**Advanced Use of Prisma**

There are several papers and articles on LUTs and calibration that you can find on the Murideo web site. We'll start the discussion here by saying if you choose to optimize and maximize your viewing experience to your environment and customize Prisma to your personal tastes that is completely possible.

**So, how do I create LUTs for each one of the buttons on the remote?**

Let's start with the CalMAN example - CalMAN is advanced software that allows you to create a 3D LUT!

See connection diagram below:



Connection Diagram

CalMAN/Prisma for LUT Creation
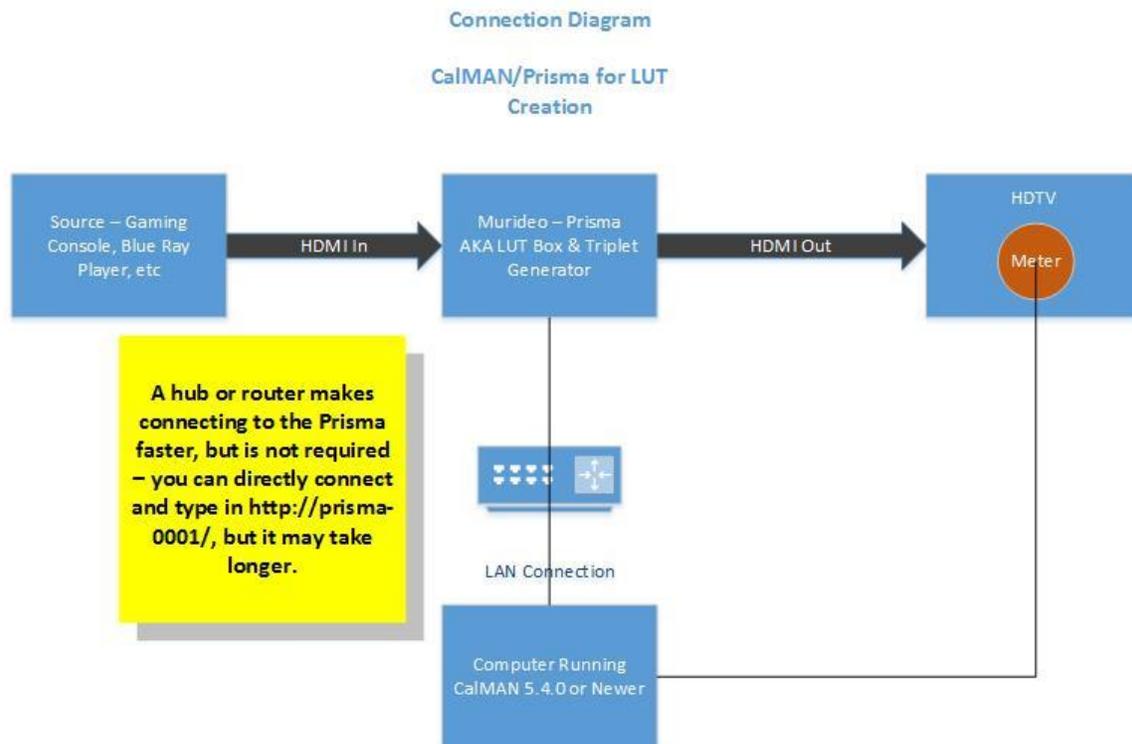
A PC running CalMAN gets plugged into the Prisma via LAN and a light meter is connected to the PC also for taking readings off the display. The Prisma has a built-in full 8-bit RGB triplet pattern generator. As noted above - if possible plug the PC and the Prisma into a hub of some sort - makes resolving the address a lot quicker.

SpectraCal has a great article on creating 3D LUTs - see:
http://www.spectracal.com/Documents/QSGs/Creating%203D%20LUTs%20with%20Cal
MAN%20Overview.pdf

**The process once connected like the diagram above:**

- Quick method - put the TV in Cinema Mode and do a basic adjustment of black and white level and go....
- The Right Way - Use the Color Cube workflow in CalMAN - This will take you through a full setup and calibration of the display including grayscale calibration, gamma, front panel controls - the whole enchilada...
- Once you pick 1 or 2 above...time to get her done.
- It is important to note that CalMAN is creating the LUT and Prisma is the box where the LUT gets stored and then is inserted in line between the source and the display.
- During creation of the LUT there are two main parts - measuring the display with your colorimeter and then with those measurements creating a LUT file (.3dl) to be placed in the Prisma. The Prisma is used by CalMAN as a generator during this phase of LUT creation.
- Steps:
1) CalMAN ColorCube Workflow
2) Connect to your **Meter**
3) Connect Prisma as the **Generator**
4) Connect SpectraCal Cube LUT as your **Display**
5) IMPORTANT NOTE: On the Generator Tab in CalMAN there are unique settings for the Prisma - one very important setting is a small box call **Bypass 3D LUT. The default for this setting is checked - meaning the LUT in the Prisma is not in the signal path.** When creating LUTs you must leave this box checked - so you don't write a LUT on top of another LUT. When you want to see how good of a LUT CalMAN created you would uncheck this box once the LUT file is loaded in the Prisma and then run a saturation sweep in post calibration.
6) On the 3D LUT step in CalMAN pressing the Auto-Cal button will bring up the page below:
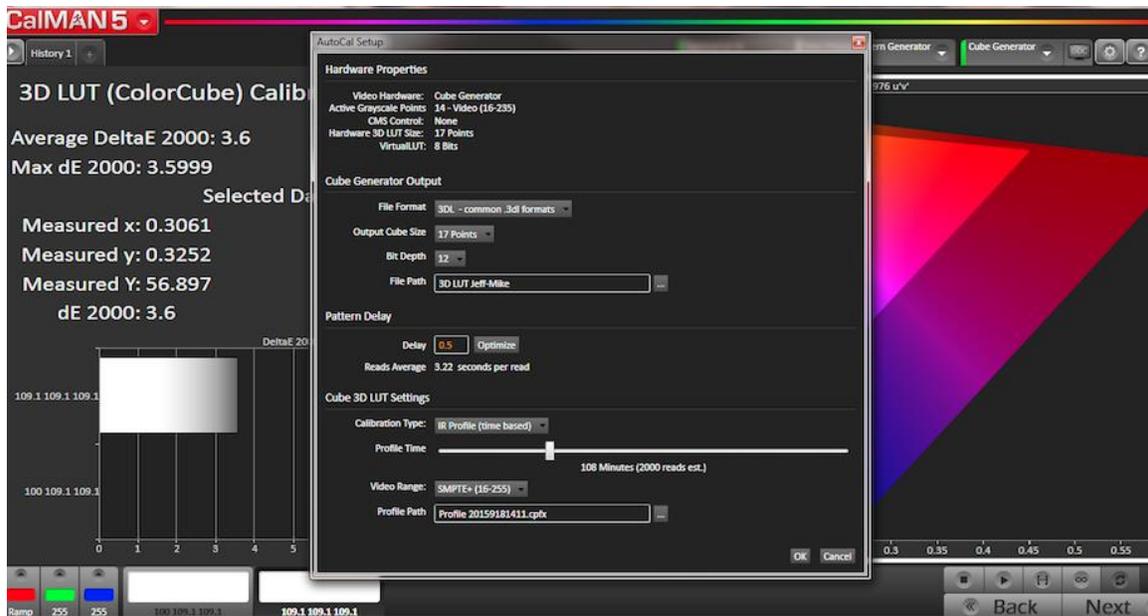
7)  In the middle of the page is Cube Generator Output - This is where we set up the atributes for the LUT as folllows:

File Format = 3DL
Output Cube Size = 17 Points
Bit Depth = 12
File Path = Leave as default or name it - ex Jeff Movie LUT (note: file names limited to 48 characters including the 4 character (.3dl) extension. Spaces are OK, but some special characters cause problems (particularly '&')

Under the 3D LUT Setting you should refer to SpectraCals document on the link above. I use the Lightning LUT because I have no patience and it creates a great LUT and look!

8) Click OK - this will start the process of measuring and finally writing the LUT - this can take from about 5 minutes to hours depending on how many samples you take - theoretically - the more data/samples - the better end result.

Note the file name of the LUT you just created.

9)  Jump back into the Prisma via WebOS ex. http://prisma-0001.local/ to get the screen below:
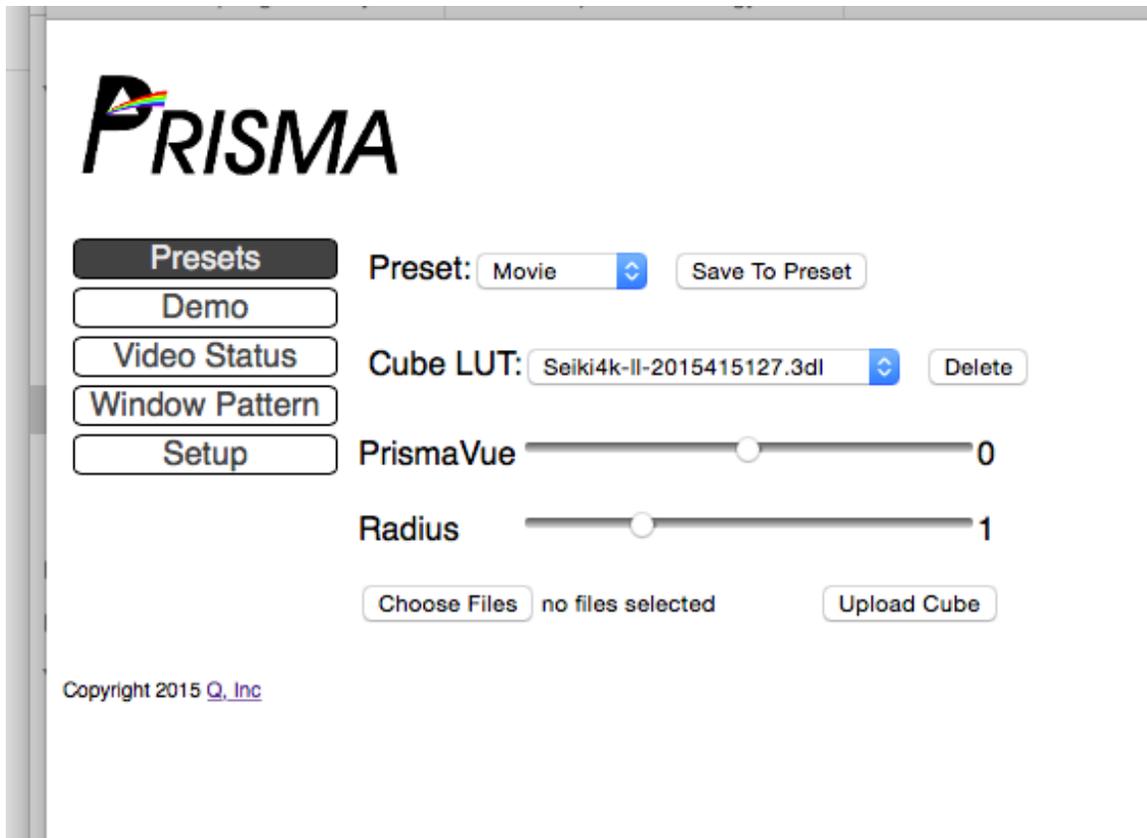
Now click on **Choose File** and find the **.3DL file** you just created - if you didn't change the path it will be under SpectraCal/CalMAN/LUT or comething like that. You can also use a general search to find it. Then press **Upload Cube.**

Now the LUT is, in the example above assigned to the **Movie Preset**

10) You are basically done now unless you want to create more LUTs for different modes/presets or if you want to run a post cal saturation sweep to graph the result.

Note: If you are going to run a post LUT report - saturation sweeps - make sure to go back to the Generator Tab and UN-CHECK the bypass LUT box. This will tell CalMAN to use the LUT that is currently selected in the Prisma.

**Results**

Below you will find three screenshots – Before – Lightening LUT – and 2000 Read LUT. The results are quite simply stunning!
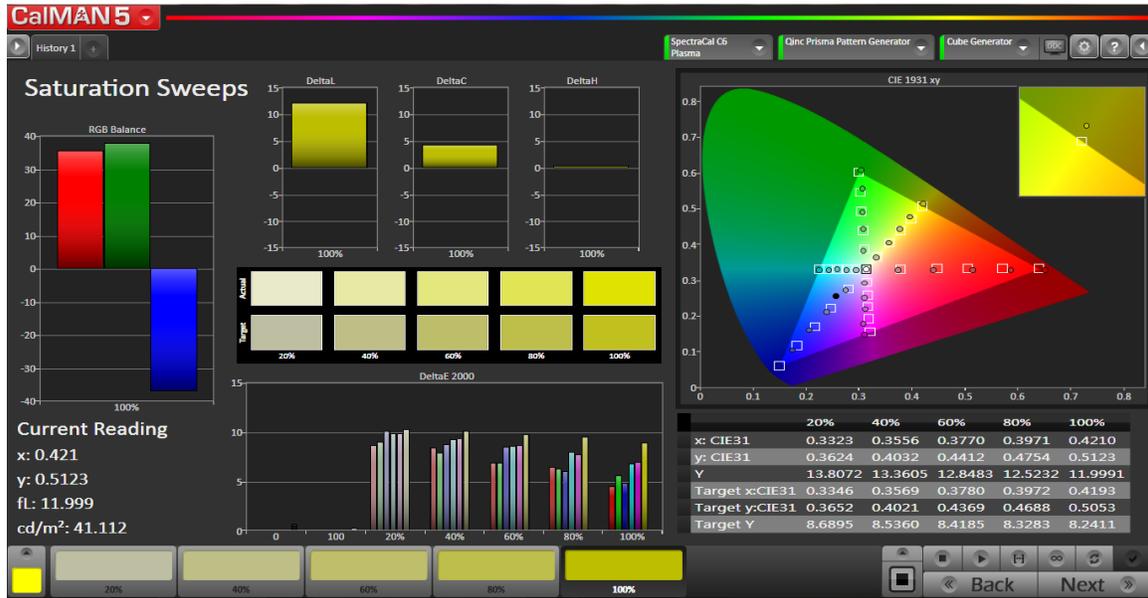
**Setup**

Panasonic Plasma circa 2013 VT60 – calibrated grayscale – gamma 2.2 – CMS untouched. Black, White, Color set correctly.
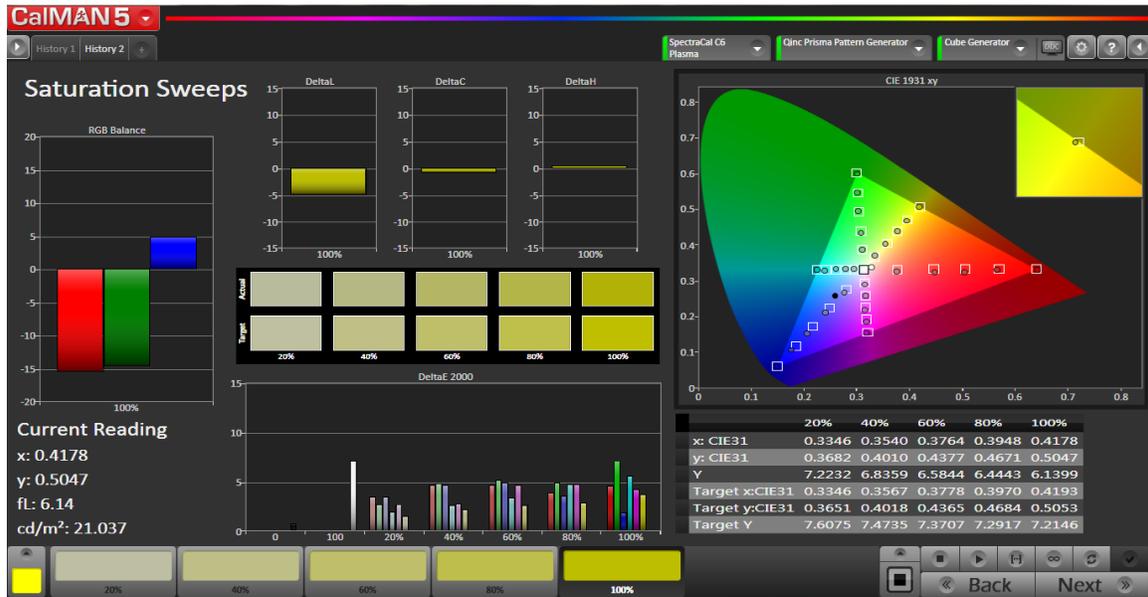
Source – DirecTV HD Genie – via Xbox 1
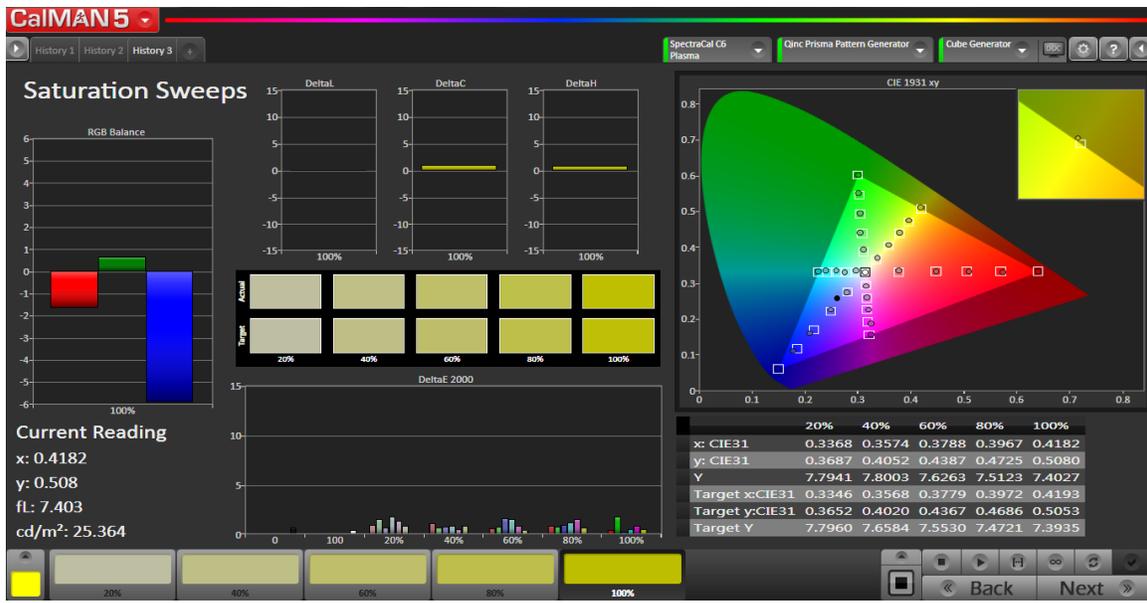
Processor – Murideo Prisma

**Before LUT –** been watching this TV in my home office for a few years and thought the picture was pretty good. As you can see DeltaE 2000 is approaching 10 across the board.



**Lightening LUT –** This LUT took CalMAN less than 5 minutes to create and it is quite impressive – note the average DE has dropped to below 5.

**2000 Reads LUT** – This is the result after about an hour – I set CalMAN for a 2000 read LUT. Not only is the graph above fantastic the picture is literally stunning.

**Conclusion** – Very suprized and happy with the result being able to produce this quality of a picture in my home office!