



## Sentinel UNIX Driver Version 5.50 Readme

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Thank you for choosing Sentinel UNIX Driver from Rainbow Technologies!

The Sentinel UNIX Driver version 5.50 provides a communication path between your SuperPro protected application and the Sentinel keys (Parallel and USB) on the Red Hat Linux 7.2, 7.3, 8.0 and 9.0 platforms.

This readme file contains information about the installation and new features for the product.

## 1.0 Installing the Product

This section contains what you should know before you install this product as well as installation instructions.

### 1.1 Compatibility

The Sentinel parallel port driver is compatible with the following Linux distributions:

- Red Hat 7.2 (kernel version 2.4.7-10) smp/non-smp. For kernel versions higher than 2.4.7-10 and lower than 2.4.18, forced installation of Sentinel UNIX Driver will take place without prompts.
- Red Hat 7.3 (kernel version 2.4.18-3) smp/non-smp. For kernel versions higher than 2.4.18-3, forced installation of Sentinel UNIX Driver will take place without prompts.
- Red Hat 8.0 (kernel version 2.4.18-14) smp/non-smp. For kernel versions higher than 2.4.18-14, forced installation of Sentinel UNIX Driver will take place without prompts.
- Red Hat 9.0 (kernel version 2.4.20-8) smp/non-smp. For kernel versions higher than 2.4.20-8, forced installation of Sentinel UNIX Driver will take place without prompts.

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**Note:** In order to set up the Sentinel UNIX Driver, you must be a super user (root).

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### 1.2 Pre-Installation CD Contents

The CD contents are listed below:

*SUD-ParallelDriver-RH9-5.50-0.i386.rpm:*

RPM to install the parallel port driver

*SUD-USBDaemon-RH9-5.50-0.i386.rpm:*

RPM to install the USB daemon.

<i>drv_r_install.sh:</i>	Shell script to install the parallel driver and/or USB daemon.
<i>drv_r_uninstall.sh:</i>	Shell script to uninstall the parallel driver and/or USB daemon.
<i>readme.pdf</i>	This file.

### 1.3 Installation Instructions

You can install the Sentinel UNIX Driver by running the install script or using the RPM commands.

#### 1.3.1 Using *drv\_r\_install.sh*

Follow the instructions given below:

1. Insert the installation CD-ROM in the appropriate drive of your computer.
2. Mount the CD using the `mount -t iso9660 /dev/cdrom /mnt/cdrom` command.
3. Now, run the installation script using the `sh drv_r_install.sh` command.
4. You will be prompted to specify one of the following options: **1** (Only parallel driver), or **2** (Only USB daemon), or **3** (Both parallel driver and USB daemon). Type the corresponding digit for the component of your choice. We recommend selecting both the parallel driver and USB daemon.
5. Un-mount the CD using the `umount /mnt/cdrom` command.

#### 1.3.2 Using the RPM Commands

- Use the `rpm -i --force --nodeps /mnt/cdrom/SUD-ParallelDriver-RH9-5.50-0.i386.rpm` command to install the parallel driver.
- Use the `rpm -i --force --nodeps /mnt/cdrom/SUD-USBDaemon-RH9-5.50-0.i386.rpm` command to install the USB daemon.

### 1.4 Installed Components

The post-installation directory structure will contain any of the following components, depending on your installation choices:

<i>/opt/RainbowTechnologies/SUD5.50/drv_r_uninstall.sh:</i>	Script to uninstall the Sentinel UNIX Driver.
<i>/opt/RainbowTechnologies/SUD5.50/Parallel/mdrbdr.o:</i>	The parallel port driver module.
<i>/opt/RainbowTechnologies/SUD5.50/Parallel/readme.pdf:</i>	This file.
<i>/opt/RainbowTechnologies/SUD5.50/USB/usbdaemon:</i>	The USB daemon binary.
<i>/opt/RainbowTechnologies/SUD5.50/USB/load_daemon.sh:</i>	Script for starting, stopping and restarting the USB daemon.
<i>/opt/RainbowTechnologies/SUD5.50/USB/readme.pdf:</i>	This file.

### 1.5 Using *load\_daemon.sh*

The USB daemon starts automatically when the system is booted. However, you may use *load\_daemon.sh* to start, stop and restart the USB daemon. The following commands are available:

<code>sh load_daemon.sh start</code>	Starts the USB daemon.
<code>sh load_daemon.sh stop</code>	Stops the USB daemon.
<code>sh load_daemon.sh restart</code>	Restarts the USB daemon. Use this instead of stopping-starting sequence.
<code>sh load_daemon.sh status</code>	To view the USB daemon status, if running or stopped.

## 1.6 Uninstallation

To uninstall the driver you can use any of the following options:

### 1.6.1 Using *drv\_uninstall.sh*

This script when executed will show you following uninstallation options: **1** (Only parallel driver), or **2** (Only USB daemon), or **3** (Both parallel driver and USB daemon). Choose an option to uninstall.

### 1.6.2 Manually Uninstalling

- Use the `rpm -e SUD-ParallelDriver-RH9` command to uninstall the parallel port driver.
- Use the `rpm -e SUD-USBDaemon-RH9` command to uninstall the USB daemon.

## 2.0 Features in This Release

- This release supports both the SuperPro and SuperProNet hardware keys in parallel and USB form factors.
- The Sentinel parallel port driver now on supports user-configured, PCI parallel port cards. Refer to the Section 3.0, “Troubleshooting” for knowing how to identify a PCI port.

## 3.0 Troubleshooting Tips

This section resolves a few issues that may occur to you while using the Sentinel UNIX Driver. If you face a problem that is not listed below, contact Rainbow Technologies Technical Support.

Problem	What to Do?
How to configure a PCI parallel port?	<p>Follow the instructions given below to identify a port:</p> <ol style="list-style-type: none"> <li>1. Firstly, obtain the PCI parallel port address from the <code>/proc/pci</code> file. At a time, only one address can be specified.</li> <li>2. Now, edit the <code>rc.local</code> file available at the <code>/etc/rc.d/rc.local</code> path. The entry:  <code>insmod -f /opt/RainbowTechnologies/SUD5.50/Parallel/mdrbdr.o</code>  should be modified to:    <code>insmod -f /opt/RainbowTechnologies/SUD5.50/Parallel/mdrbdr.o</code>  <code>address=&lt;address&gt;.</code>  The address of the I/O port was obtained in step 1. For example,  <code>insmod -f /opt/RainbowTechnologies/SUD5.50/Parallel/mdrbdr.o</code>  <code>address=0xdcf8</code> will check the 0xdcf8 port.</li> <li>3. Now, reboot the computer to apply the settings. Or, to access the key right away, unload the driver using the <code>rmmmod mdrbdr</code> command—followed by reloading it using the following command:  <code>insmod -f /opt/RainbowTechnologies/SUD5.50/Parallel/mdrbdr.o</code>  <code>address=&lt;address&gt;.</code> Now, you are ready to access the key.</li> </ol>
I find some files in the <code>/tmp</code> directory while running USB daemon	<p><b>CAUTION!</b>  Do NOT delete the following files created by the USB daemon on runtime in the <code>/tmp</code> directory: <code>u.daemon</code> and <code>u.daemon_pid</code>. Deleting them will terminate the USB daemon! Otherwise, restart the USB daemon to start afresh.</p>
Unable to detect the USB key?	<p>You need to ensure that both the USB core system and the USB file system are loaded.</p> <ul style="list-style-type: none"> <li>▪ If the LED on the USB key is OFF, use the <code>lsmod</code> command to view the list of modules loaded.  The “usbcore” and “usb-uhci” or “usb-ohci” (depending on the hardware specifications) modules must be shown.    If not, use the <code>insmod</code> command to load each of them. The objects are available at the <code>/lib/modules/2.4.7-10/kernel/drivers/usb</code> path, where the kernel version may vary depending on your operating system.</li> <li>▪ If the LED on the USB key is ON, use the <code>df -a</code> command to verify If the USB device file system (usbdevfs) is mounted or not. If not, mount it using the given command:  <code>mount -t usbdevfs none /proc/bus/usb</code></li> </ul>
Will disabling the parallel port affect the functioning of Sentinel UNIX Driver?	<p>If you have disabled the parallel port on your system after installing the Sentinel UNIX Driver, make sure that the Sentinel parallel driver is also uninstalled. Otherwise, this may hinder successful functioning of the Sentinel USB daemon.</p>

## 4.0 Technical Support Contact Information

Rainbow Technologies is committed to support Sentinel UNIX Driver. If you have questions, need additional assistance, or encounter a problem, please contact Rainbow Technologies Technical Support using one of the methods listed in the following table:

**Rainbow Technologies Technical Support Contact Information**

<b>Rainbow Technologies Customer Connection Center (C3)</b>	
<a href="http://c3.rainbow.com">http://c3.rainbow.com</a>	
<b>Americas</b>	
Internet	<a href="http://www.rainbow.com/support">http://www.rainbow.com/support</a>
E-mail	<a href="mailto:techsupport@rainbow.com">techsupport@rainbow.com</a>
<b>United States</b>	
Telephone	(800) 959-9954
Fax	(949) 450-7450
<b>Europe</b>	
E-mail	<a href="mailto:EUTechSupport@rainbow.com">EUTechSupport@rainbow.com</a>
<b>France</b>	
Telephone	0825 341000
Fax	44 (0) 1932 570743
<b>Germany</b>	
Telephone	0183 RAINBOW (7246269)
Fax	44 (0) 1932 570743
<b>United Kingdom</b>	
Telephone	0870 7529200
Fax	44 (0) 1932 570743
<b>Pacific Rim</b>	
E-mail	<a href="mailto:techsupportpacrim@rainbow.com">techsupportpacrim@rainbow.com</a>
<b>Australia and New Zealand</b>	
Telephone	(61) 3 9820 8900
Fax	(61) 3 9820 8711
<b>China</b>	
Telephone	(86) 10 8266 3936
Fax	(86) 10 8266 3948
<b>India</b>	
Telephone	(91) 11 2 691 7538
Fax	(91) 11 2 684 9105
<b>Taiwan and Southeast Asia</b>	
Telephone	(886) 2 2570 5522
Fax	(886) 2 2570 1988

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