

## SIM2's Yearbook

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### **SIM2 C3X LUMIS HOST Projector Reviewed**

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*The SIM2 LUMIS HOST projector is an apex predator in the ever-changing world of high-end video. Priced at \$39,995, this three-chip DLP projector with **sexy Italian lines** and a mean motor under the hood is designed to give the guys at Runco, Wolf Cinema, Digital Projections and even at JVC one of those "gulp" moments.*



*Mainstream consumers in the middle of the worst recession since the Great Depression might have the same gulp moment when they hear the cost, but the SIM2 LUMIS HOST is not for them. **This projector is for someone with a significant home that includes a media room that commands truly film-like video playback for movies, HD television and legacy content material.***

#### **The Hookup**

I've set up my fair share of projectors over the last 40 years, both film and video. But when I first received the SIM2 C3X LUMIS HOST, their Flagship model, I was very surprised by the **manageability, small size and lightness** of the box. In the past, any projectors that included a **very high light output, such as this SIM2's 3,000 ANSI Lumens**, typically required a robust exhaust system and sometimes a hush box or projection booth, due to the prodigious fan noise. What I found inside the box instead was a small, mostly black-and-silver projector in the same smooth curved lines as other recent SIM2 projectors. The projector's lines looked interpretively like a **big kitten**, or so my wife commented with delight. It was very simple for even one person to unpack and install, including mounting on a ceiling bracket. The other half of this elegant package, the **LUMIS HOST video processor, is a standard two-rack-spaces tall and can be located up to eight hundred feet away from the projector. That's right: the SIM2 C3X projector and LUMIS HOST video processor are connected via a trio of glass fiber optic cables, featuring LT**

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C3X Lumis HOST

snap connectors, **giving them the ability to be separated by previously absurd distances and an ease of set-up found with any other plug and play projector.** It is a heck of a lot easier to pull these optical cables through an existing wall than the typical HDMI wire and termination. In fact, the installation of the two pieces took only half an hour, mostly owing to the site of the projector. There is also an optional motorized SIM2 (CinemaScope System) featuring an ISCO anamorphic lens available (\$15,995 MSRP), which improves the presentation quality for 2.40:1 Cinemascope movies displayed on a dedicated Scope screen, such as the Stewart CineCurve or Director's Choice series of screen products. The ISCO lens is available with a motorized sled (at additional cost) to automate its positioning when an appropriately source is selected on the LUMIS HOST or through a touch-screen system. Clearly, there are some big-boy options for those looking to go all the way with this manly projector.

## Performance

I tested the SIM2 LUMIS HOST System as I do all projectors (both video and film). Each is served a complete regimen of familiar tests and program material (movies, TV shows, video games, lives sporting events, commercials, music concerts and test patterns) from the following sources, with various parameters measured using the Minolta CS-2000 Polychrometer Type Spectroradiometer: Blu-ray, HD DVD, D-VHS, Playstation 3, XBOX 360, HD Cable (Optima), HD Satellite (Direct TV), HD Muse Laserdisc, DVD and Wii. Most of these sources are of the digital variety, emanating from **HDMI connections with HDCP encryption up to version 1.3**, but a few are analog (like HD MUSE Laserdisc and Nintendo Wii), allowing me to make use of the entire plethora of inputs offered, while completely stretching the capabilities of the LUMIS HOST as a video processor, noise reducer and image controller.

**The first and most apparent characteristic to me was just how impressively bright this projector really is.** Flat panel TVs, even the 103-inch variety, offer plenty of light output in a well-lit room, up to and beyond 100 foot-Lamberts. **But creating an enormous projected image the size of a car or even bigger usually requires a tradeoff**, including a darkened image that lacks snap, three-dimensionality and impact, kind of like the last time you attended a planetarium show. **Not so with the Grand Cinema C3X projector. Its 3,000 ANSI Lumen bulb (which is rated to deliver 2,000 hours in full mode) can actually fill a huge home screen of up to 16 feet wide at proper SMPTE and DCI approved light levels of 14-and-a-half foot-Lamberts** (though I also tested the projector on screen sizes from between 12 and 24 feet wide), offering a huge image from a relatively miniscule and quiet projector (54 dB SPL at one meter). With the correct selection of the newest screen materials available, such as a gray or silver high contrast-enhancing retractable screen, **this projector could actually be used in a normally-lit living room to great widescreen effect.** But I must point out that, when installed in a completely darkened dedicated home theater room, this projector's qualities shine through immediately and repeatedly: a **striking contrast ratio measuring in**

**excess of 32,000:1** (after calibration) using the automatic iris and dynamic black level functions, an extended x.v. deep color-space capability, and the full 1,920 x 1,080P HDTV resolution we should all expect.

From the first moment I turned it on and watched the latest HD re-mastering of Star Trek: The Original Series Volume 1 & 2, HD DVD and Blu-ray, respectively), it demonstrated a **range of colors, hues and subtle shadings** that all looked very **immediate and realistic** in a way that video projection rarely does. It was much better than this material has ever looked before, whether viewed from 35-millimeter film projection or previous incarnations on various video formats. This was just like looking back in time through a large bay window to gaze upon the young William Shatner and Leonard Nimoy warping around the galaxy. It turns out that the Texas Instruments **DarkChip 4 triple DLP engine chosen and fine-tuned by the SIM2 engineers produces images that exceed SMPTE film and television standards when it comes to color, contrast ratio and light output** from the very cool-running, user-replaceable UHP lamp. So while enjoying particularly well-photographed and mastered program material, such as IMAX portions of Batman: The Dark Knight on Blu-ray, one will experience **daylight scenes with an apparent brilliance normally reserved for flat panel TVs. But this brilliance does not corrupt the black level**, which thankfully demonstrates a high degree of shadow detail with a "reach out and touch someone" subtlety and vividness that are rare to experience in displays of any era and are much more reminiscent of older CRT technology.

**The SIM2 Grand Cinema projector recreates images that are film-like in the best sense of the term, while also preserving the inherent characteristics of material shot at film or video frame rates.** Although the C3X LUMIS HOST system does not offer the newer 120 Hz up-sampling option, which I have found on more recent LCD and Plasma TVs, **any motion judder and detail-smearing are purely the result of the source material.** Observing the new Spears & Munsil High Definition Benchmark Blu-ray Test Disc's Montage of Images (shot with the Red One 4k camera, then scaled to 1920 x 1080p/24) produced film-like judder, as one would expect when watching 24p material. But 1080i/60 and 1080p/60 material both looked great, smoother of course due to the higher frame rate, but also more transparent due to the temporal detail and color rendering. I found that 1920 x 1080i/60 HDTV News feeds from CBS, NBC, WB and CNN could all be observed to have much more detail and color definition than their 1280 x 720p counterparts: FOX, ABC and ESPN, to name a few. While the Food Network (1080i/60) offered up a feast of complex colors, hues and fine details, making it very easy for me to discern the creative hand of the director in choosing cameras and in adjusting color grading and the lighting balance for maximum appeal and saleability. Some good examples I examined were HD versions of The Barefoot Contessa, Good Eats, Giada's Weekend Getaways and Unwrapped. They proved to be intoxicatingly compelling video demos in my theater.

Like so many front projectors created during the last five years, the Grand Cinema **C3X LUMIS HOST System features a user-defeatable automatic iris control and separate dynamic black level option.** These extend the contrast ratio and black level by a factor of four F-stops by closing the lens down to a small aperture during scenes of low general intensity and adjusting the video output appropriately to match. While the newest three-chip DMD DarkChip4 projector engines already sport a fantastic internal optical contrast ratio in excess of 100,000:1, in real-world tests, engaging the **dynamic control options** did indeed improve the black level noticeably, resulting in deeper and more detailed blacks, with near-black components being displayed closer to the way they are actually seen in real life. The only tradeoff apparent was the occasional impression of not seeing the image "pop" as much as without the dynamic controls - there was a certain murkiness that pervaded some of the brightest scenes. There was occasionally also some dynamic pumping of the contrast (or flickering), particularly during the beginning and end of movie credits, and also during scenes with subtitles, wherein the intensity of the white lettering appeared to increase and decrease somewhat at random against the steady background intensity of the program material. Thankfully, although I was aware of this issue, it rarely served as a distraction during actual viewing. It helped enormously in the case of the HBO series True Blood, which has many **scenes that take place in the dead of night. These look just as they would if you were outside in the woods in the dark. Shadow details were visible all the way down to zero percent of the signal,** equal to or higher than level 16 (equal to black) of the 256 levels available for consumer digital video carried through an HDMI cable and interface (where 237 equals white). This also demonstrated the **Lumis Host's tremendous control over noise,** especially in the darkest parts of the picture. Likewise, other scenes in the story are set in bright sunny daylight, and these open up like the genuine article experienced directly in the middle of summer. It's eye-popping. Just before I finished this review, the SIM2 engineers assured me that this issue had been eliminated.

### Low Points

With such a well-built projector featuring cutting-edge image quality, there must be something to complain about, right? And here it is: with today's HD sources like Blu-ray Disc, HD cable and satellite, several HDTV standards are in use, varying from program to program and from channel to channel. On HD DVD and Blu-ray discs, menus might be displayed at 1080p/60, while the actual movie is displayed at 1080p/24, with the special features (from a previous DVD release) encoded at 480p. This variable video format issue is also problematic when changing channels on cable and satellite TV. Some networks, such as Fox, ABC and ESPN, all continue to broadcast at 720p instead of the otherwise ubiquitous 1080i/60. So when changing channels randomly, the LUMIS HOST will pause for up to six seconds, with the screen going dark, except for a temporary dialogue that tells you what frequency the projector is currently receiving. You will therefore experience muting of the image every time the projector re-adjusts to display a new incoming frequency

or source. I found this particularly annoying, because I wound up waiting for the projector/LUMIS HOST to catch up with me. Some may find this perfectly acceptable, particularly if they are used to putting up with a slow tuner in a digital TV, but this bothered me each and every time I watched a movie on disc or flipped channels while watching native resolution, despite knowing that the image would come back.

Another issue of concern was the actual color temperature straight out of the box. It was noticeably green (observed by my wife), giving flesh tones a limey look. The user-adjustable color temperature controls, with an interface in the user menu that is a diagram of the very center of the 1931 CIA color chart (an industry standard), might lead one to think that the C3X projector had been specially calibrated at the factory in Italy to be as absolutely correct as possible. Not so, apparently, as SIM2 indicates that the projector's color calibration is delivered within a certain acceptable range that is close enough for most people. My feeling is that a device with this much adjustment capability and costing a premium should come from the factory tuned to within a millimeter of its life. Measurements confirmed the initial green tint to be way out of HDTV specifications. Thankfully, the plethora of user controls include eight different pre-assigned color temperatures, such as 9000, 7500, D6500, 5000, etc., along with a single user-programmable setting; I used this last feature for most of this review. Using the supplied controls, I was able to reduce the green output of the brightest (gain) part of the image to a point where well-known subject matter and test patterns looked and measured correctly. SIM2 does offer color calibration software called Live Color Calibration with the projector, which utilizes a laptop and an Ethernet connection to conduct a complete calibration of the color primaries (red, green, blue) and secondaries (yellow, cyan, magenta), using an external meter that you supply. This allows an ISF or SMPTE video calibrator the ability completely dial in these critical parameters and several others, including gamma. Yet, as a video calibrator of 40 years, I was completely unable to establish two-way communication between the projector and a laptop, which would have been my hope in order to completely evaluate the capability of this projector and video processor combination. I will report back about the factory calibration software's actual operation and effect in the near future if possible.

The very last issue is typical of most projectors and TVs straight out of the box: the user controls are definitely in need of adjustment in order to produce a transparent image. While things were certainly viewable, many owners of this system may never think about the possibility that it could look like an open window if only the controls were adjusted properly. In this particular case, there was not a single user control, other than perhaps the contrast, that was remotely near where it needed to be set after a proper SMPTE and ISF calibration of the user controls. So, for Kubrick's sake, if you are going to own a flat panel monitor or projector, please consider getting it calibrated professionally, or at least buy and utilize a test disc to the best of your ability. It will truly make a substantial difference in your viewing experience. Any SIM2 dealer that sells this model will either have access to a hired-gun calibrator or have one on staff.

## Conclusion

If you are one of the people who expect movies to be shown on a really big and wide viewing screen in a dedicated home theater, and you don't mind paying for premium performance contained within a small package that is easily set up, then the flagship SIM2 Grand Cinema C3X LUMIS HOST System is a dream come true. **Its bright 3,000 ANSI Lumen UHP lamp can present movies, television and videogames with amazingly lifelike immediacy and fidelity when paired with a proper screen, even in a partially lit living room environment.**

Utilizing the optional ISCO anamorphic lens offers even further refinements in picture transparency, particularly when viewing widescreen Scope movies using a constant-height variable masking screen, the very pinnacle of the movie theater experience. The Grand Cinema's DLP DarkChip4 three-chip DMD engine allows for considerable contrast ratio and color fidelity in comparison to many other commercially available home theater projector designs, so much so that **you may well wonder what the point is in going out to the movies at all. You will be rewarded by presentation quality rivaling some of the best that I found in Hollywood on my recent tour of the best theaters in Tinseltown.** The fact that you can have a truly cinema-quality movie event in your media room at home is still mind-boggling. At the center of that experience should be a SIM2 CX3 LUMIS HOST system, as it is just that good.

## Keywords

SIM2 Grand Cinema C3X LUMIS HOST Front Projector, 2.40:1, Cinemascope, Widescreen, Anamorphic, Home Theater, Cinema, Movie, Video Game, Kipnis Studio Standard, Calibration, ISF, Imaging Science Foundation, SMPTE, DLP DarkChip4, Television, YouTube, Nickelodeon, Cinerama, ISCO foot-Lamberts, ANSI Lumen, Minolta Konica, CS2000 Optical Connector