Neptune N270 Linux Software Development Kit Guide

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Thank you for purchasing the Neptune N270 Linux 2.6.23 Software Development Kit (SDK). This SDK provides you with all the tools required for creating Linux 2.6.23 based platform images for your Neptune N270 single board computer.

The SDK includes the following two items:

- Neptune N270 flash disk
- Neptune N270 Linux 2.6.23 SDK CD

What's included on the Neptune N270 flash disk?

The flash disk includes a bootable runtime Neptune N270 Linux OS image. In addition to demonstrating Linux operation, the OS image also contains programs that can be used for demonstrating and validating many of Neptune N270's hardware capabilities. Functions exercised by the bootable Linux OS image include:

- Ethernet support with local-area network installed
- DHCP, SSH, SCP, FTP
- PS/2 mouse and keyboard
- USB 2.0 ports
- Serial ports RS-232/422/485
- IDE storage devices
- Diamond Universal Driver 6.0x for Linux 2.6.23
- Data acquisition demo programs (for AV model boards)

What's Included on the Neptune N270 Linux 2.6.23 SDK CD?

The Neptune N270 SDK CD provides a software development platform for customizing the Neptune N270 SBC's Linux OS. In order to minimize compatibility issues, the full source code for the Linux kernel that was used in creating the bootable Linux images on the Neptune N270 flash disk are also included, along with a GNU development tool-chain.

Specifically, the SDK CD includes:

- Bootable images of the Neptune N270 Linux board support package (BSP)
- Neptune N270 Linux BSP components and source code:
  - Neptune N270 Linux 2.6.23 kernel supporting the Intel Atom N270 Processor
  - Root file system
  - Grub boot-loader version 0.97
- All required device driver binaries and sources (when applicable) required for Neptune N270 to be used with the BSP
- Complete Linux development tool-chain (GCC 3.2.3, GCC-lib-i686, i686-slackware-linux, GNU Make 3.80), g++, etc.
- Step-by-step instructions on using Neptune N270's BSP and device drivers to customize its Linux platform according to application requirements

Getting started

To run the Neptune N270 demonstration:

- Install the flashdisk provided in this SDK on the Neptune N270 SBC
- Boot from the flashdisk
- The demo image will run

To build a new Linux image for Neptune N270, start by reading the document entitled "Neptune N270 Linux BSP Manual.pdf" (located on the Neptune N270 Linux 2.6.23 SDK CD), which provides a comprehensive guide to developing new Linux system images and using the provided tools and utilities.

General information on customizing the Linux kernel, drivers, and utilities is available through numerous Linux websites, discussion forums, and mailing lists.

For additional Neptune N270 technical information, visit the Technical Support area of Diamond's website at www.diamondsystems.com/support.