

---

## RGB Colour Wheel Interface Object for Crestron Smart Graphics

---

Revision: 1.0

Date: 20 February 2015

### Summary

This datasheet relates to Ultamation's RGB Colour Wheel Smart Object for Crestron control systems with GUIs that support Smart Graphics custom objects.

The purpose of this control is to provide an intuitive method of colour selection for users, without having to rely on sliders or an understanding of how red, green and blue components mix to provide different colours.

The key features of this module are:

- Easy, intuitive selection of colours – no more reliance on RGB sliders.
- Fully theme-able using either Ultamation's Theme Creator, or Crestron Studio
- Animated "blip" to show the user the point that was last selected when their finger is removed from the control
- Full range of selectable colours – 0d to 65535d for red, green, blue (and optionally, white)
- Built-in "intensity" slider that scales RGB outputs
- Optional "RGBW" mode for easy control of RGBW fittings.

*Please note that this control is only available for Crestron Smart Graphics UI capable touch panels, as applications for mobile devices do not allow for custom controls to be used. Please ensure that the panel you plan to use supports Smart Graphics UI custom controls before placing an order for this control.*

### Installation

1. Ensuring you have "Show hidden files and folders" enabled in Windows Explorer, go to C:\ProgramData\Creston\Core3\UserCtrls\Controls
2. Copy the control (the file with the .c3c extension) into this folder. Note that Crestron Studio and VTPro will only pick up new controls at start-up. If either program is open, restart it to see new controls.
3. VTPro and Studio will show the control, under the Ultamation group. Use the control as you would any other Smart Graphics control.
4. A step-by-step guide in creating a Theme for this control is beyond the scope of this datasheet, however, we have provided details of the structure of the necessary styles so that themes can easily be created. We have provided a zip file containing all the images required to theme the three clocks shown opposite – these images will need to be imported into your chosen theme creation application. Ultamation recommend using our Theme Creator product for the best Theme Creation experience.

## **IMPORTANT NOTICE on WORKING COLOUR WHEELS!**

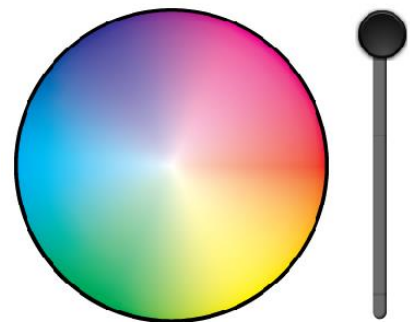
Using any of the default themes will not yield an attractive colour wheel. You **MUST** first modify an existing theme to add the necessary images to a style, and then assign that style to the colour pot control that will be present in Studio or Theme Creator after you've installed the .c3c file.

### **Programming Notes (VisionTools Pro-e)**

Use of the RGB Colour Wheel smart object requires a Smart Graphics capable panel. This control will not operate on older panels.

To begin using this object, place the .c3c file in your Core3 user controls folder (default is C:\ProgramData\Creston\Core3\UserCtrls\controls):

Once this file exists in your user controls folder, start VisionTools Pro-e (restarting it if you already have it open) and open the Core3 UI controls browser. From this Window, drag the RGB Colour Wheel object on to the page.



### **Version Information**

This control has been compiled and tested under:

Smart Graphics SDK version:	2.04
Smart Graphics Controls Release:	2.05.06.01
VTPro-e:	5.7.04

## Design Time Properties

In VisionTools Pro-e, the object has the following properties:

### Colour Palette Style

Property	Purpose
Style	Style Category (as defined in Studio or Theme Creator) for the Colour Palette area of the control. The control expects red to be on the right, followed clockwise by yellow, green, cyan, blue, magenta and back to red – with white in the centre.

### Intensity Slider Style

Property	Purpose
Style	Style Category (as defined in Studio or Theme Creator) for the intensity slider background.

### Intensity Button Style

Property	Purpose
Style	Style Category (as defined in Studio or Theme Creator) for the button overlaid on the intensity slider.

### Selection Adorner Style

Property	Purpose
Style	Style Category (as defined in Studio or Theme Creator) for the selection adorner (by default, a small glow at the point the control is touched).

### General

Property	Purpose
Bar Position	The position of the intensity bar. Can be placed above, below or to the left or right of the colour wheel area.
Gutter	The margin of blank space between the intensity slider and the colour wheel area.
Smart Object ID	Unique numeric ID for the control – used for referencing the control at the control system.
Colour Mode	Select between RGB and RGBW output modes.

## Programming

To import the Smart Object for the Colour Wheel into your program, you need to have completed the steps to import the Colour Wheel and set it up in your touch panel project.

Once you have done this (ensuring that you have assigned it a Smart Object ID), compile the project. This will generate a .ced file that you can then import into your SIMPL Windows program, by right clicking on your touch panel definition and selecting "Import Smart Graphics Extender".

Once the object has been imported, it will present itself as a SIMPL Windows symbol in your device tree. It contains the following joins:

Signal	Type	Purpose
Red	Analogue Out	Outputs the "red" component, between 0d and 65535d, according to where the colour wheel is touched, and scaled as per the intensity slider.
Green	Analogue Out	Outputs the "green" component, between 0d and 65535d, according to where the colour wheel is touched, and scaled as per the intensity slider.
Blue	Analogue Out	Outputs the "blue" component, between 0d and 65535d, according to where the colour wheel is touched, and scaled as per the intensity slider.
White (optional)	Analogue Out	Outputs the optional "white" component, between 0d and 65535d, according to where the colour wheel is touched, and scaled as per the intensity slider.

## Theming Information

### *Image Manifest*

We have included a basic image pack to allow you to use the control without having to draw your own graphics assets:

File	Purpose
Colour-Wheel-Background	Dark, circular background – used to provide contrast between colours and make the colours of the foreground graphic decrease in intensity as the intensity slider is lowered.
Colour-Wheel-Foreground	Colour wheel graphic, used for colour selection. The colours should start with red on the right hand side, followed clockwise by yellow, green, cyan, blue, and magenta – with white in the centre. This can be smaller than the background, if you wish to provide a border/bezel etc.
Intensity-Slider-Horiz-Bg	Background image of the intensity slider, in horizontal configuration. Should be the same width as the palette background image.
Intensity-Slider-Vert-Bg	Background image of the intensity slider, in vertical configuration. Should be the same width as the palette background image.
Intensity-Slider-Button	Indicator button that is overlaid upon the slider background when the control draws the intensity slider. For use when the slider is set to be above or below the colour wheel. The indicator needs to have the same height as the slider-background-horizontal graphic.
Adorner	Indicator graphic that is overlaid on the colour wheel to indicate finger position. It animates in order to give a visual cue when the user's finger is removed from the panel.

## **Style Builder Information**

The RGB Colour Wheel uses four styles to define the visual appearance. Multiple instances of the control can use different styles if you wish.

A “style” can be thought of as a wrapper for a number of visual “states” or bitmaps. Each style must conform to the following state list in order to render correctly. Each bitmap used in the style should use the same dimensions (width/height) in order to render correctly.

The styles should normally be given a “Stretch Aspect” scaling mode.

Style	Image Index	Description
Palette	1	Palette background
	2	Palette foreground
Slider	1	Slider background
Indicator	1	Slider indicator
Adorner	1	Adorner graphic

## **Licence**

This module (including software, images and any and all other associated assets distributed as part of the purchased download package) is licenced on a PER PROJECT basis. The module may be used freely within the SINGLE project for which a licence has been purchased. i.e. You may implement multiple instances of software modules, or use a UI module on multiple touch panels (not restricted to a single type).

For this purpose, Ultamation define a PROJECT as a single “conceptual” system as viewed by an end-user (not necessarily the commissioning “client”).

Examples:

A large residential system with multiple processors and touch panel types is a SINGLE PROJECT.

A common system, rolled out across many apartments in a Multi-Dwelling-Unit project would be considered as MULTIPLE PROJECTS.

A generic system, deployed to multiple teaching rooms in an educational establishment would be considered as MULTIPLE PROJECTS.

Each PER PROJECT purchase must indicate the project name at checkout.

Abuse of this licence will result in an unconditional invoice for a LIFETIME licence for the module being issued.

This LIFETIME licence is provided as an alternative form where a purchaser expects to use the module across multiple projects. After purchasing a LIFETIME licence, the module can be implemented in any PROJECT being delivered by the purchaser. Licences (PER PROJECT or LIFETIME) are assigned to the purchaser ONLY and are not transferrable. PER PROJECT licences will not be refunded against a future LIFETIME licence purchase.