

**ColourCycle**

<b>COLLABORATORS</b>
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	<i>TITLE :</i> ColourCycle		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
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# Chapter 1

## ColourCycle

### 1.1 ColourCycle Help

ColourCycle:

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### 1.2 About ColourCycle

About ColourCycle:

Take the following scenario:

You have a program like a fractal generator that makes really nice fractals but it doesn't do colour cycling, or its not very flexible.

If this sounds familiar, then ColourCycle may be the program for you.

Why is it called ColourCycle and not ColorCycle?

Because I am Australian, and thats the way we spell Colour. We base our spelling and pronunciation of words on English English, not American English, which means that we have words like "favour", "flavour", "neighbour", "centre" and "organisation" instead of "favor", "flavor", "neighbor", "center" and "organization".

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## 1.3 About the author of ColourCycle

Author information:

ColourCycle was written over a period of a couple of months by myself, Stuart MacKinnon.

I was an employee of Commodore Business Machines Pty. Ltd. (Commodore Australia), until it liquidated in early 1994. I was then an employee of Commodore Business Machines (Asia Pacific) Limited until April 29th 1994, when the parent company filed for liquidation.

Since then I have been doing a lot of programming at home. ColourCycle is part of the results of this programming. Other projects I am currently working on are: PTI (ProTracker Intuition) and DiskSound (a direct to/from disk sampler/playback/editor).

If anyone has an idea for a program and they don't know how to do it themselves (as they may not be a programmer), I would be glad to help.

I can be contacted via Internet (E-Mail):

`stuartm@theflat.adsp.sub.org`

`stuartm%theflat.adsp.sub.org@ganesha.com`

I am a member of the Australasian Amiga Developers Association - also known as the AADA . The AADA is a professional organisation of Amiga developers who produce quality Amiga products and are able to give good, accurate and helpful advice regarding the development of products for the Amiga. AADA members have access to an extensive library of development materials including but not limited to developer notes and schematics of current and previous machines. Much of the developer material previously held by Commodore Australia is now part of this library. This organisation is not limited to Australia. It also encompasses New Zealand. There are many other benefits for members. For more information about the AADA such as how to become a member, please contact the national secretary:

AADA

PO Box 4713

GPO Sydney 2001

This is only valid for Australasian residents.

The AADA takes no responsibility whatsoever regarding any aspect of ColourCycle.

## 1.4 Copyright information for ColourCycle

Copyright notice:

ColourCycle, its supplied utilities, documentation, and support material is © Copyright 1994, 1995 by Stuart MacKinnon. All rights reserved.

This package which includes all executables, files and documentation are being released as Shareware. This product is in no way reduced, hindered or "broken". It has all available features. There are no annoying shareware messages reminding you to pay a shareware donation. I am relying on the honesty of users to pay the appropriate shareware fee.

The recommended shareware donation should be equivalent to about US\$20, but I would appreciate any shareware donation however big or small. It does not have to be exact. For example if the Australian dollar is equal to 69.64 US cents then US\$20 is equivalent to A\$28.72. I would be happy to receive A\$25, just to make it easier. The Australian dollar fluctuates quite a lot.

By paying the recommended shareware donation, you are entitled to an infinite number of free upgrades/bug fixes direct from the author. There are planned improvements, see **Things to do** The reason for unlimited support is that since the product is being released to the public domain in full working order, there must be some incentive to pay a shareware fee. Paying the shareware donation also places you on my list of available beta testers. There are a few products I am working on, and I will need some beta testers/catalog translators.

This package may be redistributed as long as it is distributed in original form with all original documentation and support files/utilities. It may not be sold for commercial purposes. It may be included in public domain compilations. I give express

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permission to Fred Fish to include it in his library. I give express permission to Fred Fish and only Fred Fish to allow the addition of files to this package. Such files include and are limited to the "Readme.fnf" and "Product-Info" files.

Refer to **Notes and Credits** for possible further obligations.

There are no warranties expressed or implied as to the performance of this product or the suitability of this product for a particular purpose. No responsibility is taken for any damage, lost revenue or time caused by the use or purchase of this product.

## 1.5 Registering ColourCycle

Registration information:

If you haven't already, please read the **Copyright** information. It tells gives you information regarding the shareware nature of ColourCycle, and what registered users are entitled to.

To register, please print this page, fill it in appropriately and send it to me with an appropriate payment. If you do not have an internet account or email address for me to send you upgrades also include a self addresses stamped envelope (or at least extra payment for the stamps). You do not need to send a blank disk. The shareware payment will cover that.

Send to:

ColourCycle Registration

Unit 6

5 Abbey Street

Randwick NSW

Australia 2031

ColourCycle Registration.

Name:

First: Last:

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Postal Address:

Street:

-----

Suburb/City: ZIP/PostCode:

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Country: Phone:

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E-Mail Address(s):

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-----

-----

Comments:

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Signed: Date:

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## 1.6 How to Install ColourCycle

### ColourCycle Installation:

Installation of ColourCycle is fairly easy. You just double click on the Install icon. It uses the Commodore Installer utility. The Install icon looks for Installer in the root directory ie. ':Installer'. If you do not have Installer there you can change the Default Tool of the Install icon to point to where it is. Consult either the Using the System Software, Workbench 3.0 or Workbench 3.1 manual that was supplied with your machine or operating system upgrade for more information on how to do this. If you do not have Commodore's Installer on your machine somewhere you will find it on the Install disk of the standard Operating System distribution disks.

If you would rather install it manually, all you have to do is make a directory for ColourCycle which may be called anything you like. Just copy the main executable, and the AmigaGuide file into that directory. All the project files can be placed in that directory as well, or you may put it in another directory and set the **PROJECTS** tooltype to point to that directory. You do not have to set the tooltype, but if you do the file requester will use that directory straight away. You should then make a directory 'ENVARC:ColourCycle' and in it you should place the default project icon. This is not absolutely necessary as ColourCycle will use the system default project icon if it can't find it. The first time you use the **Save Settings** menu option, this directory along with 'ENV:ColourCycle' will be created for the settings to be stored in. The default project icon will not be copied to those directories in this case. If you decide to copy the default icon to the 'ENVARC:ColourCycle' drawer, you will need to change the 'Default Tool' section of the icon to match where ColourCycle lives. Using the installation script for the Commodore Installer will do this for you. For further information on how to alter the 'Default Tool' consult either the Using the System Software, Workbench 3.0 or Workbench 3.1 manual that was supplied with your machine or operating system upgrade.

Installation is then complete. There are no libraries to be copied.

## 1.7 How to start ColourCycle

### ColourCycle Usage:

To start ColourCycle from the Shell, just type:

ColourCycle

From the Shell the command template is:

TOOLPRI/N, CX\_ACTIVATEKEY, CX\_TOFRONTKEY, CX\_PRIORITY, CREATEICONS/S, PUBSCREEN, SETTINGS, PROJECTS/INITIAL, ADVANCED/S, CYCLEPRI/N

These command line options relate directly to icon tooltypes. For more information on the command line options, see the corresponding tooltype description.

To start ColourCycle from Workbench, just double click on its icon, or select its icon and choose Open from the Workbench Icons menu.

You can also choose the ColourCycle icon, then double click on an appropriate project icon.

ColourCycle has many configurable tooltypes. To change these, select ColourCycle's icon and choose Information from the Workbench Icons menu. For more information on how to edit the tooltypes consult either the Using the System Software, Workbench 3.0 or Workbench 3.1 manual that was supplied with your machine or operating system upgrade.

The available tooltypes are:

**DONOTWAIT**

**TOOLPRI**

**STARTPRI**

**CX\_ACTIVATEKEY**

**CX\_TOFRONTKEY**

**CX\_PRIORITY**

**CREATEICONS**

---

PUBSCREEN

SETTINGS

PROJECTS

INITIAL

ADVANCED

CYCLEPRI

## 1.8 DONOTWAIT ToolType

DONOTWAIT ToolType:

Usage: DONOTWAIT

This tooltype is used by Workbench for tools placed in the WBStartup drawer. It tells workbench not to wait for this tool to have completely loaded before starting the next tool in the WBStartup drawer. You probably will not want ColourCycle in the WBStartup drawer anyway.

## 1.9 TOOLPRI ToolType

TOOLPRI ToolType:

Usage: TOOLPRI=<priority> (<priority> is a number in the range -127 to 128)

This tooltype is used by Workbench to set the tool or program's priority. If this tooltype is not present then the task is started at a priority of 0, which is normal.

## 1.10 STARTPRI ToolType

STARTPRI ToolType:

Usage: STARTPRI=<priority> (<priority> is a number in the range -127 to 128)

This tooltype is used by Workbench to work out the order in which programs found in the WBStartup drawer should be started. If this tooltype is not present, then it is assumed to be at a startup priority of 0, which is normal.

## 1.11 CX\_ACTIVATEKEY ToolType

CX\_ACTIVATEKEY ToolType:

Usage: CX\_ACTIVATEKEY=<key> (<key> is an alphanumeric string)

This specifies the key combination required for ColourCycle to make its window active. It does not bring its screen to front. The reason for this is that if you are using ViewTek to view an animation and you stop it on a specific frame, and you would like to cycle that frame, when ViewTek's screen gets pushed to back, and then brought to the front again it is completely blank. If you wish to bring the screen that ColourCycle is on to the front, use the **CX\_TOFRONTKEY** tooltype.

For more information regarding the possible values for this tooltype, refer to either the Using the System Software, Workbench 3.0 or Workbench 3.1 manual that was supplied with your machine or operating system upgrade.

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## 1.12 CX\_TOFRONTKEY ToolType

CX\_TOFRONTKEY ToolType:

Usage: CX\_TOFRONTKEY=<key> (<key> is an alphanumeric string)

This specifies the key combination required for ColourCycle to make its window active and bring the screen it is on to the front. If you do not wish to bring the screen that ColourCycle is on to the front, use the **CX\_ACTIVATEKEY** tooltype.

For more information regarding the possible values for this tooltype, refer to either the Using the System Software, Workbench 3.0 or Workbench 3.1 manual that was supplied with your machine or operating system upgrade.

## 1.13 CX\_PRIORITY ToolType

CX\_PRIORITY ToolType:

Usage: CX\_PRIORITY=<priority> (<priority> is a number in the range -127 to 128)

This tooltype specifies at what stage in the input stream ColourCycle will receive the **CX\_ACTIVATEKEY** or **CX\_TOFRONTKEY**. Normally this value is 0. If the priority is too high, then ColourCycle could receive a key before another Commodity has had a chance to translate it.

## 1.14 CREATEICONS ToolType

CREATEICONS ToolType:

Usage: CREATEICONS=<YES or NO>

This tooltype specifies whether ColourCycle starts up with the **Create Icons?** menu option checked. This tooltype only takes effect if a settings file could not be found.

## 1.15 PUBSCREEN ToolType

PUBSCREEN ToolType:

Usage: PUBSCREEN=<name> (<name> is an alphanumeric string)

This tooltype specifies the name of a Public Screen to open up on. If this tooltype is not present then the name "Workbench" is assumed. This tooltype only takes effect if a settings file could not be found.

## 1.16 SETTINGS ToolType

SETTINGS ToolType:

Usage: SETTINGS=<name> (<name> is an alphanumeric string)

This tooltype gives the name of a settings file. The initial window position and the state of the advanced gadget is set from this file. The name of a public screen to open up on is also specified here.

The default settings file 'ENV:ColourCycle/ColourCycle.prefs' is used if this tooltype is not given. This has important implications for all options that specify that they only take effect if a settings file could not be found. If you do not specify a settings file but the default settings file is found anyway, then those options will be ignored.

---

## 1.17 PROJECTS ToolType

PROJECTS ToolType:

Usage: PROJECTS=<name> (<name> is an alphanumeric string)

This tooltype gives the name of the initial directory to look into for project files. This tooltype only takes effect if ColourCycle was not started from a project icon and the **INITIAL** tooltype was not used. If ColourCycle is started from a project icon then the directory of that project will be used. If the **INITIAL** tooltype is used and it was not started from a project icon then the directory of the initial file will be used.

## 1.18 INITIAL ToolType

INITIAL ToolType:

Usage: INITIAL=<name> (<name> is an alphanumeric string)

This tooltype gives the name of a file to load at startup. This tooltype only takes effect if ColourCycle was not started from a project icon, or started from the CLI/Shell. The directory that contains the initial project overrides the **PROJECTS** tooltype.

## 1.19 ADVANCED ToolType

ADVANCED ToolType:

Usage: ADVANCED=<YES or NO>

This tooltype specifies whether ColourCycle should start up with the **Advanced Window** open. This tooltype only takes effect if a settings file could not be found. For more information see the **Advanced** gadget and **Advanced Window**.

## 1.20 CYCLEPRI ToolType

CYCLEPRI ToolType:

Usage: CYCLEPRI=<priority> (<priority> is a number in the range -127 to 128)

This tooltype specifies the priority of the cycler task. The default for this tooltype is a priority of 19. That way input.device still has a greater priority. If you find that moving the mouse, or other input events are causing problems then you may want to change this priority. Be warned that too high a priority may mean that all other tasks get very little - close to zero - CPU time.

## 1.21 What can ColourCycle do?

ColourCycle Features:

ColourCycle has the following features:

- Requires version 3.0 or greater of the operating system (I consider this a feature!).
  - Colour cycle any intuition screen.
  - Individual control over red, green and blue cycling.
  - Can cycle a range of colours in a screen.
  - Cycle a screen's existing colours or replace them with algorithmically generated colours.
  - Each primary colour can be individually set to be a sine wave, triangular wave, ramp up or ramp down.
  - Precise control over speed (wavelength), phase, mean and amplitude for each wave.
-

- Overall frame rate control.
- Easy to use gadtools interface.
- Uses Asl file requesters.
- Lots of keyboard shortcuts.
- Online AmigaGuide help system - for gadgets and menus.

## 1.22 Planned ColourCycle features

Features planned for the next version of ColourCycle:

In the next version of ColourCycle, when there is one, I intend but do not promise to implement the following:

- Font sensitive layout of window. At the moment it will use the screen font. It is not real smart about the window layout however, so if you use a really, really big font it will probably get things wrong. Once it is truly font sensitive, it will also be possible to change font, or use a prefs default.
- Perhaps use Commodities to install lots of hotkeys, so that ColourCycle can be controlled even while another window/screen is active.
- A full ARexx port - reasonably important as you never know what people might want/use it for.
- Locale support. Anyone care to do translations?
- Unlimited in size (well probably limited by memory) definable colour palette. The cycler will then cycle through those colours. Only a small number of them will be visible on screen at a time however (up to as many colours are on the screen). The user will be able to specify the number of graduations between each defined colour. For example, the user could define two colours - pure white and pure black - and then specify a value of 256 for the number of graduations, and that would give a smooth 256 colour transition from white to black. The user should be able to specify the number of graduations individually between each two defined colours, or have a global setting.
- Be able to have multiple colour ranges. This would mean that GraphiCraft, DPaint and Brilliance style colour ranges can be cycled. That way you can have ViewTek show a picture, but since it does not support colour cycling you could load the same picture into this program and it would extract the colour cycling information and you can then colour cycle the ViewTek screen.
- Reorganising of window layout. As it is, it looks fairly ugly.
- Perhaps cycling of any viewport, not just intuition screens.
- Maybe even make it work for AmigaDOS 2.x.

## 1.23 ColourCycle bugs

Known bugs or problems in ColourCycle:

There are no real known bugs with ColourCycle, however there has not been real intensive testing. I have used Enforcer and MungWall in the creation of this program, but there is still the possibility of problems. There are no known memory leaks. Please report to me all bugs or problems that you find. I would like ColourCycle to be completely bug free. Since this product is a shareware product, users expect a completely bug free product.

Known problems with ColourCycle are as follows:

- Strange colour flashing. It does not happen all the time. It sometimes happens if a screen has been pulled part way down, but there is no reproduceable conditions that cause it every time. I have not been able to track this down. There is no reason I can possibly think of to explain this. Perhaps playing around with the **CYCLEPRI** tooltype may fix the problem - perhaps a value greater than input.device may be the fix ie. a value greater than 20. Considering that many other programs have the same problem, I am beginning to think that the problem is actually with either the LoadRGB32() graphics.library function, or the MrgCop() graphics.library function.

- It seems that ColourCycle does not properly sync with vblank if the screen is a Retina Blitter mode screen on a Retina Z3. I think however that this is a problem with the Retina emulation software however. The problem is that when a WaitTOF() is done, it seems to return close to straight away.
- The file formats that ColourCycle uses for its projects and its settings file are IFF files. However, there is no place for me to register IFF FORMs. This means that I am using unregistered file formats. This is not really acceptable as there is the possibility of a clash, but I currently have no choice.
- The Style Guide recommends that all applications be designed for a minimum of a 640 x 200 pixel screen and topaz 8 font. Unfortunately the **Advanced Window** is taller than 200 pixels with topaz 8, so this may cause a problem - namely the **Advanced Window** will not open.

## 1.24 Things to watch out for

Things that could possibly go wrong:

ColourCycle installs patches to the OpenScreen(), OpenScreenTagList() and CloseScreen() intuition.library functions. That way the **Available Screens** gadget is always up to date. It also means that ColourCycle knows to stop cycling a screen if it about to close. This means that if you use another utility that patches any of these functions special care must be taken. If ColourCycle was started after any program that patches any of these functions, then it must be quit before the utility. If ColourCycle was started before the utility, then the utility must be quit before ColourCycle. Because of this you may only ever run one copy of ColourCycle at a time. The second time you start ColourCycle, the first instance will be activated instead. You have been warned!

## 1.25 How ColourCycle Works

The theory behind it all:

When the Waveform Type for either red, green or blue is not "Off", then ColourCycle can algorithmically generate colour palettes for the screen.

ColourCycle can generate a different wave for each primary colour.

There are basically four variables for a waveform. Its wavelength, its initial phase offset, its mean and its amplitude.

Given a sine wave like the following:

```
----
/\
/\
\ /
\ /
----
```

the wave segment you see is one full wave. The wavelength specifies how long this segment is. The phase offset in this case is 0 degrees. If the full wave that you see here is 360 degrees, then the phase offset tells how far along the wave you start. 180 degrees would be half way along the wave. The mean of the wave is where the centre (vertically) is. The amplitude is usually the size of the wave from peak to peak. In the case of ColourCycle the amplitude is the size of the wave from mean to either of the peaks.

Take the following example:

```
150 - - - -
\ /
\ /
\ /
```

\ /

50 - ----

The mean is 100 (its the value exactly between 150 and 50), and the amplitude is 50. The Phase offset is 90 degrees.

If the mean is say 80 and the amplitude is 100, then ColourCycle will flatten out the bottom of the curve, so that it never gets lower than 0.

ColourCycle works with 8 bit primary values. Hence the default mean is 127 with an amplitude of 128. This gives the full sweep from 0 to 255.

ColourCycle does not give a specific wavelength control. What it does do is give a speed control. The speed control tells how many degrees the wave will pass through on each iteration of the cycler. Therefore a speed value of 1.000 will mean that it will take 360 iterations before the wave repeats. A value of 10.000 will mean it would only take 10 iterations to repeat. A value of 0.025 will mean it would take 14400 iterations to repeat.

The four waveform types are (showing two full waves - not to scale):

Sine wave:

-----

/ \ / \

/ \ / \

\ / \ /

\ / \ /

-----

Triangular wave:

^ ^

/ \ / \

/ \ / \

\ / \ /

\ / \ /

v v

Ramp up:

//

//

//

//

//

//

Ramp down:

\ \

\ \

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\ \

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\ \

ColourCycle has controls called "Rate" and "Step". These are global controls which alter the operation of all primary colours.

Rate gives the number of frames between each iteration of the cyclor. A value of 0 means perform an iteration every frame. An increase in rate will decrease the speed of cycling.

Step tells the number of colours to move each iteration. A value of 1 means that the colours should move along 1 in the palette. An increase in step will increase the speed of cycling.

## 1.26 How to use ColourCycle

How to use ColourCycle:

To use ColourCycle it is a simple matter of starting it up (for more info see [Usage](#). You will be presented with a list of screens that are currently open. Select the screen that you wish to cycle. Then click on the [Cycle](#) gadget. The screen should start colour cycling.

The easiest way to work out what ColourCycle does is to experiment. For more information on what each gadget does see [Main Window](#), [Advanced Window](#) and [Theory](#).

ColourCycle supports full context sensitive help. You can place the mouse pointer over any gadget (including system gadgets), and press the help key. This will pop up an AmigaGuide document explaining the function of that gadget. By placing the pointer over a part of the window that does not contain a gadget and pressing help, you will be told out the window itself. Note that the gadgets labels are considered to be part of the gadget. You may also hold down the right mouse button to activate the menu bar. While a menu item, or menu title is activated you may press the help gadget to give information about the selected menu item.

ColourCycle is a shareware product. Please refer to [Copyright](#) for more information.

## 1.27 The ColourCycle Window

Main Window:

This window is the main editor window. It gives all the control required over colourcycling operations. By pressing the help key on any button, or any menu item, you can get help on them.

Gadgets:

[System Gadgets](#)

[Available Screens](#)

[Screen Information](#)

[Cycle](#)

[Advanced](#)

[Rescan Screen List](#)

[Cycle Direction](#)

[Rate Value Rate Slider](#)

[Step Value Step Slider](#)

[Start Colour Value Start Colour Slider](#)

[End Colour Value End Colour Slider](#)

[Advanced Settings](#)

Menus:

[Project Menu](#)

[Settings Menu](#)

[Help Menu](#)

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## 1.28 The Advanced Settings Window

Advanced Window:

This window controls the advanced settings. These advanced settings give control over the algorithmically generated colour palettes. By pressing the help key on any button, or any menu item, you can get help on them.

Note that all the gadgets in this window can still be used even when this window is not open, by using the keyboard shortcuts for those gadgets.

Gadgets:

System Gadgets

Main Gadgets

Red

Red Waveform Type

Red Phase Value Red Phase Slider

Red Speed Value Red Speed Slider

Red Mean Value Red Mean Slider

Red Amplitude Value Red Amplitude Slider

Green

Green Waveform Type

Green Phase Value Green Phase Slider

Green Speed Value Green Speed Slider

Green Mean Value Green Mean Slider

Green Amplitude Value Green Amplitude Slider

Blue

Blue Waveform Type

Blue Phase Value Blue Phase Slider

Blue Speed Value Blue Speed Slider

Blue Mean Value Blue Mean Slider

Blue Amplitude Value Blue Amplitude Slider

Menus:

Project Menu

Settings Menu

Help Menu

## 1.29 ColourCycle Gadgets

Available Screens:

This gadget gives a list of the screens available for cycling. If a program opens a custom viewport, then this will not be shown in this list. Only intuition screens will be in this list.

ColourCycle installs patches to the `OpenScreen()`, `OpenScreenTagList()` and `CloseScreen()` intuition.library functions. That way this gadget is always up to date. It also means that ColourCycle knows to stop cycling a screen if it about to close. If for some strange reason this gadget is not accurate, use the **Rescan Screen List** gadget to update it will the current screen list.

The keyboard shortcut is c to move forward through the list.

The keyboard shortcut is c to move backward through the list.

---

## 1.30 ColourCycle Gadgets

Screen Information:

This gadget will give information about the screen that is currently selected in the **Available Screens** gadget. It gives the width, height and depth of the screen along with the number of colours in the screens viewport.

This gadget has no keyboard shortcut, as it has no selectable function.

## 1.31 ColourCycle Gadgets

Cycle:

This gadget turns on colour cycling. A screen will only colour cycle if one has been selected in the **Available Screens** gadget. If the selected screen is still not cycling, check that one of the **Red**, **Green** or **Blue** gadgets are in the checked state.

The keyboard shortcut is y.

## 1.32 ColourCycle Gadgets

Advanced:

This gadget will open the **Advanced Window**. The gadgets contained in this window give greater control over the cycling of a screen's colour palette. With these extra gadgets it is possible to create palettes to cycle through. Note that all the gadgets that this option reveals can still be used even when the window is not open, by using the keyboard shortcuts for those gadgets.

The keyboard shortcut is v.

## 1.33 ColourCycle Gadgets

Rescan Screen List:

ColourCycle installs patches to the `OpenScreen()`, `OpenScreenTagList()` and `CloseScreen()` intuition.library functions. That way the **Available Screens** gadget is always up to date. It also means that ColourCycle knows to stop cycling a screen if it about to close. If for some strange reason the **Available Screens** gadget is not accurate, using this function will update it with the current screen list.

The keyboard shortcut is n.

## 1.34 ColourCycle Gadgets

Cycle Direction:

This gadget defines the direction in which the colours should cycle. Upwards means that if colour 1 was red, colour 2 was green and colour 3 was blue, then after one iteration colour 1 would be blue, colour 2 would be red and colour 3 would be green. That is, the colours were moved upwards in the colour palette. The reverse is said for Downwards.

The keyboard shortcut is d to go forward through the cycle gadget's choices.

The keyboard shortcut is D to go backward through the cycle gadget's choices.

---

## 1.35 ColourCycle Gadgets

Rate Value:

The current value for the rate at which the colours cycle is shown here.

The rate at which the colours cycle defines the number of frames between each iteration. Therefore a value of 0 means the colours are cycled every frame.

This gadget has a range of 0 to 25. It has a default of 0.

This gadget has no keyboard shortcut, as it has no selectable function.

## 1.36 ColourCycle Gadgets

Rate Slider:

This slider will allow you to change the rate at which the colours cycle.

The rate at which the colours cycle defines the number of frames between each iteration. Therefore a value of 0 means the colours are cycled every frame.

This gadget has a range of 0 to 25. It has a default of 0.

The keyboard shortcut is t to increase the value.

The keyboard shortcut is T to decrease the value.

## 1.37 ColourCycle Gadgets

Step Value:

The current value for the step size is shown here.

The step size defines how far the colours move for each iteration. This is a value given in colours. Therefore if given a value of 1, then the colour that was colour 1 would then become 2 on the next iteration. If the value was 3, then the colour that was colour 1 would become 4 on the next iteration.

This gadget has a range of 1 to 10. It has a default of 1.

This gadget has no keyboard shortcut, as it has no selectable function.

## 1.38 ColourCycle Gadgets

Step Slider:

This slider will allow you to change the step size.

The step size defines how far the colours move for each iteration. This is a value given in colours. Therefore if given a value of 1, then the colour that was colour 1 would then become 2 on the next iteration. If the value was 3, then the colour that was colour 1 would become 4 on the next iteration.

This gadget has a range of 1 to 10. It has a default of 1.

The keyboard shortcut is e to increase the value.

The keyboard shortcut is E to decrease the value.

---

### 1.39 ColourCycle Gadgets

Start Colour Value:

The current value for the start of the colour cycling range is shown here.

This gadget has a range of 0 to the maximum number of colours in the screen's viewport. It has a default value of 0.

This gadget has no keyboard shortcut, as it has no selectable function.

### 1.40 ColourCycle Gadgets

Start Colour Slider:

This slider will allow you to change the start of the colour cycling range.

This gadget has a range of 0 to the maximum number of colours in the screen's viewport. It has a default value of 0.

This gadget has no keyboard shortcut.

### 1.41 ColourCycle Gadgets

End Colour Value:

The current value for the end of the colour cycling range is shown here.

This gadget has a range of 0 to the maximum number of colours in the screen's viewport. It has a default value equal to the maximum colour of the screen's viewport.

This gadget has no keyboard shortcut, as it has no selectable function.

### 1.42 ColourCycle Gadgets

End Colour Slider:

This slider will allow you to change the end of the colour cycling range.

This gadget has a range of 0 to the maximum number of colours in the screen's viewport. It has a default value equal to the maximum colour of the screen's viewport.

This gadget has no keyboard shortcut.

### 1.43 ColourCycle Gadgets

Red:

This gadget determines whether the red component of the colour palette should be cycled. If it is not checked, then the red component of the colour palette will stay exactly as it is.

For the other gadgets pertaining to red to accept keyboard shortcuts it must be active. Red is active if there is a raised box around the red gadgets. Red is inactive if there is a recessed box around the red gadgets.

To make red active, use the R shortcut. Red does not need to be active for this specific gadget to function, but it does need to be active for the shortcuts for the **Red Waveform Type**, **Red Phase Slider**, **Red Speed Slider**, **Red Mean Slider** and **Red Amplitude Slider** gadgets to work.

The keyboard shortcut is r.

The keyboard shortcut to activate Red is R.

---

## 1.44 ColourCycle Gadgets

Red Waveform Type:

This gadget specifies the waveform type for red. The available options are "Off", "Sine", "Triangular", "Ramp Up" and "Ramp Down". See [Theory](#) for more information.

A value of "Off" will cycle the existing colour palette. Other values will mean that a new palette for red will be algorithmically generated.

The keyboard shortcut is w to go forward through the cycle gadget's choices.

The keyboard shortcut is W to go backward through the cycle gadget's choices.

## 1.45 ColourCycle Gadgets

Red Phase Value:

The current value for the red phase offset is shown here.

This gadget has a range of 0 to 359. It has a default value of 0.

This gadget has no keyboard shortcut.

## 1.46 ColourCycle Gadgets

Red Phase Slider:

This slider will allow you to change the red phase offset.

This gadget has a range of 0 to 359. It has a default value of 0.

The keyboard shortcut is p to increase the value.

The keyboard shortcut is P to decrease the value.

## 1.47 ColourCycle Gadgets

Red Speed Value:

The current value for the red wave speed is shown here.

This gadget has a range of 0.000 to 359.975 in steps of 0.025. It has a default value of 1.000.

This gadget has no keyboard shortcut.

## 1.48 ColourCycle Gadgets

Red Speed Slider:

This slider will allow you to change the red wave speed.

This gadget has a range of 0.000 to 359.975 in steps of 0.025. It has a default value of 1.000.

The keyboard shortcut is s to increase the value.

The keyboard shortcut is S to decrease the value.

---

## 1.49 ColourCycle Gadgets

Red Mean Value:

The current value for the red mean is shown here.

This gadget has a range of 0 to 255. It has a default value of 127.

This gadget has no keyboard shortcut.

## 1.50 ColourCycle Gadgets

Red Mean Slider:

This slider will allow you to change the red mean.

This gadget has a range of 0 to 255. It has a default value of 127.

The keyboard shortcut is m to increase the value.

The keyboard shortcut is M to decrease the value.

## 1.51 ColourCycle Gadgets

Red Amplitude Value:

The current value for the red amplitude is shown here.

This gadget has a range of 0 to 255. It has a default value of 128.

This gadget has no keyboard shortcut.

## 1.52 ColourCycle Gadgets

Red Amplitude Slider:

This slider will allow you to change the red amplitude.

This gadget has a range of 0 to 255. It has a default value of 128.

The keyboard shortcut is a to increase the value.

The keyboard shortcut is A to decrease the value.

## 1.53 ColourCycle Gadgets

Green:

This gadget determines whether the green component of the colour palette should be cycled. If it is not checked, then the green component of the colour palette will stay exactly as it is.

For the other gadgets pertaining to green to accept keyboard shortcuts it must be active. Green is active if there is a raised box around the green gadgets. Green is inactive if there is a recessed box around the green gadgets.

To make green active, use the R shortcut. Green does not need to be active for this specific gadget to function, but it does need to be active for the shortcuts for the **Green Waveform Type**, **Green Phase Slider**, **Green Speed Slider**, **Green Mean Slider** and **Green Amplitude Slider** gadgets to work.

The keyboard shortcut is g.

The keyboard shortcut to activate Green is G.

---

## 1.54 ColourCycle Gadgets

Green Waveform Type:

This gadget specifies the waveform type for green. The available options are "Off", "Sine", "Triangular", "Ramp Up" and "Ramp Down". See [Theory](#) for more information.

A value of "Off" will cycle the existing colour palette. Other values will mean that a new palette for green will be algorithmically generated.

The keyboard shortcut is w to go forward through the cycle gadget's choices.

The keyboard shortcut is W to go backward through the cycle gadget's choices.

## 1.55 ColourCycle Gadgets

Green Phase Value:

The current value for the green phase offset is shown here.

This gadget has a range of 0 to 359. It has a default value of 0.

This gadget has no keyboard shortcut.

## 1.56 ColourCycle Gadgets

Green Phase Slider:

This slider will allow you to change the green phase offset.

This gadget has a range of 0 to 359. It has a default value of 0.

The keyboard shortcut is p to increase the value.

The keyboard shortcut is P to decrease the value.

## 1.57 ColourCycle Gadgets

Green Speed Value:

The current value for the green wave speed is shown here.

This gadget has a range of 0.000 to 359.975 in steps of 0.025. It has a default value of 0.750.

This gadget has no keyboard shortcut.

## 1.58 ColourCycle Gadgets

Green Speed Slider:

This slider will allow you to change the green wave speed.

This gadget has a range of 0.000 to 359.975 in steps of 0.025. It has a default value of 0.750.

The keyboard shortcut is s to increase the value.

The keyboard shortcut is S to decrease the value.

---

## 1.59 ColourCycle Gadgets

Green Mean Value:

The current value for the green mean is shown here.

This gadget has a range of 0 to 255. It has a default value of 127.

This gadget has no keyboard shortcut.

## 1.60 ColourCycle Gadgets

Green Mean Slider:

This slider will allow you to change the green mean.

This gadget has a range of 0 to 255. It has a default value of 127.

The keyboard shortcut is m to increase the value.

The keyboard shortcut is M to decrease the value.

## 1.61 ColourCycle Gadgets

Green Amplitude Value:

The current value for the green amplitude is shown here.

This gadget has a range of 0 to 255. It has a default value of 128.

This gadget has no keyboard shortcut.

## 1.62 ColourCycle Gadgets

Green Amplitude Slider:

This slider will allow you to change the green amplitude.

This gadget has a range of 0 to 255. It has a default value of 128.

The keyboard shortcut is a to increase the value.

The keyboard shortcut is A to decrease the value.

## 1.63 ColourCycle Gadgets

Blue:

This gadget determines whether the blue component of the colour palette should be cycled. If it is not checked, then the blue component of the colour palette will stay exactly as it is.

For the other gadgets pertaining to blue to accept keyboard shortcuts it must be active. Blue is active if there is a raised box around the blue gadgets. Blue is inactive if there is a recessed box around the blue gadgets.

To make blue active, use the R shortcut. Blue does not need to be active for this specific gadget to function, but it does need to be active for the shortcuts for the **Blue Waveform Type**, **Blue Phase Slider**, **Blue Speed Slider**, **Blue Mean Slider** and **Blue Amplitude Slider** gadgets to work.

The keyboard shortcut is b.

The keyboard shortcut to activate Blue is B.

---



## 1.64 ColourCycle Gadgets

Blue Waveform Type:

This gadget specifies the waveform type for blue. The available options are "Off", "Sine", "Triangular", "Ramp Up" and "Ramp Down". See [Theory](#) for more information.

A value of "Off" will cycle the existing colour palette. Other values will mean that a new palette for blue will be algorithmically generated.

The keyboard shortcut is w to go forward through the cycle gadget's choices.

The keyboard shortcut is W to go backward through the cycle gadget's choices.

## 1.65 ColourCycle Gadgets

Blue Phase Value:

The current value for the blue phase offset is shown here.

This gadget has a range of 0 to 359. It has a default value of 0.

This gadget has no keyboard shortcut.

## 1.66 ColourCycle Gadgets

Blue Phase Slider:

This slider will allow you to change the blue phase offset.

This gadget has a range of 0 to 359. It has a default value of 0.

The keyboard shortcut is p to increase the value.

The keyboard shortcut is P to decrease the value.

## 1.67 ColourCycle Gadgets

Blue Speed Value:

The current value for the blue wave speed is shown here.

This gadget has a range of 0.000 to 359.975 in steps of 0.025. It has a default value of 0.625.

This gadget has no keyboard shortcut.

## 1.68 ColourCycle Gadgets

Blue Speed Slider:

This slider will allow you to change the blue wave speed.

This gadget has a range of 0.000 to 359.975 in steps of 0.025. It has a default value of 0.625.

The keyboard shortcut is s to increase the value.

The keyboard shortcut is S to decrease the value.

---

## 1.69 ColourCycle Gadgets

Blue Mean Value:

The current value for the blue mean is shown here.

This gadget has a range of 0 to 255. It has a default value of 127.

This gadget has no keyboard shortcut.

## 1.70 ColourCycle Gadgets

Blue Mean Slider:

This slider will allow you to change the blue mean.

This gadget has a range of 0 to 255. It has a default value of 127.

The keyboard shortcut is m to increase the value.

The keyboard shortcut is M to decrease the value.

## 1.71 ColourCycle Gadgets

Blue Amplitude Value:

The current value for the blue amplitude is shown here.

This gadget has a range of 0 to 255. It has a default value of 128.

This gadget has no keyboard shortcut.

## 1.72 ColourCycle Gadgets

Blue Amplitude Slider:

This slider will allow you to change the blue amplitude.

This gadget has a range of 0 to 255. It has a default value of 128.

The keyboard shortcut is a to increase the value.

The keyboard shortcut is A to decrease the value.

## 1.73 ColourCycle Project Menu

Project Menu:

This menu gives general control over the whole project.

Menu Items:

New

Open...

Save

Save As...

About...

Quit

---

## 1.74 ColourCycle Project Menu

New:

Select this menu option to close the current project (if one is open), and start with a fresh new workspace. It gives reasonable defaults to start with. You can then select the menu item **Project Open...** to start working on an existing project.

The keyboard shortcut is Right Amiga-n.

## 1.75 ColourCycle Project Menu

Open...:

Select this menu option to close the current project (if one is open), and start work on an existing project.

The keyboard shortcut is Right Amiga-o.

## 1.76 ColourCycle Project Menu

Save:

Select this menu item to save the current project. If this is a new unnamed project, a file requester will pop up for you to enter in a file name. If this is an already existing project it will silently update that file.

The keyboard shortcut is Right Amiga-s.

## 1.77 ColourCycle Project Menu

Save As...:

Select this menu item to save the current project. Regardless of whether this is a new unnamed project or an existing project, a file requester will pop up for you to enter in a file name. If a file with the name you supply already exists, ColourCycle will be ask you whether you wish to overwrite that file before it does. You can cancel this if you do not wish to overwrite that existing file.

The keyboard shortcut is Right Amiga-a.

## 1.78 ColourCycle Project Menu

About...:

Selecting this menu option will provide you with some information about ColourCycle.

The keyboard shortcut is Right Amiga-?.

## 1.79 ColourCycle Project Menu

Quit:

This menu item will quit ColourCycle. If you have a project that you have changed since it was last saved, you will be prompted as to whether you wish to **Save** the project before you quit.

The keyboard shortcut is Right Amiga-q.

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## 1.80 ColourCycle Settings Menu

Settings Menu:

This menu gives general control over the whole application settings.

Menu Items:

Create Icons?

Save Settings

## 1.81 ColourCycle Settings Menu

Create Icons?:

This item toggles on and off. When in the checked (on) state, all projects will be saved with icons.

The keyboard shortcut is Right Amiga-i.

## 1.82 ColourCycle Settings Menu

Save Settings:

This item will save the following settings:

- Current position of the main window.
- Current public screen the window is open on.
- The state of the **Create Icons?** menu item.
- The state of the **Advanced** gadget/**Advanced Window**.
- The current or last position of the **Advanced Window**.

When ColourCycle is started up next, the window(s) will try to be opened on the saved public screen at the saved position(s). If the public screen cannot be found at startup, then it will revert back to the Workbench screen.

This item has no keyboard shortcut.

## 1.83 ColourCycle Help Menu

Help Menu:

This menu gives access to the on line help.

Menu Items:

Contents...

Gadgets...

Menus...

Index...

## 1.84 ColourCycle Help Menu

Contents...:

This menu item will open up the on line help window (if it is not already open), and show the contents page.

The keyboard shortcut is Right Amiga-h.

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## 1.85 ColourCycle Help Menu

Gadgets...:

This menu item will open up the on line help window (if it is not already open), and show a list of gadgets relating to the current window.

This item has no keyboard shortcut.

## 1.86 ColourCycle Help Menu

Menus...:

This menu item will open up the on line help window (if it is not already open), and show a list of menus.

This item has no keyboard shortcut.

## 1.87 ColourCycle Help Menu

Index...:

This menu item will open up the on line help window (if it is not already open), and show the index.

This item has no keyboard shortcut.

## 1.88 ColourCycle System Window Gadgets

System Window Gadgets:

Close Gadget

Drag Bar

Zoom Gadget

Depth Gadget

Resize Gadget

## 1.89 ColourCycle System Window Gadgets

Close Gadget:

This will quit the current project. If it has been changed since it was last saved, you will be asked whether you wish to save it before it closes it.

Being a system gadget, it has no keyboard shortcut.

## 1.90 ColourCycle System Window Gadgets

Drag Bar:

Use this to move the window to a new place. To use it, hold down the left mouse button while you move the mouse. Let the left mouse button go when you have it at the desired position, or press the right mouse button while still holding the left to cancel the window move.

---

## 1.91 ColourCycle System Window Gadgets

### Zoom Gadget:

This button lets the user have two preset sizes and positions for the window. Pressing this button toggles between the two settings. By resizing or moving the window, the current setting is changed.

Being a system gadget, it has no keyboard shortcut. However, you may be able to assign this functionality to a keyboard shortcut by using the standard system Commodity program called FKey. Consult either the Using The System Software, Workbench 3.0 or Workbench 3.1 manual supplied with your machine or operating system upgrade.

## 1.92 ColourCycle System Window Gadgets

### Depth Gadget:

Use this to bring this window to the front. If it is already at the front, then it will be placed behind all other windows.

Being a system gadget, it has no keyboard shortcut. However, you may be able to assign this functionality to a keyboard shortcut by using the standard system Commodity program called FKey. Consult either the Using The System Software, Workbench 3.0 or Workbench 3.1 manual supplied with your machine or operating system upgrade.

## 1.93 ColourCycle System Window Gadgets

### Resize Gadget:

Use this to change the size of the window. To use it, hold down the left mouse button while you move the mouse. Let the left mouse button go when you have it at the desired size, or press the right mouse button while still holding the left to cancel the window resize.

Being a system gadget, it has no keyboard shortcut. However, you may be able to assign this functionality to a keyboard shortcut by using the standard system Commodity program called FKey. Consult either the Using The System Software, Workbench 3.0 or Workbench 3.1 manual supplied with your machine or operating system upgrade.

## 1.94 Credits and other notes for/about ColourCycle

### Credits:

Author: Stuart MacKinnon.

Tester(s): Stuart MacKinnon.

Concept: Stuart MacKinnon.

Encouragement: Stuart MacKinnon.

Completed: 2nd February 1995.

### Notes:

Although I will not enforce this (it would seem stupid to do so), it would be great my if name was placed in the credits of any commercial product (such as a video presentation with nice visuals) that uses ColourCycle.

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