

Grand Cinema™
C3X



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"The best way to predict the future
is to invent it"

Alan Kay

Simply the world's smallest, top performing 3-chip projectors for home theater applications

A home theater creates an exclusive domain within your living space, where you're immersed in a total entertainment experience. This is best achieved by using a 3-chip DLP® technology based projectors.

SIM2's Grand Cinema™ C3X series - featuring three models, namely C3X, C3X LINK and C3X LITE - has been created to fulfill the needs and dreams of discerning customers seeking to enjoy a truly high-end "ultimate cinema experience".

All this from the smallest, lightest and most elegant 3-chip DLP® projectors ever made. This was achieved after a lengthy, thorough study of projector design and significant investments in R&D.

The Grand Cinema™ C3X is not just another 3-chip projector series - SIM2 engine and electronics solutions make the difference!

SIM2's R&D expertise has made it possible to reduce the size and increase performance of this 3-chip design, creating a sophisticated and innovative product series.

Meeting customers' needs is as simple as building the right product.



Throughout the years, SIM2 has unveiled many new products, each one unique and innovative for its time. A continuous development program, fuelled by a genuine passion for creating the finest quality products is at the heart of the company's strategy. SIM2 is all about taking a new idea and developing it into highly desirable products.





"The exterior form hints to the internal functions; A form recalling shapes of the past and a strong personality. The C3X series cannot camouflage itself but becomes an attractive element that suits a diversity of interior decoration styles."

Giorgio Revoldini

Amazingly attractive

For many, the cabinet design of a product is almost as important as its performance, particularly when it will be placed in the middle of a living room. The Grand Cinema™ C3X is elegance at its best; Italian Concept Designer Giorgio Revoldini has once again delivered a design with smooth curves in keeping with previous Grand Cinema™ models and very easy on the eye. A true Italian masterpiece available in Silver Grey cabinet color.

Think Slimmer

Big, bulky, 3-chip projectors are on their way out thanks to SIM2's new Grand Cinema™ C3X projector series.

The C3X is extremely compact, measuring only 435x190x430mm or 17.2"x7.5"x16.9" (WxHxD) and weighting a mere 11 Kg or 24.3 lbs. (-70% and -50% respectively compared to other 3-chips). Put simply, a full-blown, top quality 3-chip projector in a case half the size!





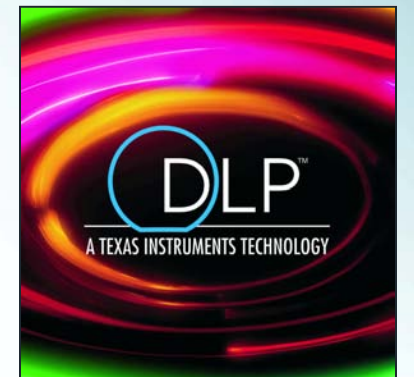
3-chip DLP®-system:

The Grand Cinema™ C3X series utilizes Texas Instruments' HD2+ DarkChip™3, commonly referred to as the DC3 chip. The DC3 chip embraces a series of refinements aimed at enhancing performance and delivers all the detail available from today's high definition sources without the usual 'pixilation' or 'screen door' effects that afflict other projector technologies.

DC3 chip in detail:

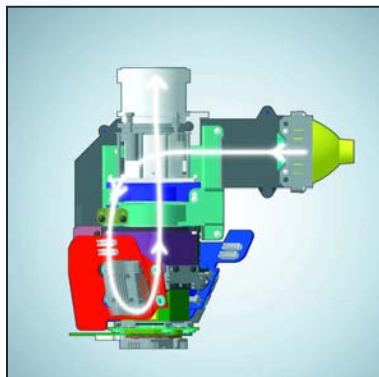
A DMD chip contains an array of hinged microscopic mirrors that recreate a video or graphic image by reflecting light onto a projection surface (screen). When a DMD mirror tilts away from its light source, a tiny space is opened into which stray photons can stumble. In first-generation DMD systems,

these particles of light occasionally escaped to screen, subtly affecting the contrast ratio of the projected image. In the DarkChip™ DMD generation, a light-eating "dark metal" coat is applied to the interior of each chip, preventing stray light from traveling to screen when the mirrors are switched off. The unique features of the DarkChip3™ (reduced via size and pixel gap) reduce the scattering of light, resulting in increased image contrast (+25%) and an improved black color point / perception of black. Also, the DarkChip3™ is a Fast Track Pixel (FTP) chip that allows approximately 50% reduction of the detrimental 'dithering' effect, for an exceptionally natural, crystal clear image.



How it works and advantages:
DLP® technology-enabled projectors for very high image quality or high brightness applications such as cinema and large venue displays rely on a 3 DMD-chip configuration to produce stunning images, whether moving or still. In a 3-chip system, the white light generated by the lamp passes through a prism that divides it into red, green and blue. Each DMD chip is dedicated to one of these three colors; the colored light that the micromirrors reflect is then combined and passed through the projection lens to form an image.





SIM2 Alpha Path Light Engine:

A basic feature of SIM2's system is its compact structure, which is obtained by overlapping the optical light-path to the projection lens (hence the name of ALPHA-type structure).

Compact 3-chip DLP®-based light engine by SIM2

The core and most critical component in a Home Cinema Front Projection unit has always been its light engine. Image accuracy of a projector is governed by the quality of this piece of precision optical engineering. A delicate balance is required between light engine, DLP® chipset and control electronics, in order to

optimize the performance of each. SIM2 developed a new innovative system to re-size the illumination optical path while maintaining its length (necessary for correct picture aberration control) and SIM2's famous compact design (required for installation and interior-design constraints).

This folded light path, patented and named ALPHA Path™, is the result of SIM2's advanced optical and thermal analysis.

Accurate management of the internal light path, without any kind of scattering or thermal dispersion, is achieved by utilizing a special coating on the inner surface, together with the prisms' TIR (Total Internal Reflection) control and optimized Relay Optics.

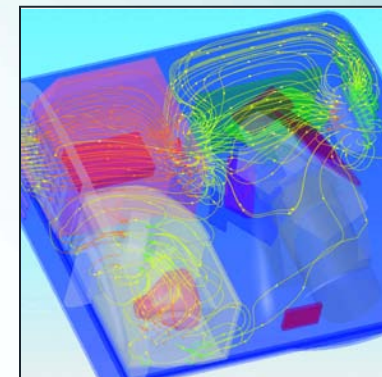
SIM2 customized optical components, lenses and prisms, are used throughout for optimum performance. The DarkChip™3, coupled with SIM2's light engine, delivers excellent contrast (6500:1 typical for the Grand Cinema

C3X and C3X LINK models and 5500:1 typical for the C3X LITE) and image richness.

SIM2 Thermal Management

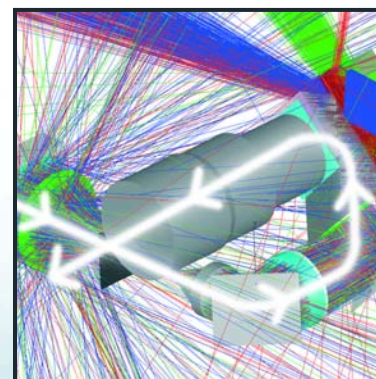
Accurate thermal and fluid-dynamics analysis was carried-out by SIM2's R&D department during the design of Grand Cinema™ C3X, this aided in the creation of a light engine that avoids excessive light spill and overheating of the light path.

Cooling of the projector is particularly clever, with side mounted intakes and exhausts, efficient fans and an innovative 'heat pipe' – a heat transfer



mechanism that can transfer large quantities of heat away from the light path - all forming the cooling system. All this adds up to one of the quietest - and coolest - projectors on the market.

SIM2's Alpha Path Light Engine:	
DMD chip (Red)	
DMD chip (Green)	
DMD chip (Blue)	
High quality, spurious particles-free glass lens	
Lamp	



Raytracing: The picture illustrates raytracing used to identify stray light sources inside the optical path and prism assembly. Accurate simulations modelling ON and OFF DMD states and coating on prisms surfaces have been performed to evaluate DMD diffraction and risk of ghost images, as well as to optimize contrast. Color splitting and recombining has been fully modelled to guarantee highest efficiency and purity of colors.

SIM2's Live Color Management

The Grand Cinema™ C3X series is loaded with a variety of software options for adjusting picture quality and has plenty of memory locations to store different preferences.

SIM2's Live Color Management offers complete control over color temperature via 36 predefined adjustments corresponding to specific points on the CIE chart that defines color hue and saturation.

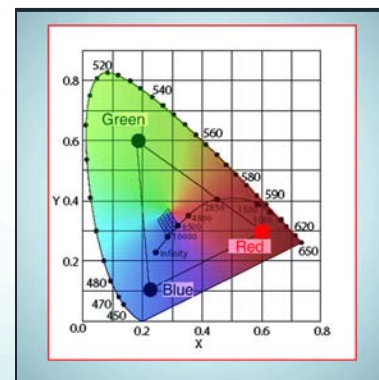
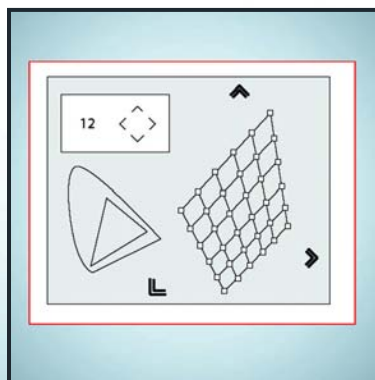
The horizontal lines set the low (right side, red component, 6.500°K) and high temperature values (left side,

blue component, 10.000°K).

The points along the lower horizontal line represent colors that belong to the black body curve.

Along the vertical lines the color temperature is constant but differs from the black body curve; for instance if you select a point from the higher part of the diagram you will increase the green component, while the lower part will increase the purple component.

In addition to having preset memories (3 for each input) that can be adjusted,



saved, and recalled with the press of a button, the Grand Cinema™ C3X also provides additional memory positions for the most discerning home theater enthusiast.

Gamma correction

The Grand Cinema™ C3X series also includes features such as Gamma Correction that determines the system's response to the grey scale; The higher the gamma the faster the brightness decreases with signal intensity. SIM2's C3X projector series has 4 sets of gamma curves available to optimize image-based variations in the source material, ambient lighting, and individual preferences:

- STANDARD for movies,
- ENHANCED to fully exploit the advantages of DLP® technology,
- GRAPHICS for PC and graphic sources, and
- USER with 16 parametric gamma curves (ranging from 1.5 to 3 with a 0.1 increment).



Intelligent Memory Manager

The Grand Cinema C3X projectors can store up to 3 distinct image memory settings for each input. The image parameters that can be saved/recalled are brightness, contrast, color, tint, sharpness, filter, sharpness mode, video type, noise reduction, picture aspect, color temperature, overscan and gamma. Each saved Memory is associated with a source and signal type and is automatically recalled every time that particular source and signal type combination is selected.



SIM2's proprietary light engine, featuring state-of-the-art of optical engineering and several patented solutions, has been designed without compromises to achieve the best performance from video applications.

Extraordinary vibrant colors and true blacks

The Grand Cinema™ C3X blends outstanding sharpness and image stability with remarkable black depth and contrast.

The DarkChip™3, coupled with SIM2's light engine, offers an excellent contrast ratio (6500:1 typical for the C3X and C3X LINK models and 5500:1 typical for the C3X LITE) and image richness: it paints an inky blackness, colors are stunning, each shade drenched in eye-catching opulence.

The latest de-interlacer and video enhancer provide progressive scan support from any incoming picture signal.

Selection of 2 high quality lenses

For ease of installation, the projector series sports the flexibility of two, new spurious particles-free, high quality glass lens options, namely T1 (optional lens with short throw ratio: 1,5-2:1) and T2 (standard lens with long throw ratio: 2-3:1), making it possible to project an immaculate image on a big screen.

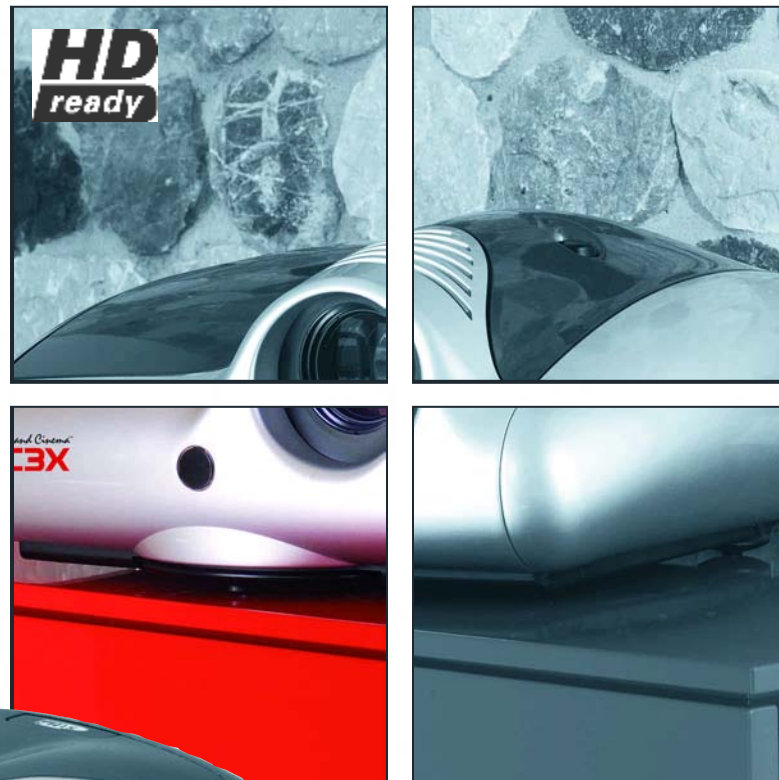
Solar brightness

The Grand Cinema™ C3X is an exceptionally flexible projector, designed to optimize lamp efficiency and lifetime. The C3X and C3X LINK models feature a 250W lamp and are bright enough (up to 2500 ANSI Lumens) to overcome above average levels of ambient light. And, for those who do not require the higher brightness of the C3X and C3X LINK models, SIM2 has developed the C3X LITE projector that is equipped with a lower powered lamp (150W) and a simplified version of the ALPHA PATH™ light engine. The Grand Cinema™ C3X series has also been designed to minimize lamp maintenance operations: a detachable lamp case eases replacement of the lamp. Just extract the lamp case holder from the base of the projector and replace it with a new one: an activity that any SIM2 Customer Service center can carry out.



Unlocking the power of HD

HD Ready - what does it mean? It means that a projector is truly compatible with forthcoming high definition television broadcast format; or in other words, that it is capable of delivering a minimum native resolution of 720 lines in wide aspect ratio, receive high definition input via component analogue or HDMI™-



HDCP digital inputs and accept both 1280x720 pixels 50/60Hz progressive (720p) and 1920x1080 50/60 Hz interlaced (1080i) inputs. It's basically all about lines and pixels: NTSC is the lowest resolution TV systems with 525 lines (480 of which make a full frame), PAL with 625 lines and finally the HD system with up to 1080 lines.

With SIM2's HD ready Grand Cinema C3X projector you will really be able to appreciate all the extra picture quality available from HD with a fantastic level of detail, sharpness and vitality.

Future-proof inputs

The Grand Cinema™ C3X back panel contains everything you need. Video inputs are exemplary with HDMI™- HDCP compliant connection on top of the list! And, as with all products in the Grand Cinema™ line, C3X models can be updated with the latest control software via the RS232 and the USB ports. In addition to this, customers may integrate their unique remote systems with the projector thanks to the C3X IR sensor jack.

But this is not all! The Grand Cinema C3X series will also sport a LINK model, equipped with SIM2's DigiOptic™ Image Processor, the remote unit featuring a wide choice of inputs and linked to the projector through a thin digital fiber-optic cable (0,14" diameter - 3,5mm).

SIM2's DigiOptic™ Image Processor can be installed next to the customer's equipment and up to 12 individual products can be connected at any one time. This concept simplifies installation problems such as issues with interference or losses from long cable runs, electrical interference from telecommunications, power cables and lighting dimmers etc..



The advantages of a remotely-operated system:

- Flexible installations
- Easily upgradable
- Easy servicing
- No décor constraints
- Wideband, security-proof connection





***Grand Cinema C3X Series:
Technical specifications***





C3X LITE C3X C3X LINK

LIGHT ENGINE

DLP® Type: 3 Chip DMDs HD2+ DC3	•	•	•
Resolution: 1280x720 pixels	•	•	•
Lens:	High quality, high resolution improved optics for higher contrast and better black level with both motorized zoom and focus adj.		
Lamp power consumption:	150W dimmable to 132W	250W dimmable to 200W	250W dimmable to 200W

INSTALLATION

Throw ratio: 2,0-3,0:1 (standard lens - type T2) 1,5-2,0:1 (type T1 – on request)	•	•	•
Lens shift: half up picture =+50%	•	•	•
Digital keystone adjustment	•	•	•
Picture size (inches diagonal):	50-250	50-300	50-300
Aspect ratio:	4:3, 16:9 Anamorphic, LetterBox, panoramic, pixel to pixel + 3 custom-user adjustments		

ELECTRONICS

Horizontal & vertical scan freq.: 15-80kHz/48-100Hz	•	•	•
SDTV:	PAL (B,G,H,I,M,N,60); SECAM; NTSC 3,58; NTSC 4,43 automatically selected		
HDTV:	ATSC (480p, 720p, 1080i); 576p + 1080i 50Hz		
PC graphic standard:	VGA, SVGA, XGA, SXGA, UXGA @ 65Hz		
On Board Video Processing	•	•	•
Contrast ratio (Full ON/ Full OFF):	5500:1	6500:1	6500:1

C3X LITE C3X C3X LINK

INPUTS/OUTPUTS

S-Video (mini DIN 4 pins)	1	1	2
Composite Video (RCA)	1	1	2
RGBS-YCrCb (4 RCA)	1	1	-
RGBHV/YCrCb (5 RCA)	-	-	3
RGBHV/YCrCb (5 BNC)	-	-	1
RGBHV (D-Sub 15 pin)	1	1	2
HDMI™-HDCP compliant	1	1	1
OUT Digital Audio (Toslink)	1	1	1
USB connector	1	1	-
DVI (DVI-D)	-	-	1
RS232 (D-Sub 9 pin)	1	1	1
12 V 100 mA (via jack)	2	2	2
Input External IR sensor	1	1	1

GENERAL SPECIFICATIONS

Software control: upgradable via RS232, serial interface or USB	•	•	•
Weight: 11 Kg. or 24.3 lbs	•	•	•
Dimensions (WxHxD): 435x190x430 mm (17.2"x7.5"x16.9")	•	•	•
Mains voltage range: 100÷240 +/-10% (48/62 Hz)	•	•	•

SUPPLIED ACCESSORIES

Installation and User Manual	•	•	•
AC power cords (EU, UK, USA) (2m or 6.6 ft.)	•	•	•
Backlit remote control and batteries	•	•	•
DigiOptic™ Image Processor	-	-	•
Fiber optics cable (20m or 65.6 ft.)	-	-	•

Due to constant product development, specifications and design might be subject to change without notice.

C3X LITE

C3X

C3X LINK

OPTIONAL ACCESSORIES

Ceiling bracket	•	•	•
Fiber optics cable 40 m - 131.2 ft.	-	-	•

