

CAMMEGH EyeBall™

Setup and Configuration Guide (mini PC type only)



Please Consider the Environment before printing this document.

Cammeagh Ltd. – International Gaming Award Winners – Eco Friendly Company 2010, 2011

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**For installation guidance, consult www.cammegh.com
Downloads – Billboard Assembly Instructions**

**For further assistance with setup/troubleshooting,
contact us support@cammegh.com**

1.0 - EyeBall™ - Billboard Device Manager

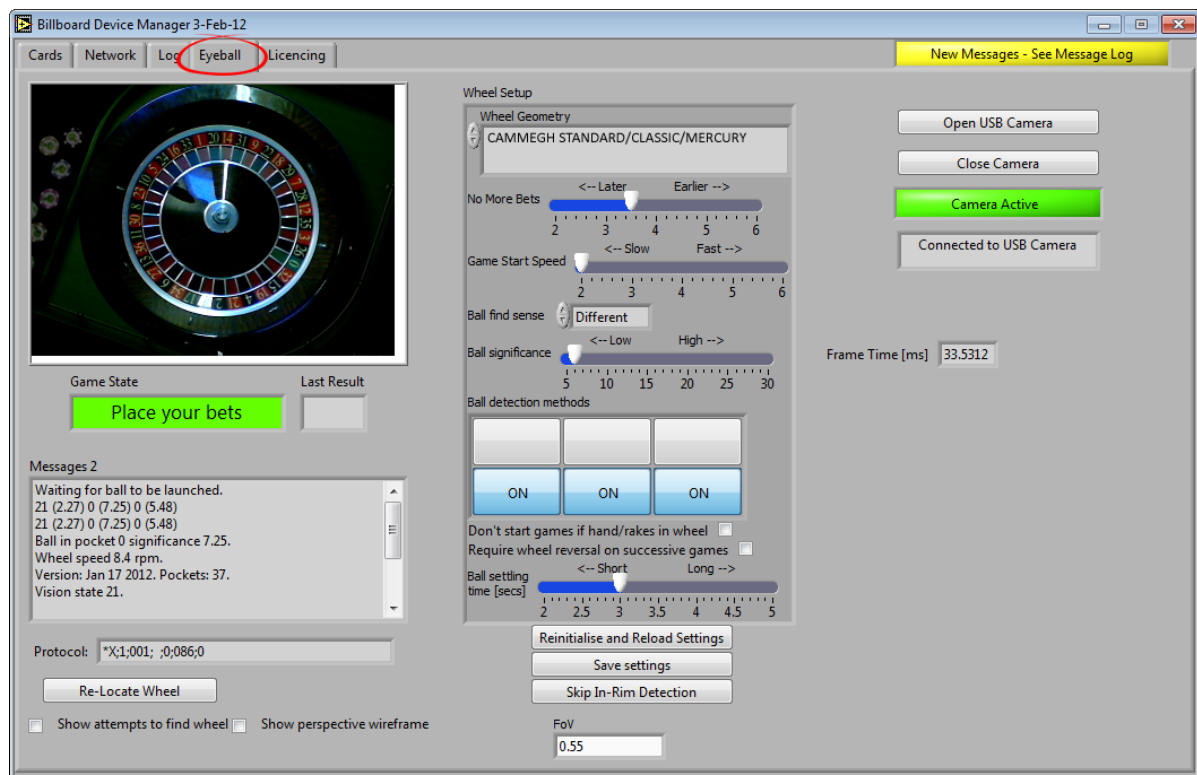
Cammeagh Billboard Device Manager (BDM)

The billboard PC uses a dedicated device manager application to assist in configuration and command transmission to connected ancillary Cammeagh devices such as EyeBall™, EyeCard™ or Roulette Wheels. BDM can be used for adjusting EyeBall camera settings and checking the system setup and performance.

Access Cammeagh Billboard Device Manager

To access BDM on the billboard, perform the following actions:-

1. Close the billboard display layout by opening the menu (num-lock key), and selecting the 'Switch Off' option, the confirming 'Yes'.
2. Move the mouse cursor to the bottom of the screen so the Windows taskbar appears, then click 'Billboard Device Manager'.
3. Press 'Ctrl' + 'Alt' + 'Shift' to open Billboard Device Manager's window.
4. To access EyeBall functions, click on the 'EyeBall' tab as shown below.



2.0 - EyeBall™ - Setup and Configuration

Setup

To setup the EyeBall system for use with Cammegh Billboard, perform the following actions:-

- **2.1 Connect the EyeBall Equipment**
- **2.2 Configure the EyeBall Camera Output**
- **2.3 Test the EyeBall Setup**

2.1 Connect the EyeBall Equipment

1. Ensure the EyeBall is plugged into a rear USB port on the Billboard Controller.
2. Plug a keyboard and mouse into the Billboard, then switch on the Billboard PC by pushing the illuminated red power button,
3. Wait for the Roulette software to load, then exit to Windows by opening the billboard menu (num-lock key), and selecting the 'Switch Off' option, the confirming 'Yes'.
4. Move the mouse cursor to the bottom of the screen so the Windows taskbar appears, then click 'Billboard Device Manager'
5. Press 'Ctrl' + 'Alt' + 'Shift' to open Billboard Device Manager's window and click on 'Eyeball' tab.
6. Ensure the feed from the EyeBall camera appears in the top-left region of the window (see section 3.0 – Troubleshooting - Issue 1 if the camera image is not displayed)
7. Position the EyeBall camera so the **ENTIRE balltrack of the wheel can be seen** in the camera feed.

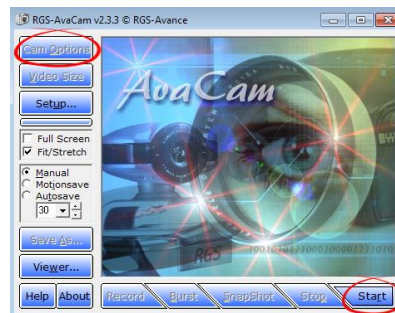


2.0 - EyeBall™ - Setup and Configuration

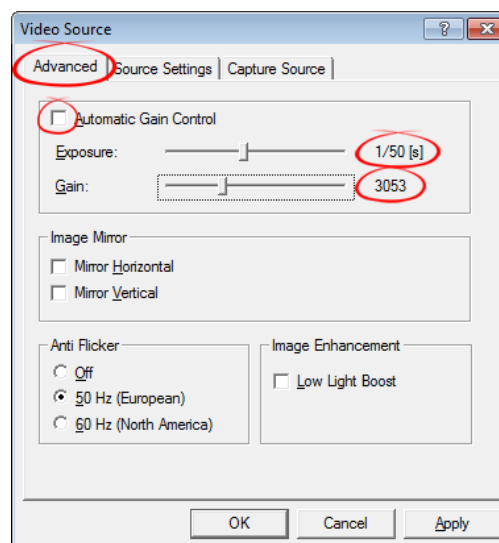
Setup

2.2 Configure the EyeBall Camera Output

1. Close the BDM by clicking on the red 'Close Window' cross in the top right corner, or press Alt + F4 on the keyboard.
2. Open 'AvaCam' on the Windows Desktop
3. Click 'Start' in the bottom-right and ensure the camera feed appears (if it does not, try unplugging the camera and plugging it into a different USB port).



4. When the camera feed starts, click 'Camera Options' in the top-left.
5. In the 'Advanced' tab, un-check 'Automatic Gain Control'.
6. Set 'Exposure' to about 1/50.
7. Set 'Gain' to about 3000.

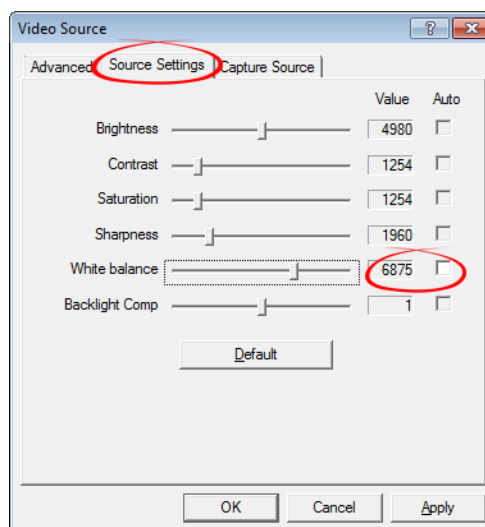


2.0 - EyeBall™ - Setup and Configuration

Setup

2.2 Configure the EyeBall Camera Output

8. In the 'Source Settings' tab, un-check 'Automatic' for the 'White Balance'.
9. Set 'White Balance' to about 7000.



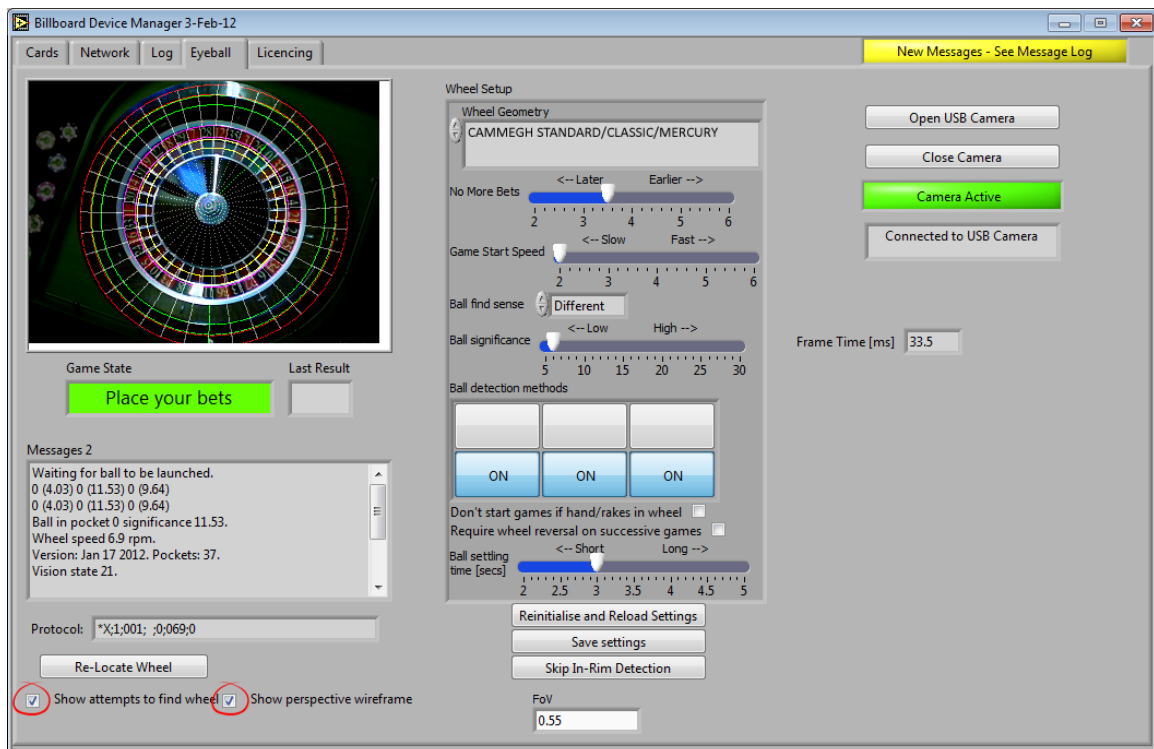
10. Click 'Apply', then 'Okay', then click 'Stop' in the bottom-right of the main AvaCam window.
11. Close AvaCam and restart the Billboard by pressing the blue illuminated power button on the billboard PC to shut down.
12. Reboot the Billboard PC by pushing the illuminated red power button,
13. Wait for the Roulette software to load, then exit to Windows by opening the billboard menu (num-lock key), and selecting the 'Switch Off' option, the confirming 'Yes'.
14. Move the mouse cursor to the bottom of the screen so the Windows taskbar appears, then click 'Billboard Device Manager'.
15. Press 'Ctrl' + 'Alt' + 'Shift' to open Billboard Device Manager's window and click on 'Eyeball' tab.
16. Ensure the feed from the EyeBall camera appears in the top-left region of the window (see section 3.0 – Troubleshooting - Issue 1).

2.0 - EyeBall™ - Setup and Configuration

Setup

2.3 Test the EyeBall Setup

1. Ensure the camera feed is of a reasonable brightness and does NOT automatically change brightness when the camera's lens is covered. Repeat the EyeBall Camera Output setup – section 2.2 if the image is changing. The brightness should be similar to that shown in example images, section 2.1, step 7.
2. Beneath the camera feed, turn on 'Show perspective wireframe' and 'Show attempts to find wheel', then click 'Relocate Wheel'.



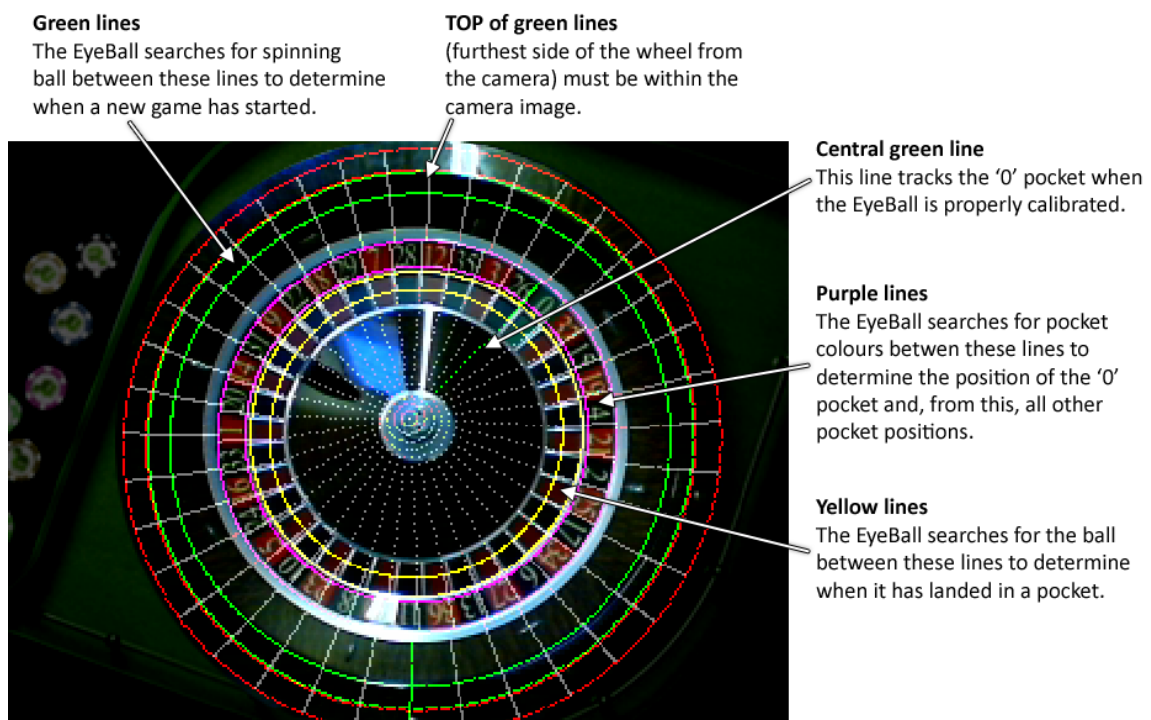
Ensure the wireframe wheel overlay has been correctly drawn over the camera feed, If incorrect see section 3.0 – Troubleshooting – Issue 2.

2.0 - EyeBall™ - Setup and Configuration

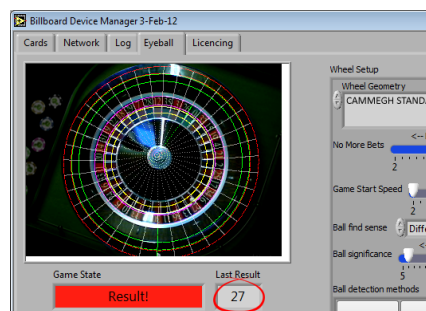
Setup

2.3 Test the EyeBall Setup

3. Ensure the **GREEN** circles on the wheel overlay are entirely visible (move the camera and click 'Re-Locate Wheel' if they are not).
4. Ensure the **GREEN** line is being correctly drawn from the centre of the wireframe wheel overlay to the '0' pocket. If incorrect see section 3.0 – Troubleshooting – Issue 3.



5. Play a game on the wheel and ensure the correct winning number appears promptly in the 'Last Result' field. If the winning number result is not correct, see section 3.0 – Troubleshooting – Issue 6.



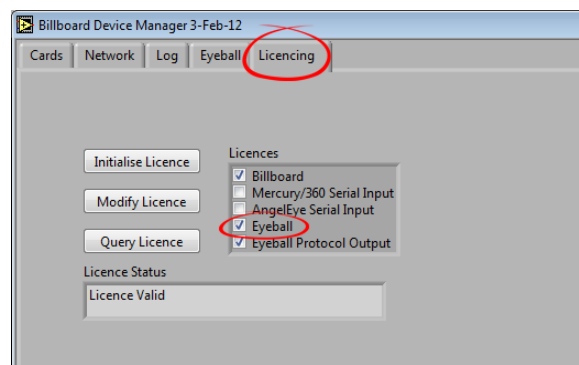
6. Close Billboard Device Manager by pressing 'Alt' + 'F4' on the keyboard, then restart the Billboard application using the 'Run Billboard' icon on the desktop, or restarting the PC.

3.0 - EyeBall™ - Troubleshooting

Troubleshooting Cammegh EyeBall™

Issue 1 – The live feed from the Eyeball camera doesn't appear in the BDM window.

- Ensure the 'EyeBall' tab is selected at the top of the window.
- Click on the 'Licensing' tab and ensure that 'EyeBall' is ticked, indicating that the Billboard has been licensed to use the EyeBall system.



- Unplug the camera and plug it into a different USB port. The EyeBall camera feed should be automatically detected and should appear within a few seconds.
- Check Avacam and BDM are not running at the same time.

Issue 2 – The wireframe wheel overlay is not drawn over the camera feed, or is not correct.

- Ensure the 'show perspective wireframe' tickbox has been ticked on the 'EyeBall' tab of BDM.
- Ensure the camera feed shows no significant areas of bright glare (such as spotlights) or dark shadow obscuring the wheel.
- Ensure the camera feed shows no significant reflections or other moving objects aside from the wheel itself.
- Ensure the 'Frame Time' reading (on the right of the window) is not significantly below 30 (see Issue 4).
- Ensure the camera feed image is bright enough that the pocket colours are distinct (see section 2.2 Camera Output setup to change camera settings).

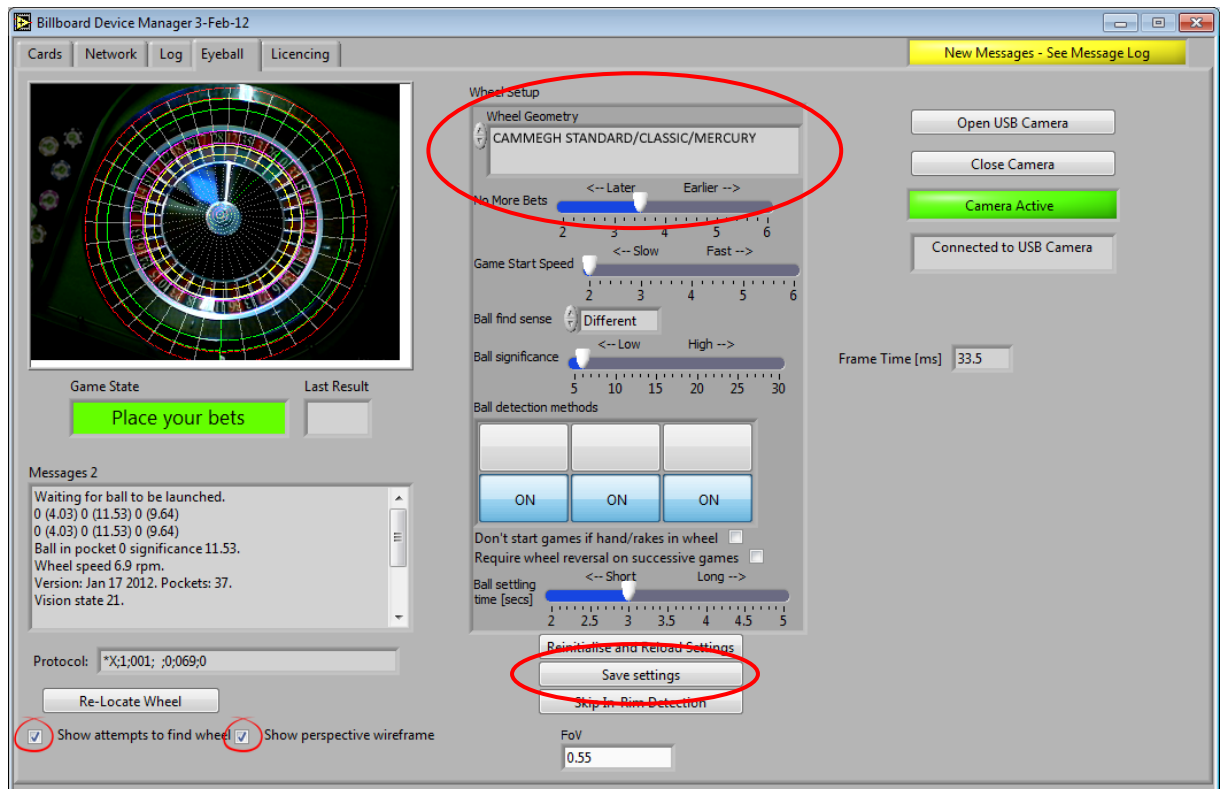
3.0 - EyeBall™ - Troubleshooting

Troubleshooting Cammegh EyeBall™

Issue 2 – The wireframe wheel overlay is not drawn over the camera feed, or is not correct.

- Ensure the 'Wheel Geometry' on the 'EyeBall' tab closely corresponds to the type of wheel being used (if the alignment isn't correct, select a wheel type from the Wheel Geometry drop down box, and click 'Save settings', then click 'Re-Locate Wheel').

Each Wheel Geometry setting will have differing diameters for ball track and pocket separator thickness settings and should be optimised to the wheel being used.



3.0 - EyeBall™ - Troubleshooting

Troubleshooting Cammegh EyeBall™

Issue 3 – The green line is not drawn from the centre of the wireframe wheel overlay to the '0' pocket, or is not tracking the zero pocket during revolution.

- Ensure the camera feed image is bright enough that the pocket colours are distinct (see section 2.2 Camera Output setup to change camera settings).
- Ensure the camera feed shows no significant areas of bright glare (such as spotlights) or dark shadow obscuring the wheel.
- Ensure the camera feed shows no significant reflections other moving objects aside from the wheel itself.
- Ensure the 'Frame Time' reading (on the right of the window) is not significantly below 30, see section 3.0 – Troubleshooting - Issue 4
- Check the correct rotor type has been specified in the roulette.dll file. If incorrect or unknown, see section 3.0 – Troubleshooting – Issue 5

Issue 4 – The 'Frame Time' reading shows a value significantly lower than 30.

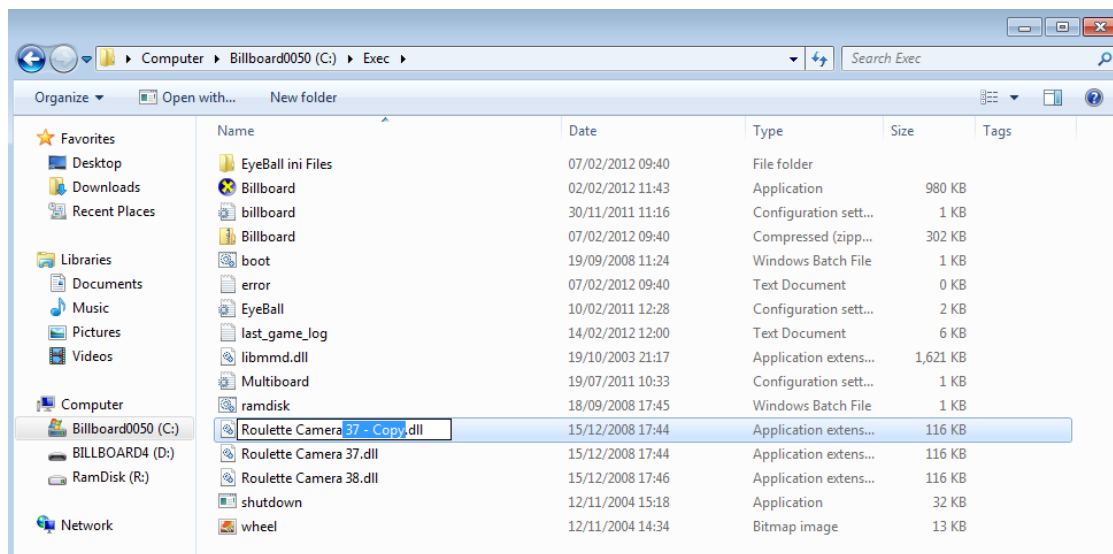
- Use the Avacam application to lower the 'Exposure' / 'Gain' as much as possible.

3.0 - EyeBall™ - Troubleshooting

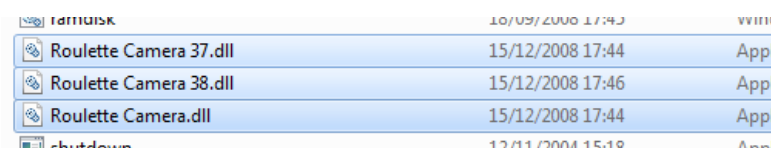
Troubleshooting Cammegh EyeBall™

Issue 5 – The rotor specification is not correct – single zero/double zero

- Follow the procedure below:-
 1. Close 'Billboard Device Manager' by pressing 'Alt' + 'F4' on the keyboard
 2. Open Windows Explorer by pressing 'Windows Key' + 'E' on the keyboard
 3. Open the 'C:' drive and open the 'Exec' folder
 4. Delete 'Roulette Camera.dll'
 5. If your wheel is single-zero ('0'), make a copy of 'Roulette Camera 37.dll' ('Ctrl' + 'C' on the keyboard to copy, then 'Ctrl' + 'V' to paste).



6. If your wheel is double-zero ('00'), make a copy of 'Roulette Camera 38.dll' ('Ctrl' + 'C' on the keyboard to copy, then 'Ctrl' + 'V' to paste)
7. Rename the copied DLL file to 'Roulette Camera.dll', replacing the renamed file. There should now be three files as before - 'Roulette Camera.dll', 'Roulette Camera 37.dll' and 'Roulette Camera 38.dll'.



8. Restart the Billboard

3.0 - EyeBall™ - Troubleshooting

Troubleshooting Cammegh EyeBall™

Issue 6 – The incorrect winning number is shown

- Check the camera feed is operational - Issue 1
- Check the wheel wireframe overlay best matches the wheel used – Issue 2
- Check the green line tracking of the zero pocket is smooth and correct in rotation – Issue 3
- Check the 'Frame Time' is not significantly below 30 – Issue 4
- Check the roulette.dll file for correct rotor specification – Issue 5
- Check the camera feed is at correct brightness – Section 2.1.7