Palette Programming Tips and Tricks

Welcome to Palette Programming Tips and Tricks

#2 – May 2011

The goal of this bulletin is to share information about powerful features that may not be known or understood. PaletteOS is very powerful and has a long rich development history that has taken customer's comments to heart to address programmer's issues and requested features.

This second bulletin will discuss controlling color on fixtures. We'll talk about controlling standard scrollers, advanced scrollers like Wybron's CXIs, LEDs and the color mixing solutions to automated luminaires.

*Like many functions on any PaletteOS console, there is a Command Line solution and a Graphical User Interface solution for many of the functions that the console can perform. Any Command Line (**CL:**) solution will be presented in a red box, where a Graphical User Interface (**GUI:**) solution will be presented in a blue box.*

Fixtures vs Channels

Many Palette operators and programmers have experience on other consoles. Some of these consoles come from a previous generation of control. Many of these consoles would deal with multiple parameter fixtures by controlling each parameter or attribute with a different channel. These systems may have a color scroller as address 201 and control would be 201 = intensity and 202 = color. Some designers/programmers would get clever and choose numbers based on the screen layout (201 = intensity and 221 = color for channel 1). This required a lot of numerical translation to keep up with what each channel did. Many current generation consoles deal with all these attributes in a much more intuitive fashion.

The PaletteOS deals with the entire instrument as a "fixture" and all attributes are a sub-set of that fixture. If you have a fixture hung in the air that just has intensity…say a Leko, Par or a Fresnel, then that is a single attributed fixture. But what if you add a scroller to that Parcan? Now it becomes a multiple parameter fixture that has intensity as one parameter and color as the second parameter.

In PaletteOS, all fixtures have the capability of becoming multiple parameter fixtures; it's all about the fixture type of each fixture number.

Scrollers

Scrollers give your incandescent source the ability to change color from a prebuilt string of gels that are literally single frames of color that are taped together to create a gel scroll. The scroller itself is just a device that fits in your gel frame holder and rolls the string in front of the light using a single DMX address.

PaletteOS can deal with scrollers in the following ways.

- Separate Channel – old school and not very intelligent.

- Intelligent Fixture using percentage values for the scroll – better as this is all one fixture but the programmer still needs to know what percentage to apply to get to the appropriate color frame number.

- Intelligent Fixture using Frames – better still as this allows the programmer to call up the colors by frame number.

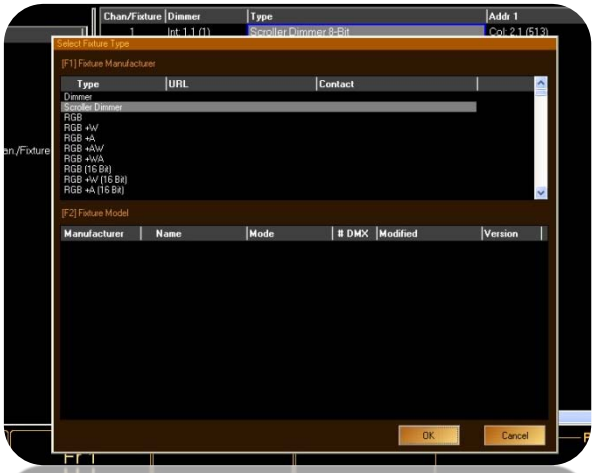
- Intelligent Fixture using Frames with the color labeled by gel number – this is the best way to gain the most intelligence from the PaletteOS.

Step 1: The first step is to patch the fixture as a scroller dimmer. This is most easily accomplished using the graphical method in Patch By Fixture.

Select the cell under the Type column for the row of the fixture that you want to edit.

Note: Multiple fixtures can be changed at once by clicking and dragging the Type cell for multiple fixtures.

When the *Select Fixture Type* dialogue box appears, just change the type from *Dimmer* to *Scroller Dimmer.*



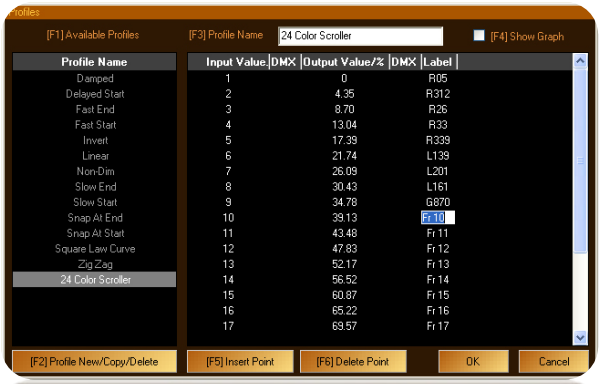
Fixture Type Dialogue Box

The dimmer for the intensity will get patched under the *Dimmer* column. The address for the scroller needs to be inserted in the *Addr 1* column. Just click and edit as needed. The following syntax will patch dimmer 12 to fixture 1 and the second command will assign the scroller to address 513 or 2.1 (That's absolute DMX address 513 or Universe 2 Address 1).

CL: [1] [@] [12] [ENTER]

CL: [1] [S5-Output Group] [M2-Color] [2.1] [ENTER]

Step 2: Create a scroller profile for the gel scroll.



Scroller Profile Dialogue Box

In Patch by Fixture, S8-Edit Profiles and the Profiles dialogue box will appear. Select S2-Profile New/Copy/Delete or select with a mouse. Then pick *New Scroller Profile* and find the correct quantity. For my example I chose a 24 frame scroll.

Note: Frame 1 is your first frame. Some call this the leader. Basically, if the scroller is being sent a DMX value of zero, that's your first frame.

After the scroll has been tested, if the output value isn't correct (not appearing in the full frame of color, just adjust the appropriate Output Value as needed. The Input Value equals the frame number. So Input Value 3 will be frame 3. Just adjust the Output Value higher or lower accordingly. You can even choose to adjust the percentage value (Output Value % column) or assign a specific DMX value in the forth column (labeled DMX). Use which ever column you prefer. The software will convert appropriately.

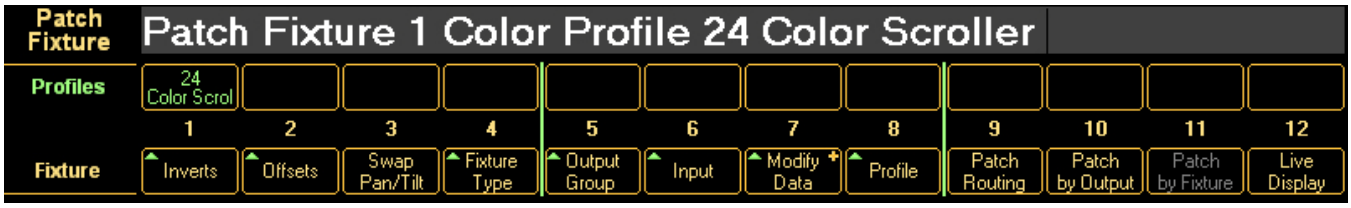
Once you have the profile created, adjust the labeling to represent the gel manufacturer and gel number. R for Rosco, L for Lee, G for GAM and A for Apollo. (See photo example)

Now that the profile is created, it needs to be assigned to the proper fixture(s). Command Line is best used for this.

Note: If on a LightPalette, use the S and M keys, if on a Palette II, use the S and Alt S for the M keys or you can just use your mouse and click on the keys right on the screen.

CL: [1] [S8-Profile] [M2-Color] [M1-24 Color Scroller] [ENTER]

Here's what the command line will look like prior to pressing Enter.



Once the profile is assigned, from Live, the fixture can be assigned a color multiple ways. Select the fixture, give it a level so we can see the output and then just…

- Press and hold S2-Color and roll the level wheel or the intelliwheel on the mouse.
- Double tap S2-Color with softkey to reveal pop up list.
- Roll the second encoder. Since the encoder is indented, every tick will advance one frame.
- Press the List button for the second encoder.
- Once the pop up list is revealed, just select the color.

Color Scrollers have their place but they are limited.

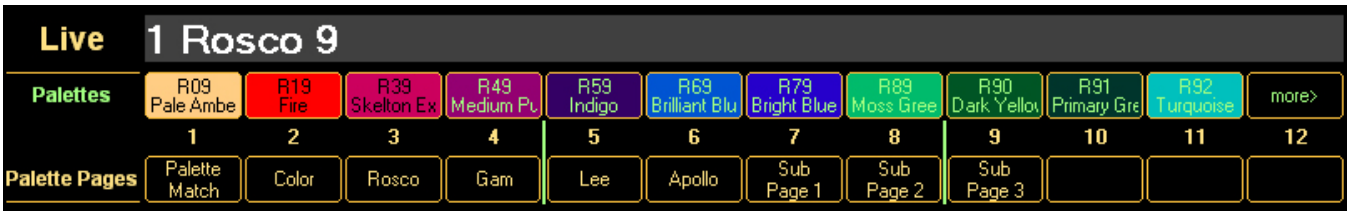
- They are noisy when they move.
- Colors are limited
- Require proper tensioning when installed to frame up correctly.
- Gel burns out

Many times when programming, I often don't commit the color list to memory so I don't remember what colors are in the gel strings. Also, many shows will have multiple gel strings so that the back light may have a different gel string built than the side light making this more difficult to keep track of. PaletteOS can help. The gel strings (when labeled correctly) can access our intelligent color engine. This allows the programmer to use the gel library to call up the preferred color and the fixture will use the Universal Attribute Control to get to the best color choice that it can output.

Let me give you an example, from the image above, you can see that Frame 6 is L139 – Primary Green. The designer, in a frantic moment calls out Rosco 91 – Primary Green but Rosco 91 isn't in the gel string. No worries. If I call up color using the color engine via the softkey Text Match, I have access to the full color library from all manufacturers and the PaletteOS' Universal Attribute Control will find the closest match regardless of manufacturer based on the colors available in the fixture. Here is the syntax…

CL: [1] [ENTER] [M12-Text Match] [S3-Rosco] [91] [ENTER]

Here's what the softkeys look like when the programmer is in process of selecting the color.



Notice that, once the 9 is pressed, the softkeys start filtering down to only show Rosco colors that have a 9 in them and yes…you can select from the softkeys at any time.

Note: Hold the Shift key down prior to selecting and you can preview your different choice prior to making a permanent selection.

This even works using text! Say you remember a color that worked really well on a show last week and it was Surprise something but you can't remember if it was Surprise Pink or Lavender or… Instead of accessing colors by number, begin typing the name. You may be surprised how many Rosco colors have Surprise in their name.

Wybron CXIs

As we step up the intelligent food chain, the next step might be the Wybron CXI. It uses two gel strings instead of one to give the designer more color possibilities. In using these, PaletteOS gives you the option of controlling these fixtures using manual control of both gel strings (Color 1 and Color 2). Lots of possibilities for color but still very unintelligent for control as the designer or programmer will have to translate each strings value to get the color that Wybron says it will mix to. There is also a single channel mode but again, you are translating.

PaletteOS gives you the additional option of patching as a different fixture type. CXI – CMY. Using this mode, the CXIs can use the PaletteOS' Universal Attribute Control and will allow you to manipulate color using the intelligent color engine as described above with Text Match. Let PaletteOS do all the converting for you and enjoy lighting the production rather than struggle with converting data.

Color Control – Moving Beyond

For the rest of this bulletin, all color mixing information applies to all manner of color mixing fixtures. CXIs, LEDs, Automated Luminaires, they all have a color mixing engine and PaletteOS' Universal Attribute Control allows the programmer the freedom to ignore the technology and just program color the way you want to.

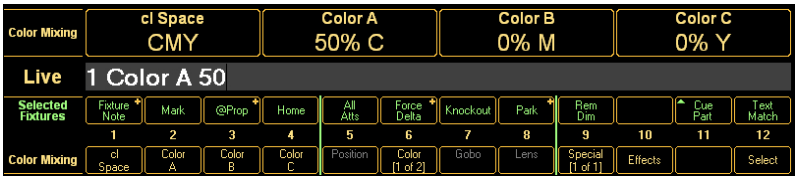
Color Spaces

Once in the world of color mixing, you get to choose how you want to mix color with Color Spaces. Color Spaces are part of the Universal Attribute Control and allow you greater flexibility that ever before for mixing color on a Strand console. Just select the preferred color mixing methodology and you can mix color the way you think about color. This isn't married to the type of technology the fixture gives you but this forward thinking approach allows you to program light…not manipulate fixtures.

- CMY allows the fixture to mix color using Cyan, Magenta and Yellow.
- RGB allows the fixture to mix color using Red, Green and Blue.
- HSL allows the fixture to mix color using Hue, Saturation and Luminance.
- HSV allows the fixture to mix color using Hue, Saturation and Value.

It's as simple as selecting the Color Space in which you want to mix color, and adjusting the parameters as learned above. All previous methods apply. Clicking, softkeys, encoders…it's all the same. You can even do direct command line entry.

CL: [1] [S2-Color A] [50] [ENTER]



And if that is not everything you need, just select a color from the Color Picker.

The Color Picker is a Tool and needs to be assigned to the Tool button. From a clean command line…

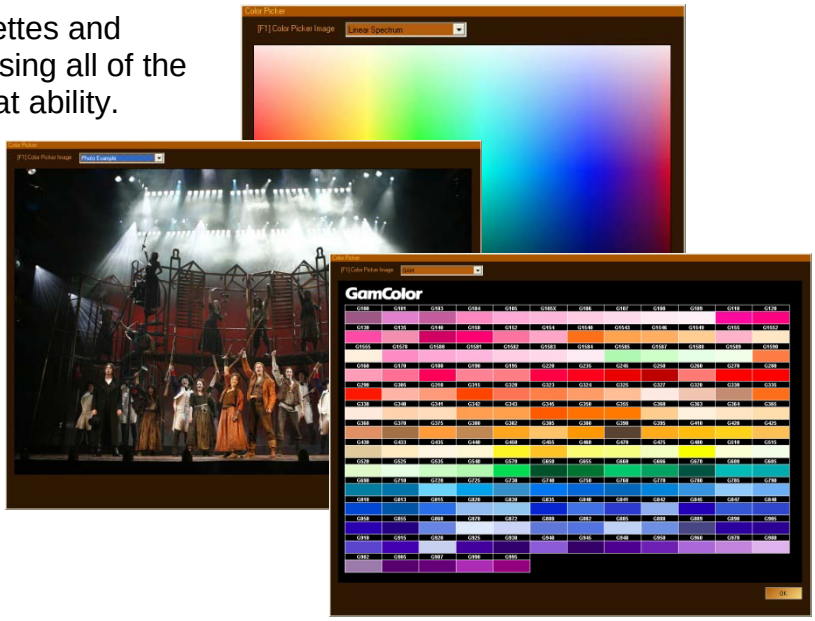
CL: [TOOLS] [S11-Color Picker]

Once the tool is selected (see the Status Window bottom right) just select your fixture(s) and press TOOLS to activate. The pulldown gives you access to several different images from which to select color.

There's a reason these desks are called Palettes and LightPalettes. The ability to paint with light using all of the described color engines gives you exactly that ability.

Once these colors have been chosen and mixed, you will likely want to store them as color palettes.

That will be the subject of our next installment of Palette Programming Tips and Tricks.



Color Picker…The Palette Way.

Real World Stories

Please send us your stories. If you have a production where you found a tip or trick that you used or just want to tell us of your experiences, please send photos along with your stories. We would love to include your story in our next Palette Tips and Tricks bulletin.

Send to bobby.harrell@philips.com

Eurydice

Pulitzer finalist Sarah Ruhl's play is part of St. Edwards 38th Anniversary Season and was lit by their faculty designer, Kathryn Eader using a Palette VL16 for control.

When asked how the tech period went, she said…"*What mostly stuck out for me was how easy it was to figure out how to do almost anything on the desk. Once I wrapped my head around that it was a Windows based program, it wasn't difficult to figure out how to make things happen. Without doubt, the most impressive feature was how easily my student board operator, who has NO experience in lighting, picked up the lighting desk and how to program it. I did not have to "talk" the board for him to program. I was simply amazed by that."*

Eurydice – Lighting and photos by Kathryn Eader

Kathryn goes on…

"Even though I always use part cues, Independent Timing made doing a very difficult moving light section SO MUCH easier and being able to see what was moving in what time easily right there on one screen was wonderful. The ability to set my color mixing to RGB instead of CMY, I truly appreciated.

The Palette VL helped me cue all of my bells and whistles for this show in a very efficient, easy, elegant manner. I kept saying, if we didn't have this board, this would take a lot more time."

Thanks for your time and comments Kathryn. We really appreciate it!

Happy Programming!
Strand Lighting Controls Division