

# SR-1000

## Standalone Integrated Media Block™

The time-tested IMB with proven consistent performance



GDC Technology 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 services and technical support, GDC is recognized globally as a leader in Integrated Media Block (IMB) technology. The SR-1000 is the company's sixth-generation digital cinema media server designed for near-zero maintenance and minimal total cost of ownership. The SR-1000 supports playback of SMPTE and Interop digital cinema packages (DCP) at bit rates up to 500 Mbps<sup>1</sup>, showcasing the high quality standard in the industry.

With its future-proof flexible architecture, the SR-1000 offers several affordable options, including 4K, a built-in diskless 2TB/4TB CineCache™ storage, and built-in DTS cinema audio options such as DTS Surround and DTS:X for IAB formats. Its DTS:X for IAB Immersive Audio solution supports SMPTE ST2098-2 immersive audio bitstream (IAB) standard, which was developed to deliver a single interoperable audio format for global theatrical distribution.



**SR-1000 IMB: Highest Performance in Reliability**  
**Certified by SGS for 100,000 Hours Mean-Time-Between-Failure**

<sup>1</sup> Depending on the SR-1000 option chosen.



GDC Technology manufacturing facility is ISO 9001:2015 certified.

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# Key Benefits of SR-1000 Standalone IMB™

## High reliability

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



## Compatibility with Series 1, 2, 3 and 4 projectors and major cinema LED displays

The SR-1000 IMB seamlessly integrates with Series 1, 2, 3 and 4 DLP Cinema® projectors including Barco, Christie and NEC to ensure highly reliable and secure content delivery. The SR-1000 IMB can also be adapted for cinema LED displays.

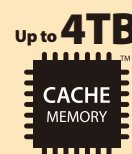


## Different options to optimize storage capacity to improve content access and processing speeds.

### Up to 4TB built-in CineCache with benefits such as

#### 1 Movie ingest in just 30 minutes without interrupting concurrent playback

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



#### 2 Incredibly fast content transfer across IMBs

For IMBs with CineCache, content can be copied at lightning speed across IMBs via 1Gbps LAN without any IMB playback interruption. An average<sup>+</sup> movie only takes approximately 30 minutes to be transferred between IMBs.

#### 3 High-speed and high-reliability playback of HFR and HDR contents

CineCache is a superior technology providing high-reliability playback of content with high frame rates and data rates that are much higher than standard DCPs.

### Up to 6TB through seamless integration with external RAID SSD Storage

The compact and lightweight RAID SSD Storage PSD-4000-SSD Series offering RAID-5 3TB, 4TB, and 6TB. Exhibitors can conveniently move the PSD-4000-SSD box to instantaneously share the entire library of content with other auditoriums.



### Supports the playback of thousands of movies

Take full advantage of show scheduling with Ultra Storage technology which is capable of storing over 3,000 movies when combined with Cinema Automation CA2.0. The content is available for playback on any screen, at any time. You no longer need to ingest content to each screen for playback, saving hours of time for content management operation.



<sup>+</sup>The running time of an average movie is between 90 and 120 minutes.

## Built-in DTS cinema audio options

The SR-1000 offers three built-in cinema audio processing options: 1) DTS Surround, 2) 15.1 cinema audio processor with DTS:X for IAB rendering, or 3) a built-in DTS:X for IAB rendering up to 32 channels. These options are cost effective solutions for premium large format and specialty auditoriums for DTS:X for IAB immersive audio and DTS Surround Cinema, providing the cinema with superior audio quality.



## 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 the 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.



# SR-1000 Standalone IMB™

## Technical Specifications

<b>System Interfaces</b>	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)
	2 x 3G-SDI (alternative content input) <sup>1</sup>
	8 x GPI (2 x RJ-45)
	8 x GPO (2 x RJ-45)
<b>Audio Output</b>	AES3 - 24-bit, up to 24-channel, 48 KHz (2/3 <sup>1</sup> x RJ-45)
	AES67 <sup>1</sup> - 24-bit, up to 32-channel, 48 KHz
<b>Audio Processing</b>	Up to 32-channel DTS:X for IAB decoder
	Up to 15-channel 1/3 octave Graphic EQ and independent bass/treble control (non-LFE channels)
	Parameter EQ for LFE channel (Subwoofer)
	Global delay for all channels and independent audio delay (500ms) for individual channel
<b>DCP Playback</b>	DCI-compliant
	JPEG 2000 <sup>2</sup> - <u>Standard</u>
	2K - 24, 25, 30, 48, 50, 60 (2D)
	2K - 24, 25, 30 (3D)
	<u>Option with upgrade<sup>3</sup></u>
	HFR option: 2K - 120 (2D); 48, 50, 60 (3D) 4K option: 4K - 24, 25, 30 (2D)
<b>Video Processing Features</b>	SMPTE and Interop Digital Cinema Packages (DCP) at bit rates up to 500 Mbps <sup>1</sup> ; IAB; DTS:X
	Color-space conversion – supports YCbCr709, Rec.709, XYZ <sup>1</sup> , YCxCz
	Deinterlacing
	Scaler to support 2K & 4K projectors
	MPEG-2 H.264
<b>Control</b>	Web-based graphical user interface
	Cinema Automation - CA2.0
	Automatic playlist programming - CA2.0
	API for control from third-party TMS and NOC systems
<b>Security</b>	NexGuard® forensic watermarking
	FIPS 140-2 (Level 3 security certified)
<b>Third-party Integration Options</b>	Third-party TMS
	Third-party 4D systems
<b>Subtitles</b>	Subtitle overlay
	Projector Cinecanvas™ support
<b>Power Consumption</b>	Less than 75 W
<b>Storage Options</b>	CineCache 2TB/4TB
	Redundant local hot-swappable storage (up to 32TB) with CineCache 2TB/4TB
	Ultra Storage - CA2.0 Centralized Storage Server with on-board CineCache 2TB/4TB per screen
<b>Closed Captioning Device</b>	Support SMPTE430-10
<b>Physical &amp; Environmental</b>	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 level <sup>4</sup>

<sup>1</sup> Depending on the SR-1000 option chosen

<sup>2</sup> Check with GDC on specific frame rate & resolution support

<sup>3</sup> Paid license required

<sup>4</sup> Depending on the specifications of the hard disk

# Built-in Cinema Audio Processor

## Technical Specifications

### Audio Source

DCP source	5.1/7.1 surround sound channels and up to 32-channel DTS:X immersive audio supporting IAB
HDMI input	8-channel PCM
Microphone input (via AIB-2000/2800/3000 or HDMI adapter)	Microphone level input with switchable +48V phantom power, adjustable gain and selectable HPF (+48V phantom power and selectable HPF available only on AIB-2000 or AIB-3000)
Non-sync input (via AIB-2000/2800/3000 or HDMI adapter)	Stereo line level inputs
Analog balanced 7.1 input (via AIB-2000/2800)	8-channel analog line level inputs
SPDIF input (via AIB-2800/3000)	1x optical fiber, 1x coaxial input

### Audio Output

Digital audio output	Up to 24-channel AES3, up to 32-channel AES67, LCR Monitor, HI/VI-N, LTC (sync for 4D systems) and DBOX motion signal
Analog audio output (via AIB or DAC series)	8/12/16/24/32-channel balanced analog line level outputs

### Audio Processing

DSP Processing (5.1/7.1/15.1)	32-bit full floating point DSP processing
Graphic EQ for 7/15 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 7/15 channels (non-LFE channels)	Bass level: -6 dB to 6 dB in 0.1 dB step Treble level: -12 dB to 12 dB in 0.1 dB step Treble corner frequency: 1K/2K/3K/4K Hz
LFE/Bass management parametric EQ	Center frequency: 20 Hz to 120 Hz in 1 Hz step Bandwidth (Q): 0.5 to 10 in 0.1 step Gain: -12~6 dB in 0.1 dB step
LFE low pass filter	Default / SMPTE
Crossover (for 5.1/7.1 only)	Mode: 2-way
Crossover/Bass management filter	Filter type: Butterworth, Linkwitz-Riley Filter slope: -12, -24, -36, -48 dB/octave
Limiter	Speaker type: passive / active/ external processor
Global delay for all channels	-400~400ms
Audio delay for individual channel	0~500ms
Volume control (main fader) for all channels	-90 dB~10 dB (fader 0~10)
Mute (fade in/out) duration configuration	0.2 to 5.0 second in 0.1 step
Channel gain for individual channel	-22 dB~8 dB in 0.1dB step
PCM channel assignment	Yes
Signal generator	100 Hz, 1K Hz, 10K Hz, PinkNoise, sweep
Audio input level meter	16 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

Analog audio output (via AIB or DAC series)	>105 dB
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