

MPC21A Windows CE 6.0 BSP

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Zweck:
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Digital-Logic AG LX800 Embedded CE 6.0 Board Support Package (BSP) Version 1.1 08.09.2008

PRODUCT INFORMATION

This BSP support LX800 based boards on AMD Geode(TM) LX processor and CS5536 companion chip.

Tested configuration set: MPC21A = MSB800(256MB RAM) + MPC21CONAB

Tested configuration and devices:

- Audio Stereo – Media Player
- Video – Media Player
- Ethernet connection – Internet Explorer
- 2 standard serial ports – Terminal program
- PCI Serial Exar 4-ports device – Terminal program
- Standard USB mouse.
- Standard PS2 keyboard.
- USB memory stick – Explorer
- CF card SiliconDrive 1GB – Windows CE 6.0 image with bootloader

The following components are included:

- OAL	AMD Geode
- Graphics driver	AMD Geode
- Audio driver	AMD Geode
- EXAR PCI serial driver	EXAR
- Intel® 82559ER Ethernet Controller	Microsoft
- Intel Pro1000 Ethernet adapter	Intel
- INT15DL driver	Digital-Logic

Dependencies:

- Microsoft(R) Visual Studio 2005 (Standard/Professional/Team edition) or later.
- Windows Embedded CE 6.0 Platform Builder.

Requirement for development workstation is announced while Visual Studio and Platform Builder installation.

Features:

See the release notes of each component. Driver files are in LX800DL/SRC/DRIVERS folder.

Changes:

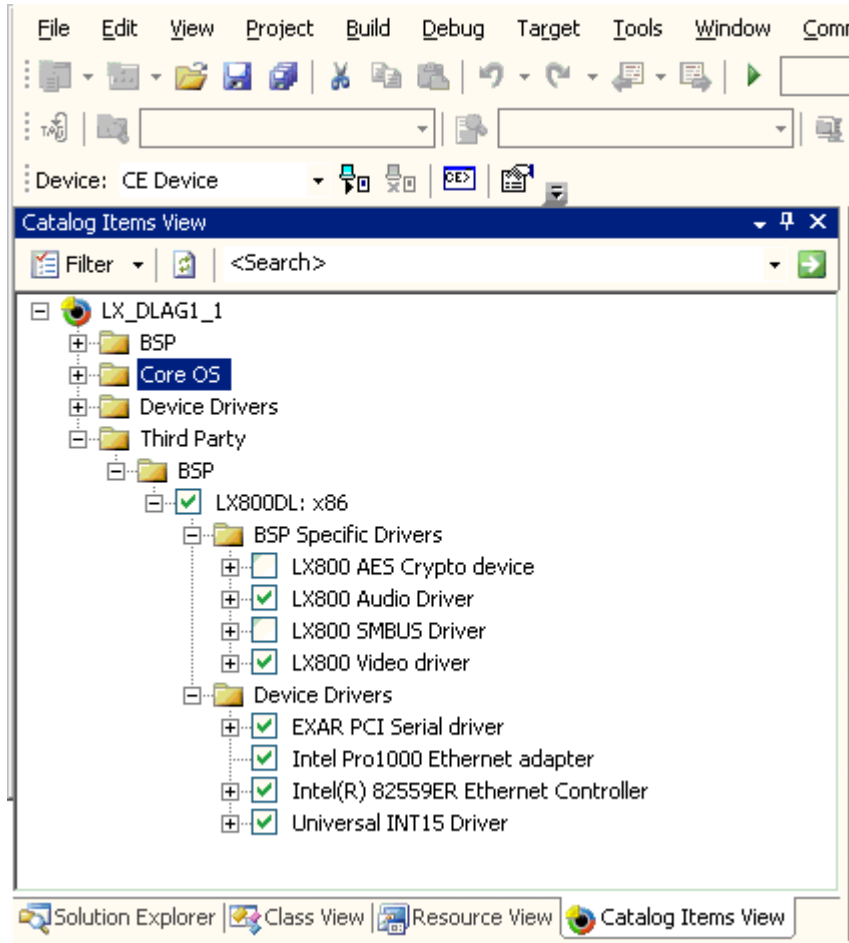
1. "LX800 INT15 Driver" is changed to "Universal Int15DL Driver", software interface is compatible with previous interface. Added a sample application code "Int15_CE" in C#.
2. Removed "Intel 8255x Ethernet Adapter" (e100ce.dll) driver, which doesn't support interrupt sharing properly.
3. Inserted "Intel® 82559ER Ethernet Controller" driver, it support i82559ER chip correctly.
4. Added "Intel Pro1000 Ethernet adapter" driver, it was tested on MPC21 board as PCI extension.
5. Corrected EXAR PCI Serial Driver, it works properly now with shared interrupt.
6. Reorganized Catalog View.

Finally:

MPC21A was tested with enabled both onboard Ethernet chips and MPC21CONAB (Exar154) PCI board.

INSTALLATION INSTRUCTIONS

- 1) Unzip and copy LX800DL folder to \$(_WINCEROOT)\PLATFORM\
- 2) Open Visual Studio 2005. (If you opened VS2005 before step 2, you need to close and reopen it)
- 3) Create the project in "File->New->Project->Platform Builder->OSDesign".
- 4) Select "LX800DL: x86" as your BSP.
- 5) Select the design template:
Industrial Device
Variant:
Internet Appliance
- 6) Choose more components or finish.
- 7) Open "Catalog Items View"



Expand "Third Party" - "BSP Specific Drivers" and select drivers, you need in your configuration, for example "LX800 Video driver", "LX800 Audio driver" etc.

Expand "Third Party" - "Device Drivers" and select "EXAR PCI Serial Driver" or/and "Intel® 82559ER Ethernet Controller"

- 8) Select "Debug" or "Release" build from "Build->Configuration Manager"
- 9) Build the solution.

Known problems:

Even if interrupt sharing problem has been solved for the current BSP, it's recommended to setup PCI interrupts Steering on MPC21 as it shown in the picture below.

```

XpressROM Setup
Version: Digital-Logic AG LX800 1.22MSB800(BRM)      Built: 04/24/2007 10:54:59
----- PCI Configuration -----

PCI Interrupt Steering
PCI INTA#: IRQ 5
PCI INTB#: IRQ 7
PCI INTC#: IRQ 10
PCI INTD#: IRQ 11

USB 2.0 Settings
OHCI: Enabled
EHCI: Enabled
UDC: Disabled
OTG: Disabled
Overcurrent reporting: Disabled
Port 4 assignment: Host

Enable/Disable INTD# to IRQ steering

```

PCI Interrupt Steering should be assigned to a different vectors.

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Intel is a trademark of Intel Corporation.

EXAR is a trademark of Exar Corporation.

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