

NEW

# SX-2001A Digital Cinema Server

The stunning solution for both 2K and 4K digital cinema



Touch Panel Control (optional)



SX-2001A Digital Cinema Server

GDC Technology is proud to introduce the new **SX-2001A Digital Cinema Server with built-in Media Block**, our fifth generation digital cinema playback server designed to fully comply with DCI specifications and FIPS-140 security requirements.

The SX-2001A can support both 2K and 4K resolutions that is future-proof based on Texas Instrument's Enhanced DLP Cinema® technology, retaining all of the attractive SA-2100A's features such as:

- 2K/4K DCI MXF JPEG2000 playback
- DCI MXF JPEG2000 3D playback
- MPEG2 MXF Interop playback
- FIPS-140 Certified Media Block
- DCI approved forensic watermarking
- HDTV live streaming capabilities
- Highly stable Linux-based operating system
- Ingest of Digital Cinema Packages (DCPs) via physical media, network and satellite

In addition, the SX-2001A offers increased storage capacity and flexibility with the following unique features standard.

## Unique Features

### Supports NEC, Christie and Barco Series 2 Projectors

The SX-2001A is ready to support series 2 projectors and provide higher processing performance support for applicable DCI requirements and enhanced security for content protection.

### Subtitle Overlay Support on Server

The SX-2001A is capable of rendering multiple-language subtitles and overlaying them over the picture in real-time without relying on the subtitle-rendering features of projectors.

### Closed Captioning Support

The SX-2001A facilitates greater access to motion pictures by displaying closed captions from DCPs on WGBH's Rear Window Captioning devices.



### Redundant Hot Swappable Up to 4TB Storage (Optional)

Up to 4TB of content storage. The SX-2001A uses 3 redundant hot swappable drives that can be easily attached or detached. The SX-2001A is able to remain operational in the event of a single drive failure and minimizes downtime.



### Instant Playback from CRU Drive Sleds \*

The SX-2001A allows for instant playback from the CRU drive sleds without requiring content ingest. This significantly reduces time to screening in emergency situations.



### Swapping of Data Drives for Immediate Content Playback

The SX-2001A allows instant transfer of data drives (i.e. HDD) between servers, making a movie to move quickly from one screen to another.

### Automation Compatibility

The SX-2001A allows bi-directional communication with theatre devices such as cinema control systems, cinema sound processors and cinema projectors, hence making automation of these devices possible and achieving substantial reduction in setup time and possible human errors.

### Support of Performance Log

Ensures performance-related information is captured during the playback of shows is properly logged in a standard format for later retrieval. The log records are digitally signed to prevent tampering.

### FIPS 140-2 Certified Media Block

The SX-2001A ships with a FIPS 140-2 Level 3 Certified Media Block providing the highest level of security recommended by DCI.



### Instant Playback from TMS Library

The SX-2001A allows for instant playback from the TMS content library to the server. This makes available huge amount of content storage for playback, providing flexibility for show management.



### Remote Access of the Screen Management System

Cinema operators can remotely access the SX-2001A using the Theatre Management System (TMS) and Screen Management System (SMS) from a Windows® PC and other mobile devices such as Apple® iPhone™.



### Incorporation of RealD 3D EQ Technology

The availability of RealD's 3D EQ ghostbusting technology in the SX-2001A allows for superior 3D presentations and facilitates seamless integration with RealD 3D exhibition systems.

## Optional Feature



### Quad Link Option (SX-2001AQ) ❖

The SX-2001A can also be upgraded to the SX-2001AQ which features four HD-SDI outputs. This option enables the SX-2001AQ to be used for:

- Highest quality 3D playback with dual stream 12-bit 4:4:4 output images to two projectors simultaneously

Model **SX-2001A**





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due to ongoing product  
development and  
improvement.

GDC manufacturing  
facility is  
ISO 9001: 2000 certified.



PB-0031-1007-V3E

# SX-2001A Digital Cinema Server Technical Specifications

**Physical**

Dimensions 482 (W) x 616 (D) x 177 (H) mm 4RU  
Weight 25kg (55lbs)

**Environmental**

Operating temperature 5° to 40°C (41° to 104°F)  
Operating humidity 20% to 90%, non-condensing  
Operating altitude 10,000ft. above sea level

**Power**

Power requirement 100 to 240V AC ± 10%,  
50/60Hz (15A max.)  
Max power consumption 300W  
Redundant power supplies Redundant internal hot swappable x 2  
Uninterrupted power supply (UPS) with surge protection (optional) 3-way, meets IEEE STD 587 Cat. A 6KV test

**Video Performance**

Formats (MPEG) 1280 x 720, 1280 x 1024, 1920 x 1080,  
1920 x 1080, 1998 x 1080, 2048 x 858,  
2048 x 1080, 4096 x 2160  
Formats (JPEG) 23.98, 24, 25, 29, 29.97, 30, 50, 59.94,  
60 fps  
Frame rates (MPEG) 23, 24, 48 (3D), 25, 29, 30 (HD)  
Compression JPEG2000, MPEG2 MXF Interop  
Packaging DCI Digital Cinema Package (DCP), DSR™

**Video Output**

Single link HD-SDI SMPTE 292M 10-bit 4:2:2 YUV  
Dual link HD-SDI SMPTE 372M 12-bit 4:4:4 RGB/X'Y'Z',  
Dual SMPTE 292M 10-bit 4:2:2 YUV  
(for 3D playback)  
Quad link HD-SDI ❖ Dual SMPTE 372M 12-bit 4:4:4 RGB/X'Y'Z',  
(optional) (for 3D or dual 2D playback)

**Audio Output**

Digital uncompressed audio 16 channels (XLR-M x 8, AES/EBU)  
48/96 KHz, 16-bit/24-bit  
D-sub 26-pin  
Audio Offset +/- 500 frames

**System Interfaces**

Ethernet 2 x RJ-45  
(1 x 10/100 BaseT,  
1 x 1000 BaseT)  
USB2.0 6 x USB A-Type male

16-port GPI/Os  
DVD-ROM drive \*  
HDD sled \*  
DVB-ASI (optional)

D-sub 37-pin  
Read speed 8x  
CRU-Dataport DX 115  
BNC, CENELEC  
EN 50083-9 standard  
270Mbps < 2.8ppm  
D-sub 9-pin  
Modem Interface with remote sensing software

RS232  
Modem Interface with remote sensing software

**Storage**

Redundant hot swappable 2000GB  
(Upgradeable to 4000GB)

**Security**

AES 128-bit encrypted data storage  
GDC conditional access system  
CineLink II™ link encryption  
Thomson NexGuard® forensic watermarking  
FIPS 140-2 Level 3

**Subtitles**

Instant subtitle overlay on server

**Reference I/O**

Analog Genlock Bi-level, Tri-level

**User Interface**

External Panel Control (optional)  
Windows® PC network control  
Integrated Control of digital cinema servers and DLP Cinema® projectors  
Remote access to the screen management system (SMS) and server user interface

**Language Versions**

English  
Simplified Chinese  
Traditional Chinese  
Korean  
Japanese  
Spanish

**Third-Party Integration Options**

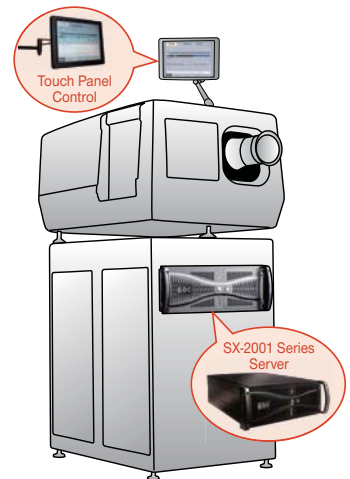
CineDigm Theatre Command Center® v3  
Library Management Server®  
RealD RealD 3D EQ  
Dolby Dolby 3D  
WGBH Rear Window Captioning Device  
D-BOX Technologies D-BOX Motion Code™

## SX-2001 Series Digital Cinema Server

The SX-2001 Digital Cinema Server is available in various configurations to suit the differing needs of cinema owners. Cinemas that already utilize a theatre management system (TMS) will find the SX-2001T and SX-2001TQ a cost efficient choice. Meanwhile, cinemas not using TMS can benefit from the increased ingest options available in both the SX-2001A and SX-2001AQ.

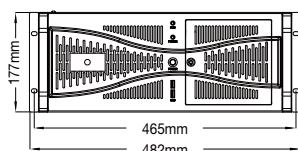
Model No.	SX-2001	SX-2001Q	SX-2001T	SX-2001TQ	SX-2001A	SX-2001AQ
Description	Basic Model	Basic Model with Quad-Link	Advanced Model for TMS Integration	Advanced Model with Quad-Link for TMS Integration	Advanced Model	Advanced Model with Quad-Link
DVD-ROM Drive					●	●
HDD Sled					●	●
Redundant Power Supply			●	●	●	●
GPI/O			●	●	●	●
Hot swappable HDD x 3 units			●	●	●	●
Quad-Link HD-SDI		●		●		●

\* Only available in SX-2001A and SX-2001AQ ❖ Also available in SX-2001Q and SX-2001TQ

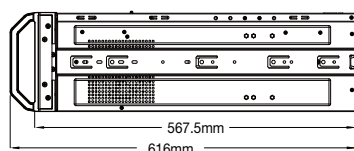


Series 2 DLP Cinema® projector with SX-2001 Series server

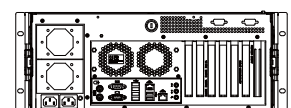
## SX-2001 Series Digital Cinema Server Technical Drawings



Front View



Side View



Back View