



# OpenGL ES 1.1 Emulator Errata

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## Abstract

This document describes known errata in the OpenGL ES 1.1 Emulator version 1.0 EAC release.

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General suggestion for additions and improvements are also welcome.

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# 1 PREFACE

## 1.1 Change Control

Issue	Date	Change
1.0	24 August 2009	Errata for version 1.1 EAC

## 1.2 Scope

This document describes the errata discovered in the implementation of OpenGL ES 1.1 Emulator, categorized by level of severity. Each description includes:

- the conditions under which erroneous behavior occurs
- the implications of the erratum with respect to typical applications
- the application and limitations of a 'work-around' where possible

## 1.3 Terms and Abbreviations

This document uses the following terms and abbreviations:

<i>Term</i>	<i>Description</i>
Cat	Category

## 2 CATEGORIZATION OF ERRATA

Errata recorded in this document are split into three groups:

- Category 1** Features which are impossible to work around and severely restricts the use of the software in all or the majority of applications rendering the software unusable.
- Category 2** Features which contravene the specified behavior and may limit or severely impair the intended use of specified features but does not render the software unusable in all or the majority of applications.
- Category 3** Features that were not the originally intended behavior but should not cause any problems in applications.

### 2.1 Errata Summary

The following tables summarize all errata associated with this product.

#### ***OpenGL ES 1.1 Emulator for Linux v1.0 Errata Summary***

ID	Cat	Summary of Erratum
8516	Cat 3	List of EGL configurations returned by <code>eglChooseConfig</code> is not sorted.
8518	Cat 3	<code>eglMakeCurrent</code> succeeds with incompatible surface and context.
4935	Cat 3	<code>eglQuerySurface</code> returns the original size of a resized native window.
5968	Cat 3	Use of back buffer is always enabled and cannot be disabled.
8517	Cat 3	Incorrect error code returned instead of <code>EGL_BAD_MATCH</code> .
5966	Cat 3	<code>WGL_PBUFFER_LOST_ARB</code> pBuffer memory lost not checked.
7960	Cat 3	ETC compressed Texture support not well handled.

### **3 CATEGORY 1 ERRATA**

No Category 1 errata.

## 4 CATEGORY 2 ERRATA

No Category 2 errata.

## 5 CATEGORY 3 ERRATA

### 5.1 List of EGL configurations returned by `eglChooseConfig` is not sorted.

#### Status

Affected Platform: Linux

Fault status: Cat 3

#### Description

The list of configurations returned by `eglChooseConfig` is not sorted.

#### Implications

Applications must not rely upon sorting of configurations by `eglChooseConfig`.

#### Workaround

None

### 5.2 `eglMakeCurrent` succeeds with incompatible surface and context.

#### Status

Affected Platform: Linux

Fault status: Cat 3

#### Description

`eglMakeCurrent` succeeds even if the draw or read surface is not compatible with context. EGL is implemented on top of GLX. The GLX layer did not detect this incompatibility on the test platform. The problem may not exist on other platforms.

#### Implications

Applications running on the test platform must not rely upon `eglMakeCurrent` to detect incompatibility between surface and context.

#### Workaround

None

### 5.3 `eglQuerySurface` returns the original size of a resized native window.

#### Status

Affected Platform: Windows and Linux

Fault status: Cat 3

#### Description

The values of `EGL_WIDTH` and `EGL_HEIGHT`, as returned by `eglQuerySurface`, are determined at the time `eglCreateWindowSurface` is called, and are not updated if the window is later resized.

## Implications

Applications that wish to respond to window resize events cannot use EGL to determine the new window size.

## Workaround

If window resizes are not expected or if a non-resizable window is used, no action is required. Applications that wish to respond to changes in window size must use the native window API to determine the new size of the window.

## 5.4 Use of back buffer is always enabled and cannot be disabled.

### Status

Affected Platform: Windows and Linux

Fault status: Cat 3

### Description

`eglChooseConfig` translates the EGL attribute list into an attribute list suitable for the OpenGL graphics driver. In addition to this, it adds another attribute to the list. This additional attribute asks the underlying OpenGL graphics driver to return only those configurations which allow use of the back buffer. As a side effect of this, applications will never be able to disable use of the back buffer.

### Implications

Use of the back buffer is always enabled and cannot be disabled.

### Workaround

None

## 5.5 Incorrect error code returned instead of `EGL_BAD_MATCH`.

### Status

Affected Platform: Linux

Fault status: Cat 3

### Description

Sometimes, instead of `EGL_BAD_MATCH`, EGL returns an incorrect error code. This happens because GLX does not have an error code corresponding to `EGL_BAD_MATCH` and EGL is not always able to detect the real cause of the error.

### Implications

Applications will sometimes see an incorrect error code instead of `EGL_BAD_MATCH`.

### Workaround

None

## 5.6 WGL\_PBUFFER\_LOST\_ARB pbuffer memory lost not checked.

### Status

Affected Platform: Windows

Fault status: Cat 3

### Description

Pbuffers and pixmaps are supported via the use of the `WGL_ARB_pbuffer` extension.

[http://www.opengl.org/registry/specs/ARB/wgl\\_pbuffer.txt](http://www.opengl.org/registry/specs/ARB/wgl_pbuffer.txt)

This specifies a `WGL_PBUFFER_LOST_ARB` query can be made to check for loss of memory due to a display mode change. The OpenGL ES 1.1 Emulator does not query `WGL_PBUFFER_LOST_ARB`.

### Implications

The OpenGL ES 1.1 Emulator will not detect pbuffer memory lost due to a display mode change.

### Workaround

Don't change display modes while running the OpenGL ES 1.1 Emulator.

## 5.7 ETC Compressed Texture Support not well handled.

### Status

Affected Platform: Windows and Linux

Fault status: Cat 3

### Description

Sometimes, `glCompressedTexImage2D` with internal format as `GL_ETC1_RGB8_OES` does not give correct results.

### Implications

The output of applications using ETC compressed textures maybe grayed out.

### Workaround

None