



Windows Embedded CE 6.0 R3 BSP for Kontron KTGM45/mITX

1. Revision History

Revision	Date	Author	Reviewed and approved	Description
1.0	18/11/2010	Igor Shustov	G.Kuznetsov	Initial version Release notes for R01.00 BSP release

2. Table of Contents

1. Revision History.....	2
2. Table of Contents	3
3. Introduction	4
4. System requirements	4
4.1 Host Development PC	4
5. Supported features.....	4
6. BSP Components	5
7. Installation and BSP setting procedures.....	5
8. OS Building notes	5
9. Limitations	5
10. Known issues.....	5

3. Introduction

This document describes Kontron KTGM45 Board Support Package (BSP) for Microsoft* Windows* CE 6.0. This document provides:

- a summary of BSP features
- build and installation notes
- lists of the release package contents.

This BSP is used for developing embedded solutions, and is targeted at Microsoft Windows CE* 6.0 developers who are developing Microsoft Windows CE 6.0 software for products on Kontron KTGM45 boards

4. System requirements

4.1 Host Development PC

- Workstation containing an Intel Pentium® 4 2.4 GHz (or higher) processor
- Microsoft Windows XP* operating system
- Microsoft Platform Builder*

Additional Softwares specific to Windows CE 6.0 setup:

- Visual Studio 2005 SP1 (assuming Visual Studio 2005 is already built on the system)
- Windows Embedded CE 6.0 Platform Builder Service Pack 1.msi
- Windows Embedded CE 6.0 R2.msi
- Windows Embedded CE 6.0 R3.msi

5. Supported features

- Intel Embedded Graphics driver
- Intel® High Definition Audio
- Audio Volume Adjustment
- PCI-based Intel family Ethernet adapters
- USB UHCI driver
- USB EHCI driver
- USB Keyboard/Mouse and Mass storage
- Intel ICH SATA driver
- JMicron PATA driver
- Intel® 82574L e1000 NIC KITL library support

Features not supported:

- Kontron EAPI implementation including support for SMBus, GPIO etc.
- FireWire

6. BSP Components

The components included in this package and their installation paths are listed below:

ICHHDA	Audio driver with support for Intel Platforms with Intel High Definition Audio controller feature	Src\Drivers\Ichhda
ICHIDE	Intel ICHx ATAPI/IDE driver	Src\Drivers\Block\Atapi
JMBATA	JMicron PCI IDE Bus Master driver	Src\Drivers\Block\JMicron
ICHUSB	UHCI/EHCI USB driver	Src\Drivers\USB
IEGD	Intel Embedded Graphics driver	BIN\Drivers\IEGD
NIC	Intel EEPRO 1000 Ethernet drivers	BIN\Drivers\NIC

New releases of IEGD drivers can be obtained from the following link:

[Intel® Embedded Graphics Drivers](#)

7. Installation and BSP setting procedures

- Copy «Kontron_KTGM45» folder files to Wince600\Platform\ folder and run Platform Builder, it should attach new BSP automatically.
- Create new OS design based on Kontron_KTGM BSP;
- Refer to the IEGD RelNotes and User's Guide for more details on how to configure and install the driver (docs allocate at BIN\Drivers\IEGD\Docs);
- Instructions on preparation of Hard Disk for Windows CE booting can be found here:
[How to Boot a Run-Time Image on a CEPC from a Hard Disk Drive](#)
- Also, the follow utility might be useful for formatting USB flash:
[HP USB Format Utility](#)

8. OS Building notes

- By default, OS available RAM size is 512MB. To change this parameter, define one of the following environment variables: IMGRAM64, IMGRAM128, IMGRAM256, IMGRAM512.
- To activate HIVE-registry storage at the Hard disk, add the following environment variables to the project: PRJ_BOOTDEVICE_ATAPI, PRJ_ENABLE_FSREGHIVE, PRJ_ENABLE_REGFLUSH_THREAD.
- By default, it supports all (4) serial ports. To exclude it, unset BSP_SERIALx environment variables in "Kontron_KTGM45.bat" file;
- Default serial ports settings are: COM1 = 3F8/IRQ4, COM2 = 2F8/IRQ3, COM3 = 3E8/IRQ11, COM4 = 2E8/IRQ10.
Ensure that BIOS has the same parameters;
- By default, OpenGL libraries are excluded (it wastes approx. 3 MB);
check "Third BSP → Drivers → Display → Enable OpenGL" to add the support;

9. Limitations

- SATA controller driver supports single ICH controller only (PCI 0:31:2), compatible mode only.

10. Known issues

- None.