

**FUSIONV1.00**

<b>COLLABORATORS</b>
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# Chapter 1

## FUSIONV1.00

### 1.1 Fusion V1.00 Guide Clear 1999

FUSION V1.00

Welcome to Fusion, a programmers tool allowing register based palette manipulation and editing.

This guide has details on all the features of Fusion, and is divided into the following sections:

1. Basic usage of Fusion
  2. GUI functions and Keyboard shortcuts
  3. Applying tints and user defined effects
  4. Preferences and Tooltypes
  5. Requirements
  6. The future of Fusion
  7. Credits
- Released 3rd May 1999

CLEAR

### 1.2 Basic usage of Fusion

Fusion allows the user to view 2 palettes, the Source and Destination. A file, either an IFF ILBM (8 bitplanes or less) or IFF CMAP, can be

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loaded into Source or Destination.

Up to 7 bitplanes of information will be used and displayed, and can then be manipulated by the user.

#### 1. SELECTING CURSOR POSITION(S)

The position of the 3 cursors (4, with "SPECIAL" window open) can be specified by using the left mouse button for the start of a range, and the right mouse button to mark the end of a range.

#### 2. COPYING A RANGE

There are 2 cursors in the Source palette, which mark a start and end points of the range to be sent. The cursor in the Destination palette marks the point where the range will sent to. The register numbers of these markers are displayed between the 2 palettes.

Once the user has specified all three cursor positions, the range can be copied by pressing either:

- i. "SEND RANGE" button
- ii. Keyboard shortcut 'S'
- iii. Middle mouse button

The Destination palette will now contain the range of colours marked, at the required point.

#### 3. INCREASING OR REDUCING BITPLANES IN A PALETTE

Load the palette concerned into the Destination palette. Open the "PREFS" window and alter the bitplane value to the desired amount. Then Save the palette.

#### 4. VIEWING AND EDITING INDIVIDUAL PALETTE ENTRIES

In the "MAIN" window, press the button marked "RGB VALUES", this will bring up a window showing the Red, Green & Blue values of the current register marked by the cursor in the Destination palette. These values can be changed as required.

NOTE: All changes are performed on the Destination palette.  
The Source palette cannot, and will NOT be affected by any editing.

### 1.3 GUI functions and Keyboard shortcuts

Fusion can be operated with only the 2 permanent windows open, " ←  
MAIN"  
and "PALETTES" if the user wishes, but there are 3 other windows which

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can be opened and positioned as required. These are:

1.

CONTROL This window contains all the major functions for basic palette manipulation.

LOAD (S)	; Loads a palette into Source
SEND RANGE	; Sends the current range from Source to Destination
SEND ALL	; Sends entire Source palette to Destination
UNDO	; Reverses the last change
REDO	; Reverses the last undo
LOAD (D)	; Loads a palette into Destination
SAVE	; Saves the Destination palette

2.

SPECIAL This window contains functions which can apply effects to a specified range within the Destination palette. The Gadgets are labelled as follows:

R, G, B, C, M, Y, K, W	; Red, Green, Blue, Cyan, Magenta, Yellow, Black, White Tint(s) to be applied
1X/2X/4X/8X/16X	; Quantity of tint to be applied
APPLY TINT	; Apply tint to specified range
R, G, B INPUT VALUES	; Any value can be entered in these cells to specify a user defined tint
APPLY CUSTOM	; Apply user defined tint

3.

RGB VALUES This window displays the RGB values for the register specified by the cursor in the Destination palette. These values can be altered if required.

The positions of these 3 windows is saved along with the preferences file, also whether they are open or not. The display will be

constructed as saved whenever Fusion is loaded.

See

Preferences  
for more details.

KEYBOARD SHORTCUTS. L ; Load a Source palette  
A ; Save the Destination palette  
S ; Send Source range to Destination palette  
U ; Reverses the last edit on the Destination  
R ; Reverses the last undo  
4 ; Restore GUI4 colour values (does not  
protect them for future editing)  
0 ; Toggle register zero between 3 colours  
(bright, dark, original value)

## 1.4 Applying tints and user defined effects

Bringing up the "SPECIAL" window, presents the user with various options to apply a tint to the range specified in the Destination palette.

An "end range" cursor appears in the Destination palette only when the "SPECIAL" window is open - this additional cursor is not needed for any other functions. This cursor can be moved using the right mouse button and is used to signify the end of the range to be affected.

### 1. PRESET TINTS

The tint checkbox gadgets are as follows, and will specify a tint using the associated colour(s).

R = Red	C = Cyan	K = Black
G = Green	M = Magenta	W = White
B = Blue	Y = Yellow	

A tint of more than 1 colour can be applied simultaneously, but certain ranges will not produce the desired effect.  
(e.g. Cyan & Red will not change anything)

A quantity can be specified using the Cycle gadget to the right of the tint checkboxes. This quantity will be used when the "APPLY TINT" button is pressed.

NOTE: The unit of measure for this quantity is in AGA colour values.

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## 2. USER DEFINED EFFECTS

On the right of the "SPECIAL" window are gadgets relating to a user defined tint process. The 3 RGB boxes can contain any values which will be added to the range of colours specified - minus figures will reduce the values. These values are applied to the range by pressing "APPLY CUSTOM".

## 3. CUTTING RANGES

Lastly, the "CUT RANGE" button will replace all registers in the range with the user defined default colour as specified in Prefs. This colour is also used across the entire palette upon startup.

# 1.5 Preferences and Tooltypes

Preferences can be accessed by pressing the "PREFS" button in the "MAIN" window. Saved along with the Preferences file, is the position of all the windows, and whether they are open. The display is then restored when Fusion is loaded.

GUI (registers 0-3) and mouse (registers 17-19) are copied from the Workbench screen.

## 1. PREFERENCES

LOAD LOCATION...	The path where the user loads palettes from.
SAVE LOCATION...	The path where the user saves palettes to.
SCREEN MODE...	Any screen mode can be selected but it must be greater or equal to than 640 x 256 pixels.
FONT...	Font used for Fusion screen and windows.
DEFAULT COLOUR	RGB values for initial colour of all registers within a palette. This colour is also used when cutting a range from the Destination palette.
BITPLANES	Depth of palette to be worked on. (NOT depth of Fusion screen.)
PROTECT GUI4	With this ticked, registers 0-3 will NOT be affected by any editing or copying - thus preserving the Intuition GUI colours.
PROTECT MOUSE	With this ticked, registers 17-19 will NOT be affected by any editing or copying. This will keep the mouse colours the same as Workbench.

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Fusion also contains 4 TOOLTYPE values which can be altered. These are not necessary for the functioning of Fusion and all have default values if these are found to be absent.

## 2. TOOLTYPES

NOABOUT= ; Value 0 - The Fusion "About" requester will be displayed on startup and is available to view at any time.

; Value 1 - Fusion will immediately display the GUI, and will not load the "About" imagery, thus saving memory, and time if loading from floppy.

WRAP= ; Value 0 - Any tinting will put a limit on RGB values at 0 and 255, these values will not be exceeded.

Value 1 - If a colour index value exceeds 255 it will return to 0, and vice versa.

SLOWSEND= ; Value 0 - Range will be sent from Source to Destination immediately (in 1 frame).

Value 1 - Range will be sent from Source to Destination with a 1 frame delay between each register.

TOL= ; Value between 0 and 255 - When the user positions the cursor over a colour within either palette, this value is used to determine whether to display a cursor using colour 1 or 2 (generally black or white).

## 1.6 Requirements

The requirements for running Fusion, are:

1. AGA graphics chipset (or a display capable of 8 bitplanes).
2. OS3.0 or higher.
3. Approximately 200K free memory.
4. For hard disk installation: Around 220K of free space.

Technical info for using Fusion:

1. Due to the nature of the Amiga's display, Fusion does not display any palettes with 8 bitplanes, only the first 128 colours of such an object (either IFF ILBM or IFF CMAP) will be used. Fusion8 (An 8 bitplane ONLY, version of Fusion) is being developed.
  2. To install Fusion to a hard disk, copy Fusion executable and the
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directory "Data" (i.e. the entire Fusion folder) to any area on your HD. Fusion does not need any special fonts, assigns or libraries to run.

3. If the intension to have the "NOABOUT" tooltype set to 1, you may delete the following files to save disk space;

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/Fusion/Data/FusionData1  
/Fusion/Data/FusionData2
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4. Fusion always uses an 8 bitplane screen for it's display, regardless of the depth of palette being worked on.
5. Fusion has NOT been tested on any 24 bit graphics cards.

## 1.7 The future of Fusion

Fusion was created from scratch, based on a utility written during the development of the PD game "Holocaust". This utility allowed the user to copy RANGES of colours from one palette to another - a feature not seen in any paint package, which I believe to be very useful to a programmer working on a large quantity of bitmaps.

Fusion expands on this basic set of functions and allows many more operations to be performed on a palette, some of which are not seen in any other application on the Amiga.

I am aware that Fusion does not perform and ground breaking functions, but it could prove invaluable for games programmers wishing to work on many different IFF ILBM files, without having the hassle of combining each one's colours into a palette for use within the game.

As can be seen, Fusion is fairly primitive in it's operation (Slider gadgets for tinting etc.. could be implemented) and is to be developed much further, along with other BlitzBasic programmer related tools. One such tool is ORPHEUS, an AGA copper editor which creates the source code necessary for displaying a gradient effect using the co-processor (copper) chip featured in the Amiga. ORPHEUS V1.00 is already complete and available in the Public Domain/Aminet, but is due to be revamped and will use the Fusion internal "engine".

## 1.8 Credits

### DISCLAIMER AND DISTRIBUTION INFO

Fusion is Freeware, meaning anyone can use it for whatever means they desire, for no fee whatsoever.

Fusion CAN be included on coverdisks, Aminet CD's or Public Domain resource - however, the author assumes no responsibility for damages or losses caused by the use of Fusion. The program operates in an operating system "friendly" manner, and has been thoroughly bug

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tested.

#### CREDITS

Computer programming           - Howard Wilsher  
Documentation  
Bug Testing  
  
AmigaGuide assistance           - Matthew Wilsher  
Final bug test  
  
Created using                    - BlitzBasic 2.1  
                                  - Personal Paint 7.1  
                                  - Amiga A4000/030

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///End of Fusion guide///

THANKS TO THE FOLLOWING PEOPLE/ORGANISATIONS.

COMMODORE  
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CLOANTO

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