technical data

MIRAGE CD EMULATOR

The Mirage Universal CD Emulator provides a complete hardware-based CD-ROM emulation system in one high quality package. The Mirage connects to a target machine or games console and acts as a transparent substitute for that machine's CD-ROM drive - the target machine cannot tell the difference! Unlike a CD you can update files directly from the host computer (PC or SG Indy) and then test the 'CD' in seconds without the need for a time consuming build process.

Emulation directly from files

The Mirage gives accurate emulation of all of the target CD mechanism's functions and timings. The Mirage's extremely high performance dual-SCSI bus means that the Mirage has the ability to emulate at full speed directly from files with the Mirage performing the CD encoding on-the-fly.

Quality image building has never been easier
The Mirage is supplied with emulation control software as well as high quality CD build tools.

Designed for the real world
The Mirage lets you introduce fully configurable errors into the data stream for testing error handling in a real world environment. In addition, a 'nudge' facility can simulate knocks to the target. The Mirage also allows you to place hard errors into your emulation files to test redundancy routines.

Emulation logging
The Mirage provides full time-stamped logging of emulation events. By studying the emulation log you can tweak your CD projects for extra speed and functionality.

Personality modules support multiple targets

Personality modules allow the Mirage to be user-upgraded to operate with different targets.

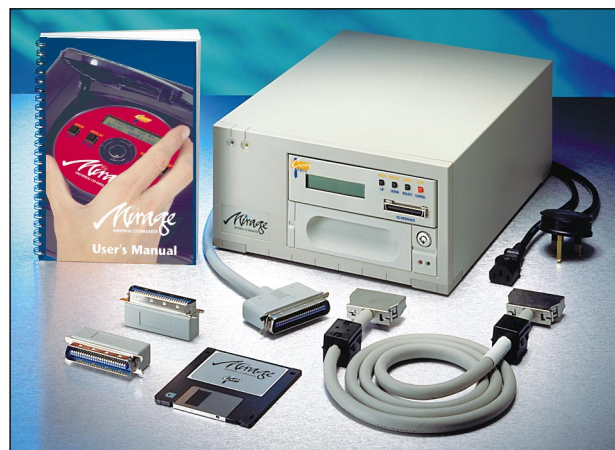### Write gold discs directly from files

The Mirage allows you to connect a standard CD Writer and write gold discs directly from files without the need to build a disc image.

Alternate between projects

The Mirage is supplied with a removable, fast 1GB SCSI hard drive so you can easily alternate between projects just by swapping drives. Drive sizes up to 2GB are supported.

Informative display keeps you in the picture

The front panel LCD display keeps you up to date with the emulation in progress. A complete menuing system for emulation setup and control means that the Mirage can also be used on a standalone basis for demonstrations and exhibitions.

Easily upgradable

The Mirage's firmware is user upgradable. Simply download the new firmware and within minutes the Mirage can have new, improved and up-to-date features, without having to return the unit.
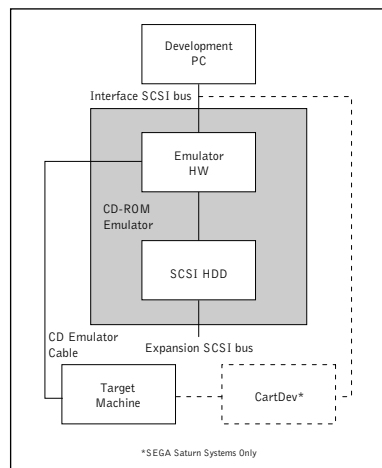
Cost effective

The Mirage's modular design provides the most comprehensive and adaptable emulation system available today - and is flexible enough to meet the needs of the future. The Mirage is an all-in-one unit, complete with a target personality module, slide mounted 1GB hard disk, driver software and universal power supply.

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Development PC

Interface SCSI bus

Emulator HW

CD-ROM Emulator

SCSI HDD

CD Emulator Cable

Expansion SCSI bus

Target Machine

CartDev*

*SEGA Saturn Systems Only

Software

Build tools
Complete set of CD building tools. Supports a high-level scripting language with additional commands to allow the inclusion of file level errors to test redundancy routines.

Emulation Control
Remote control software is supplied so that the emulation can be fully controlled from the development host. Duplicates the commands available from the Mirage's front panel buttons as well as giving logging facilities.

Hardware

Processor and system
25MHz RISC processor with Synchronous DRAM and cache. Enough processing power to emulate from files (no image building required) in real time. Firmware in Flash EPROM to allow fast field upgrades. Non-volatile memory to store configuration and user preferences.

SCSI
Internal high-speed SCSI-2 bus for emulation hard disk, with an external 50-way SCSI connector with removable active terminator to allow for future expansion.
Completely separate, high-speed SCSI-2 bus for development host communications, with an external 50-way SCSI connector. Active terminator required for stand-alone operation.

Emulation interface
Uses Field Programmable Gate Array to allow hardware to be field upgraded with new features and to allow emulation of different CD mechanisms.
Front connector and interface hardware is on a daughter board to allow user upgrades.
Multiple FIFO buffers provide high throughput for emulation of up to 4X speed CD drives.

Display and user interface
16x2 character, high-contrast, backlight LCD. User interface for control and configuration using four push buttons and hierarchical menus.

General
Heavy-duty, steel enclosure with high-capacity universal power supply (100-240V, 50-60Hz).
1Gb SCSI hard disk on lockable slide mount.

PC Personality Module

The Mirage's PC personality module makes the Mirage behave exactly like an external SCSI 4X CD-ROM drive. The PC Mirage has all of the features mentioned overleaf, plus the following:

- Emulation of single, dual and quad speed CD-ROMs (MODE 1 & 2, CD-DA and Mixed)

- Front panel mounted 3.5mm Jack and thumb wheel (volume) allow emulation of audio tracks

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