

Cammech Billboard Display System - Config Guide

Version 1.0 - 03/08/2012

Contents

[1\) Config File Introduction](#)

- [1a\) What Config Files Are](#)
- [1b\) How Config Files Work](#)

[2\) Config File Fundamentals](#)

- [2a\) Comments](#)
- [2b\) RGB Colours](#)
- [2c\) File Paths](#)
- [2d\) Positioning and Scaling](#)
- [2e\) Constants](#)
- [2f\) Language Files](#)

[3\) Config File Contents](#)

- [3a\) Page Setup](#)
- [3b\) Element Definitions](#)
 - [Images](#)
 - [Videos](#)
 - [Text](#)
 - [Colour Gradients](#)
- [3c\) Render List](#)

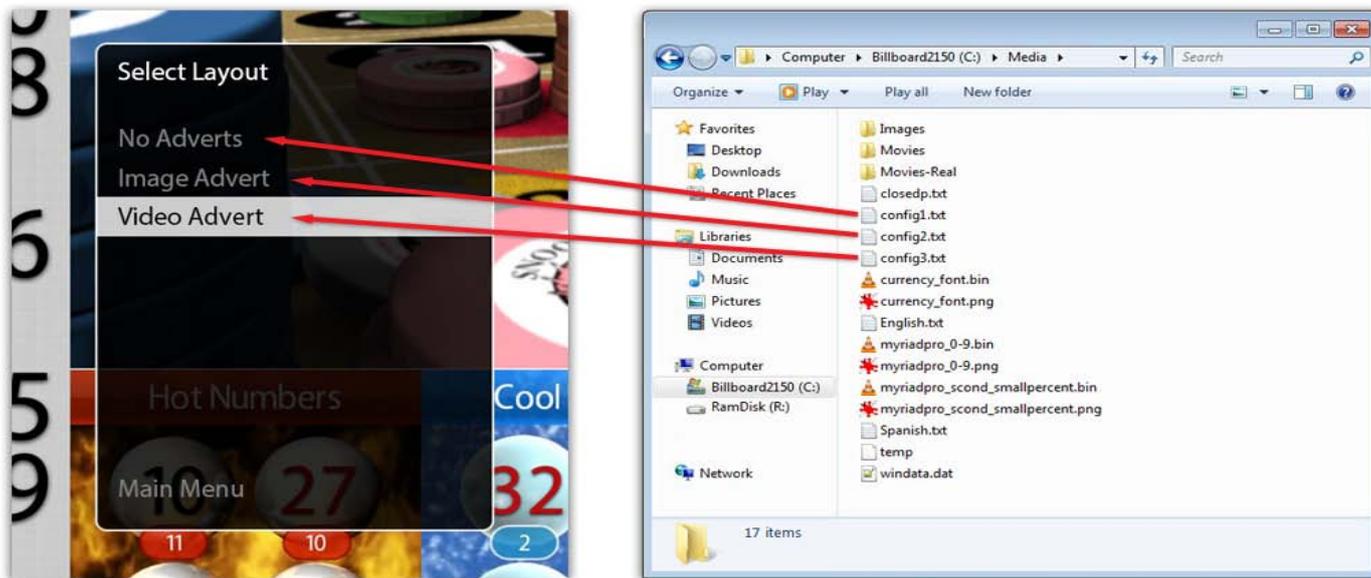
[4\) Common Changes](#)

- [4a\) Changing the Logo](#)
- [4b\) Changing Text](#)
- [4c\) Changing an Image or Video](#)
- [4d\) Changing the Statistics Length](#)
 - [Hot Numbers](#)
 - [Cold Numbers](#)
 - [Red/Green/Black](#)
 - [Odd/Even](#)
 - [High/Low](#)
 - [Dozens](#)

1) Config File Introduction

1a) What Config Files Are

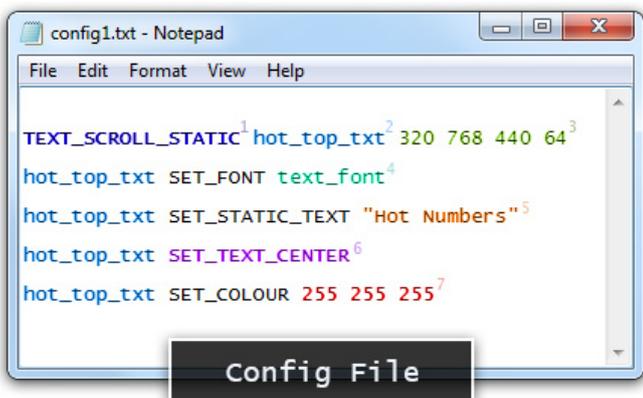
The Billboard Display System uses simple text instructions to display elements onscreen. These instructions are read from text files in the 'Media' folder on the Billboard's 'C:' drive: 'config1.txt' - 'config9.txt', where each 'config' file represents an individual on-screen layout that can be accessed through the user menu when the Billboard software is running:



When a layout is selected from the Billboard user menu, the config file corresponding to its position in the menu list is loaded by the Billboard software, which reads the instructions and displays the elements onscreen accordingly.

1b) How Config Files Work

The Billboard software is able to display many different types of elements - images, videos, text, etc. The instructions inside a config file tell it which ones to display, where to display them, how big they should be, and so on. A good analogy is to think of the Billboard software having 'templates' for these element types. It is able to use, for instance, the text template to create 'instances' of text on the screen, but when creating each one it needs a few details on how to use the template: where to position the new text instance, how big to make it, what colour to use, what font, etc. The config file gives the Billboard software these details, specifying exactly how each instance should come out. The example below shows a typical example of the config file instructing the Billboard software to draw some text:



1,2,3) "Make a new instance of the 'TEXT_SCROLL_STATIC' template and call it 'hot_top_txt' for reference. Position it at (320,768) and scale it to 440 x 64 pixels."

4) "Use the font 'text_font'."

5) "For the text itself, write 'Hot Numbers'."

6) "Make the text centre-aligned."

7) "Use the RGB colour 255,255,255." (See 'RGB Colours')

2) Config File Fundamentals

1a) Comments

The config files are read line-by-line, with any line beginning with a '%' percentage sign being ignored by the software. '%' lines are included for the user's benefit and are used to add comments to the files or label sections.

```
This line is read by the Billboard software
% This line is ignored
% --- Section Label ---
```

1b) RGB Colours

Colours defined as RGB-values consist of three numbers between 0 and 255, which represent the red, green and blue components of the colour respectively.



1c) File Paths

When the Billboard software integrates images, videos and other files from Windows, it does so by reading file paths from the config files, for instance: "C:\Media\Images\menuback.png". This refers to the file itself and the parent folders in which it resides - in this case the image 'menuback.png' is located inside the 'Images' folder, which is inside the 'Media' folder on the 'C:' drive.

1d) Positioning and Scaling



Elements are often positioned and scaled in the config file with four numbers:

```
SPRITE advert advert_tx 320 740 880 660
```

These numbers are, respectively, the **X-coordinate** (distance from the left), the **Y-coordinate** (distance from the bottom), the **width** and the **height**. In the case above, the SPRITE 'advert' is positioned at (320,740) and scaled to a width of 880 pixels and a height of 660 pixels.

1e) Constants

Constants are placeholders for text whose value changes frequently and cannot be written directly into the config file, such as the length of the statistics (which can be changed via the Billboard user menu). In the config files, constants appear as pre-defined titles surrounded by double hash symbols, for example `##hot HOT_STAT_LEN##`, `##CURRENCY##`, and `##USER_TEXT 101##`. In each case, the constant will be replaced with the value to which it corresponds - in this case the length of the Hot Numbers statistics, the currently selected currency symbol and entry number 101 from the config file's language file.

Some commonly-used constants:

`##CURRENCY##` - replaced with the current currency symbol that has been selected from the Billboard user menu

`##USER_TEXT 122##` - replaced with entry number 122 from the config file's language file

`##hot HOT_STAT_LEN##` - replaced with the statistics length (number of games from which the statistic is calculated) of the `HOT_NUMBERS` element called 'hot'

`##redblack RGB_STAT_LEN##` - replaced with the statistics length of the `RED_BLACK` element called 'redblack'

1f) Language Files

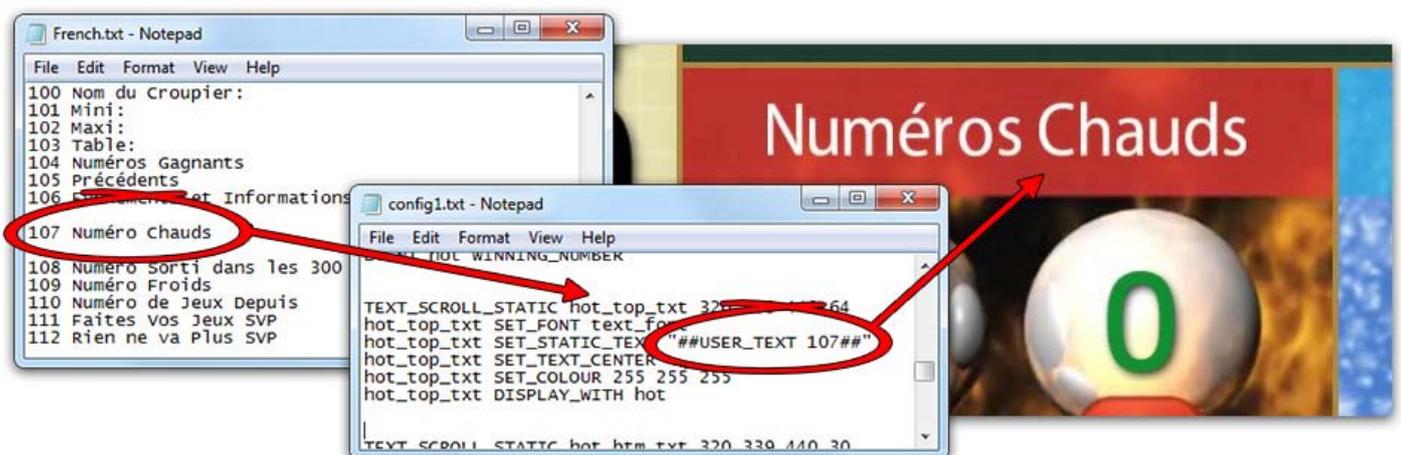
Language files are used to translate the text that appears onscreen while the Billboard software is running. The language file is defined near the top of the config file in the 'Page Setup' section with the following line:

```
LANGUAGE "C:\Media\Spanish.txt"
```

This line tells the Billboard software to use 'Spanish.txt' as the language file. Inside the language file, multiple entries are defined as below:

```
100 Nombre del Crupier:  
101 Mí n:  
102 Máx:  
103 Mesa:
```

To display language file entries on the screen, constants are used (see the 'Constants' section for more details). When the config file specifies `##USER_TEXT 100##`, it refers to entry number 100 in the language file - in this case the Spanish translation 'Nombre del Crupier'.



3) Config File Contents

The structure of a config file can be broken into three parts: Page Setup, Element Definitions and Render List. The Page Setup part appears at the top of each config file and consists of just a few lines that define the fundamentals of the layout; the Element Definitions part makes up the majority of the file and consists of multiple declarations of images, videos, text and other elements that appear in the layout; the Render List is a list of elements to draw onscreen and the order in which to draw them.

3a) Page Setup

The 'Page Setup' section usually appears at the top of the config file and consists of the following lines:

```
% --- Page setup ---  
CONFIG_TITLE "No Adverts"  
VIDEO_MODE 1920 1200  
PAGE_SETUP PORTRAIT  
BACKGROUND_COLOUR 30 30 255  
ENABLE_TEST  
LANGUAGE "C:\Media\Spanish.txt"  
% CAMERA_READER 0 320 240
```

`% --- Page Setup ---` has a percentage sign at the beginning and is therefore a commented line, ignored by the software.

The `VIDEO_MODE` command defines the screen resolution that the Billboard software will attempt to adopt when it loads the config file. The command must be followed by two numbers - the width and height of the resolution as it appears in Windows (ignoring any desired rotations into landscape or portrait mode). If this screen resolution is unavailable, the Billboard software will adopt the closest compatible resolution and scale on-screen elements to fit it.



`PAGE_SETUP` can be defined as either `PORTRAIT` or `LANDSCAPE`, which specifies the orientation of the layout. If landscape, all coordinates will be calculated as though the bottom-*left* of the resolution is the layout's bottom-left corner. If portrait, the bottom-*right* of the resolution will be the layout's bottom-left corner. On a standard portrait Cammegh display, `PAGE_SETUP` values of `PORTARIIT` and `LANDSCAPE` will result in the orientations seen in the examples on the left.

`BACKGROUND_COLOUR` defines an RGB-value colour for the background of the layout. This is largely irrelevant as most layouts cover all regions of the screen with images or video.

If `ENABLE_TEST` is included (and not commented), the Billboard software will allow the use of the 'F5' - 'F9' keys on a keyboard to test 'Void Game', 'Place Your Bets', 'Last Bets', 'No More Bets' and 'Winning Number' while the Billboard software is running.

`LANGUAGE` defines the path to a language file in Windows. Language files are used to replace `##USER_TEXT XXX##` constants with text entries and allow the same layout to be displayed in multiple languages. See the 'Language Files' section for more details.

`CAMERA_READER 0 320 240` is a legacy addition and will usually be commented in config files.

3b) Element Definitions

The vast majority of a config file is made up of element definitions - instructions to the Billboard software for what to display on the screen and how to display it. The most common elements are images, videos, text and colour gradients (used for lines and boxes). Elements of the same type are usually defined together, so all images will be in one section of the config file, all videos in another, etc.

Images

The Billboard software can draw PNG format images from a Windows directory on the screen. An image definition usually looks like this:

```
TEXTURE table_tx "c:\media\images\chips_mansion_000.png"  
SPRITE table table_tx 320 840 880 840  
table ENABLE_ALPHA
```



The first line creates a new **TEXTURE** called 'table_tx', which uses the image file sourced in the quotation marks. **TEXTURE**s are not drawn by themselves - they are containers for an externally-loaded image file. To draw the contents of a **TEXTURE**, it must be fed into a **SPRITE**, as in the second line.

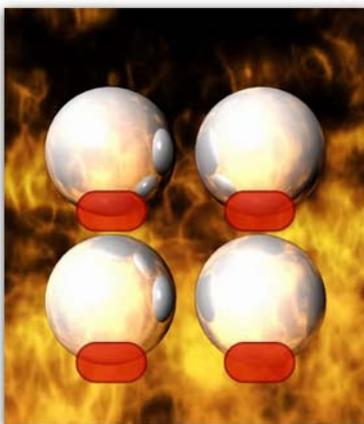
The second line creates a new **SPRITE** called 'table', which is given the image file already contained in the 'table_tx' **TEXTURE**, which was defined above. **SPRITE**s can be drawn and manipulated onscreen, while **TEXTURE**s cannot. The four numbers at the end of the line are the X- and Y-coordinates of the **SPRITE** on the screen, and its width and height. A **SPRITE** can be scaled to any size, regardless of the actual dimensions of the image file itself.

For most images, the third line will not be used - it may be commented or it may not be there at all. If it is present as shown above, it uses the **ENABLE_ALPHA** command to allow transparency blending in the PNG image for this sprite.

Videos

Videos can be drawn, positioned and scaled in the same way as images. Video files are sourced from a Windows directory and must be in AVI format, compressed using the Xvid codec. Video declarations usually look like this:

```
VIDEO logo "C:\Media\Movies\header_mansion.avi"  
logo SET_POS 0 1680 1200 240  
logo PLAY 1
```



The first line creates a new **VIDEO** called 'logo', which used the video file sourced in the quotation marks.

The second line uses the **SET_POS** command to set the position of the 'logo' video - the four numbers are respectively X-coordinate, Y-coordinate, width, height.

The third line starts the video playing immediately and loops it. This line may not be present for videos that play during certain game events (such as the **NO_MORE_BETS** event), but for any video that should play continually throughout (such as the header animation, or a promotional advertisement), the third line should be present.

Text

The Billboard software can draw text from many different sources. Standard text definitions look like this:

```
TEXT_SCROLL_STATIC txt_min 53 1790 160 46
```

```

txt_min SET_FONT text_font
txt_min SET_STATIC_TEXT "Minimum Bet: "
txt_min SET_TEXT_LEFT
txt_min SET_COLOUR 255 255 200

```



The first line creates a new `TEXT_SCROLL_STATIC` called 'txt_min' at X- and Y-coordinates (53,1790) with a total bounding box width of 160px and a text size of 46 pixels. Text falling outside the bounding box is still visible.

The second line uses the `SET_FONT` command to assign the font 'text_font' to the text. Fonts are defined near the top of the config file underneath the videos section - usually there will be only one font appropriate for drawing text, with the others used for other applications.

The third line uses the `SET_STATIC_TEXT` command to define the text that will be written onscreen. Anything between the quotation marks will be written, except for characters that are not present in the font file.

Sometimes the text will include `##double-hash##` references to constants - see the 'Constants' section for more details.

`SET_TEXT_LEFT` will left-align the text. `SET_TEXT_RIGHT` and `SET_TEXT_CENTER` may also be used.

The last line uses the `SET_COLOUR` command to assign an RGB-value colour to the text. In this case, the value of 255,255,200 is a pale yellow colour. If this command is not present, a value of 255,255,255 (white) is assumed.

Colour Gradients (lines and boxes)

Colour gradients are blocks of colour that have multiple uses. They can be solid or can fade between individual corner colours and opacities. The most common use of a colour gradient is to draw a solid white line, as follows:

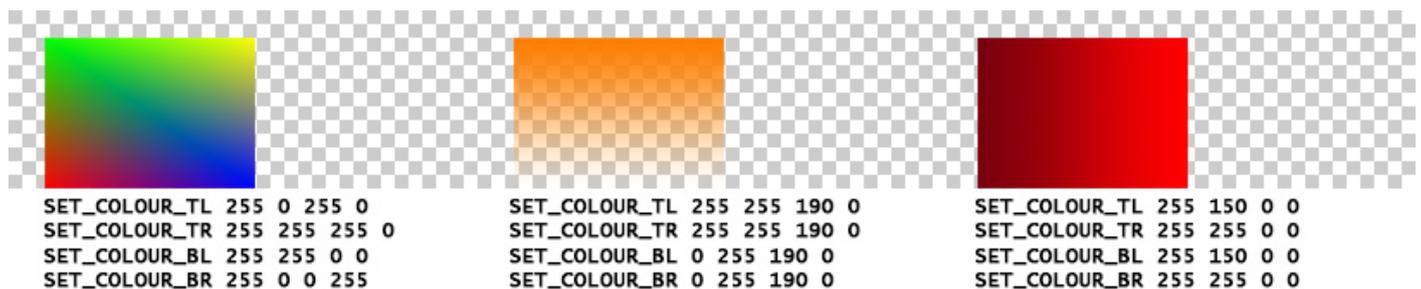
```

COLOUR_GRADIENT line_01 320 838 880 4
line_01 SET_COLOUR_TL 255 255 255 255
line_01 SET_COLOUR_TR 255 255 255 255
line_01 SET_COLOUR_BL 255 255 255 255
line_01 SET_COLOUR_BR 255 255 255 255

```

The first line creates a new `COLOUR_GRADIENT` called 'line_01' and sets its X- and Y-coordinates to (320,838), then scales the box to 880 pixels long and 4 pixels high (essentially a long line, 4 pixels thick).

The four following lines set the opacities and colours of the `COLOUR_GRADIENT`'s corners (top-left, top-right, bottom-left and bottom-right). The four numbers at the end of each line are the alpha value (0 = fully transparent, 255 = fully opaque), followed by an RGB-value colour.



In order for elements to be drawn onscreen, they must be added to the render list. The render list is the bottom section of the config file, consisting of a list of elements to draw and some very basic attributes to define whether they should appear constantly, play a fixed number of times or loop (alternate between elements). All render list definitions must start with the `RENDER_LIST` command, followed by the name of the element to draw, followed by a second count and a display command (see below).

```
% --- Render List---  
RENDER_LIST stats_bg -1 END  
RENDER_LIST stats_overlay -1 END  
RENDER_LIST stats_txt -1 END
```

The position of elements in the list dictates the order in which they are drawn onscreen: elements defined at the top of the list will appear underneath elements defined at the bottom. In the example above, 'stats_bg' is drawn first (on the bottom), then 'stats_overlay' is drawn over the top of it and finally 'stats_txt' is drawn above the other two.



As well as defining the order in which elements are drawn, the render list also allows basic timing attributes to be set. After the element name in the render list entry, a second count defines the duration for which it will appear onscreen and a display command defines what the element should do once its second count expires.

Timing - Display for X Seconds

To display an element for a certain number of seconds, then remove it from the screen, define a second count after the element name, followed by the `END` command:

```
RENDER_LIST temp_ad 30 END
```

This will display the element 'temp_ad' for 30 seconds, then remove it from the screen. Video elements will loop until the second count has expired.

Timing - Display Constantly

To display an element constantly (always being drawn onscreen), define a second count of `-1` followed by the `END` command:

```
RENDER_LIST logo -1 END
```

This will display the element 'logo' constantly. Video elements will loop constantly.

Timing - Display in Sequence

To display two or more elements in sequence (one displays, then the other displays etc.), add each element name to the entry with a second count for each, then add either the **END** or **LOOP** command to the end of the entry:

```
RENDER_LIST redblack 10 highlow 15 LOOP
```

This will display the 'redblack' element for 10 seconds, then remove it and display the 'highlow' element for 15 seconds. Once the last element has been displayed, the sequence will loop, starting again from the beginning. Had the **END** command been used instead of the **LOOP** command, the sequence would have ended. Up to 16 elements can be added to a sequence.

```
RENDER_LIST disclaimer 20 advert -1 END
```

This will display the 'disclaimer' element for 20 seconds, then remove it and display the 'advert' element constantly.

4) Common Changes

Because each config file is unique, it is impossible to provide a step-by-step guide to changing elements that will apply to every file. However, while they will not be identical, most config files will be similar enough that the changes detailed here can be applied without too much difficulty. For complex changes, it is always advisable to seek assistance from Cammegh.

4a) Changing the Logo

For most Billboard software layouts the logo is an animation that appears at the top of the screen. In some cases it may be a static image.

To replace an animated logo:

1. Compile a new video file in AVI format, compressed using the Xvid codec
2. Copy the new video to the Billboard's 'C:\Media\Movies-Real' folder (or 'Movies' if the 'Movies-Real' folder does not exist)
3. Make a note of the new video's filename, then open the relevant config file from the 'C:\Media' folder
4. Scroll down to the % --- Videos --- section and locate the following line:

```
VIDEO Logo "C:\Media\Movies\header_diamond.avi"
```

5. Replace the filename ('header_diamond.avi' in this case) with the filename of your new logo video, being careful to include the extension (.avi) and closing the quotation marks at the end of the line

To replace a static image logo:

1. Prepare a new logo image in PNG format
2. Copy the new image to the Billboard's 'C:\Media\Images' folder
3. Make a note of the new image's filename, then open the relevant config file from the 'C:\Media' folder
4. Scroll down to the % --- Images --- section and locate the following line:

```
TEXTURE Logo_tx "C:\Media\Images\header_signs4u.png"
```

5. Replace the filename ('header_signs4u.png' in this case) with the filename of your new logo image, being careful to include the extension (.png) and closing the quotation marks at the end of the line

If you cannot locate the logo's video or image entry in the config file, try locating the file itself in either the 'C:\Media\Movies-Real' folder (for videos) or the 'C:\Media\Images' folder (for images). Once you have located the file that is being used by the Billboard software, make a note of its filename and use the 'find' function in Notepad ('Ctrl' + 'F' on the keyboard) to locate the name in the config file - if the Billboard software is displaying the video or image, its filename will be referred to somewhere in the config file.

4b) Changing Text

As discussed in section 1f), text can either be written directly into the config file, or it can be inherited from another source via the use of ##double-hash## constants (see 'Constants').

The simplest way to locate a specific text entry in a config files is to use Notepad's 'find' function ('Ctrl' + 'F' on the keyboard) to search for the text as it appears onscreen. (Tip: Search for short, distinctive phrases to minimise the risk of typos. Instead of searching for "Calculated from the last 50 games", search for "calculated from".) If you cannot find the text you are looking for, check to see if a language file is being used: search the 'C:\Media' folder for 'English.txt', 'French.txt', 'Spanish.txt', etc. - if you find a language file, read through its entries to see if the text you want is there. See section 1f) for more information on language files.

4c) Changing an Image or Video

The images and videos that appear within the Billboard software are all sourced from files in the Windows directory and as such, can be easily replaced. Some Billboard layouts include promotional graphics or commercial advertisements that may need updating from time to time to keep information relevant; other graphics may simply need updating for the sake of appearances.

To replace a video:

1. Compile a new video file in AVI format, compressed using the Xvid codec
2. Open the Billboard's video directory ('C:\Media\Movies-Real' or 'C:\Media\Movies' if the 'Movies-Real' folder does not exist)
3. Copy the new video into this folder
4. Locate the video you would like to replace and ensure the new video has the same name as the old one (rename the old one to append '_old' at the end of the filename, for instance)

To replace a static image:

1. Create a new video file in PNG format
2. Open the Billboard's 'C:\Media\Images' folder
3. Copy the new image into this folder
4. Locate the image you would like to replace and ensure the new image has the same name as the old one (rename the old one to append '_old' at the end of the filename, for instance)

These are the simplest methods of replacing images and videos. A more complete method would be to give the replacement file a different name to the original, then locate and change the appropriate entry in the config file, as detailed in section 4a).

4d) Changing the Statistics Length (Red/Black, Hot and Cold Numbers)

The Billboard's hot and cold numbers are set to generate their statistics from the last 300 games by default. This is different from the red/black, odd/even, high/low and dozens statistics, whose length is usually set to 50. Each statistics length can be manually defined in the config file, and if no value is defined, the Billboard user menu's 'Statistics Length' value is used instead.

Hot Numbers statistics length (overridden to '300' in the config file by default):

1. Open the relevant config file and locate the % --- Hot and Cold Numbers --- section, then find the following line:

```
hot SET_STAT_LEN 300
```

2. If the line does not exist, insert it beneath the **HOT_NUMBERS hot 320 330 440 510** line, then either...
 - a. **Change the statistics length** by changing '300' to the statistics length of your choice
 - b. Set the statistics length back to the **default value in the Billboard user menu** by commenting the line (inserting a '%' percentage symbol at the start of the line)

Cold Numbers statistics length (overridden to '300' in the config file by default):

1. Open the relevant config file and locate the % --- Hot and Cold Numbers --- section, then find the following line:

```
cool SET_STAT_LEN 300
```

2. If the line does not exist, insert it beneath the **COLD_NUMBERS cool 760 330 440 510** line, then either...

- a. **Change the statistics length** by changing '300' to the statistics length of your choice
- b. Set the statistics length back to the **default value in the Billboard user menu** by commenting the line (inserting a '%' percentage symbol at the start of the line)

Red/Green/Black statistics length (set to the value in the Billboard user menu by default):

1. Open the relevant config file and locate the % --- Stats: Red Green Black --- section, then find the following line:

```
redblack SET_STAT_LEN 100
```

2. If the line does not exist, insert it beneath the RED_BLACK redblack 340 115 400 100 line, then either...
 - a. **Change the statistics length** by changing '100' to the statistics length of your choice
 - b. Set the statistics length back to the **default value in the Billboard user menu** by commenting the line (inserting a '%' percentage symbol at the start of the line)

Odd/Even statistics length (set to the value in the Billboard user menu by default):

1. Open the relevant config file and locate the % --- Stats: Odd Even Zero --- section, then find the following line:

```
oddeven SET_STAT_LEN 100
```

2. If the line does not exist, insert it beneath the ODD_EVEN oddeven 780 115 400 100 line, then either...
 - a. **Change the statistics length** by changing '100' to the statistics length of your choice
 - b. Set the statistics length back to the **default value in the Billboard user menu** by commenting the line (inserting a '%' percentage symbol at the start of the line)

High/Low statistics length (set to the value in the Billboard user menu by default):

1. Open the relevant config file and locate the % --- Stats: High Low Zero --- section, then find the following line:

```
hi lo SET_STAT_LEN 100
```

2. If the line does not exist, insert it beneath the HI_LO hi lo 340 115 400 100 line, then either...
 - a. **Change the statistics length** by changing '100' to the statistics length of your choice
 - b. Set the statistics length back to the **default value in the Billboard user menu** by commenting the line (inserting a '%' percentage symbol at the start of the line)

Dozens statistics length (set to the value in the Billboard user menu by default):

1. Open the relevant config file and locate the % --- Stats: Dozens --- section, then find the following line:

```
doz SET_STAT_LEN 100
```

2. If the line does not exist, insert it beneath the DOZENS doz 780 115 400 100 line, then either...
 - a. **Change the statistics length** by changing '100' to the statistics length of your choice
 - b. Set the statistics length back to the **default value in the Billboard user menu** by commenting the line (inserting a '%' percentage symbol at the start of the line)