Windows Embedded CE 6.0 R3
BSP for KTUS15/mITX

1. Revision History

Revision	Date	Author	Description
1.0	26.04.10	Igor Shustov, Reviewed and approved: V.Bordug	Initial version

2. Table of Contents

3. Introduction

This document describes Kontron KTUS15 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 intended to develop embedded solutions, which are based on Microsoft Windows CE* 6.0 and are planned to be deployed on Kontron KTUS15 product family.

4 Host Development PC requirements

- 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
- Windows Embedded CE 6.0 R3 last updates

5. Supported features

- ICH4 PCI Bus
- Intel® High Definition Audio
- PCI-based Intel family Ethernet adapters
- Embedded Graphics and DirectShow Codecs for Intel US15 chipset
- USB 1.1/2.0
- USB Keyboard/Mouse and Mass storage
- USB Client
- SD Memory
- IDE/ATAPI Drivers
- SATA Driver
- Intel® 82574L e1000 NIC KITL library support

6. BSP Components

The components included in this package and their installation paths are listed below. ()

Components available via Catalog Items → Third Party → BSP → Kontron_KTUS15	
Intel High Definition (Unified) Audio driver	SRC\DRIVERS\ICHHDA
Intel Embedded Graphics driver	BIN\DRIVERS\IEGD
Intel DirectShow Codecs	BIN\DRIVERS\IEGD_DSHOW
Intel 82574L Gigabit Ethernet Controller driver	BIN\DRIVERS\NIC
Intel Secure Digital Bus driver	SRC\DRIVERS\SDCARD
COM4 Port (COM1-COM3 ports available via «Device Drivers → Serial»)	-
ATAPI IDE/CompactFlash Storage Block driver	-
JMB362 SATA Storage Block driver	SRC\DRIVERS\BLOCK
Intel USB Client driver	SRC\DRIVERS\USBClient
Intel EHCI USB driver	SRC\DRIVERS\USB
Intel UHCI USB driver	SRC\DRIVERS\USB
Components not available via Catalog Items	
Intel 82574L e1000 NIC KITL library support	SRC\DRIVERS\E1000DBG

New releases of IEGD drivers can be obtained from the following links:
Intel® Embedded Graphics Drivers

7. Installation and BSP setting procedures

- Unzip BSP archive to Wince600\Platform\ folder and run Platform Builder, it should attach new BSP automatically;
- create new OS design based on Kontron_KTUS15 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);
- How to prepare Hard Disk for Windows CE booting you may get via following link: How to Boot a Run-Time Image on a CEPC from a Hard Disk Drive
- Also, the following utility may be useful: HP USB Format Utility

8. OS Building notes

- By default, OS available RAM size is 512MB. To change this parameter, define via «Project → Configuration Properties → Environment» one of follow environment variables:
  - IMGRAM64
  - IMGRAM128
  - IMGRAM256
  - IMGRAM512 (=1 by default)
- To store HIVE-registry at the “Hard disk” define the following environment variables:
  - PRJ_BOOTDEVICE_ATAPI
  - PRJ_ENABLE_FSREGHIVE
  - PRJ_ENABLE_REGFLUSH_THREAD
- To make HDD as root device (like office PC system) define the following environment variables:
  - PRJ_BOOTDEVICE_ATAPI
  - PRJ_ENABLE_FSMOUNTASROOT.

9. Known issues

- Attached CompactFlash with slave PATA-HDD affect the board stability;
- USB2 port (configured as USB client) sources USB power lines;
- Low graphics performance.