.

Audiophile Topology

The CD22 Compact Disc player is housed in an alloy heavy gauge steel chassis, which provides strength, rigidity, and screening, while being effective at damping vibrations from external sources.

From the CD transport we extract the AES/EBU (balanced S/PDIF) signal and feed it to a superior SRC4392 sample rate converter (user switchable between 44.1kHz bypass, 48 kHz,96 kHz and 192kHz), which incorporates jitter suppression capabilities to ensure that the DACs receive as clean a signal as possible according to the sampling frequency elected.

The CD22 uses a single high-performance Burr-Brown PCM1792 DAC – one of the best single-Bit digital-to-analogue converter/filters available. The current to voltage conversion stage ends in a single-ended output comprising a MOSFET transistor driven by an active current source (preferred to passive resistors).

The CD22 contains no capacitors in the signal path: a DC-servo takes care of any DC offset present in the circuit or from the DACs.

SMD technology is used throughout the design in order to keep the signal paths isolated and as short as possible.

more...

Transport

The CD22 uses a dedicated CD-transport incorporating a Sanyo laser. The Toshiba-based servo circuit incorporates a five second FIFO memory in order to provide the best jitter suppression and protection from mechanical shock.

High Performance Power supply

In order to meet the latest standby power consumption standards, the CD22 incorporates a switch mode power supply for its microprocessor circuit. However all the analogue and digital audio circuits are supplied from a R-core transformer with separate windings for mechanical, analogue and digital circuits. These voltages are closely regulated by a discrete power regulation circuit comprising L-C filters and discrete components. This high performance circuit (low ripple etc.) ensures that more than enough regulated power is available to reproduce with accuracy even the deepest sonic transient capable of being recorded on a compact disc.

This power supply configuration together with carefully designed ground planes and paths, separated circuit boards and discrete current-to-voltage conversion gives the CD22 the especially clean wideband audio performance expected by audiophiles all over the world.

Display and user features

The player incorporates a white VFD display, which is isolated from the audio circuits by the front panel design and is dimmable in 4 steps. When connected to the I22 via IR, the CD22 and I22 display brightness can be matched.

The CD22 sample frequency can be switched between 44.1 kHz, 48 kHz, 96 kHz and 192kHz.

The CD22 will play MP3/WMA files from disc or USB stick.

more...

Inputs/Outputs

Inputs: USB interface; IR input 3.5mm; RS232; Trigger in 3.5mm

Outputs: unbalanced RCA analogue outputs are provided together with SPDIF and TOS-link digital outputs. RS232C, IR as well as trigger connections are available for successful integration with home automation systems.

Product specification CD22

Mechanism	Asatech 8210.B01-02, Sanyo SF-P101N
D/A converter	1x PCM1792, 24/192 kHz
Analogue outputs	1 pair RCA, 2.1 Vrms
Output impedance	RCA 100 Ω
Digital outputs	1x S/PDIF (RCA); 1x optical (TOSLINK)
Frequency response	20Hz – 20 kHz -0.5dB
Signal to Noise	20Hz – 20kHz unweighted -100dB
THD + N	20Hz – 20kHz <0.01%
Other inputs	USB interface; IR input 3.5mm; RS232; Trigger in/out 3.5mm
Power consumption	Standby 0.3W; Operation 25W
Dimensions (wxdxh)	430 x 375 x 106 mm
Net weight	10.5 kg
Gross weight	13 kg
Colour options	Black or Titanium

Ends.