Murideo-Prisma

Frequently Asked Questions

How do I control the Prisma?

Option 1 – Use the included remote IR remote control. You have access to stored LUTs and PrismaVue adjustment.

Option 2 - The Prisma uses a network connection for setup and advanced control including loading of LUTs and assigning LUTs to the IR Remote. It can either be plugged in to a standard 10/100 Ethernet network, or can be connected directly to a computer with an Ethernet cable. The Prisma will obtain a network address automatically using DHCP, or if there is no DHCP server available, it will use a 169.x.x.x self-assigned address. This is compatible with the method most computers use to assign network addresses and should be adequate for most users.

The Prisma announces its name on the network using both NetBIOS and mDNS. This means that you can access the Prisma from your computer's browser as http://prisma.local on a Mac/iPhone/iPad (or a windows computer with iTunes) or using http://prisma on a Windows computer.

When you connect your browser to the Prisma, you will be presented with its control panel. This panel will allow you to select 3D Tables, adjust the PrismaVue parameters, and make other changes to the Prisma.

How do I install my own 3D LUTs?

Open the Prisma WebOS, and select the "Cube LUT" panel. Use the **file selection** and **upload** to copy the LUT file to the Prisma's internal storage. Once the table has been copied to the Prisma, it can be selected with the Select Table control.
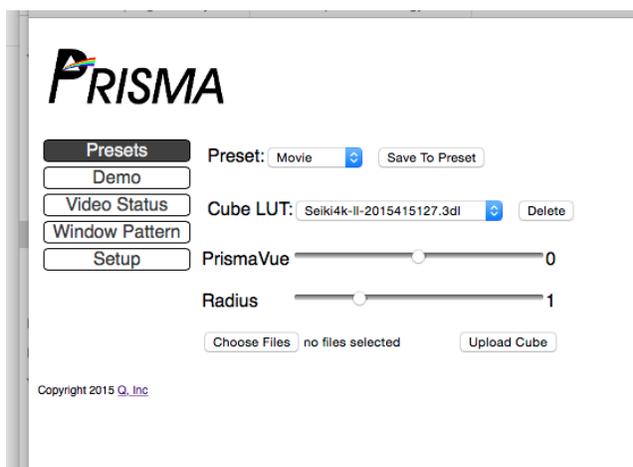
What 3D LUT formats does the Prisma support?

The Prisma supports two different formats for 3D LUTs - the .3dl format and an internal binary format. The 3dl format is stored in 12-bit precision and the pre-LUT is assumed to be a linear identity. The internal binary representation is a compact format that can be used to save storage space and provide faster load times.

How many LUTs can I store on the Prisma?

The Prisma has 1 megabyte of internal storage for data storage. A typical 17x17x17 .3dl is about 67kbytes, so the Prisma could store about 15 of these tables. The internal binary format is about 20kbytes, so there is room for about 50 of these tables.

How can I store a LUT in the binary format?

The easiest way is to load the .3dl table to the Prisma and then save it to a binary version, then delete the .3dl. We are currently developing software that is able to read a .3dl and create the binary version.

How does the PrismaVue work?

PrismaVue is an advanced implementation of unsharp masking or USM. Basically, there are two steps to the process - for each pixel on the screen (frame), the first step calculates a blurred value from the neighboring pixels. On Prisma, this is done with a 5x5 convolution filter for each Red, Green, and Blue sub-pixel. The second step takes this blurred value and then subtracts some of it from the original pixel. The Amount parameter controls how much is subtracted. The Threshold parameter controls whether the original pixel is output, or if the blurred and subtracted pixel is output.

Source Wiki Unsharp Masking

Source image (top), sharpened image (middle), highly sharpened image (bottom).

To use PrismaVue simply increase + or decrease – via the remote control and use the demo button to see before and after result. Set to your personal taste. In the WebOS you can also set to PrismaVue value numerically – 0 = no unsharp mask – higher + numbers = more unsharp mask (sharpening) and a lower – number = less sharpening.

What is Prisma's video processing path?

The Prisma has two primary processing blocks - the Cube LUT is applied first, then the output of the Cube goes to the Unsharp mask or PrismaVue.

The Cube can either be processed in linear space, or in the typical non-linear space. The control for this is set in the Cube Table, so it can easily be enabled for some LUTs and disabled for others.

The Cube internally processes video in 18 bits per color component. This is to give enough bit-depth for the linearization. The Cube coefficients are stored in 10-bit resolution and shifted to 18 bits during the processing.

The Unsharp Mask is processed in 10 bits, with the blur matrix coefficients stored in a 4.6 fixed point format.
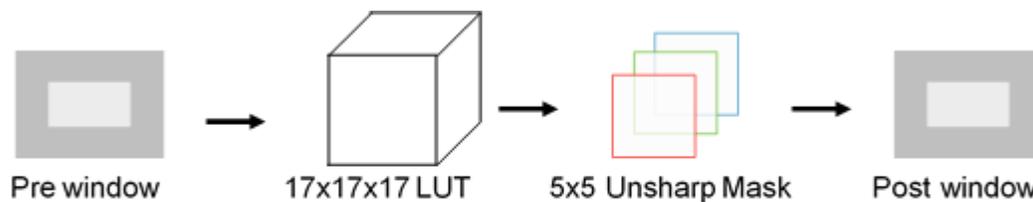
PRISMA VIDEO PATH

I thought video calibration was all about disabling this type of processing.

The true Videophile's goal is to set up their viewing room so that the picture they see is as close as possible to the way the director intended. Unfortunately, there are many obstacles that get in the way of achieving this goal. Even with the highest quality video equipment in a room that has been meticulously set up - we are still at the mercy of how the content has been delivered. A blu-ray disc that has been well mastered under the direct supervision of the director has the best chance of realizing this goal.

Content today comes from many different sources, ranging from the high quality blu-rays, down to cheaply mastered DVDs or even streamed off smart phones or the internet. The internet streaming services are rapidly improving the quality of their distribution, but they still introduce compression artifacts. The Prisma can soften the image to reduce harsh compression artifacts, or it can sharpen to bring back detail that has been lost in the compression process.

Overall, the Prisma's advanced implementation of PrismaVue sharpening and Cube table, when applied properly, significantly enhance the overall viewing experience.

Is there a software API that I can use to control the Prisma?

Yes an API is available. All operations on the Prisma can be controlled through regular HTTP requests and responses. The documentation on each request is available by request.

Is Murideo-Prisma supported by 3ʳᵈ party software vendors?

Yes – **SpectraCal** - CalMAN provides full support in version 5.4 and greater. We can send you a PDF or use this link: http://calman.spectracal.com/user-guides.html *Creating CalMAN 3D LUTs: Overview Guide.* You can also download a PDF for step by step process.

Yes – **Light Illusion** – LightSpace – Use this link: http://www.lightillusion.com/prisma_manual.html

Yes – **Argyle** – Shareware – we are currently working on meter support and will post update on our site as we develop and test this software – current meter support includes SpectraCal C6, X-Rite Chroma V, Klein K-10 and X-Rite I1Pro2