

Troubleshooting guide for our current Sentinel SuperPro keys

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This guide is intended to assist our Distributors and Customers troubleshoot issues with our Sentinel SuperPro keys and their end-users. This guide provides in-depth troubleshooting of our Sentinel System Driver along with troubleshooting both Parallel and USB SuperPro keys. This guide also contains a brief description of our driver installation plus an End User “Key not Found” FAQ list, all which are great tips for troubleshooting our keys.

Utilities and knowledge required to test and troubleshoot a key that was not found on the system:

- Our latest Sentinel System Driver Internet Installer version (RainbowSSD5.39.2.exe)
- Our latest Sentinel System Driver Legacy Version (Legacy version of the driver is found in the FULL-CD version of our Drivers found on Rainbow’s website)
- Sentinel Medic 32-bit Application
- Basic knowledge of the registry of Windows operating system
- Basic knowledge of browsing utilities in a Windows environment.
- Ability to browse to the BIOS of a specific system for configuration change

Our Sentinel System Driver. What gets installed?

It is important to know what gets installed on your system, it will help you troubleshoot and go through our tips. There are two version of our drivers that could be installed our, Legacy and our Internet Installer version.

Our Internet Installer is our latest version of the driver, which allows any user to run a simple executable, and install our driver. This version will install documentation, a small utility called SetupSysDriver.exe, the driver and registry entries. The driver and the registry entries differ from operating system to operating system.

For Windows NT, 2000 and XP the following driver files will be installed:

- Sentinel.sys (our parallel driver) and
- sntnlusb.sys (our USB driver).

Registry entries are found under:

My Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Sentinel
My Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Sntnlusb

For Windows ME, 9x the following driver files are installed:

- Sentinel.vxd (our parallel driver) and
- sntnlusb.sys (our USB driver).

Registry entries are found under:

My Computer\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\VxD\Sentinel
My Computer\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\SntnlUsb

Our Legacy version of the driver is composed of five separate sets of drivers, which only two will be necessary for our installation; see the Quick Start Guide for instructions on the installation of our legacy drivers on various operating systems.

The legacy installer will install the same driver files along with the same registry entries, but will exclude the documentation and SetupSysDriver.exe utility.

Detecting the type of SuperPro key you have

We have 3 different types of SuperPro keys, the regular one inch in length, the 797, which is our slim type key and the USB key. Each key contains a number that identifies you as a customer and a number that will tell when the key was manufactured and the revision.

The identification numbers on the key are very helpful in determining the manufacturing lot that a key was generated in. This information should be provided any time there is a suspected key failure.

End User “Key Not Found” FAQ

Q: *What is a dongle?*

A: A dongle, also called a hardware key or security token, is a protection device that secures applications from unauthorized use. If the correct hardware key is not attached to the computer, the protected application will not open, or certain features of the program will be disabled.

Q: *What is the Sentinel System Driver?*

A: The Sentinel System Driver allows the protected application to “talk” to the Sentinel key. For systems running several different software applications protected by the same key, the driver allows each of them to access the key. This driver is required for all communication with the hardware key. You can download the latest version of the driver from our web site, www.rainbow.com.

Q: *What is Sentinel Medic?*

A: Sentinel Medic is a utility created by Rainbow Technologies Technical Services Group to help you detect and diagnose problems with your hardware configuration and Sentinel key setup.

The Medic performs two separate tasks:

1. It checks for the existence of the system driver.
2. It looks for the hardware key specified.

If it finds the Sentinel Driver installed on your system, it will report its version number. If Sentinel Medic does not find the driver, it will prompt you to install the driver. Currently, driver version 5.38 has been bundled with the Medic. The latest version of the driver is 5.39.2, however. Rainbow recommends that you get this version downloaded and installed before attempting to run the Sentinel Medic.

Q: *What is the recommended port mode for the hardware key to be detected?*

A: If there is a 'key not found' situation, and there is no other parallel port communication occurring (printing, scanning, etc) to that port, then the port mode isn't relative.

If you have a 'key not found' situation and there is printing or scanning involved, we recommend SPP, ECP_SPP, or extended parallel port modes. Please note: SPP is also known as (Output, compatible, unidirectional, IBM XT/AT modes).

If you are dealing with a port contention issue (there is a problem seeing the hardware key when there are other devices attached behind the key), then we recommend ECP mode with or without DMA.

Q: *Why do I have to contact my developer? Can't you replace my key?*

A: A hardware key represents a physical license to an application. Rainbow has no legal ability to sell someone's software.

Rainbow merely is a vendor supplying blank keys to our customers and not even we know the contents of the key once it is programmed by our customers (Software developers).

We know nothing of their application or how they implemented our product in to theirs nor are we licensed or contracted to support their customers.

Because of the above restrictions we are unable to support end users.

Complete support is better achieved through the company who sold you the software since they are more intimate with the product. The failure may not be the hardware key.

Q: My application comes up with error “No hardware key is detected”, why? What can I do to fix the error?

A: To correct this error, please follow the suggestions below:

1. Make sure the hardware key is securely attached to the port.
2. Run Sentinel Medic to make sure the driver and the key are detected. If the Medic detects both the driver and the key but the application still does not see the key, contact your developer.
3. If the driver is not detected, download and install the current system driver from our web site.
4. Check your port mode settings and make sure you have good communication with another device on the port. (Attach a printer or a scanner to the port and test to see if you get functionality).
5. If the driver is detected but the hardware key is not, test the key on a different computer, if possible. If the key is found on a different computer, then gather detailed information about the computer with problems and contact your developer.
6. If the hardware key is not detected on multiple computers and you have verified that there is a good communication with the port and the system driver is installed, then you may have a defective key. Contact your developer for a replacement key.

Troubleshooting and Tips

There are 5 basic reasons why our keys would not be found with a particular system.

Each can be troubleshoot by following the last of our FAQ's in the previous page ***My application comes up with error "No hardware key is detected", why? What can I do to fix the error?***

This is the most common problem encountered by our end-users utilizing our keys with a protected software, if you follow the steps for troubleshooting, there's a chance to detect the problem or reason why the key is not working.

The 5 basic reasons why the key is not found:

1. Drivers might not be install or drivers are corrupted
2. Parallel port Settings are not compatible or not working correctly with our drivers
3. Parallel port is not working properly
4. Key is defective
5. Problems with the implementation of the protected application.

Troubleshooting Tips

- To troubleshoot the problem make sure you follow the steps mentioned on our last FAQ for End-Users.
- In some cases our Internet installer will fail to install our driver properly, usually an operating system problem, our suggestion would be to try installing our Legacy version of our driver. Make sure you remove any driver installed before proceeding with the Quick Install instructions.
- One good way in identifying if the parallel port is working properly is by running our SetupSysDriver.exe utility, go to "Configure Driver" and see if there's any Parallel port driver listed. In most cases if the parallel port is not listed, configuration on the BIOS need to be done in order to get it up and working. The settings to be changed are the Parallel port Mode. Most common settings are ECP, Normal, Bi-Directional, AT, and PS/2, with the address set to 378, IRQ=7 and DMA=3. If you change any settings make sure you reinstall our Sentinel System Drivers.
- In some cases we recommend to verify if the drivers have been completely uninstall. Once you have uninstalled from Add/Remove Programs, we recommend checking if the driver files and registries are still present. If such files and registries are still present we suggest removing the driver before proceeding with a brand new installation.
- Make sure to verify with the Sentinel Medic if the key is found in the system.
- Make sure our Sentinel Device is set to "Started" and "Automatic", in some cases "Boot" will work as well (FOR WINDOWS NT, XP, AND 2000 only)

Troubleshooting Tips USB ONLY

- For basic troubleshooting see the last FAQ for End-Users on this document.
- Our SuperPro USB keys will only work under Windows 9x, ME, 2000 and XP operating systems, we don't support NT.
- With the USB keys using our latest driver 5.39.2 you don't need to be concern about the parallel port modes or settings. There are other issues that might be encountered with such keys
- The first common mistake by our customers and end-users is plugging the key while the drivers aren't installed. Make sure each user installs the drivers first before inserting the key. This will allow the operating system to allocate the proper drivers for the device. (If the protected application installs our drivers, make sure the application is installed before inserting the key).
- If the customer inserted the key before installing the drivers, the system will allocate default drivers as default. In order to troubleshoot this problem, you would need to go into the device manager of the operating system and see what type of device was created and installed for our SuperPro key. Make sure our latest drivers are installed and the key is plugged in, you can remove or uninstall the unknown device, then do a refresh or scan for hardware devices. The operating system should install the proper drivers.
- Always verify with the operating system if the key is recognize. With our Sentinel System Driver version 5.39.2, you will find an entry in the Device Manager of your system called "Security Device" with a USB icon. If you open the tree you will find our device as Rainbow SuperPro Device. Make sure you don't see any exclamation marks on the device; this could be due to driver failures or corruption. Please remove the existing driver entirely (check the driver files, sntnlusb.sys, and registry entries after doing the uninstall) from the system, remove the key and reinstall latest driver.
- Make sure the USB is enable in the BIOS. It is also good to test another USB device on different USB ports in the system to verify that the USB port is working properly.
- We also suggest removing the driver completely before upgrading to our existing version. Make sure you check files and registry entries after the driver has been removed.
- Make sure you test with the Sentinel Medic to see if the has been found as well.

Visit or web site at www.rainbow.com

QUICK START GUIDE FOR INSTALLING LEGACY SENTINEL SYSTEM DRIVERS v5.39.2

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NOTE: The Sentinel System Drivers support all of our currently supported Sentinel keys such as: SuperPro, Pro, C-Plus, Scribe, LM meter keys, SAFE keys, Express keys and NetSentinel keys. Use this version of the drivers if you are having problems with our Internet installer version "RainbowSSD5.39.2.exe".

1. Save the file on a folder. Unzip the file this will have 5 folders and a few files.
2. Go to the folder Win_nt (for installations on Windows NT, XP or 2000), Win_9x (for installations on Windows 95 or 98), etc, depending on your system.
3. Run "setupx86.exe" (under Win_nt for installations on Windows NT , XP or 2000), or "sentw9x.exe" (under Win_9x folder for installations on Windows 95 or 98)
4. Select "Functions", then "Remove drivers" (just to make sure you don't have an older version that would create conflicts"), then "Install Drivers"
5. Run your application, the drivers should be already installed.

THINGS TO LOOK FOR:

1. If you are using a parallel port key, make sure your BIOS or CMOS settings for the parallel port are set to **ECP, Bi-Directional, Normal, AT, or PS/2**, and if you have an option to set them to AUTO, ENABLE or DISABLE, set settings to **ENABLE**. If you have a Dell Computer brands **Dimension 8100** or **Optiplex**, you might need to set the settings to either **PS/2** or **IBM AT**. Once the changes have been made, make sure you reinstall the Sentinel System Drivers.
2. If you are using a **USB** key, you want to run the file "setupx86.exe" from the command prompt, from its location, using the USB flag e.g.: "c:\Drivers\Win_nt\>setupx86 /USB" (for Windows 2000 only) or "c:\Drivers\Win_9x\>sentw9x /USB" (for Windows 9x)
NOTE: Windows NT does NOT support any of our USB Sentinel keys.
3. If the drivers are install and your program still doesn't find the key, please try our utility **Sentinel Medic**, found on our web site, under downloads, choose SuperPro as product and look under Utilities, Sentinel Medic. You would install this product and run it. Select key you are using and click on find keys. If key is found then contact your software vendor with detail explanation of the problem, they should at this point replace the lock key with a new one.
NOTE: If you are a developer please contact Tech-Support for more help and info at techsupport@rainbow.com
4. If you are using a Netsentinel key, download the NetMedic utility, located under the NetSentinel downloads.