



# JPEG Encoder/Decoder Release Notes (WinCE/WM)

**S3C6400**

**July 29, 2008**

**REV 5.2**

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## S3C6400 RISC Microprocessor Release Note

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Printed in the Republic of Korea



Preliminary product information describe products that are in development, for which full characterization data and associated errata are not yet available. Specifications and information herein are subject to change without notice.

## Revision History

Revision No	Description of Change	Refer to	Author(s)	Date
1.0	Initial Version	-	Jiyoung Shin	2007-05-30
2.0	Upgrade for WinCE6.0 and WM6.0	-	Jiyoung Shin	2007-08-13
3.0	Change Buffer Allocation	-	Jiyoung Shin	2007-11-09
4.5	Support 3M pixel	-	Jiyoung Shin	2008-05-15
5.0	Support s3c6410	-	Jiyoung Shin	2008-06-23
5.2	<a href="#">Fix memory leak problem</a>	-	Jiyoung Shin	<a href="#">2008-07-29</a>

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## 1 Introduction

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The purpose of the document is to describe the JPEG Encoder/Decoder API for easy portability into different platforms by developers

## 2 Release Detail

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Software	JPEG Encoder/Decoder API
Version	4.5
Hardware Platform	Samsung Application Processor - S3C6400
Host Operating System	WinCE6.0, WM6.0
Software Dependencies	Enable JPEG driver in OS image
Release Date	15-May-08
Contact Person	Jiyoung Shin idon.shin@samsung.com

### 2.1 Features

The following are the features offered by the Samsung JPEG Encoder/Decoder Package

- Compression/decompression up to 2048\*1536.
- Encoding format: interleaved YCBYCR (input format of JPEG engine).
- Decoding format: YCbCr4:4:4, YCbCr4:2:2, YCbCr4:2:0, YCbCr4:1:1 or Gray.
- Support Exif file and Thumbnail encoding.
- The resolution of thumbnail is up to 160\*120.
- Support 4 different image quality levels during encoding.
- Support of direct compression from the camera output.
- Support of compression of memory data in interleaved YCBYCR.

## 3 Directory Structure

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Directory	Files	Description
/JPG_API/build	*.vcw	JPEG API Project file
/JPG_API/src	*.c	JPEG API source file
/JPG_API/include	*.h	JPEG API header file
/JPG_API/lib	*.dll, *.lib	JPEG_API library file
/JPG_DD/JPG	*.c, *.h	JPEG Device Driver file
/JPG_DD/file	*.bib, *.reg	Configuration file for WinCE BSP
/test/build	*.vcw	Test application project file
/test/src	*.c, *.h	Test application source file
/test/testVectors/testInp	*.jpg, *.yuv	Test input vector
/test/testVectors/testOut	*.jpg, *.yuv	Test output vector

NOTE: The 'src' directory for the JPG\_DD directory are included OS package. If you want enable JPEG H/W refers document "SMDK6400\_WinCE6.0\_FMD\_PortingGuide.doc".

## 4 Limitations & Known Issues

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## 5 Changes & Defect Fixes

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### 5.1 V2.0

1. upgrade for WinCE6.0/WM6.0
2. scaling is changed H/W to S/W manners when make thumbnail.
3. support image quality setting

### 5.2 V3.0

1. change data passing between JPEG driver and API from memcpy to direct access. It extremely improved JPEG initialization performance

### 5.3 V4.5

1. support 3M pixel jpeg.
2. Maximum size is 2048\*1536.
3. RGB output is available with BSP 'SMDK6400\_VDE\_080403'

### 5.4 V5.0

1. support S3C6410
2. V5.0 is compatible with WinCE60\_080613\_BETAREL

### 5.5 V5.2

1. fixed memory leak problem
  - To convert virtual address for user process, changed from VirtualAllocCopyEx() to VirtualAllocEx() and VirtualCopyEx()
  - StrmBuf/FrmBuf/RGBBuf is 4KB(PAGE\_SIZE) aligned because of VirtualCopyEx()