

ARM Mali GPU User Interface Engine Errata

Media Processing Division

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Abstract

This document describes the known errata in the Mali GPU User Interface Engine version 2.3.

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1 ABOUT THIS DOCUMENT

1.1 Change Control

Issue	Date	Change
1.0	Sep-15, 2009	Errata for version 2.2 EAC
2.0	Jan 24, 2010	Errata for version 2.3 EAC

1.2 References

This document refers to the following documents.

Ref.	Document No.	Author(s)	Title
	(none)		

1.3 Scope

This document describes the errata discovered in the implementation of Mali GPU User Interface Engine Tool, 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

1.4 Terms and Abbreviations

This document uses the following terms and abbreviations.

Term	Meaning
Cat	Acronym for Category
RHEL4	Redhat Enterprise Linux version 4
AEL	ARM Embedded Linux
ETC	Ericson Texture Compression format

2 CATEGORISATION 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.

Mali GPU User Interface Engine Errata Summary

ID	Cat	Summary of Erratum
4243	Cat 3	When using the function <code>getCharacterKeyState</code> with the Windows version of the User Interface Engine only the uppercase letters A-Z are supported
5371	Cat 3	The ETC loader currently decompresses the ETC textures to raw image data before uploading it to the GPU
6678	Cat 3	Example 11_dataset_optimization does not work

3 CATEGORY 1 ERRATA

No Category 1 errata exist.

4 CATEGORY 2 ERRATA

No Category 2 errata exist.

5 CATEGORY 3 ERRATA

4243: When using the function `getCharacterKeyState` with the Windows version of the User Interface Engine only the uppercase letters A-Z are supported

Status

Affects: Mali GPU User Interface Engine
Fault status: Cat 3, Present in: 2.3
Platforms Affected: Windows XP, RHEL4 Linux, AEL

Description

Due to a bug in the Windows backend of the User Interface Engine Keyboard code only the uppercase letters A-Z is supported using the `getCharacterKeyState` function.

Implications

If you need to develop cross-platform demos you must keep to the uppercase letters when using the `Keyboard::getCharacterKeyState` function. If you only need to run your demo on Linux and not on Microsoft Windows then you can use both upper and lowercase letters as input to this function.

Note that even if the function requires uppercase letters these will be interpreted to represent the a-z keys, so when using the keyboard functionality in a demo you will not need to hold down shift.

Workaround

Input uppercase letters when using this function.

5371: The ETC loader currently decompresses the ETC textures to raw image data before uploading it to the GPU

Status

Affects: Mali GPU User Interface Engine
Fault status: Cat 3, Present in: 2.3
Platforms Affected: AEL

Description

The ETC loader currently decompresses ETC texture loaded using it to raw image data which is transferred to the GPU on usage.

This makes sense for the OpenGL backend, since ETC will not typically be supported on desktop GPUs. However, on the OpenGL ES/Mali backend this defeats most of the purpose of this form of texture compression and ETC textures should be uploaded directly to the GPU.

Implications

Textures will consume more bandwidth than they otherwise would when uploaded to the GPU.

Workaround

One workaround is to use `#ifdef` directives to conditionally upload the ETC textures directly using the API function `glCompressedTexImage2D()` if the demo has been built for a system which has the Mali GPU.

6678: Example 11_dataset_optimization does not work

Status

Affects: Mali GPU User Interface Engine
Fault status: Cat 3, Present in: 2.3
Platforms Affected: Windows XP, RHEL4 Linux, AEL

Description

The example runs with out any apparent error messages but gives no visual output.

Implications

There will be no visual rendering on the display.

Workaround

No workaround exists currently