# **UM10078**

# Installation guide for the ISP1362 host controller on Linux 2.6.6 Rev. 01 — 17 October 2007

**User manual** 

#### **Document information**

Info	Content
Keywords	isp1362; host controller; universal serial bus; usb, linux, 2.6.6,
Abstract	This document explains the installation of Linux version 2.6.6, with the kernel directory for the ISP1362 host controller.



### Installation guide for the ISP1362 host controller on Linux 2.6.6

#### **Revision history**

Rev	Date	Description
01	20071017	First release.

## **Contact information**

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#### Installation guide for the ISP1362 host controller on Linux 2.6.6

#### 1. Introduction

This document explains the installation of Linux version 2.6.6, with kernel directory /usr/src/linux-2.6.6 for the ISP1362 host controller.

### 2. Installation environment

This document is based on the installation of the ISP1362 PCI card on a newly formatted hard disk, and using Fedora core 2 with kernel version 2.6.5-1.358 as the initial install. Kernel version 2.6.5-1.358 must be changed to kernel version 2.6.6. The Linux-2.6.6 kernel source can be downloaded from the kernel.org site. Make sure that you have the required files to run the ISP1362 host controller (ISP1362\_Host.tar.gz) and the optional .config file.

# 3. Extracting source files

Place the downloaded kernel source (Linux-2.6.6.tar.bz2 or gz) in the /usr/src directory and extract the kernel source files to the directory.

Steps to extract gz files:

```
#cd /usr/src
#tar -zxvf linux-2.6.6.tar.gz
Steps to extract bz/bz2 files:
#cd /usr/src
#tar -jxvf linux-2.6.6.tar.bz
```

Or,

#cd /usr/src

#tar -jxvf linux-2.6.6.tar.bz2

## 4. Extracting ISP1362\_Host modules

Copy ISP1362\_Linux266\_HCD\_Ver1.1.0.0 to /usr/src/linux-2.6.6/drivers/usb/.

Go to /usr/src/linux-2.6.6/drivers/usb/ISP1362 Linux266 HCD Ver1.1.0.0 and run:

```
#tar -xvzf ISP1362_Host.tar.gz
```

Go back to /usr/src/linux-2.6.6.

# 5. Compiling and installing Linux-2.6.6

Compile and install Linux kernel version 2.6.6 with loadable module support enabled.

Go to /usr/src/linux-2.6.6/, and run:

#make menuconfig

Go to Loadable module support and enable the following:

- Enable loadable module support
- · Module unloading

Save and exit the configuration.

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Or,

Copy the given .config file to the root directory of your kernel source.

#make menuconfig

Save and exit the configuration.

After exiting **menuconfig**, a new **.config** is created.

Run the following commands:

#make

#make modules

#make modules\_install

#make install

If you are using grub bootloader, the kernel image is already added to grub.conf.

If you are using **lilo bootloader**, run **lilo** every time modification is made to **lilo.conf**.

Then reboot your computer and run the newly compiled kernel.

## 6. Creating and inserting binaries for the host controller

After installing the new kernel (Linux-2.6.6):

Go to /usr/src/linux-2.6.6/drivers/usb/ ISP1362\_Linux266\_HCD\_Ver1.1.0.0 and run:

#cd ISP1362 Host

Make sure the KERNEL\_DIR directory in **phci/Makefile** points to your Linux-2.6.6 kernel source.

Compile the ISP1362\_Host code:

#make -C <linux kernel dir path> M=\$PWD

To install modules, run:

#./imod

To uninstall modules, run:

#./dmod

## 7. Enabling the debug message

Interface-based debug options are found in hal\_intf.h and phci\_debug.h.

You can enable the required debug messages by defining their related macros:

- DEBUG\_HCI\_LEVEL for Host Controller Interface (HCI) debugging
- DEBUG HAL LEVEL for Hardware Abstraction Layer (HAL) debugging

Example: To enable or disable HCI interface debug messages:

#define DEBUG\_HCI\_LEVEL DEBUG\_HCI\_DISABLED

Or,

To debug only HCI bus driver interfaces:

#define DEBUG\_HCI\_LEVEL DEBUG\_HCI\_BUS\_DRIVER\_INTF

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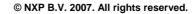
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