

Application Note

Colour Palette for Iridis 7™ Displays

Rev. 2
14-June-2021

1.1 Supported Basic Colours

Iridis 7™ displays support 7 basic colours in addition to black and white:

Colour	H	S	V	H	S	L	R	G	B
black	n/a	0 %	0 %	n/a	0 %	0 %	0 %	0 %	0 %
white	n/a	0 %	100 %	n/a	0 %	100 %	100 %	100 %	100 %
red	0°	100 %	100 %	0°	100 %	50 %	100 %	0 %	0 %
orange	30°	100 %	100 %	30°	100 %	50 %	100 %	50 %	0 %
yellow	60°	100 %	100 %	60°	100 %	50 %	100 %	100 %	0 %
green	120°	100 %	100 %	120°	100 %	50 %	0 %	100 %	0 %
cyan	180°	100 %	100 %	180°	100 %	50 %	0 %	100 %	100 %
blue	240°	100 %	100 %	240°	100 %	50 %	0 %	0 %	100 %
magenta	300°	100 %	100 %	300°	100 %	50 %	100 %	0 %	100 %

Table 1: Iridis 7™ Colour Palette in HSV, HSL and RGB colour models (percentage notation)

Best colour impression is achieved with images that use only these basic colours.

1.2 Handling of Colours not included in the Iridis 7™ Colour Palette

When using other colours than the basic Iridis 7™ colours, an approximate colour impression can be achieved using dithering. Dithering works by approximating unavailable colours with available colours, by mixing and matching available colours in a way that mimicks unavailable ones. A widely used colour dithering algorithm is Floyd-Steinberg Dithering.

A good free software for testing the effect of colour dithering is GIMP (GNU Image Manipulation Program) available at <http://www.gimp.org/downloads/>

1.3 Steps in GIMP Software

Step 1:

Create a custom colour palette **Iridis7** using the Palette Editor. Use the HSV values for black, white and the 7 colours shown in Table 1.

Step 2:

Load your image to GIMP using **File → Open ...**

Step 3:

Go to **Image → Mode → Indexed ...**

Under **Colormap** check **Use custom palette** and click the palette symbol to select your custom **Irides7** palette.

Under **Dithering** select your preferred **Color dithering** option:

- **None** → unavailable colours are replaced by close available colours
- **Floyd-Steinberg (normal)**
- **Floyd-Steinberg (reduced color bleeding)**
- **Positioned**

Click **Convert**

Depending on display resolution and image content, one of the available options may provide better results than the others.

Step 4:

At this point in time it is required to convert the image back from “Indexed” to “RGB” before exporting it to the target file format:

Go to **Image → Mode → RGB**

Step 5:

Export your file using **File → Export As ... → Select File Type → PNG image**

Enter a File Name and press **Export**

In the following dialog window, press again **Export**

2 Troubleshooting

In case of any problems please email techsupport@plasticlogic.com