

SR-1000

Standalone Integrated Media Block™

The time-tested IMB with proven consistent performance



GDC has been at the forefront of cinema technology development since the advent of digital cinema. From a commitment to introducing first-to-market solutions to providing outstanding customer service, GDC is also recognized globally as a leader of integrated media block (IMB) technology. The diskless SR-1000 built-in with CineCache™ 2TB is the company's sixth-generation digital cinema media server designed for near-zero maintenance and minimal total cost of ownership. With its future-proof flexible architecture, SR-1000 offers affordable upgrade options for 4K and a built-in cinema audio processor with crossover.

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SR-1000 Standalone IMB™

Key Benefits

High Reliability

With built-in embedded power electronics used in medical and military products, the overall system stability is ensured. SR-1000 is SGS certified for 100,000 hours MTBF.

**100,000
hours
MTBF**

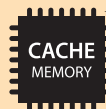
Compatibility with Series 1, 2, 3 and 4 Projectors

The SR-1000 IMB seamlessly integrates with Series 1, 2, 3 and 4 projectors including Barco, Christie and NEC to ensure highly reliable and secure content delivery.



CineCache

The SR-1000 IMB is designed with diskless CineCache (built-in cache memory) available in 2TB offering 3 key advantages:



1 Content ingest and playback can be performed concurrently without local HDD storage in 30 minutes

CineCache 2TB enables incredibly fast content ingest during playback. Content ingest and playback can be performed concurrently without local HDD storage. One average* movie can be ingested within 30 minutes without interrupting playback. It is no longer necessary to wait for the movie to end to ingest content.

2 Incredibly fast content transfer across IMBs

For IMBs with CineCache 2TB, content can be copied at lightning speed across IMBs via 1Gbps LAN without any IMB playback interruption. An average* movie would only take approximately 30 minutes to be transferred between IMBs.

3 High-speed and high-reliability playback in a 3D dual projector system

CineCache 2TB is a superior technology providing very high-reliability playback of 3D content at 120 fps-per-eye in a dual projector system.

* The running time of an average movie is between 90 and 120 minutes.

Supports the Playback of Thousands of Movies

Take full advantage of show scheduling with Ultra Storage technology which is capable of storing over 2,000 movies when combined with Cinema Automation CA2.0. The content is available for playback on any screen, any time. You no longer need to ingest content to each screen for playback, saving hours of time for content management operation.

**ULTRA
storage**

Built-in Wi-Fi with Intuitive Web-based User Interface

Both audio and video features can be configured and controlled remotely through the easy-to-use web-based UI. The web-based UI connected to SR-1000 built-in Wi-Fi is user-friendly and intuitive. With drag-and-drop, filtering and navigating functions, operators can easily switch between tabs or pages. Other than accessing the UI through a computer or a laptop, wireless access is also enabled by using handheld devices such as a smartphone or a tablet.



Technical Specifications

System Interfaces

- 2 x Gigabit Ethernet - (1GbE/RJ-45)
- 1 x eSATA 6 Gbps
- 2 x USB 3.0 (A-Type Female)
- 1 x BNC (video sync input)
- 1 x HDMI® 2.0 (alternative content input)
- 8 x GPI (2 x RJ-45)
- 8 x GPO (2 x RJ-45)

Audio Output

- 16/24-bit AES3, 16 channels, 48/96 kHz (2 x RJ-45)

Audio Processing

- 7 channels 1/3 octave Graphic EQ and independent bass/treble control (non-LFE channels)
- Parameter EQ for LFE channels (Subwoofer)
- Global delay for all channels and independent audio delay (500ms) for individual 8 channels.

DCP Playback

- DCI-compliant
- JPEG 2000¹ - Standard
 - 2K - 24, 25, 30, 48, 50, 60 (2D)
 - 2K - 24, 25, 30 (3D)
 - Option with Upgrade²
 - HFR Option: 2K - 120 (2D); 48, 50, 60 (3D)
 - 4K Option: 4K - 24, 25, 30 (2D)

- MPEG-2/MPEG-4 - SD/HD
- SMPTE Digital Cinema Package (DCP), Interop DCP

Video Processing Features

- Color-space conversion – supports YCbCr709, Rec.709, X'Y'Z', YCxCz
- Deinterlacing
- Scaler to support 2K & 4K projectors

Control

- Web-based graphical user interface
- Cinema Automation - CA2.0
- Automatic playlist programming - CA2.0
- API for control from third-party TMS, NOC systems

Security

- NexGuard® forensic watermarking
- FIPS 140-2 (Level 3 security certified)

Third-party Integration Options

- Third-party TMS
- Third-party 4D systems

Subtitles

- Subtitle overlay
- Projector Cinecanvas™ support

Power Consumption

- Less than 75 W

Storage Options

- CineCache 2TB
- Redundant local hot-swappable storage (up to 32TB) with CineCache 2TB
- Ultra Storage - CA2.0 Centralized Storage Server with on-board CineCache 2TB per screen

Closed Captioning Device

- Support SMPTE430-10

Physical & Environmental

- Dimensions (WxHxD) – 320 x 63.7 x 240 mm
- Weight – 1.4 kg
- Operating temperature – 0°C to 40° (32°F to 104°F)
- Operating humidity – 20% to 90%, non-condensing
- Maximum operating altitude – 10,000 ft. (3,000m) above sea level³

¹ Check with GDC on specific frame rate & resolution support

² Paid license required

³ Depending on the specification of the hard disk



Built-in Cinema Audio Processor for SR-1000

Key Benefits

Built-in Cinema Audio Processor

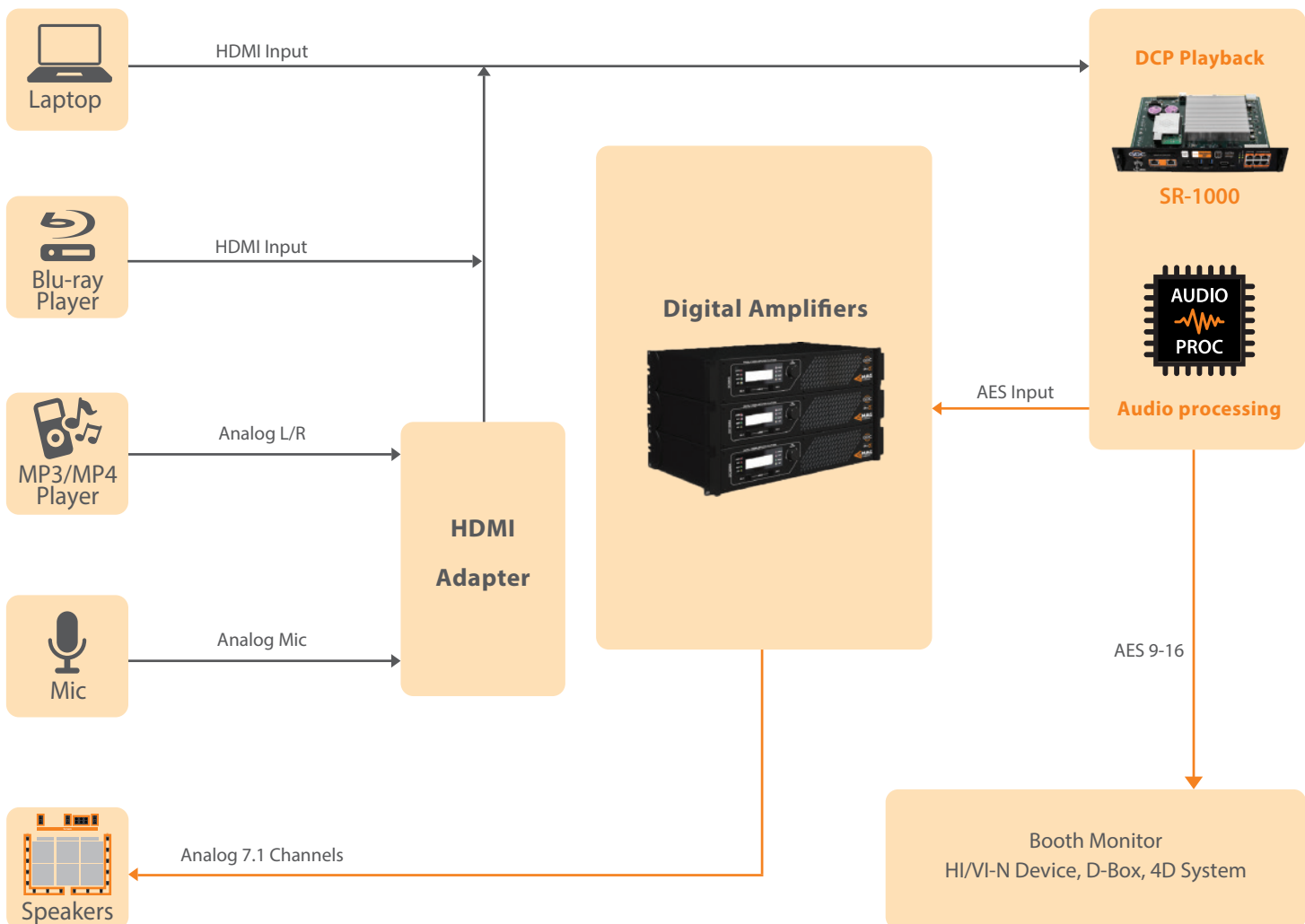
With the built-in cinema audio processor option, SR-1000 offers the capability to provide superior sound designed for 5.1 and 7.1 PCM uncompressed surround sound functionality – the purest digital sound not “contaminated” by compression. The cinema processor license that can be procured remotely from GDC Technology, unlocks the optional built-in cinema audio processor’s features. The embedded robust audio processing engine can achieve precise sound system calibration of the theatre by supporting

- 5.1 / 7.1 audio equalizer (EQ)
 - 1/3-octave graphic EQ with independent bass and treble controls (non-LFE channels)
 - Parametric EQ (choice of dedicated general LFE settings or SMPTE standard LFE settings)
- 2-way crossover with selectable filter type and configurable slope
- Fader (gain adjustment), global and individual channel delay
- Uncompressed audio processing (including LPCM on HDMI input)
- Provides booth monitor output
- Built-in signal generator, mute with configurable fade in/fade out times, wide dynamic range
- Audio input level display, easy configuration back up and restore
- Channel routing & duplication



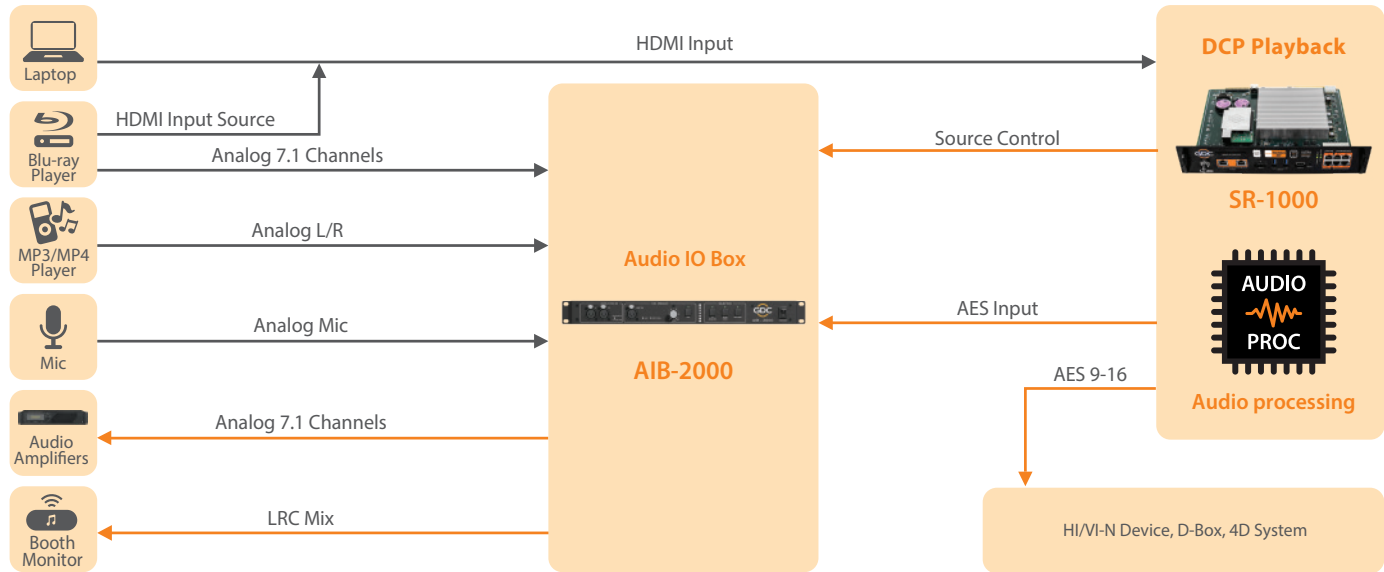
GDC offers an optional Audio IO (Input-Output) Box AIB-2000 for SR-1000, with a built-in 8-channel premium quality digital-to-analog converter (DAC), to interface with external audio equipment such as analog amplifiers, booth monitor, microphone, and media players.

Solution for SR-1000 IMB and Digital Amplifiers*



Built-in Cinema Audio Processor for SR-1000

SR-1000 IMB and Optional Audio IO Box to Interface with External Audio Equipment*



Technical Specifications

Audio Source

DCP source	5.1/7.1 channels (up to 16 channels passthrough)
HDMI input	8 channels PCM
Microphone input (via Audio IO Box or HDMI adapter)	Microphone level input with switchable +48V phantom power, adjustable gain and selectable HPF (via Audio IO Box)
Non-sync input (via Audio IO Box or HDMI adapter)	Stereo line level inputs
Analog balanced 7.1 input (via Audio IO Box)	8 channels analog line level inputs

Audio Output

Digital audio output	16 channels AES3, LCR Monitor, HI/VI-N, LTC (sync for 4D systems) and DBOX motion signal
Analog audio output (via Audio IO Box)	8 channel balanced analog line level outputs

Audio Processing

DSP Processing	32 bits full floating point DSP processing
Graphic EQ for 7 channels (non-LFE channels)	1/3 octave graphic EQ (27 bands) Band gain: -6 dB to 6 dB in 0.1 dB step
Bass/Treble for 7 channels (non-LFE channels)	Bass level: -6 dB to 6 dB in 0.1 dB step Treble level: 12dB to 12 dB in 0.1 dB step Treble corner frequency: 1K/2K/3K/4K Hz
LFE parametric EQ	Center frequency: 20Hz to 120 Hz in 10 Hz step Bandwidth (Q): 0.5 to 10 in 0.1 step Gain: -12~6dB in 0.1 dB step
LFE low pass filter	Default / SMPTE
Crossover	Mode: 2-way Filter type: Butterworth, Linkwitz-Riley Filter slope: -6, -12, -18, -24, -36, -48 dB/octave
Global delay for all channels	-250~200ms
Audio delay for individual channel	0~500ms
Volume control (main fader) for all channels	-90dB~10dB (fader 0~10)
Mute (fade in/out) duration configuration	0.2 to 5.0 second in 0.1 step
Channel gain for individual channel	-22dB~8dB in 0.1 dB step
PCM channel assignment	Yes
Signal generator	100Hz, 1KHz, 10KHz, PinkNoise, sweep
Audio input level meter	8 channels
Backup and restore	Audio configuration presets (equalization (EQ), crossover, channel delay, global delay and gain)
Control	Web-based graphical user interface Cinema Automation CA2.0 Automatic playlist programming CA2.0 API for control from third-party TMS and NOC systems

Performance

Dynamic range (via Audio IO Box)	>105dB
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*The actual system configuration may vary depending on specific application requirements. Please contact GDC for further details.

