Infobulletin

CD Errormonitor

Introduction.

The CD Errormonitor is used to collect error information from CD's or CDR's. The CD Errormonitor uses information from the PQ-subcodes contained in each CD. This information is combined with error correcting information from the 'error corrector' inside a CD player. Most Sony type processors can be used e.q. CXD2500BQ, CXD1125/30/35, CXD2515 and many more. The CD Errormonitor is internally connected to the CD Errorprocessor. An optical isolated RS232 connector is used for connecting the CD Errormonitor to a PC running a Windows program (Mac users should use 'SoftWindows'). Status and error information is combined into a easy to read report and graph. Those reports will exactly show all information about a CD:

- Tracklayout table including: Track, Index, Program time, Absolute time, Pre gap length, Track/Index length, emphasis status, ISRC, COPY status and program type (Audio or Data)
- Disc information: UPC/EAN number, total playing time, number of tracks and time and date of analysis
- Error top 5: the 5 most severe errors for BLER ('BLock Error Rate'), BERL ('Burst ERror Length), E32 (uncorrectable errors) and non valid samples.
- Each event will be reported with absolute and program time (program time including track number)
- Graph showing errors: BLER, BERL, E32 and NV(Non Valid samples).It is also possible to indicate the start of a new track in the graphs.

Tests can be made according to the 'Red Book' specification of a 10 second measuring period. It is also possible to use a 1 second measuring period. The electronics of the CD-Errormonitor are assembled on 2 small printed circuit boards: an interface board and a processor board. Both boards are connected with a 24 pole ribboncable. The output is send to a PC for processing. To make sure that there will be no problems with ground loops, the RS232 interface is optically isolated. The CD Errormonitor can also remote control most type of CD player.

Interface board

The interface board buffers and pre-processes all information from the CD player. The error status from the error correction processor in the CD player is saved for further processing. The CD Errormonitor processor will be interrupted when the information is available so it can fetch the stored status and process it. The PQ information from the subcode output is also stored. When the information is complete the 80 bits will be sended to the CD Errormonitor processor for processing. The remote control buffer is also mounted on the interface board. The interface board is connected to the CD electronics by means of 1 ribbon cable. All connections are made to the CD errorcorrecting processor. To facilitate the mounting of the wires to the chip a small adapterboard is used which will be mounted on top of the errorcorrecting processor.

Processor board

This board contains a microprocessor which processes the errorinformation and PQ codes received from the interfaceboard. The result of this processing will be send through a RS232 interface to a PC which runs a Windows based program to produce all the reports. To prevent interference and groundloop problems the RS232 output is fully isolated up to 1500 Vrms. This processor can also send remote control commands to the CD player, which is used for controlling the CD player from the PC. The commands supported by this remote control depends on the type of CD player used.